Global Health Promotion

On disrupting colonial assumptions in health promotion

Carlos E. Sanchez-Pimienta

The Waiora, Rotorua, and Tiohtià:ke Statements

Between 2019 and 2022, the International Union for Health Promotion and Education (IUHPE) released three notable legacy statements. First, delegates at the 2019 IUHPE World Conference in Rotorua, Aotearoa/New Zealand developed the Rotorua Statement WAIORA: Promoting Planetary Health and Sustainable Development for All (1) and the Waiora Indigenous Peoples' Statement for Planetary Health and Sustainable Development (2). Acknowledging that Western knowledge and practices that separate humans from nature have disproportionately contributed to the risk of ecological collapse, IUHPE delegates called for prioritizing Indigenous voices in promoting planetary health and sustainable development around four key areas.

In 2022, delegates at the IUHPE World Conference prepared the Tiohtià:ke Statement with the theme "Catalyzing policies for health, well-being and equity (3)". Tiohtià:ke is a Kanien'kéha (the language of the flint people spoken by the Kanien'kehá:ka) word that refers to the ancestral place known as Montreal, Canada where the conference was held. The Tiohtià:ke Statement builds on the action areas proposed in the Rotorua Statement, outlining steps toward privileging Indigenous voices in health promotion and committing to decolonization.

As an emerging scholar from Mexico currently living in Canada, I am particularly drawn to the Tiohtià:ke Statement's call to "unlearn and disrupt past assumptions and biases". In this editorial, I share insights into what unlearning has meant for me in the context of health promotion. Inspired by the non-directive ways of sharing knowledge of Anishinaabe communities, I do not intend to share my insights in a tone of prescription. Instead, the readers are welcome to reflect on whether these insights apply to their contexts and how.

Knowing where you come from before setting your course

In a recent podcast interview (4), Dr. Michael Hart from the Fisher River Cree Nation said that settler societies tend to be too goal-oriented without necessarily reflecting on why the chosen goals were set. From the perspective of his nation, it is imperative to know who you are, where you come from, and the values of your originating communities before doing any project. Only then shall you be well-prepared to set goals about where you want to go.

Following Dr. Hart's advice, I must share a few words about my origins. Born and raised in Guadalajara, Mexico, I have lived in Canada for six years. I am a *mestizo* (a non-Indigenous identity category assigned to people of mixed ancestry in Latin America); most of my ancestors are native to Mexico, with one known relative from Spain. In the context where I come from, historic and ongoing processes of colonialism have attempted to impose Eurocentric governance systems, institutions and knowledge on the diverse peoples inhabiting the land today known as Mexico. The naturalization of Eurocentric assumptions and practices can be exemplified through the consolidation of Mexico's public education system in the 20th century. Public schools reinforced Eurocentric knowledge, asserted Spanish as a dominant language and overlooked a rich diversity of Indigenous knowledge on environmental stewardship, governance systems and community development.

Dalla Lana School of Public Health, University of Toronto, Canada.

Correspondence to: Carlos E. Sanchez-Pimienta, Dalla Lana School of Public Health, University of Toronto, Toronto, Canada. Email: carlos.pimienta@mail.utoronto.ca

Global Health Promotion 1757-9759; Vol 30(1): 3–6; 1156539 DOI: 10.1177/17579759231156539 journals.sagepub.com/home/ghp

Unfortunately, anti-Indigenous racism remains widely extended among *mestizos*, limiting our ability to learn from the knowledge, spiritualities and practices of Indigenous Peoples. Some of the most well-known examples of Indigenous leadership on the social and ecological determinants of health in Mexico include CheránK'eri, a P'urhépecha community that successfully defended their forests from organized crime and governmental corruption (5); and the Zapatista movement, a multi-ethnic Indigenous movement that has developed one of the world's most inspiring examples of anti-capitalist economic and community development (6).

Decolonization is for everyone

While my background as a *mestizo* has sparked a deep interest in questioning Eurocentric assumptions, decolonial theory has taught me that decolonization processes may interest anyone, no matter their background. What is often referred to as "Western" or "Eurocentric" in health promotion literature refers to a particular way of being, knowing and doing that philosophers have called "modernity". Modernity does not refer to something "new" but to a form of existence that emerged over 500 years ago. Modernity expanded within Europe and towards the rest of the world through European colonialism, the ideas of the Enlightenment, the consolidation of nation-states and the expansion of capitalism (7). With the advance of modernity, pre-existing ways of being in the world – some of which share relational premises associated with Indigenous knowledge systems – were dismissed or eliminated.

Learning about the expansion of modernity and colonialism throughout the world makes me think that no matter where we come from, at some point, our human ancestors practiced ways of existence that were attuned to the ecosystems they inhabited and guaranteed the continuation of life. Reconnecting with such forms of living and actualizing them to current contexts could be a valuable source of guidance for facing the Anthropocene.

Unlearning (modern) assumptions and biases

Reconnecting with ancestral wisdom traditions may be challenging for those of us overly socialized through modern institutions, as we may inadvertently de-contextualize ancestral practices from their originating worldviews and re-interpret them through the assumptions of modern thought (8). For this reason, familiarizing ourselves with modernity's premises can be a step within lifelong journeys toward decolonization (9). Modernity's assumptions include the following (7,9):

- The separation between humans and nature;
- The disengagement between the sacred and the human;
- The entitlement to control nature to pursue human objectives;
- The desire for engineering progress through science and technology;
- A linear understanding of time that prefers "the new";
- A view of reality that privileges "things" over "relationships";
- The self-assigned role of science as the best knowledge form;
- The belief that knowledge and agency only come from humans;
- The self-assigned superiority of the modern human in relation to the Other.

When the Tiohtià:ke Statement calls to unlearn and disrupt past assumptions, I think about the above-listed assumptions of modernity, many of which remain rarely scrutinized in various scientific traditions, including Western health promotion. Modernity's assumptions starkly contrast with the core features of Indigenous worldviews featured in the Waiora Statement, including the interactivity between the material and spiritual realms, the location of humanity as part of a living Mother Earth, and an emphasis on relationships and interdependence among all that exists.

Hospicing modernity

While there is no recipe for challenging colonial assumptions in health promotion or elsewhere, I find Vanessa Andreotti's work on "hospicing modernity" (9) inspiring for acting on the Tiohtià:ke Statement's call to question our assumptions and biases. Andreotti (a.k.a. Machado de Oliveira) describes modernity as a single story about the world that fiercely protects its uniqueness by

dismissing or eliminating other stories. Of course, modernity is not good or bad by itself. The issue is that many of us are so intellectually, emotionally and relationally invested in modernity's teachings that we now struggle to engage with other stories. This problem is unfortunate because enacting the assumptions of non-modern stories may be essential for sustaining human and ecosystem health in the Anthropocene. Andreotti proposes the practice of "hospicing" modernity within and around us so that we help modernity die in a way that honors its teachings while also opening room for other stories to guide our relationships with each other and the land. Those stories may come from Indigenous Peoples and other communities (e.g. peasants, grassroots community groups) who have been forced to survive within the most challenging conditions of capitalism, colonialism and patriarchy in the Global South (including the South in the North).

Towards engaging diverse knowledge traditions in health promotion

The metaphor of "hospicing modernity" along with other notions like the Mi'kmaw *Etuaptmumk* (also known as Two-Eyed Seeing) (10), Ermine's ethical space (11) and de Sousa Santos' ecologies of knowledge (12) can help us establish respectful relationships between modern science, Indigenous knowledge systems and other knowledge traditions. If one accepts that modern science is just one way of knowing among many other equally valid knowledge systems, then it follows that modern ideas like "health", "health promotion" and "sustainable development" do not necessarily need to be at the center of our conversations.

Taken together, the Waiora, Rotorua and Tiohtià:ke Statements lead me to think that notions like the Mäori *Waiora* (13), the Anishinaabe *Mino Bimaadiziwin* (14) or the Quechua *Sumak Kawsay* (a.k.a. *BuenVivir* in Spanish) (15), may be equally – and perhaps better – able to convey the types of principles, relationships and knowledge that are needed to foster a healthy and balanced planet in the Anthropocene. By stemming from Indigenous relational worldviews, these notions (i) speak to the interconnections between humans, nature and the spiritual realm, (ii) go beyond Western understandings of health and well-being to include teachings on cultural identity, social participation, respect and interdependence among all beings, and (iii) mobilize ancestral wisdom to ensure proper conditions for the continuation of life today and for generations to come.

My hope for those engaged in health promotion is that we can increasingly shape our understanding and practice through the similarities, differences and incommensurabilities of diverse knowledge traditions. Developing this competency may involve being well-versed in Western notions like "health" and "sustainable development" *and* the local notions and knowledge traditions of the communities we come from and work with. Such a task is deeply relational because, as *Etuaptmumk* reminds us, each individual and community carries only one piece of the puzzle, a limited part of the knowledge and embodied practices needed to sustain life within Earth's living metabolism. Let's continue putting those pieces together.

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Original Article

Health impact assessment of local policies: methodology and tools

Rosa Mas-Pons[1,2], Mar Caturla-Bastit[2], Josep Bisbal-Sanz[3], Mireia López-Nicolás[4] and Carmen Barona-Vilar[1,2,5]

Abstract: The aim of this work was to design some tools and a procedure for performing the Health Impact Assessment of municipal policies. A working group made up of municipal and public health specialists from the Valencian Community (Spain) was set up. After reviewing the tools used in other contexts, the Fem Salut? questionnaire for the simplified Health Impact Assessment of regional policies was adapted for use at the local level. A pilot study was carried out in six municipalities and local initiatives promoted by different sectors were analysed. Two workshops were held per municipality (with specialists and with citizens) and participatory techniques were used to identify the possible impacts on the social determinants of health, the population groups more particularly affected and the proposals for improvement. The feasibility of the methodology and the difficulties involved in carrying it out were discussed. A procedure was defined for the Health Impact Assessment of local initiatives in six steps: Describe (the municipality and the project), Extract (screening phase), Co-produce (participatory workshops), Integrate (the scientific evidence with the qualitative information obtained), Disseminate (to politicians, specialists and community) and Evaluate (direct and indirect results) (DECIDE). A guide was developed to facilitate its application at the local level along with two complementary tools (a questionnaire and worksheets). The technical group rated the process as simple and flexible, as well as being easy to adapt to the characteristics of the municipality and project. In addition to the cross-sectoral approach, the incorporation of citizen participation in the process is an important added value.

Keywords: Health Impact Assessment, health equity, citizen participation

Introduction

Societies and their populations are increasingly aware of the need to address factors that, at first glance, do not appear to be directly related to health but which a growing number of studies have shown must be tackled if we are to have healthy, sustainable and just societies (1,2). We are referring to the social determinants of health (SDHs), variables that have to do with how a population is organised, all the way up from the settings closest to people to those that make up its social structure. This society is characterised by an unequal allocation of resources that depends on the position that one occupies in it and, in turn, by an unbalanced distribution of health which means that some population groups are more likely to suffer greater morbidity and mortality than others.

1. Department of Health, Generalitat Valenciana, Valencia, Spain.
2. Foundation for the Promotion of Health and Biomedical Research in the Valencian Region (FISABIO), Valencia, Spain.
3. Tres és mes, Sociology Research, Valencia, Spain.
4. La Dula, Sociology Research Cooperative, Valencia, Spain.
5. Spanish Consortium for Research on Epidemiology and Public Health, CIBERESP, Valencia, Spain.

Correspondence to: Rosa Mas-Pons, Department of Health, Generalitat Valenciana, Avda Cataluña, 21, Valencia, 46020, Spain. Email: mas_ros@gva.es

(This manuscript was submitted on 22 December 2021. Following blind peer review, it was accepted for publication on 14 May 2022.)

Global Health Promotion 1757-9759; Vol 30(1): 7–15; 1107031 DOI: 10.1177/17577592211070 31 journals.sagepub.com/home/ghp

It is therefore necessary to address and work on these SDHs (3,4).

Urban policies determine the characteristics of the spaces in which people live, the way they move around, the quality of the air they breathe, the food they eat and their access to basic goods and services such as education, healthcare and work (5–7). The Shanghai Declaration, adopted at the 9th World Conference on Health Promotion in 2016, prioritises the promotion of good governance for health at all levels of government and focuses on cities and communities as environments that are essential for health (8). Along these lines, the Health in All Policies (HiAP) approach aims to incorporate the health perspective into the planning of public policies in non-health sectors (urban planning, environment, employment, transport, housing, etc.) (9). The Health Impact Assessment (HIA), on the other hand, is a tool that makes it possible to analyse the consequences that these actions have on people's health, as well as their distribution in society. The aim is to enhance the positive effects, reduce or eliminate the negative ones, and pursue health equity. At the same time, it can also be a useful tool to inform the decision-making process so that the effects on health are taken into account (10,11).

The Valencian Community, one of the seventeen Spanish autonomous regions, located in the east of Spain and with just over 5 millions inhabitants, is committed to this approach (12). It has a policy framework that regulates it, as well as an instrument to incorporate the framework of social determinants and health inequalities into the policies put forward by the different departments of the regional government (13). After validating the methodology implemented at this level, it is time for the local authorities to act.

The local level is the most suitable for implementing public policies aimed at improving the health of the population and reducing health inequalities. As it is the setting closest to citizens and where daily activities are carried out, the actions introduced at this level have a more direct and visible impact on people's health (14). This also makes it the ideal space for citizen participation in the search for common interests – in this case, seeking healthy communities (15,16). For all of these reasons, the aim of this study is to develop tools and a procedure for carrying out the HIA of local government initiatives (plans, programmes, projects or actions).

Methodology

Design

This work consists of a cross-sectional study conducted with the objective of adapting the simplified tool for the HIA of regional policies (*Fem Salut?* questionnaire) (13) so that it can be used at the local level. It also aims to design a procedure to facilitate the analysis of the possible health impacts of municipal initiatives, as well as their distribution among the population.

The first step was to set up a technical working group (WG) comprising local council and public health personnel from different municipalities, with experience in the study of SDHs and health inequalities, as well as in the development of community health actions. All the participating municipalities were members of the Network of Municipalities for Health of the Valencian Community (XarxaSalut).

Figure 1 shows the different stages of this study.

Instrument and supporting materials

The first phase of the study consisted of adapting the *Fem Salut?* questionnaire for use at the local level. A literature search was conducted on experiences, methods and tools used in other local settings. In this case, it focused on those used in the Basque Country (17), New South Wales (18) and London (19,20). They are tools that can be used at different levels of urban planning, including policy development, plan making and developmental assessment, and that incorporate identification of key health issues, relevant supporting evidence and recommendations.

A draft questionnaire adapted to the local context and level of planning was developed together with supporting material to facilitate its understanding and application. It was then reviewed and agreed on by the WG.

Pilot study: development of the HIA procedure

The municipal specialists in the WG were asked to contribute local initiatives that could be assessed, were preferably promoted by non-health sectors and were in the initial stages of planning. In a plenary

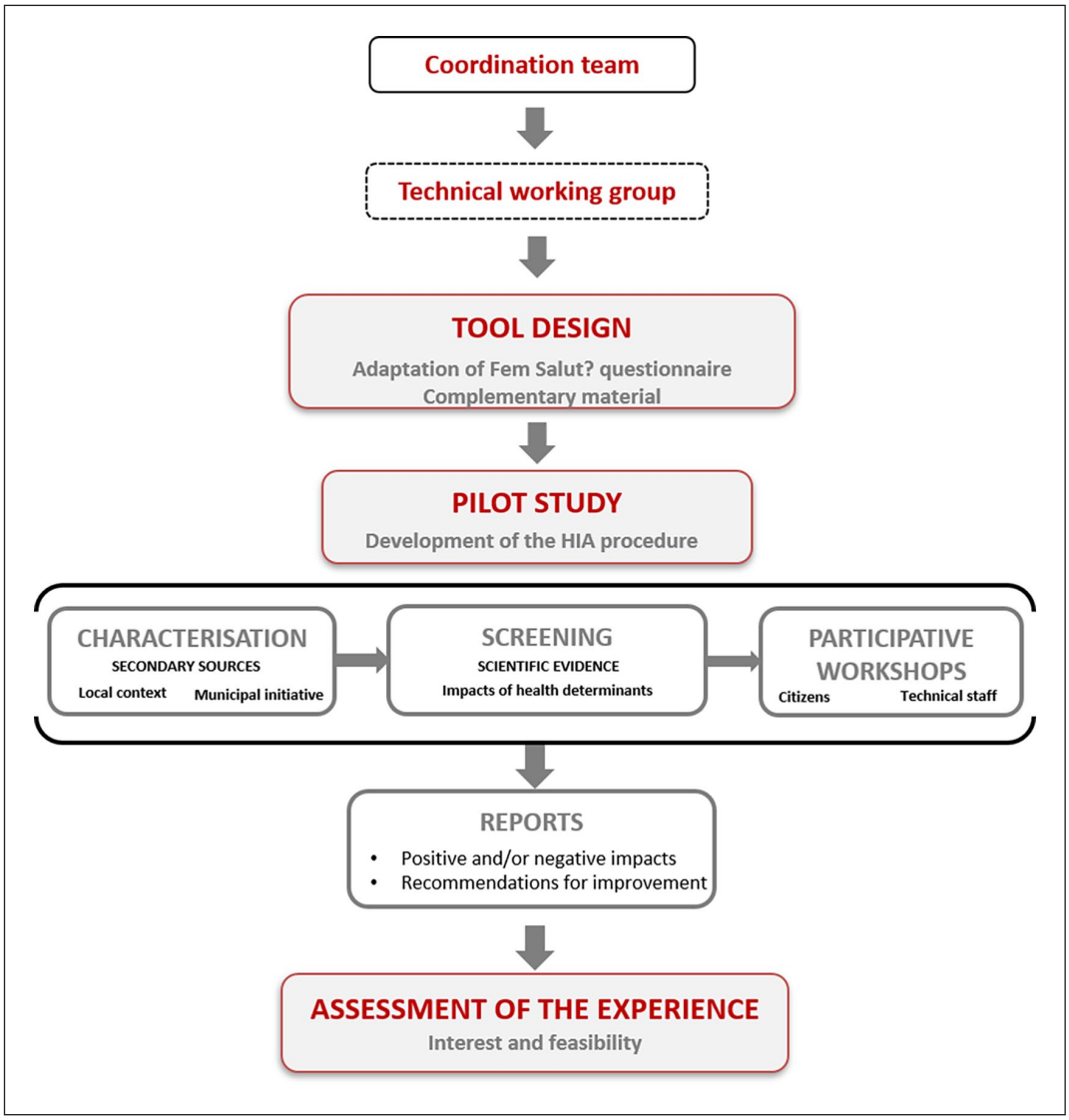

Figure 1. Stages in the development of the procedure and tools for the Health Impact Assessment (HIA) of local policies.

session of the WG, one initiative was selected in each municipality. The selection criteria were the stage of the initiative (degree of development), the scope, the cross-sectoral nature, citizen participation and the population affected.

An analysis of the target population and the physical, economic and social context of each municipality was carried out. Likewise, the SDHs on which the initiative could have an impact were identified (screening phase), based on previous knowledge and using the adapted questionnaire as a checklist.

A qualitative analysis of the potential impacts on the SDHs and health inequalities was carried out, combining both the technical and the citizens' perspectives. To this end, a workshop was designed

that would use participatory techniques to identify the SDHs on which the local initiative could have an impact, the possible positive and negative effects the action could have on health and, finally, whether these results would be different in any population group depending on the different axes of inequality (gender, age, social class, territory, ethnicity and functional diversity). Likewise, proposals for improving the action aimed at increasing people's health and well-being and reducing health inequalities were also collected. Two workshops were held in each municipality. One was for the specialist personnel from the local council and professionals from other administrations and areas of interest depending on the project evaluated, and the other was intended for citizens, the population affected by the initiative, taking into account their diversity and ensuring the most vulnerable groups were represented. Participants were asked for their informed consent to record the audio of the sessions. The data were collected between September 2019 and February 2020.

The qualitative information was subjected to discourse analysis and was complemented with data provided by the scientific evidence. To avoid possible biases, the data were analysed independently by two members of the research team and subsequently reviewed and agreed upon with the rest of the team. The results of the HIA of each project were set out in a technical report and in an informative document targeted at the public where the main findings were summarised. Both were sent to the members of the WG and to those responsible for the project at the political and technical levels in each municipality.

Assessment of the experience: interest and feasibility of the HIA proposal

Finally, a meeting was held with the members of the WG in order to jointly assess the experience and the applicability of the proposed methodology, as well as to collect ideas for improvement. The group dynamics drew on the use of worksheets as a means to allow the participants to reflect on the opportunities and difficulties of the proposal for HIA in the local context.

Results

The first tool to be designed was the *Fem Salut al nostre municipi?* questionnaire for the simplified HIA of the municipal initiatives. Some modifications were incorporated with regard to the one used at the regional level, but its general structure was respected. The questionnaire is divided into three sections and collects information on: (a) key characteristics of the municipal initiative and population affected, including their coherence with the health policy formulated by the regional government; (b) the impact on SDHs and health inequalities; and (c) assessment of the need for an in-depth HIA or other type of assessment (Supplemental Material A). One of the most relevant improvements introduced was a section for describing the physical, economic and social context in which action is to be taken and the preparation of complementary material (worksheets) to make it easier to analyse the potential impacts on the SDHs and health inequalities following the conceptual model proposed by the Commission to reduce inequalities in Spain (4). Each sheet consists of a brief text on the relationship between the determinant and health outcomes, with reference to the population groups that are most affected, and a series of questions that, like a checklist, review key characteristics or elements to be assessed in the analysis of the initiative and its possible effects. In addition, it also includes examples of actions that have been effective in other contexts.

The WG's contributions to the initial draft of the questionnaire included the need to define the extent of the participation of citizens and vulnerable population groups according to the axes of inequality, as well as to improve the gender and equity perspective in the worksheets.

A total of 17 proposals were put forward for the pilot study by different municipal areas, ranging from very specific actions to more ambitious plans for the town. Most of them contemplated collaboration with other sectors while only a few included real citizen participation that went beyond mere information or consultation. Table 1 describes the characteristics of the six initiatives selected, as well as the people who participated in the different workshops. Regarding the degree of development, two of them were actions that were already under way but allowed for the possibility of making changes, another two were actions that had been approved but not yet launched and, finally, the other two were still in the development phase in which the contents were still being discussed. In half of the cases, they were actions promoted by the urban planning area.

Table 1. *Characteristics of the municipal initiatives analysed and the people who took part in the workshops.*

Title	*Municipality (no. inhabitants)*	*Promoting area*	*Degree of development*	*Target population*	*Workshop participants*			
					Specialists		*Citizens*	
					Women	*Men*	*Women*	*Men*
Grow Green: nature-based solutions for the neighbourhood of Benicalap	Valencia (791,413)	Environment	Underway	General population	10	4	8	5
Maintenance physical-sports activity for senior citizens	Segorbe (8878)	Health	Underway	Elderly people	7	1	9	3
Sustainable Urban Mobility Plan	Almussafes (8932)	Urbanism	Approved but not underway	General population	8	5	9	2
Urban and interurban cycle-pedestrian lanes	Onda (24,850)	Urbanism	Approved but not underway	General population	6	2	4	3
Recovery of socialisation spaces for the young people of Gandia	Gandia (73,829)	Urbanism	Currently being developed	Young population	12	1	12	6
Alternative leisure project for a Healthy Aspe	Aspe (20,537)	Health	Draft/pilot study	Young population	6	4	6	6

The first workshops made it possible to identify some difficulties and elements in need of improvement in the initial design of the procedure. The participatory methodology was modified and adapted to the nature of the action under analysis and to the characteristics of the municipality and the people who attended the workshops. Finally, the workshop was structured around two dynamics: an initial one, to unify the language and generate a common reflection on social determinants and health inequalities, and a central one, which lasted longer and consisted of a group interview to assess the possible impacts of the local initiative on the SDHs and the proposals for improvement of the project in order to increase health outcomes and reduce health inequalities. The proposed structure was the same for the workshops with the specialists and for those with citizens. However, in one case, the difficulty of convening citizens on the dates of the study made it advisable to replace the workshop with personal interviews with key informants.

The discourse analysis, together with the review of the evidence, showed a high number of possible positive impacts on the SDHs that could be obtained by carrying out the different projects. In particular, beneficial effects on elements in the residential setting were noted, such as reduced air and noise pollution or the access to and enhancement of green areas and public spaces that favour social interaction. Another aspect that was considered to be very positive was the promotion of the active movement of the population that was associated with the improvement of transport and mobility infrastructures. Positive impacts on psychosocial factors (emotional well-being, social cohesion, participation, etc.) and health-related behaviours (physical activity, activities that

Table 2. *Opportunities and difficulties for Health Impact Assessment (HIA) at the local level.*

	Opportunities	*Difficulties*
Context and process	• Promoting local health action (XarxaSalut) • Lessons learnt throughout the HIA process itself	• Requires political will to move forward on the HiAP and HIA approach • Lack of a culture of public policy evaluation • Gaps in training and awareness-raising on the conceptual framework of SDHs and health equity
Cross-sectoral work	• Ease of access to specialists and experts in different areas of knowledge • Existence of cross-sectoral work networks already established in the municipality	• Lack of communication and awareness of local teams in the search for synergies • Limited human and financial resources
Citizen participation	• Citizens' willingness to participate • Existence of spaces for active participation in the municipality • Associative movements enrich the process	• Little training in participatory process techniques and management • Adequate times and spaces for participation (work-life balance) • Inclusion of all groups, especially those in vulnerable situations
Complementary tools and materials	• Flexible, easy-to-apply tool • Both quantitative and qualitative comprehensiveness in the analysis of the SDHs	• Adapt language and skills to different population groups • Obtain data on the state of health and its determinants at the municipal level

HiAP: Health in All Policies; SDH: social determinant of health.

promote interpersonal relationships, etc.) were also determined. Similarly, a varied distribution of some of these impacts depending on gender, age, social class and other axes of inequality was observed, and a number of proposals to reduce possible health inequalities were put forward. Some examples are the improvement of the accessibility of public spaces taking into account the needs of the elderly and people with functional diversity, gender mainstreaming in the design of spaces and the promotion of citizen participation in decision-making processes, with an emphasis on groups in situations of social exclusion (Supplemental Material B).

Based on the pilot scheme, a procedure for the HIA of local policies was formulated. It was given the name 'DECIDE' and is an adaptation of the stages of the HIA to the particularities of the local setting consisting of six steps: 1. Describe the socioeconomic context of the locality and the main characteristics and objectives of the municipal initiative; 2. Extract the possible SDHs that will be affected by the development of the initiative by applying the *Fem Salut al nostre municipi?* questionnaire; 3. Use a qualitative methodology to analyse the effects on the SDHs and health inequalities, with the formulation of proposals for improvement and the incorporation of the vision of the specialists and the citizens (Co-produce); 4. Integrate scientific evidence with the information obtained from the qualitative techniques; 5. Disseminate the results of the HIA to the political level, specialists and community; 6. Evaluate the effectiveness of HIA, taking into account both the direct and the indirect results. In general, the specialists in the WG considered this procedure to be simple and feasible. The methodological flexibility was highlighted as a favourable point, since the differential characteristics of each municipality (population size, existing networks, previous experiences in community health, etc.) gave rise to different opinions and contributions, especially in relation to the forms of cross-sectoral work and citizen participation (Table 2).

With the results obtained, a guide was produced detailing the theoretical bases of the HIA, the steps of the DECIDE procedure and how to use the *Fem Salut al nostre municipi?* questionnaire. It also included the worksheets and other materials for

promoting and facilitating the implementation of the HIA at the local level (21).

Discussion

This study has provided material that includes everything needed to carry out the HIA of local policies in a simple, flexible and effective way. Specifically, it contains a guide to the whole procedure structured in six steps, an adapted questionnaire that can be applied at different times and a set of worksheets that facilitate reflection on the SDHs and the health impacts of municipal initiatives. The participation of the community in the impact assessment and the formulation of improvements to maximise health gains and reduce inequalities is one of the key elements of this methodological proposal.

Despite having proved its usefulness in the implementation of the HiAP strategy (22), the HIA has received little attention in the field of public health in Spain. In 2005 the first guide was published (23) and as of 2006 the first HIA was carried out on a local urban regeneration policy (24). Since then, various initiatives have emerged, at both the regional and the local levels, generally of an ad-hoc nature and without any continuity, and with a variable scope and effectiveness (25). Andalusia is the only autonomous community that has institutionalised the HIA in urban planning and in projects already subject to environmental assessment, as well as in government plans and programmes (26).

The local level is a favourable context to foster the creation of health-promoting environments and to achieve healthy and sustainable communities. In the Valencian Community, several elements converge that have boosted the development of community health action, under the protection of a favourable regulatory and strategic framework and a proposal for deployment at the local level through the creation of the Valencian network of municipalities for health (XarxaSalut) (12,27,28). At present, this network is made up of a total of 244 municipalities, with varied geographical, demographic and socioeconomic characteristics, which together add up to 74% of the Valencian population. This is an ideal scenario for implementing the HIA of municipal proposals and interventions.

To advance in this process, it is essential to empower local administrations and provide them with instruments that help them incorporate the perspective of health and health equity in their decisions (29–31). This work represents a first step in this direction by offering as a result an orderly but flexible implementation procedure and a set of tools adapted to the characteristics of the local setting, which have proved useful for analysing the possible effects of a range of municipal initiatives or actions on health and health equity. DECIDE is an acronym formed with the initial letter of the actions that are carried out and summarises the steps that must take place for the HIA. These actions correspond with the generic stages of the HIA process (11). The first two steps – Describe and Extract – allow determining the scope of the HIA. In the third and fourth steps – Coproduce and Integrate – the potential impacts on health are analysed and measures to improve health outcomes and reduce health inequalities are formulated. The fifth and sixth steps – Disseminate and Evaluate – correspond to reporting, implementation results and monitoring. On the other hand, DECIDE emphasises the HIA approach as support for informed decision-making, based on the scientific evidence and with the participation of the community, and oriented towards improving health and reducing health inequalities. The cross-sectoral and multidisciplinary nature of the proposal, together with the incorporation of citizens in the participatory analysis, provides added value and represents an opportunity for the acquisition of knowledge and skills, the initiation or strengthening of collaboration among sectors or the development of dialogue between the institutional sphere and citizens.

Community participation is seen as an essential element in the HIA of policies and projects for a number of reasons (for example, the value of local knowledge, the application of democratic principles or the community empowerment) (31,32). However, its effective application comes up against numerous obstacles, such as the lack of time and resources, scarce experience in the area of citizen participation, difficulty in involving vulnerable population groups and the distrust it generates at the political level (32). Having carried out this work in municipalities with active participation bodies, of a cross-sectoral nature and with citizen representation, has allowed some of these barriers to be overcome. Raising awareness in the political sphere and the prior training of the people who participated in the HIA as it regards the framework of the SDHs and health inequalities were also crucial elements in facilitating the process. However, there is still a long way to go to achieve the

institutionalisation of the HIA in actual practice. In addition to a legislative framework and political commitment, the allocation of adequate resources and structures and the capacity building in technical, operational and strategic domains at individual and organisational levels are required (33).

Coping with the COVID-19 pandemic and addressing the emerging health, social and economic demands has required local governments to make a huge effort and forced them to redirect the organisation and management of resources, which has prevented them from undertaking many of the actions scheduled for the year 2020. Some of the initiatives analysed in this study are currently still in the design phase, whereas in other cases it has not yet been possible to incorporate the suggested improvements or not enough time has elapsed to assess their results. These circumstances have made it difficult to carry out the last phase of monitoring and evaluation, which involves an analysis of the impact on decision-making and the implementation of recommendations. Nevertheless, several indirect impacts can be identified by means of a qualitative approach, extracted from the final assessment carried out by the WG. These indirect impacts include the generation of learning among the participants and their contribution to the progress towards health governance. In any case, it would be advisable to complete the study with an adequate follow-up and in-depth assessment of the effectiveness of the HIA, taking into account the direct and indirect impacts, as well as their determinants (25,34).

Another limitation of this study concerns the participatory process, since it was difficult to ensure all stakeholders were represented, especially in the case of certain vulnerable groups. In one of the projects, attendance was insufficient to carry out a group interview and the decision was thus made to adapt the methodology and carry out individual interviews. The gypsy population living in the neighbourhood did not participate in the study either. In accordance with the principle of proportional universality, efforts should be stepped up and specific strategies should be implemented to facilitate the development of capabilities and skills for participation in these groups. By so doing it would become a fundamental axis in the processes of social inclusion and contribute to the improvement of health and well-being in the most disadvantaged population as well as helping to reduce health inequalities.

In conclusion, the work carried out has provided a simple procedure and a set of tools adapted to the HIA of local policies. In addition to stimulating other sectors to include health in their policy consideration, the incorporation of citizen participation in the process is an important added value. Having access to the experience and perspective of the different stakeholders generates shared projects and visions, makes the decision-making process more democratic and increases the effectiveness of interventions aimed at gaining in health and well-being with the aim of allowing the whole population to benefit in an equitable manner.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research was funded by a Valencian Medical Institute Grant (2019) and received the support of the Valencian Federation of Municipalities and Provinces.

ORCID iD

Rosa Mas-Pons https://orcid.org/0000-0003-4032-4555

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Original Article

Development and field test of the Salutogenic Wellness Promotion Scale – short form (SWPS-SF) in U.S. college students

Craig M. Becker[1], Hui Bian[1], Ryan J. Martin[1], Kerry Sewell[1], Michael Stellefson[2] and Beth Chaney[2]

Abstract: Survey research is important for understanding health and improving practice among health professions. However, survey research can have drawbacks, such as overuse and excessively lengthy questionnaires that burden respondents. These issues lead to poor response rates and incomplete questionnaires. Low and incomplete response rates result in missing data and reduced sample size, damaging the value, usability and generalizability of the information collected. To address issues related to response rates and improve health research, shorter surveys are recommended because they impose less of a burden on respondents and are useful with larger populations. Health-related surveys also often focus on the factors leading to ill health without dedicating equal attention to factors supporting positive health. This study developed and tested a short form (SF) of the validated Salutogenic Wellness Promotion Scale (SWPS), which measures causes of health (rather than causes of disease), using responses from 2052 college students. The participants answered questions about their demographics and completed the SWPS and a perceived health assessment. Statistical tests demonstrated the SWPS-SF had significant relationships with the full SWPS, health status, and Grade Point Average (GPA). Statistical tests were also used to establish cutoff scores that had a high true positive and low false negative rate. These cutoff scores demonstrated a relationship of higher performance and better health. These promising results suggest this short test can provide valid information without burdening the respondents. Authors recommend additional tests be completed to validate the SWPS-SF.

Keywords: measurement, salutogenesis, short form, health promotion

The World Health Organization (WHO) (1) has defined health as the state of complete physical, mental, and social well-being and not merely the absence of disease and infirmity. Good or positive health is important, and its absence has been identified as a risk factor associated with depression (2). Higher levels of well-being are also valuable because they have the by-product of providing greater protection against morbidity and mortality (3). Despite this, pathogenesis—the study of the origins of disease, which explains how or why people move toward a disease and infirmity state—has dominated research, public policy, and healthcare (4,5). This pathogenic focus has resulted in incomplete and biased health status assessments that focus on disease outcomes and risk factors with a resulting emphasis on the absence and prevention of disease and infirmity, rather than the presence of better physical, mental, and social well-being (2,6).

1. East Carolina University, Greenville, NC, USA.
2. The University of Alabama, Tuscaloosa, AL, USA.

Correspondence to: Craig M. Becker, East Carolina University, 3207 Carol Belk Building, Mailstop 529, Greenville, NC 27858, USA. Email: BeckerC@ecu.edu

(This manuscript was submitted on 30 August 2021. Following blind peer review, it was accepted for publication on 26 April 2022.)

Global Health Promotion 1757-9759; Vol 30(1): 16–22; 1102193 DOI: 10.1177/17579759221102193 journals.sagepub.com/home/ghp

Salutogenesis, or the study of the creation and origins of health (4), provides a complementary focus on the promotion and generation of physical, mental, and social well-being. A salutogenic focus can provide information about how and why people move toward positive health states versus how or why people move toward disease (4,5,7,8).

Health measurement

Survey research is an integral component of health research. Belloc and Breslow (9,10) used surveys to complete their landmark, replicated study that indicated the cumulative impact of engagement in lifestyle behaviors related to alcohol use, hours of sleep, regularity of meals, physical activity, and smoking had a significant impact on health status. Today, health status questionnaires have continued to use this practice of assessing behaviors and associating them with health and disease states. However, despite this long history, the questionnaires used are only marginally good at predicting disease (11).

Additionally, outcome measures, such as weight, cholesterol levels, blood pressure, infirmity, mortality, or even well-being, have also proven to be insufficient because these measures assess for problematic outcomes and also because they do not provide information about what actions or processes would lead to the improvement and/or detriment of health status (4,5,8,12). Not doing a problematic behavior does not mean the person is now engaging in health-promoting actions. Research in multiple fields, including education and business, confirms what common sense suggests: outcomes can only be effectively changed by improving the process. Research-driven process improvement yields better outcomes. The process as it relates to health is the cumulation of lifestyle behaviors.

Researchers also suggest that inaccuracy may result because these measures only assess engagement of behaviors related to the absence of well-being or the presence of unhealthy behaviors, rather than states or actions related to the creation or presence of well-being (4,11,13). Others suggest that behavioral risk factor measures are inadequate because they do not account for complex social influences that impact health-related decision making (8,14,15). Simply stated, just because people do not engage in risk factors or problematic behaviors does not mean they are regularly engaging in health-promoting actions, which is the necessary action or process required to generate better health.

To combat this insufficiency, the Centers for Disease Control and Prevention (CDC) has advocated for an upstream approach to rebalance research and practice activities toward health improvement and not merely avoiding risk factors and health problems (16). Complementary upstream approaches would seek to learn more about behavioral, social, and environmental processes or engagement in lifestyle actions associated with improved health (8,16). Empirical evidence also underscores that positive health requires persistent engagement in multiple health-promoting actions in at least the physical, mental, and social domains of health (1,9,17–19). This evidence and these calls suggest the need for measures that account for regular engagement in multiple health behaviors, not just risk factors, and related disease or non-disease states.

To address this need, several scales were developed to assess the presence of health or health improvement beyond eliminating factors or states that are a detriment to health status. Some examples of health promotion or positive health measures include the Mental Health Continuum (MHC) (2), the Perceived Wellness Scale (PWS) (17), and the Health Promoting Lifestyle Profile (HPLP) (19).While these scales address positive states, such as perceived optimism and belief in the future, only the HPLP assessed engagement in healthy actions such as spending time with friends, eating healthy foods, and exercising. Data collected about engagement in health-promoting actions or the presence of positive states as measured by these scales confirmed the findings of Belloc and Breslow (9) that the cumulative engagement in a wide range of health-promoting actions was associated with higher levels of health and lower levels of problems with disease and infirmity (2,17,19).

The Salutogenic Wellness Promotion Scale (SWPS) is another complementary salutogenic-based scale designed to measure the amount of regular engagement in multi-dimensional health-promoting actions. The SWPS is unique in that it measures engagement in seven discrete dimensions (i.e., physical, social, spiritual, intellectual, vocational, emotional, and environmental) of research-identified health-promoting actions (18). The SWPS measures: actions taken to improve intellectual capacity, being physically active, eating healthy foods, having

beneficial communication, developing spiritually, taking actions to cope, and whether work is fulfilling. Studies have used the SWPS to assess and evaluate individual and group health-promoting actions (18,20–22). Data collected using the SWPS was shown to have good internal consistency (Cronbach's $\alpha = .89$; all factor alphas above 0.6) (22) and that it did not produce socially desirable responses (18). These results also supported that higher engagement in measured health-promoting behaviors was associated with better physical, mental, and social well-being, health, and improved life satisfaction, and lower incidence of depression, disease, and infirmity. Other research has also shown that understanding health-promoting actions, rather than just knowledge of risk factors, can be valuable in understanding health status (13,18,23).

Overuse of surveys

Unfortunately, overuse of surveys has burdened respondents and negatively impacted survey completion (24–26). Low response rates, incomplete data, non-responder bias, and unrepresentative data of populations results in problematic data and findings that cannot be generalized (27,28). Moreover, survey research in health has predominantly been conducted from a pathogenic lens. Most health surveys assess risk factors for disease versus measures about the creation of health through social, physical, and emotional well-being. Longer questionnaires provide more feedback and explain more variance, but a high respondent burden yields lower response rates and attrition (29). Overall, because the length of the survey and question difficulty are negatively related to response rate (25), shorter scales with succinct, understandable questions are recommended to improve response rates so that findings can be generalized.

Short, high-quality instruments are ideal for research of large populations (30) because rapid, objective, personal feedback in a stable environment assists in the acquisition of information about beneficial behavioral and cognitive processes (31). Researchers have developed valid shorter versions or short forms (SF) of validated health measures to collect more and better data. For example, in the early 1990s John Ware created the short form of the 110 item Medical Outcome Study (MOS) questionnaire, the SF-36 (32). In addition, validated short forms of the Mental Health Continuum (MHC) (2) and the Sense of Coherence (SOC) (33) scales have enabled more data collection.

Short scales are also recommended for screening tests to provide quick information to health professionals and/or clinicians. Screening health assessments have been designed to catch problems before symptoms or problems result. Therefore, it is recommended that researchers provide information about sensitivity, specificity, and predictive values when describing screening instruments (34). Higher SF response rates and adequate specificity and sensitivity increase the usability of these screening tests.

To address the low response rate quandary and gather information about the presence of health, the primary goal of this study was to develop and assess a SWPS-SF scale that could provide a brief screening test that would assess the well-being of young people. The secondary objective was to explore sensitivity and specificity cutoff points for the SWPS-SF, Grade Point Average (GPA), and perceived health status in the college student population so the scale results could help health professionals provide data-driven recommendations.

Methods

Procedure

After the study was approved by the Institutional Review Board (IRB) of the university, the study used previously collected data. The SWPS survey was administered initially to students who enrolled in a university-required personal health course during the academic year. On their own time, participants responded to a link provided on an email request letter that connected them to the Qualtrics survey. Students were notified in class and by email that completing this survey was an opportunity to earn extra credit. Each student was assigned a unique identifier to keep the study confidential and ensure duplicate student data was not used.

Participants

A convenience sample of 2140 unique students from one public university in the southeast United States participated in the study. Among them, 2052 were 18–24 years old and used in the data analyses.

Measures

The survey included demographic questions, a perceived health status assessment, and the Salutogenic Wellness Promotion Scale (SWPS).

Demographic questions

Participants answered questions about age, year in school, GPA, and gender. GPA was split into four response options: 0.0–1.0, 1.1–2.0, 2.1–3.0, and 3.1–4.

Perceived health status

Students were asked to read the World Health Organization's definition of health and then rate their perceived state of health based on that definition. Participants ranked their perceived health status using a 10-point scale ranging from 1 (poor health) to 10 (excellent health).

Salutogenic Wellness Promotion Scale (SWPS)

The 25-item SWPS was used to measure engagement in health-promoting actions. Items queried about engagement in health–promoting physical, intellectual, social, emotional, spiritual, vocational, and environmental areas of life. Cronbach's alphas of emotional ($n=4$), vocational ($n=4$), environmental ($n=3$), social ($n=4$), intellectual ($n=3$), physical ($n=4$), and spiritual ($n=3$) domains were 0.81, 0.84, 0.60, 0.80, 0.70, 0.71, 0.86 respectively. To complete the scale, participants responded to each item by indicating how often they engaged in the listed cognition or behavior using the following Likert scale: 5 (Always), 4 (Very often), 3 (Often), 2 (Sometimes), 1 (Once in a while), and 0 (Never). Higher scores indicated more engagement in health-promoting behaviors.

Data analysis

An exploratory factor analysis (EFA) with a Varimax rotation was used to explore the underlying factor structure of the 25-item SWPS and determine the potential items for a short form (SF) of the SWPS. Seven factors were identified based on an eigenvalue greater than one, scree plot, and total variance explained. The seven items chosen for the SF version of the SWPS were the highest loading item for each of the seven dimensions. The highest loading item was chosen because it had the strongest relationship to the dimension and is the item that explained the most variance of that dimension.

The initial assessment of the newly developed 7-item SWPS scale included Pearson product-moment correlation analyses examining the relationship between the 25-item and the 7-item SWPS scale scores, GPA, and health status. In addition, the internal consistency of data collected from the 25-item and 7-item SWPS was examined using Cronbach's alpha.

Cutoff scores

The SWPS-SF is being designed to predict health status and academic performance. This analysis used perceived health status rankings and academic performance of young adults to determine initial cutoff scores. Receiver operating characteristic (ROC) curve analyses were conducted to help create the cutoff score of this newly developed screening test. So that the measure could accurately identify those engaging in health-promoting actions, the cutoff score was based on ROC scores that indicated a relatively high sensitivity or true positive rate and high specificity or true negative rate.

To perform ROC analyses, a health status score of 6 points or above was recategorized as positive (healthier) and negative (less healthy) with a score below 6 points. GPA was also regrouped into two categories based on response options (0.0–1.0, 1.1–2.0, 2.1–3.0, and 3.1–4.0). GPA of 3.1 or above was labeled as positive or high academic performance and below 3.1 as negative or low academic performance. All statistical analyses were conducted using SPSS 26.0.

Results

The average age of the participants was 18.96 years (SD = 1.19). The majority were female (68.2%), White (81.0%), and freshman (66.7%). SWPS-SF scores ranged from 0 to 35, with an average score of 23.32 (SD = 4.67).

Exploratory factor analysis and correlation analysis

Exploratory factor analysis identified seven factors. They represented vocational, social, emotional, spiritual, physical, intellectual, and

Table 1. Factor loadings from EFA.

Seven items	*Factor loading*	*M**	*SD*
Enjoy schoolwork (vocational)	.76	2.73	1.11
Beneficial communication with family/friends (social)	.80	4.11	0.95
Manage stressful situation well (emotional)	.83	3.06	1.11
Pray/talk to a higher power (spiritual)	.89	3.24	1.64
Incorporate physical activity (physical)	.79	3.39	1.26
Read (intellectual)	.73	3.13	1.37
Support environmental laws (environmental)	.74	3.65	1.03

All correlations are significant, $p < 0.01$.
*Individual item responses range from 0 (never) to 5 (always).

environmental health behaviors. Bartlett's test of sphericity showed that the correlation matrix is not an identity matrix ($p < 0.001$), and the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) indicates that the sample size was sufficient relative to the number of items in the scale (KMO = .88). Seven factors explained 64.95% variance of the scale. Of the 25 items, seven items with the highest loadings on each factor were selected to form a new scale, SWPS-SF (Table 1). The full exploratory factor analysis of the 25-item scale is included as supplemental material.

The Cronbach's alpha of the 7-item SWPS-SF was acceptable ($\alpha = .60$). Correlations were calculated between the SWPS-SF and the SWPS, GPA, and Health Status (see Table 2).

Cutoff scores

Results from ROC for health status indicated the area under the curve was 68.7%, representing the SWPS-SF test's accuracy ($p < 0.001$). A cutoff score of 18.5 was chosen based on 87.6% sensitivity and 67.4% false-positive rate. Thus, about 87.6% of all healthier samples would be correctly identified as such, and 67.4% of all less healthy samples would be incorrectly identified as positive. Therefore, the SWPS-SF score equal to 18.5 or above indicates healthier respondents.

The ROC curve for GPA showed that the area under the curve was 58.6%, representing the accuracy of the SWPS-SF test ($p < 0.001$). A cutoff score of 20.5 was chosen, leading to a sensitivity of 80.5% and a false-positive rate of 68.2%. Thus, about 80.5% of all academic performance-positive samples would be correctly identified as such, and 68.2% of all academic performance-negative samples would be incorrectly identified as positive. Therefore, the SWPS-SF score equal to 20.5 or above indicates a high academic performance.

Table 2. Correlation analyses results.

Measures	*SWPS25*	*SWPS-SF*
SWPS	–	–
SWPS-SF	0.92	–
Grade Point Average (GPA)	0.19	0.18
Health status	0.32	0.28

One single score of 20.5 for both health status and GPA was used as a cutoff value of SWPS-SF. It leads to a sensitivity of 76.4% and a false-positive rate of 52.4% for health status.

Discussion

This study developed a short form of the SWPS, and initial evidence suggests it can provide valuable data for participants, health professionals, and health researchers. This short, complementary tool will provide data about health-causing actions, address the pathogenic bias, and improve response rates due to its short format.

The resulting significant correlations between the SWPS-SF and the full SWPS ($r = .92$) indicate a usable initial SWPS-SF was created. The similar significant correlations from the SWPS-SF and the full SWPS with participant GPAs ($r = .19$ vs. $r = .18$) and perceived

health ($r = .32$ vs. $r = .28$) further suggest the usefulness of the SF format among undergraduate populations. The development and initial tests of the SWPS-SF indicate it may provide a complementary screening tool to traditional, pathogenesis-based assessments that measure risk factors.

Existing research indicates engagement in health-promoting behaviors can improve the prediction of future health status (5). It is also essential to understand that information about health-promoting actions obtained about individuals from the SWPS could help professionals know more about their clients, meaning they may interact with their clients and participants more effectively. The lower respondent requirements of the SWPS-SF due to its 7-item format can help generate larger, more diverse samples and potentially more generalizable results. In clinical settings, the abbreviated form would shorten the amount of time allocated to completing the questionnaire, allowing clinicians to devote more time to interpersonal interactions with patients.

To improve the usability of this scale, this study also aimed to identify cutoff scores for the SWPS-SF that can be used to assess performance and health status and thus enable higher usability. The low investment in time by respondents and the ability of professionals to quickly understand the results because of the established cutoff criteria for health and performance in areas such as school make the measure useful.

Additional research is needed. Specifically, additional research with larger, representative, diverse populations is needed to confirm the usefulness of the established cutoff scores for the SWPS-SF. In addition, more research should be done to determine the ability of the SWPS-SF to identify changes in assessed health status. In other words, how well can the SWPS-SF screen for changes in health status in repeated measure studies?

While these initial results appear promising, specific limitations must be understood. First, the study used existing data from a convenience sample of college students from one university. Only seven items were used to form the new scale. It is possible that seven items cannot cover all the important contents of SWPS, leading to construct under-representation. Construct under-representation refers to 'the degree to which a test fails to capture important aspects of the construct' (35, p. 6). The short form (SF) SWPS may not adequately represent the measured construct. This inadequacy is related to the test content validity issue. Lastly, participant self-report limitations should also be considered. Despite these limitations, these results provide strong support for the scale's possible use and the need for more research to validate the SWPS-SF.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

ORCID iD

Craig M. Becker https://orcid.org/0000-0001-8095-4880

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The relation between lifestyles and positive mental health in Portuguese higher education students

Olga Valentim[1], José Vilelas[2], José C. Carvalho[3], Carmen M. Silva Maciel Andrade[4], Catarina Tomás[5], Patrício Soares Costa[6] and Carlos Sequeira[3]

Abstract: Healthy lifestyles are commonly associated with improved physical and mental health. Sleep patterns, nutrition, physical exercise, consumption of psychoactive substances, among others, can strongly influence positive mental health. The aims are: characterize lifestyles based on positive mental health clusters, considering the cross-sectional cohort sample of higher education students, and analyse the lifestyles associated with positive mental health. A cross-sectional, descriptive, correlational and multicentric study of quantitative approach was conducted. The Positive Mental Health Questionnaire was applied. Through the k-means method, four clusters were obtained based on positive mental health levels. The sample of 3647 higher education students was mostly female (78.8%), single (89.5%), with an average age of 23 years (SD = 6.68). Differences were found between clusters based on the sociodemographic characteristics and lifestyles. Findings in Cluster 1 were highlighted because they included students with a higher level of positive mental health, which was associated with greater satisfaction in affective relationships, higher recreational and sports activities, better sleep quality, a healthy diet, and lower medication and illicit drugs consumption. These key findings emphasize the promotion of healthy lifestyles and highlight the importance of positive mental health in promoting the health of higher education students.

Keywords: positive mental health, higher education students, lifestyle, health promotion

Introduction

The perspective on life and human development has been changing. Human development takes place from a succession of developmental stages. The end of adolescence and entry into adulthood corresponds to a remarkable and demanding period, since it involves several dimensions, biological, cognitive, social, environmental and personality (1).

Several studies show that the age group 18 to 25 is a transitional stage from adolescence to adulthood, characterized by a distinct period of development, a phase with a changeable, fluid and transitional character (1). Erikson (2) observed cases of prolonged adolescence, which he considers to be a typical phenomenon of modern societies that allows young people to be offered a period of exploration that allows the young person to find themselves and

1. Polytechnic Institute of Lusofonia, Ribeiro Sanches Higher School of Health, Lisboa, Portugal; Center for Research in Health Technologies and Services (CINTESIS).
2. Higher School of Health of the Portuguese Red Cross, Lisboa, Portugal.
3. Porto Higher School of Nursing, Portugal, Center for Research in Health Technologies and Services (CINTESIS)
4. University of the Azores, Ponta Delgada, Portugal.
5. Polytechnic Institute of Leiria Higher School of Health Sciences, Leiria, Portugal.
6. University of Minho School of Medicine, Braga, Portugal.

Correspondence to: Olga Valentim, Instituto Politécnico de Leiria Escola Superior de Saúde, Rua Alfredo Pimenta, n.°5, Leiria, 2411-901, Portugal. Email: ommvalentim3@gmail.com

(This manuscript was submitted on 20 July 2021. Following blind peer review, it was accepted for publication on 7 June 2022.)

Global Health Promotion 1757-9759; Vol 30(1): 23–32; 1112552 DOI: 10.1177/17579759221112552 journals.sagepub.com/home/ghp

find their place in society and coincides with attending higher education.

Academic life implies a daily life guided by autonomy, responsibility and autonomous decisions, in contrast to parental dependence (1). It is mostly in the early years that students face and feel the greatest demands, as students have to adapt to an extensive and complex set of roles, in addition to achieving academic success. This circumstance favours a condition of greater vulnerability, which can lead to situational crises or putting the student's mental health at risk (3).

The World Health Organization (WHO) (4) defines mental health as a state of well-being, wherein each individual perceives his/her potential, copes with everyday life stressors, works productively and fruitfully, and actively contributes to the community. This definition has raised an interesting debate among mental health researchers, pointing to a consensus that not having a mental illness necessarily confers psychological well-being (5). From a salutary perspective, the variables promoting mental health are significant, with mental health viewed as an indicator of integration and adaptation (6).

Positive mental health is currently an important issue for scientific literature, policy-making and clinical practice (7), attracting a growing interest in health research (8).

Two major theories describe the main components of positive mental health and the concept of well-being. The hedonistic tradition comprises the emotional element, for example, happiness and life satisfaction, while the eudemonic tradition includes human potential and optimal functioning. The interconnectedness of these approaches enables the conceptualization of positive mental health as a mental health approach involving the emotional, psychological, and social well-being dimensions (9).

Among European countries, Portugal has the second-highest prevalence of psychiatric diseases. Anxiety disorders are the most prevalent (16.5%), followed by mood disorders (7.9%) (10). With the increasing number of higher education students, the prevalence of mental disorders poses significant concerns, especially about anxiety and depression symptoms (11). Moreover, the onset of many of these disorders occurs during the university years. The literature shows higher rates of mental disorders in university students than in the general population (12).

Entry into higher education is an important stage of the individual's life, which represents, for most young people, a goal achieved (situational transition) but also corresponds to a period of consolidation or completion of the processes of 'developmental transition'. This situation can intensify health imbalances and disturbances due to its cumulative effect, which Chick and Meleis (13) call multiple transitions.

Some studies conducted with higher education students highlighted a tendency towards risky behaviours such as sedentarism, unhealthy sexual behaviour, tobacco and alcohol consumption and poor eating habits (14,15). Also, students exposed to stress or with low resilience are more likely to use alcohol as a coping strategy (12). In Portugal, higher education students often experience nervousness, sometimes extreme sadness, emotional deregulation and intense concerns (10). An analysis of the factors associated with mental health problems does not explicitly point to changes in family or socio-economic factors. However, it emphasizes the increased stress observed in university contexts and concerns about education and career opportunities (16). Educational institutions are important environments for health promotion initiatives because of the intrinsic relationship between health and learning (8).

According to the WHO in 2005, a healthy lifestyle means regular physical activity, no smoking, limited alcohol consumption, a healthy diet to prevent overweight, maintaining normal body mass index parameters and engaging in cultural or mental activities (5). The literature identifies a two-way relationship between lifestyle and mental health variables (17,18).

Thus, this study was prompted by acknowledging the association between different lifestyles and positive mental health. The aim was to explore different profiles likely to combine interaction effects or synergies between sociodemographic and lifestyle variables among higher education students. These study findings will greatly contribute to improving the understanding of lifestyles associated with positive mental health of this population. Thus, this study aimed to a) characterise lifestyles based on positive mental health clusters, considering the cross-sectional cohort sample of higher education students, and b) analyse the lifestyles associated with positive mental health.

Methods

Study design

This study was a project, developed by the NursID group of the Center for Health Technology and Services Research. A cross-sectional, descriptive, correlational and multicentric study of quantitative approach was conducted. Data collection was carried out between October 2019 and March 2020 in higher education institutions (public and private) in Portugal, using a self-administered questionnaire.

Setting and participants

The sample comprised 3647 students from 20 higher education institutions who freely agreed to participate in the study. Students in Portugal aged 18 years or older were eligible to participate. Most were women ($n = 2861$; 78.8%), single ($n = 3250$; 89.5%), attending their first and second academic years ($n = 1153$; 32.1% and $n = 888$; 24.8%) and had an average age of 23.17 years (SD = 6.68).

Ethical procedures

This study followed the Helsinki Declaration and the Oviedo Convention's recommendations, and the project was approved by the Ethics Committee. Participants were provided with information about the study objectives, which ensured anonymity, and were informed that they were free to withdraw from the study at any point.

Data collection

The questionnaire comprised 29 sociodemographic, clinical and lifestyle assessment questions and the Positive Mental Health Questionnaire (PMHQ), translated and validated for the Portuguese population in 2014 by Sequeira *et al.* (6). Lifestyle was assessed through questions about eating habits, sports or physical exercise, the number of sleeping hours and its quality, the use of anxiolytic therapy and the consumption of substances such as tobacco, alcohol and illicit drugs. This questionnaire followed the recommendations of the Portuguese Directorate-General of Health (18) and content validation was performed by a group of 25 experts.

The PMHQ consists of 39 items grouped into six factors that define the construct of positive mental health underlying the multifactorial model of positive mental health: Personal satisfaction; Prosocial attitude; Self-control; Autonomy; Problem-solving and Self-actualization; and Interpersonal relationship skills. The questionnaire uses a four-point Likert scale, with answers including 'always or almost always'; 'quite often'; 'sometimes'; 'rarely or never'. Scores range from 39 to 156 points, and the higher the score, the better the positive mental health.

Positive mental health shows good internal consistency (Cronbach $\alpha = 0.92$), with a similar factorial structure to the original study (Spain); the six factors' internal consistency varies between 0.60 and 0.84. The instrument has good stability (0.98), assessed by the test–retest performed at two-month intervals. In the present study, a Cronbach α of the overall scale also reached (0.92) and the internal consistency of the six factors varied between 0.55 and 0.86.

Procedure

Following the data collection, all questionnaires were submitted for analysis, eliminating those incomplete or incorrectly filled. The coding of valid questionnaires was then processed.

Data analysis

To group participants according to their positive mental health, a cluster analysis was applied through the k-means method. The analysis was performed using the six factors/variables that define the positive mental health construct (Personal satisfaction; Prosocial attitude; Self-control; Autonomy; Problem-solving and Self-actualization; and Interpersonal relationship skills). Standardized variables (z-scores) were included in the procedure, and solutions of two to six clusters were examined. The $\eta 2$ values were calculated by dividing the sum of all between-subjects sum of squares by the sum of the total sum of squares. The results of $\eta 2$ for the different solutions were two clusters: 0.362; three clusters: 0.448; four clusters: 0.505; five clusters: 0.531; and six clusters: 0.563. Based on these results, a four-cluster solution was chosen. Subsequently, six analysis of variance (ANOVA) tests were performed to compare the four

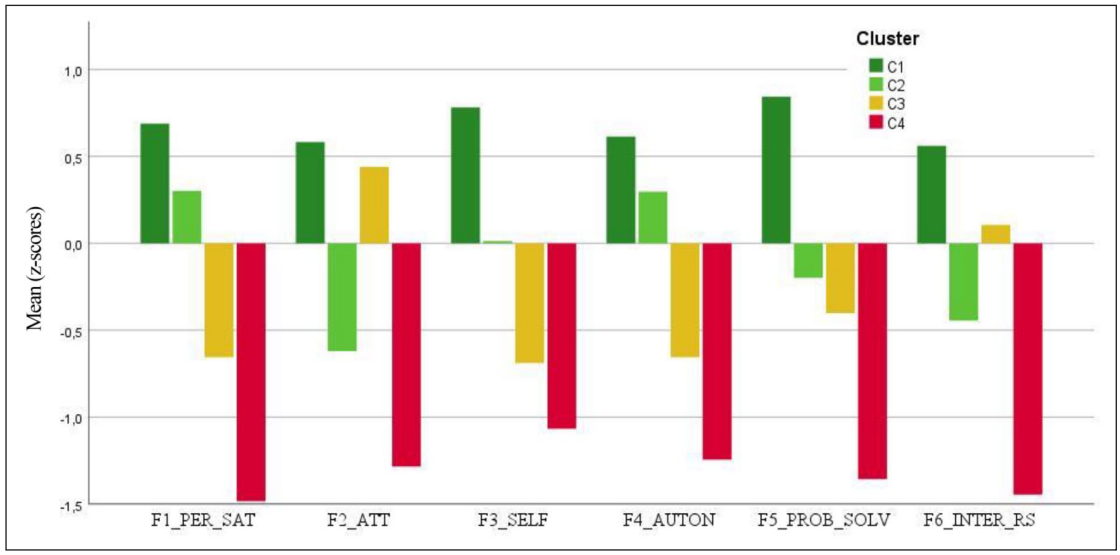

Figure 1. Cluster analysis. Mean performance *z*-scores by cluster in the positive mental health dimensions. F1_PER_SAT: Personal satisfaction; F2_ATT: Prosocial attitude; F3_SELF: Self-control; F4_AUTON: Autonomy; F5_PROB_SOLV: Problem-solving and Self-actualization); F6_INTER_RS: Interpersonal relationship skills

clusters obtained in the selected dimensions, although statistically significant differences were expected. The Levene test was used for homogeneity of variances, and in case the test was significant, the Welch correction was performed. The chi-square test was applied to analyse the association between clusters belonging and sociodemographic variables and lifestyles. All the statistical analyses were carried out using the SPSS (Statistical Package for Social Science) program, version 25.0 (IBM Co., Armonk, NY). The measures of the magnitude of effect η2 for the ANOVA case and Pearson's Phi or Cramer's V for the chi-square test were presented. The results are considered statistically significant, with a 5% significance level.

Results

Clusters and positive mental health

From the sample of 3647 students, four distinct groups were identified, distributed across the four clusters: C1 (n=1356, 37%); C2 (n=976, 27%); C3 (n=872, 24%) and C4 (n=443, 12%). This distribution sought to group similar students within the same cluster and distinctive between clusters according to the positive mental health dimensions (Figure 1).

According to the results displayed in Table 1, through the ANOVA test with the Games–Howell post hoc test, statistically significant differences were found between clusters according to each positive mental health dimension.

The variables contributing to cluster differentiation were Personal satisfaction; Self-control; Problem-solving; Self-actualization; and Interpersonal relationship skills.

The clusters were ordered by classification of the dimensions of Personal satisfaction; Self-control; Autonomy; Problem-solving; and Self-actualization: C1 > C2 > C3 > C4. Regarding the Prosocial attitude and Interpersonal relationship skills dimensions, the clusters were ordered according to their classification C1 > C3 > C2 > C4. C1 participants showed greater personal satisfaction, autonomy, self-actualization, problem-solving ability and self-control compared with other clusters. Students from C1 presented higher overall positive mental health, followed by C2 > C3 > C4.

From the assessment of positive mental health factors in the various clusters, C1 included more

Table 1. Mean and standard deviation of the positive mental health dimensions by cluster.

Dimensions	*C1* *n = 1356*	*C2* *n = 976*	*C3* *n = 872*	*C4* *n = 443*	*Total* *N = 3647*	*ANOVA* *Welch F(df1, df2)*
F1_PER_SAT	3.63 a (0.29)	3.40 b (0.33)	2.83 (0.46)	2.33 d (0.59)	3.22 (0.60)	$F(3, 1383) = 1222$, $p < 0.001$, $\eta 2 = 0.571$
F2_ATT	3.79 a (0.20)	3.34 c (0.30)	3.74 b (0.21)	3.09 d (0.44)	3.57 (0.38)	$F(3, 1396) = 834$, $p < 0.001$, $\eta 2 = 0.476$
F3_SELF	3.27 a (0.44)	2.78 b (0.44)	2.34 c (0.47)	2.10 d (0.54)	2.78 (0.64)	$F(3, 1490) = 1060$, $p < 0.001$, $\eta 2 = 0.479$
F4_AUTON	3.46 a (0.37)	3.28 b (0.37)	2.71 c (0.51)	2.37 d (0.57)	3.10 (0.59)	$F(3, 1431) = 817$, $p < 0.001$, $\eta 2 = 0.455$
F5_PROB_SOLV	3.57 a (0.28)	3.05 b (0.35)	2.95 c (0.35)	2.48 d (0.41)	3.15 (0.49)	$F(3, 1441) = 1401$, $p < 0.001$, $\eta 2 = 0.537$
F6_INTER_RS	3.54 a (0.30)	2.98 c (0.35)	3.24 b (0.34)	2.49 d (0.43)	3.19 (0.49)	$F(3, 1458) = 1092$, $p < 0.001$, $\eta 2 = 0.505$
PMHQ_TS	3.55 a (0.17)	3.14 b (0.17)	2.97 c (0.18)	2.47 d (0.23)	3.17 (0.40)	$F(3, 1461) = 3964$, $p < 0.001$, $\eta 2 = 0.795$

Different letters correspond to significant differences for $p < 0.05$: (a) the highest score to (d) the lowest score.
C: cluster; ANOVA: analysis of variance; F1_PER_SAT: Personal satisfaction; F2_ATT: Prosocial attitude; F3_SELF: Self-control; F4_AUTON: Autonomy; F5_PROB_SOLV: Problem-solving and self-actualization; F6_INTER_RS: Interpersonal relationship skills: PMHQ_TS: Positive Mental Health Questionnaire total score

participants (1356). This cluster also showed higher average levels of positive mental health in all dimensions. The Prosocial attitude was highlighted in this cluster, but Self-control and Autonomy potentially needed to be further developed.

C4, composed of 443 students, showed lower average levels of positive mental health in all dimensions. Also, the Prosocial attitude showed a higher average compared with other dimensions. Self-control and Personal satisfaction were the dimensions that needed to be further developed in students. Both C4 and C1 showed higher averages for Prosocial attitude, which can be explained by the students' disposition towards social engagement and their altruistic social attitude towards others, accepting individual differences and social factors.

C2, composed of 976 students, showed behavioural similarities to C1. However, C2 scored lower averages on all dimensions, mainly for Interpersonal relationship skills and Prosocial attitude.

Finally, C3, with 873 students, showed a behaviour similar to C4 but scored higher averages for positive mental health dimensions. Moreover, the Prosocial attitude and Interpersonal relationship skills, and Self-control and Autonomy scored higher mean values.

An analysis was performed on the socio-demographic characteristics and lifestyles to further investigate the characterization of clusters.

Clustering related to the sociodemographic indicators

Table 2 presents the analysis of the socio-demographic characteristics and lifestyles by cluster through the chi-square test. Some important outcomes were obtained:

- the existence of statistically significant associations between clusters and most sociodemographic variables (gender, age, being a student worker, having an affective relationship, satisfaction with the affective relationship, and engaging in recreational activities), except between being displaced from home and having a scholarship;
- a larger percentage of female students in C1 and C3, compared with C2 and C4;
- groups mainly composed of students aged between 18 and 25 years. C1 is the oldest group, with an average age of 24.22 years (SD = 7.83). The one-way ANOVA test was used to determine

Table 2. Sociodemographic characteristics by cluster.

Variables		*Cluster*										*p-value*
		1		2		3		4		*Total*		
		n	%	*n*	%	*n*	%	*n*	%	*n*	%	
Gender	Female	1057	78.4	716	73.7	748	86.2	340	77.1	2861	78.8	**< 0.001**
	Male	291	21.6	256	26.3	120	13.8	101	22.9	768	21.2	
Age	18–25	1030	76.2	776	79.8	758	87.0	367	82.8	2931	80.5	**< 0.001**
	26–30	107	7.9	77	7.9	46	5.3	39	8.8	269	7.4	
	>30	215	15.9	120	12.3	67	7.7	37	8.4	439	12.1	
Displaced from home	Yes	564	41.8	413	42.4	359	41.4	209	47.5	1545	42.6	0.159
	No	785	58.2	561	57.6	508	58.6	231	52.5	2085	57.4	
Worker	Yes	416	30.8	260	26.8	186	21.5	105	23.8	967	26.7	**< 0.001**
Student	No	934	69.2	709	73.2	679	78.5	336	76.2	2658	73.3	
Scholarship	Yes	466	35.1	368	38.3	334	39.1	173	39.7	1341	37.5	0.148
	No	862	64.9	592	61.7	521	60.9	263	60.3	2238	62.5	
Affective relationship	Yes	1056	78.4	700	72.4	624	72.2	273	62.8	2653	73.4	**< 0.001**
	No	291	21.6	267	27.6	240	27.8	162	37.2	960	26.6	
Satisfaction with affective relationship	Yes	1152	89.4	748	82.2	607	74.6	252	60.6	2759	80.5	**< 0.001**
	No	137	10.6	162	17.8	207	25.4	164	39.4	670	19.5	
Recreational activity	Yes	251	18.7	132	13.7	111	12.8	56	12.8	550	15.2	**< 0.001**
	No	1093	81.3	835	86.3	753	87.2	382	87.2	3063	84.8	

differences in ages between groups. Since the homogeneity of variances test was violated, the Welch correction was applied, and statistically significant differences were found, Welch $F_{(3,\ 1650)} = 28.6$, $p < 0.001$. Using the Games–Howell Post-Hoc test, only C3 and C4 showed no significance;

- the majority of the students were living with their families and did not practise physical activity. When comparing C1 and C3, these included fewer students displaced from home, and C1 had more student workers;
- in every cluster, the majority of students did not have a scholarship;
- most participants had an affective relationship and were satisfied with it. C1 showed higher percentages of students having an affective relationship and were satisfied, contrary to C4;
- most did not practise recreational activities. However, C1 presented the highest percentage for recreational activities.

Clustering related to the lifestyles indicators

The analysis of lifestyles through the chi-square test (Table 3) showed:

- statistically significant associations in the four identified profiles (clusters), between most lifestyle variables (perception of a healthy diet, physical exercise, sleep satisfaction, no consumption of medication or illicit drugs), except for tobacco and alcohol;
- most students did not practise physical exercise. However, C1 students were the ones exercising the most, while the C4 students exercised the least;
- a good perception of a healthy diet, with C1 revealing the highest percentage of students, and C4 the lowest;
- students had an average of 6.82 h of sleep (SD = 2.91). C4 reported sleeping fewer hours on average and C3 more sleeping hours. However, the differences in the average daily sleeping hours per group were not statistically significant

Table 3. Lifestyles by cluster.

Variables		*Cluster*										*p-value*
		1		2		3		4		*Total*		
		n	%	*n*	%	*n*	%	*n*	%	*n*	%	
Number of meals per day	0–2	1171	86.4	792	81.1	712	81.7	340	76.7	3015	82.7	< 0.001
	>2	185	13.6	184	18.9	160	18.3	103	23.3	632	17.3	
Healthy diet	Yes	1055	78.8	707	73.3	535	61.8	236	53.4	2533	70.1	< 0.001
	No	284	21.2	258	26.7	330	38.2	206	46.6	1078	29.9	
Physical exercise	Yes	553	41.0	343	35.4	230	26.5	106	24.0	1232	33.9	< 0.001
	No	797	59.0	626	64.6	638	73.5	336	76.0	2397	66.1	
Sleep satisfaction	Yes	771	57.1	464	47.8	279	32.1	140	32.0	1654	45.6	< 0.001
	No	579	42.9	507	52.2	591	67.9	298	68.0	1975	54.4	
Sleep medication	Yes	46	3.4	40	4.1	86	9.9	49	11.1	221	6.1	< 0.001
	No	1305	96.6	935	95.9	785	90.1	391	88.9	3416	93.9	
Alcoholic beverage consumption	Yes	676	50.1	476	49	438	50.5	213	48.4	1803	49.7	0.854
	No	674	49.9	495	51	429	49.5	227	51.6	1825	50.3	
Tobacco consumption	Yes	226	19.0	154	18.6	141	13.3	73	19.3	594	18.7	0.971
	No	965	81.0	674	81.4	631	81.7	306	80.7	2576	81.3	
Illicit drugs consumption	Yes	36	2.7	43	4.4	35	4.0	27	6.1	141	3.9	0.007
	No	1313	97.3	929	95.6	836	96	413	93.9	3491	96.1	

($p = 0.06$); Furthermore, C4 and C3 revealed the highest levels of dissatisfaction with the number of hours of sleep, but they were also the ones that most consumed sleeping pills. More specifically, students in C1 showed higher sleep satisfaction and lower consumption of medication. On the other hand, students in cluster C4 reported less sleep satisfaction and higher consumption of sleep medication;

- most of the participants had no smoking or illegal substance consumption habits. Despite this result, no significant differences were found between the clusters.

Moreover, statistically significant differences were found between clusters for the consumption of illicit drugs. C1 showed the least consumption of illicit drugs, while C4 reported the highest consumption.

Discussion

After the cluster analysis, four distinct groups were obtained. C1 showed a better positive mental health profile in all dimensions, contrary to C4.

Students in cluster C1 showed greater personal satisfaction, demonstrating a high prosocial attitude based on strongly developed self-control and autonomy. These aspects, associated with the enormous ability to establish interpersonal relationships, are likely to promote a good problem-solving capacity and influence students' self-actualization. Notably, students in C1 revealed a higher percentage of stable affective relationships. In the meta-analysis by Lyubomirsky *et al.* (19), the individuals' positive emotions were perceived to make them better at resolving conflicts and becoming more sociable. Also, in the same research involving longitudinal studies, the authors found that happiness generated better relationships and work outcomes, implying a greater positive mental health.

In the present study, the students in C1 showed a better perception of positive mental health. This perception was associated with a higher age group, being a student worker, and having affective relationships with a certain degree of satisfaction. Also those were engaging in more recreational activities. On the contrary, C4, with the worst positive mental health, showed more students displaced from

their usual residence, less satisfaction with affective relationships and less recreational activities. Our results do not corroborate the findings of another study, which concluded that the older the students, the less capacity they had to perceive emotional support and the more difficult it was to find and maintain affective relationships (20,21).

Regarding lifestyles, our study found that positive mental health was associated with physical exercise, the perception of a healthy diet, greater sleep satisfaction, and lower consumption of medication and illicit drugs.

The literature indicates that attitudes such as regular physical activity, good sleep hygiene, abstaining from consuming psychoactive substances and health surveillance are associated with better mental health, being indicators of positive behavioural health (14,22,23).

Concerning a healthy diet, current systematic reviews confirm a relationship between diet quality and positive mental health in adolescents. This evidence suggests the importance of taking nutrient-rich food between meals to help brain development and build a healthy adult life (24). In a study with 12,389 Australian people, Mujcic and Oswald (24) found that an increase in fruit and vegetable intake over two years resulted in a significant improvement in life satisfaction and positive mental health.

The literature also emphasizes sleep as an important element for the maintenance of general health. Recent studies have documented that the number of sleeping hours and sleep quality is related to the prevalence of physical and mental illness (25,26).

This present study showed that sleep promotes positive mental health. The difficulty in starting and maintaining sleep is common in students (27). This is an alarming signal because unhealthy sleep has proved to be associated with low academic performance (28), and/or poor mental health, such as depressive symptoms and anxiety (29).

Also, positive mental health was negatively associated with illicit drug use. However, the relationship between illicit substance and alcohol consumption with positive mental health is still controversial. While some studies have identified a non-linear relationship (with high risks for depression and anxiety for light/moderate users) (29), other studies did not find a significant correlation between alcohol and drug consumption with positive mental health (18). Most of our study participants had no smoking or illegal substance consumption habits, but many students consumed alcohol. The literature reveals that smoking is a risk factor for positive mental health (5).

In general, this present study has shown that students with better positive mental health had better lifestyles. Personal satisfaction and Prosocial attitude were highlighted with higher averages for positive mental health, and self-control, with autonomy, registering lower averages in C1. C4 was characterized by the worst lifestyle, with self-control and personal satisfaction showing lower averages for positive mental health.

Conclusion

Given that behaviours are easily influenced and modifiable, health education is an important vehicle for promoting mental health, and a unique opportunity to increase the mental health potential of higher education students, namely in the adoption of healthy behaviours. Knowledge about the determinants of mental health is extremely important, as it can and should be transferred and integrated into Health Policies.

These study results suggest an association between the analysed variables (sociodemographic characteristics and lifestyles), with practical implications for positive mental health. The findings also show that, in general, lifestyles, affective relationships and recreational activities should be carefully considered in a mental health promotion plan.

Lifestyles such as healthy diet, physical exercise, sleep satisfaction, not consuming medication or illicit drugs, having satisfactory affective relationships, maintaining the habitual residence, and recreational activities showed a strong influence on positive mental health. All these indicators act as promoters of overall positive mental health, especially Personal satisfaction and Prosocial attitude.

We stress the importance of interventions to promote self-control and autonomy, such as the students' ability to deal with stress/emotions, frustration and anxiety. Importantly, interventions promoting personal satisfaction in students with a C4 profile should enhance self-concept, self-esteem, satisfaction with personal life and the belief of a better future.

Last, we suggest the design and implementation of intersection programmes between positive mental health and healthy lifestyle literacy among higher education students, demonstrating the relevance of the factors associated with the clusters identified in this study.

The student is an open system in interdependence with its context (family, academic and social). The family can act as a protective system for the individual in crisis situations, helping him to face adversity and manage anxiogenic situations related to higher education. So a systemic approach to promoting mental health seems particularly promising for enhancing student well-being and success.

Declaration of conflicting interests

The authors have no conflicts of interest to declare.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

ORCID iDs

Olga Valentim https://orcid.org/0000-0002-2900-3972

Carlos Sequeira https://orcid.org/0000-0002-5620-3478

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Repercussions of perceived threat to health in the Spanish population

María del Mar Molero Jurado[1], África Martos Martínez[1], María del Carmen Pérez-Fuentes[1], María del Mar Simón Márquez[1], Inmaculada Méndez Mateo[2], Ana Belén Barragán Martín[1] and José Jesús Gázquez Linares[3]

Abstract: Studies have shown that COVID-19 has had a worldwide psychological impact. Confinement due to COVID-19 has had important repercussions on the mental health of the general population, with high levels of stress, anxiety, depressive symptoms, post-traumatic stress disorder, and so forth. Similarly, important labor, economic and social changes taking place are affecting people's well-being. The objective of this study was to analyze the repercussions of perceived threat from COVID-19 on the mental health of the population, and to evaluate the mediating role of perceived economic impact. The participants were 1160 adult residents of Spain aged 18 to 82, 69.9% of whom were women. A sociodemographic questionnaire, the Questionnaire on Perception of Threat from COVID-19 and the General Health Questionnaire were administered. Perceived threat had a positive direct effect on all four health dimensions analyzed. Among the indirect effects, the perceived economic impact of COVID-19 mediated in the relationship between perceived threat and each of the health dimensions. The results of this study have demonstrated the need to promote joint action promoting public mental health to minimize the psychological repercussions of new outbreaks.

Keywords: perceived threat, COVID-19, general population, mental health

Introduction

The situation created by COVID-19 is a global problem that affects communities all over the world (1). The World Health Organization (WHO) (2) emphasizes significant transformation in daily living, economies have fallen into recession and many of the traditional social, economic and public health networks have been subjected to unprecedented extreme pressure. Mental health is one of the high priority areas of care due to the enormous psychological impact caused throughout the world (3,4). Thus, a systematic review of the pandemic by Boyraz and Legros (5) showed that for some people it can be a traumatic experience, and even develop into post-traumatic stress disorder. Lockdown has also often increased stress, anxiety, depressive symptomatology, psychological distress and worsening emotional state (6,7).

As Ceylan (8) mentioned, COVID-19 has struck hard in Europe, causing an extreme burden on the population (9). At the beginning of the pandemic, Italy, Spain and France were the countries hardest hit by COVID-19, due to its rapid propagation, which produced tragic results in only a short time. In Spain, it led to a state of emergency, generating an exceptional situation for its citizens, who had to

1. University of Almería, Almeria, Andalucía, Spain.
2. Universidad de Murcia, Murcia, Spain.
3. Universidad Autónoma de Chile, Temuco, Chile.

Correspondence to: María del Carmen Pérez-Fuentes, University of Almería, Ctra. Sacramento s/n, Almería, 04120, Spain. Email: mpf421@ual.es

(This manuscript was submitted on 12 April 2021. Following blind peer review, it was accepted for publication on 20 April 2022.)

Global Health Promotion 1757-9759; Vol 30(1): 33–41; 1102192 DOI: 10.1177/17579759221102192 journals.sagepub.com/home/ghp

suddenly change their job, leisure, family and other routines (10). A study by Varga *et al.* (11) showed that the pandemic and public health intervention measures taken by governments (lockdown, curfew and business closings) have had a direct negative impact on the mental health of the global population, especially women, youth and people with mental health problems, who are affected more by loneliness and precautions against contagion or transmission of the virus. Maintained over an extended period of time, they can lead to severe mental illnesses. The harmful effects to mental health after the pandemic (anxiety, depression, anger, etc.) could even be worse (12). These perspectives have been demonstrated by longitudinal studies, such as the one by Wang *et al.* (13), which showed that no significant change has been felt in the levels of stress, anxiety and depression after several months in China, where the virus is under better control.

Vulnerability factors such as female sex, low socioeconomic level and high risk of contagion have been associated with high risk of developing mental alterations (4,14,15) like depressive symptoms and anxiety (16,17). Other studies along this line have suggested greater vulnerability to post-traumatic stress, anxiety and depressive symptoms in people diagnosed with COVID-19 or with someone close who is (18), those who are very worried about being infected or who spend most of their time thinking about it and have no psychological support (19,20), as well as those whose income has been reduced or who have financial problems because of the pandemic (19,21,22). This could be because women and youth are more vulnerable to the measures imposed by COVID-19 (23), which strongly impacts their economic stability (24). According to the conceptual framework of Ransing *et al.* (25), COVID-19 would be the origin of an emotional pandemic with more or less complex peaks. In this case, the economic damage or death of loved ones could be factors hard to recover from and that impact squarely on the mental health of those affected.

According to Ozamiz-Etxebarria *et al.* (26), the psychological impact of the pandemic on the Spanish population has increased levels of anxiety, stress and depression, especially among those with previous psychological pathologies. The youngest population has been affected the most (27,28), and women are the least resilient (29), showing greater anxiety, depression and post-traumatic stress disorder (28,30). Those with a close relative with COVID-19 have also shown more psychological effects (31). In addition, the existence of uncertainty of future employment, worry about the disease and fear that someone close may be infected have been demonstrated (10). Thus, strong uncertainty about social health developments, along with the economic impact of temporary closings, additional measures in many sectors and businesses, and unemployment (32), could lead to the appearance of psychological distress and anguish, and diminish well-being and life satisfaction (33–35).

Some authors allude to excessive fear of or worry about COVID-19, called 'coronaphobia' (36). Studies have demonstrated that in the general population there appears to be a relationship between anxiety sensitivity and proneness and sensitivity to disgust, predicting fear of catching COVID-19. Sensitivity to anxiety involves a tendency to interpret physical sensations inappropriately, which in turn increases anxiety and causes cognitive distortion. As some virus variants (e.g., SARS-CoV-2) have a long incubation period (up to 14 days), the risk of anxiety is significantly higher in those most vulnerable (37). An increase in fear of COVID-19 has also been found (38) to result from people not knowing how to protect themselves and those around them from becoming infected (18). Fear of social interaction could even appear (39). This fear has been related to the appearance of anxiety, depression and stress, especially in women and those who have had a family member die of COVID-19 (38). Re-education of this fear is important to minimize the adverse effects of social isolation, such as major depressive disorder, substance use, or even suicide (40). This is because education on the effects of COVID-19 concentrated on health literacy and stimulating personal care diminish uncertainty from ignorance of how the virus spreads, as well as adaptive coping and making use of technology to reinforce social support networks (41).

In spite of the effort made by the WHO (42) in providing clear guidelines and avoiding hoaxes and false news, the perceived threat of contagion continues to concern the general public. Perceived threat from a disease is a wide, unspecific construct that refers to the individual representations of experience, treatment, causes, duration and cure of

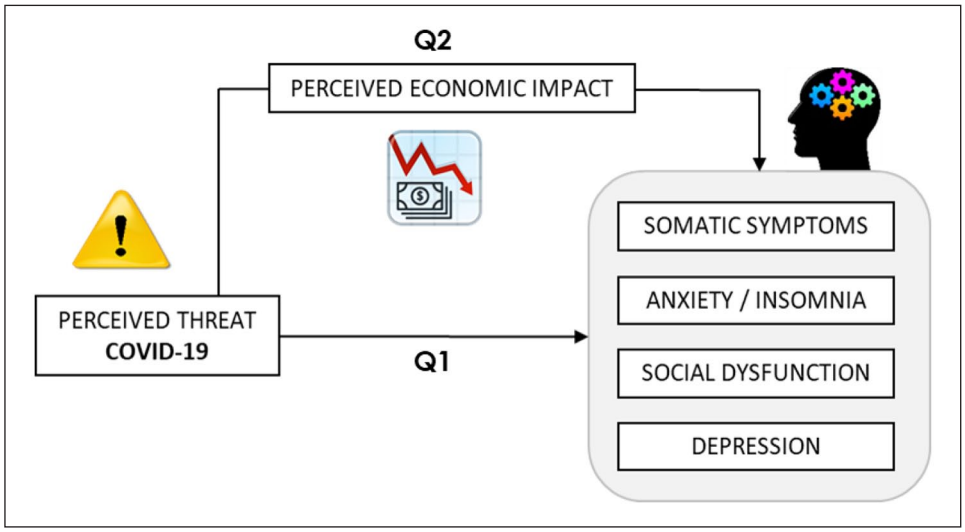

Figure 1. Hypothesized mediation model.

a disease, conditioning in turn interpretation of symptoms (43–45). In this sense, perceived threat of COVID-19 affects mood, facilitating sadness/depression, anxiety and anger/hostility emotional states. This negative mood in turn promotes the feeling of threat (46). Therefore, a cognitive state altered by high perceived threat from COVID-19 could affect the well-being and mental health of the population. Fear of contagion and the possibility of a new outbreak have made it necessary to know whether the Spanish population is prepared for this threat. The objective of our study was therefore to analyze the repercussion of the level of perceived threat from COVID-19 on the mental health of the population and evaluate the mediating role of perceived economic impact. The hypotheses of our study were:

H1: The level of perceived threat from COVID-19 is related to mental health problems.
H2: The level of perceived threat from COVID-19 is higher among women and if there is a close case of COVID-19.
H3: The perceived economic impact of COVID-19 is related to threat and mental health problems.
H4: The perceived economic impact of COVID-19 mediates in the relationship between threat level and consequences or repercussions on mental health. It is expected for measurement to be positive, such that perceived strong economic impact could worsen the negative consequences on mental health of perceived threat from COVID-19.

Therefore, as a starting point, and in line with the hypothesized model shown in Figure 1, we asked the following research questions: Q1) How does perceived threat from COVID-19 affect mental health? Q2) Does perceived economic impact mediate in these relationships?

Method

Participants

The original sample consisted of 1688 adults, of whom 520 were eliminated because they did not complete the questionnaire, and eight because of incoherent answers detected by control questions inserted at random. Specifically, four participants were eliminated by Control Question 1 and another four based on Control Question 2.

Thus, the final sample was made up of a total of 1160 adult residents of Spain aged 18 to 82, with a mean age of 38.29 ($SD = 13.71$). Of the total sample, 30.1% ($n = 349$) were men and the remaining 69.9% ($n = 811$) were women. Marital status was 53%

($n = 615$) married or common law partnership, 37.8% ($n = 438$) single, 8% ($n = 93$) separated or divorced, and 1.2% ($n = 14$) widowed.

Participants were asked whether anyone close to them had been diagnosed with COVID-19, to which 31% ($n = 360$) said yes. Finally, the distribution of the answers on the perceived economic impact from the pandemic was as follows: 53.1% ($n = 616$) answered none or little, 24.2% ($n = 281$) somewhat, and 22.7% ($n = 263$) quite a lot or very much.

Instruments

An ad hoc questionnaire was designed for sociodemographic characteristics. Items were included on sex, age, marital status, and whether anyone close to them had COVID-19, and the perceived economic impact of COVID-19.

The Questionnaire on Perception of Threat from COVID-19 (47) was used to evaluate perceived threat and worry about the disease. This scale analyzes perceived threat from COVID-19 caused by the SARS-CoV-2 virus in the adult Spanish population. It consists of five items answered on a 10-point Likert-type scale, from which a single dimension is found: perceived threat from the disease, where higher scores indicate more perceived threat. For this study, the instrument showed a reliability of $\alpha = 0.70$ and $\omega = 0.73$.

The Spanish adaptation of the General Health Questionnaire (GHQ-28) (48) validated by Lobo *et al*. (49) was used as a measure of health. It consists of 28 items with four answer choices. The Likert-type method was used for scoring by giving each answer choice 0 to 3 points. In addition to a total score in general mental health, the questionnaire provides information on the somatic symptoms, anxiety and insomnia, social dysfunction and depression subscales. The GHQ is widely used to evaluate psychiatric morbidity, not for diagnosis, but to identify the presence of symptoms compared to what is normal, so higher scores show greater possibility of psychological anguish. The instrument's reliability in this study was $\alpha = 0.94$ and $\omega = 0.94$ for the complete scale, and for each of the subscales: somatic symptoms ($\alpha = 0.86$; $\omega = 0.87$), anxiety and insomnia ($\alpha = 0.90$; $\omega = 0.90$), social dysfunction ($\alpha = 0.80$; $\omega = 0.80$) and depression ($\alpha = 0.90$; $\omega = 0.89$).

Procedure

Due to social distancing in Spain when data were acquired, specifically the period from 1–12 May 2020, a computer aided web interviewing (CAWI) survey was used to collect data from participants who were recruited by snowball sampling. The survey was distributed to the general population on social networks such as Facebook and Twitter. Participation was voluntary. Information on the study and its purpose was provided on the first page, before beginning the questionnaire. Participants gave their informed consent by marking the box designated for the purpose, which then gave them access to the questionnaire. They were asked to answer truthfully, and the anonymity of their answers was guaranteed. For detection of random or incongruent answers, control questions were inserted throughout the questionnaire. This study was approved by the Bioethics Committee of the University of Almeria (Ref. UALBIO2020/021).

Data analysis

Instrument reliability was examined by estimating the McDonald's Omega coefficient following Ventura-León and Caycho (50). The Cronbach's alpha coefficient was also calculated.

As a preliminary approach to check the association between variables, descriptive characteristics and Pearson correlation analyses were performed. The independent samples *t*-test was applied to examine any differences between groups (gender, close COVID-19 cases) in perceived threat from the disease and the health subscales (GHQ-28) with the Cohen's *d* (51) for effect size.

Then mediation analyses were done with a predictor (perceived threat from COVID-19), a mediator (economic impact) and multiple result variables (somatic symptoms, anxiety/insomnia, social dysfunction and depression). JASP version 0.11.1 (52), based on lavaan software (53), was used for these calculations. To test whether there was any indirect effect, confidence intervals were calculated with the bias-corrected percentile bootstrap method as suggested by Biesanz *et al*. (54). The models were estimated applying statistical corrections, including age, gender and a close case of COVID-19 as background confounders. Confounding occurs when there are 'third' variables that are related to two

(or more) variables involved in the mediation model and therefore partially explain the relationship between them (*55*).

Results

Preliminary analyses: correlations and descriptive statistics

As shown in Supplemental Table 1, positive relationships between perceived threat and mental health problems, represented by the four GHQ-28 dimensions, were observed. Thus, high perceived threat from COVID-19 would be related to high scores in somatic symptoms, anxiety/insomnia, social dysfunction and depression.

With a view to the possible inclusion of potential confounders in the mediation model, differences in perceived threat and health subscales were examined by gender and close case of COVID-19 (Supplemental file 1).

In the first place, it may be observed that there are statistically significant differences in perceived threat between the sexes, where women had higher scores than men. There were also differences in the presence of somatic symptoms and anxiety/insomnia, in which women had higher scores in both cases.

A close case of COVID-19 or not was also considered a possible confounder for the mediation model proposed. Significant differences were found in level of perceived threat, which was higher in subjects who said someone close had COVID-19. Differences between the groups were also found in the somatic symptoms, anxiety/insomnia and depression subscales.

Age did not show any relationship with perceived threat ($r = 0.03, p = 0.221$), although it was negatively correlated with the GHQ-28 subscales: somatic symptoms ($r = -0.17$, $p < 0.001$), anxiety/insomnia ($r = -0.20$, $p < 0.001$), social dysfunction ($r = -0.20$, $p < 0.001$), and depression ($r = -0.18$, $p < 0.001$), and negatively with perceived economic impact of the situation derived from COVID-19 ($r = -0.06$, $p < 0.05$).

Finally, the value the participants placed on the economic impact of COVID-19 was positively correlated with perceived threat and also with each of the GHQ-28 dimensions (Supplemental file 2).

Relationship between perceived threat from COVID-19 and health: the mediating effect of perceived economic impact

As shown (Supplemental file 3), perceived threat had a direct positive effect on the four dimensions of health analyzed (somatic symptoms, anxiety/insomnia, social dysfunction and depression).

Perceived economic impact of COVID-19 was observed to mediate in the relationship between perceived threat and each of the health dimensions. Specifically, positive mediation would mean that perceived strong economic impact would amplify the consequences of perceived threat from COVID-19 on the mental health dimensions analyzed.

The total effects of the model showed significance for perceived threat from COVID-19 on the four health dimensions assessed. The explained variance for the endogenous variables included in the mediation model was: 24.4% ($R^2 = 0.244$) of variance by somatic symptoms, 30.7% ($R^2 = 0.307$) by anxiety/insomnia, 9.4% ($R^2 = 0.094$) by social dysfunction, 9.4% ($R^2 = 0.094$) by depression, and 3.4% ($R^2 = 0.034$) with economic impact as the mediator.

Discussion

In agreement with the first hypothesis posed in this study, the results related perceived threat to psychological symptoms. Coinciding with other studies, it was demonstrated that high perceived threat from the pandemic affected psychological and emotional well-being (46).

Furthermore, and continuing with the second hypothesis, it was demonstrated that perceived threat from COVID-19 was stronger among women. Greater presence of somatic symptoms and anxiety and insomnia was also observed among women. This is in line with previous studies in which women showed more vulnerability to developing post-traumatic stress, anxiety and depressive symptoms from COVID-19 (10,14,30,31), as well as excessive worry or fear of the virus, which would imply in turn a tendency to inappropriately interpret physical sensations, thus increasing anxiety and causing cognitive distortions (38).

This study showed that those who had a close positive case had significantly higher scores in perceived threat and health effects, that is somatic

symptoms, anxiety and insomnia and depression. This is in line with other studies that have found that knowing someone or having someone close with COVID-19 promotes a stronger psychological impact (31). Thus, fear of contagion because one has a family member with COVID-19 influences levels of anxiety, depression and stress (37). Other possible explanations for this finding could be the fear of losing loved ones, suffering from a disease (for example, diabetes, immunosuppression, or chronic obstructive pulmonary disease) that increases vulnerability to the virus, or not having enough social support, among others.

On the contrary, the results of this study did not show any association between perceived threat and participant age. However, somatic symptoms, anxiety and insomnia, social dysfunction and depressive symptoms did grow with older age. These results are contrary to those found in other studies where younger adults felt a stronger psychological impact, while older people generally responded better (27). These discrepancies between studies, as mentioned by Justo-Alonso *et al.* (27), may be due to older people being psychologically vulnerable only when they consider themselves at risk. Therefore, future studies should continue enquiring into the role of this sociodemographic variable on the psychological impact of COVID-19.

Age was related negatively to the perceived economic impact of the situation derived from COVID-19. The participants' personal assessment of the economic impact of COVID-19 was in turn positively related to perceived threat, and also with somatic, anxiety and insomnia, social dysfunction and depressive symptoms. This confirms the third hypothesis of this study. It should also be mentioned that perceived threat had a direct positive effect on the four health dimensions analyzed. As an indirect effect, perceived economic impact of COVID-19 was observed to mediate in the relationship between perceived threat and each of the health dimensions. These results, which confirmed the last hypothesis of the study, are in line with previous studies that suggested that those who lost income or had financial problems because of COVID-19 were more psychologically affected (5,10,19). These data are especially important, since public health preventive measures are causing business and establishment closings, with considerable economic losses for a very large number of families (30,31).

Measures to safeguard psychological health are fundamental to the fight against COVID-19, especially in vulnerable populations (20). Efforts in educating those more fearful of catching the virus in anxiety management techniques and providing them with techniques such as counterconditioning, habituation methods and conceptual reorientation could be especially valuable in reducing the physical feelings associated with sensitivity to anxiety, which in turn contributes to fear of COVID-19 (37). It is also worthwhile mentioning that public psychological support during the pandemic is important (16,26). Shin and Viron (18) allude to the need for close control of physical and mental health with tests such as the Questionnaire on Perception of Threat from COVID-19 (47), which enables detection of early symptoms of inadaptation to a possible threat. It is even especially important to equip healthcare personnel with clear guidelines and training to be able to detect certain early signs. It would be a matter of specialists and primary care professionals joining forces to reduce the effects of threat, especially in the vulnerable population.

The findings of this study emphasize that unexpected changes in one's financial situation increase the impact of perceived threat of the pandemic on the population's mental well-being. More so when the social measures imposed because of COVID-19 especially affect the economy of women and youth (23), as according to our results, it is precisely them who show the psychological symptoms. This is evidence of the need to develop more effective social and health measures that monitor and undertake both psychological and financial health in these especially vulnerable groups.

Future directions

As indicated in the discussion, as future lines of research, we must continue to analyze the age variable and its relationship to the psychological impact of COVID-19, for which it would be interesting to carry out a stratified sampling based on the differences between age groups with a homogeneous sample size. In addition, intervention measures should be planned with the general population, providing individuals with coping strategies that favor their mental health and the promotion of their psychosocial well-being.

Limitations

Among the limitations of this study, we should mention that self-report instruments were used and that it was a cross-sectional study. But these limitations were a result of the lockdown, which made it impossible to acquire data any other way. In the future, it would be of interest to enquire using interviews (10) in more concrete profiles of those who are more vulnerable, with particular attention to their psychological and psychiatric background, as well as other facets of interest, such as family burden, type of family unit or type of employment. Transcultural studies would also be appropriate to find out the psychological impact of perceived threat based on the effects of the virus and different public health measures taken in other countries.

Conclusions

Due to the severe impact on the world's population caused by COVID-19, there is growing concern for the pandemic's repercussions on psychological well-being. This study has shown that perceived threat from COVID-19 promotes the appearance of psychological symptoms, such as somatization, anxiety and insomnia, social dysfunction and depression. In addition, the economic impact of the pandemic acts indirectly on this relationship between perceived threat and mental health. Therefore, those whose economic status has been affected or who have suffered financial losses will show a greater impact of perceived threat from the virus on mental health.

We believe it to be essential that response to this exceptional situation be provided by psychology professionals. Devices or IT tools, such as telehealth in mobile devices, backed by doctors and psychologists, that promote effective coping strategies in the population are necessary. This would avoid chaos, fear or confusion that could generate greater anxiety or lack of control in a threatening situation. These tools would provide support in monitoring and self-management of medical diseases and psychological alterations. Actions directed at avoiding or buffering financial losses are equally necessary to avoid increasing threat and psychological distress.

Further research is still needed. Research that continues to provide evidence of the real impact of COVID-19 on psychological and emotional health of the population is indispensable, especially in the most vulnerable groups. And similarly, emotion control and regulation skills must be promoted, as those who have adequate emotional stability, and thereby better emotional control and regulation, will be less likely to develop symptomatology affecting their mental health, such as anxiety or depression.

Abbreviations

CAWI: Computer aided web interviewing
GHQ: General Health Questionnaire
GHQ-AI: Anxiety/insomnia
GHQ-D: Depression
GHQ-SD: Social dysfunction
GHQ-SS: Somatic symptoms
PT: Perceived threat
WHO: World Health Organization

Ethics approval and consent to participate

This study was approved by the Bioethics Committee of the University of Almería (Ref:UALBIO2020/021).

Availability of data and materials

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

ORCID iD

María del Carmen Pérez-Fuentes https://orcid.org/0000-0001-5950-5175

Supplemental material

Supplemental material for this article is available online.

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Vaccination coverage at seven months of age in Limpopo Province, South Africa: a cross-sectional survey

John P. Killion[1], David T. Silverman[1], Denise Evans[2], Lezanie Coetzee[2], Amanda R. Tarullo[3], Davidson H. Hamer[4,5*] and Peter C. Rockers[4*]

Abstract: Many low- and middle-income countries face challenges in attaining adequate levels of vaccination coverage, and the factors driving this under-coverage have not been completely elucidated. In this cross-sectional study, we investigated factors associated with vaccination coverage in Mopani District, Limpopo Province, South Africa. Between July and October 2017, we surveyed 317 caregivers (83% of whom were mothers) of seven-month-old infants in Mopani District about barriers faced when attaining vaccines and attitudes towards vaccination, and reviewed the infants' documented vaccination history. Caregiver and child demographic data were collected shortly after birth. We described the coverage for vaccines that should be received by age seven months, according to South Africa's Expanded Programme on Immunization schedule, and explored the relationship between coverage and caregiver characteristics, behavioral factors (e.g. attitudes towards vaccination), and structural factors (e.g. vaccination stock-outs at clinics). We found that caregivers reported positive attitudes towards vaccination, based on a seven-question survey of vaccination attitudes. Although coverage was high for most recommended vaccines, it was low for pneumococcal conjugate vaccine (PCV), with just 36% of children having received it by age seven months. This appears to have been due to PCV stock-outs at government clinics. For vaccines other than PCV, children were more likely to be up-to-date on vaccinations if a community health worker (CHW) had visited their home in the past month (adjusted odds ratio (OR) 1.24, confidence interval (CI) (1.10–1.41); $p < 0.001$) and if the caregiver had more years of schooling (adjusted OR 1.03 (CI 1.01–1.05); $p = 0.012$). We conclude that addressing PCV stock-outs at government clinics in Mopani District is necessary to ensure coverage reaches adequate levels. Additionally, supporting CHW programs may be a productive avenue for improving vaccination coverage.

Keywords: South Africa, vaccination coverage, vaccine hesitancy, community health workers

Introduction

The expansion of routine childhood vaccinations has led to significant reductions in childhood morbidity and mortality globally. The World Health Organization (WHO) estimates that vaccines for just four diseases - diphtheria, tetanus, pertussis, and measles - prevent two million to three million deaths each year. However, coverage rates remain low in some settings, and there are still 1.5 million deaths

1. Boston University School of Medicine, Boston, USA.
2. Health Economics and Epidemiology Research Office, University of Witwatersrand, Johannesburg, South Africa.
3. Department of Psychological and Brain Sciences, Boston University, Boston, USA.
4. Department of Global Health, Boston University School of Public Health, Boston, USA.
5. Infectious Disease Section, Department of Medicine, Boston University School of Medicine, Boston, USA.

*Contributed equally

Correspondence to: John P. Killion, Boston University School of Medicine, 72 East Concord St., Boston, Massachusetts, 02118, USA. Email: jkillion@bu.edu

(This manuscript was submitted on 21 October 2020. Following blind peer review, it was accepted for publication on 20 April 2022.)

Global Health Promotion 1757-9759; Vol 30(1): 42–52; 1107037 DOI: 10.1177/17579759221107037 journals.sagepub.com/home/ghp

annually from vaccine-preventable diseases (1). While there have been large studies on attitudes towards vaccination in sub-Saharan Africa, such as a recent survey of attitudes towards COVID-19 vaccination in 15 African Union countries, there has been less study on the vaccination attitudes of caregivers of infants in sub-Saharan Africa (2). This is problematic because South Africa has had issues with childhood vaccination coverage. At the time this study was conducted, for a variety of routine childhood immunizations, the WHO and United Nations Children's Fund (UNICEF) estimated only 66–78% of South African children are vaccinated on the recommended schedule, although the South African government's coverage estimates were higher for each vaccine (84–96%) (3).

Knowledge and attitudes about vaccines among new or expecting mothers have been studied in some sub-Saharan African countries (e.g. Uganda, Nigeria), with some evidence that mothers with more positive views of vaccines are more likely to have their children vaccinated (4,5). There is a need for further study of how new mothers' knowledge and attitudes may contribute to vaccination coverage in South Africa specifically. A study of nurses providing immunizations in Limpopo Province identified caregiver non-compliance with the recommended vaccination schedule as a major contributor to poor vaccination coverage, although it was not determined how much of this non-compliance was due to limited knowledge, negative attitudes, or structural factors (e.g. long wait times at clinics) (6).

In addition to caregivers' knowledge of and attitudes towards vaccines, structural factors may affect vaccine coverage in South Africa. For instance, community health workers (CHWs) have been shown to increase vaccination coverage in other parts of sub-Saharan Africa (7). Conversely, barriers to vaccination reported by caregivers in other parts of sub-Saharan Africa include distance to clinic, hours of service at clinic, and long queues at the clinic (8–10). In South Africa, people receive vaccinations at government primary care clinics for free, thus the direct cost of the vaccination should not be a barrier to caregivers' having their children vaccinated. However, stock-outs (i.e. shortages of at least one vaccine on the day of contact) would prevent parents from having their children receive that vaccine.

In this study, we evaluated some of the behavioral and structural factors which have influenced vaccine coverage among a cohort of 317 caregiver–child dyads in Limpopo Province, South Africa.

Methods

Setting

This study took place in the town of Tzaneen in Mopani District, Limpopo Province, South Africa. Mopani has a population of 1.1 million people, around 80% of whom live in rural areas (11). Tzaneen is located 180 km from the Zimbabwe border, 250 km from the Botswana border and 170 km from the Mozambique border. The Greater Tzaneen municipality has a population of 390,095, with a population density of 120 persons/km^2 (12). The two largest ethnolinguistic groups in Tzaneen are speakers of Sepedi (Northern Sotho) and Xitsonga.

Sampling

This cross-sectional study was nested within a larger, two-year-long child development intervention trial (SANCTR: reference number 4407/PACTR201710002683810) (13). In this trial, a package of CHW interventions, largely centered on promoting positive mother–child interactions, is being tested to see what effects they may have on children's physical and neurocognitive development during the first two years of life. Overall, 1107 caregiver–child dyads have been enrolled in the trial and are being followed for two years. Children were enrolled from birth and randomized to either intervention (i.e. curriculum integrated into existing CHW protocol with monthly visits to the household) or control arm (i.e. standard protocol). At enrollment, information on household demographics, child health, and caregiver well-being were collected through face-to-face interviews. At endline (two years of age), the impact of the intervention on child health and physical and neurocognitive development will be assessed. A subsample of 317 caregiver–child dyads is participating in a sub-study. Participants in the sub-study visit a testing center in the town of Tzaneen for neurocognitive measurements, principally eye-tracking and electroencephalography, when children are aged seven, 16, and 25 months. A cross-sectional survey on vaccine knowledge and attitudes was

Table 1. Demographic characteristics of the study population ($N = 317$).[a]

Caregiver characteristics (*n*)[b]	*n (%)*
Age of caregiver (years) ($n = 310$)	31.8 (10.4)[c]
Relationship of caregiver to child	
Mother	263/317 (83.0%)
Father	2/317 (0.6%)
Aunt	13/317 (4.1%)
Grandmother	37/317 (11.7%)
Sister	2/317 (0.6%)
Education of caregiver (years of schooling completed) ($n = 309$)	10.2 (2.6)[c]
Caregiver is employed	36/312 (11.5%)
Parity of caregiver (including current child and any stillbirths)	
1	98/313 (31.3%)
2	82/313 (26.2%)
3	76/313 (24.3%)
4+	57/313 (18.2%)
Marital status	
Married	127/303 (41.9%)
Single	163/303 (53.8%)
Divorced	6/303 (2.0%)
Widowed	7/303 (2.3%)
Household characteristics	*n (%)*
Household assets	
Clean water on site (borehole or piped water)	91/314 (29.0%)
Farmland	186/312 (59.6%)
Cell phone	312/314 (99.4%)
Motor vehicle	69/314 (22.0%)
Community health worker (CHW) visited in the past month	141/317 (44.5%)
CHW spoke with caregiver about vaccines at last visit	119/316 (37.7%)

[a]Totals may not add up to 317 for all variables due to missing values.
[b]Caregiver characteristics were based on information provided by caregivers during baseline survey at time of study enrollment. Of all caregivers who brought a child to their seven-month assessment 87.4% were the same caregiver who completed the baseline enrollment survey.
[c]Mean (SD).

administered to caregivers when children visited the testing center for their seven-month assessment. The other data presented in this paper are secondary data from the larger child development study. For our study, 'caregiver' was defined as the adult family member who brought the child in for testing, which in this study tended to be mothers (Table 1).

Data collection

Data collection forms were used to gather demographic information from the caregivers, as well as the children's vaccination data. Caregiver and child demographic information was collected at the time of enrollment in the study. The vaccination data were acquired from the Road to Health Card (distributed by the National Department of Health) that caregivers were asked to bring to the testing center. This card lists the age-appropriate vaccinations that children should receive according to recommendations from the South African Expanded Programme on Immunisation (EPI) (14). Health care workers record the date the vaccination was given and the batch number in the card.

The survey vaccine questions were based largely on questions developed by World Health Organization's (WHO) Strategic Advisory Group of Experts on Immunization (SAGE) Working Group on Vaccine Hesitancy, as well as questions from the Parent Attitudes about Childhood Vaccines survey (15–17). The survey questions were written in English and then verbally translated into the local languages, Xitsonga and Sepedi, by local research staff, who administered the survey to the study participants. The study team agreed on appropriate wording for the translations during the training and piloting phase. The results of these surveys, as well as general demographic data, were entered into an electronic REDCap database (Vanderbilt University, Nashville, USA) by local research staff (18).

Ethical clearance for the main intervention trial, in which this survey was nested, was obtained from the institutional review boards of Boston University, University of the Witwatersrand, and the Limpopo Department of Health. Written informed consent for study participation was obtained from caregivers in the local languages, Sepedi and Xitsonga, with the help of local research staff who served as interpreters.

Variables

To measure caregivers' views on vaccines, a simple vaccine positivity index was created. During the survey, caregivers were asked to agree or disagree with seven different statements concerning vaccinations, with the options 'Strongly agree', 'Agree', 'Not sure', 'Disagree', or 'Strongly disagree.' For the five statements in which agreement indicated a more positive view about vaccination, 'Strongly agree' and 'Agree' were both coded 1. For the two statements in which agreement indicated a more negative view about vaccination, 'Strongly agree' and 'Agree' were both coded –1. The caregivers' responses to the seven statements were summed to create a vaccination positivity index, which could range from a low of –2 (uniformly negative views about vaccination) to 5 (uniformly positive views about vaccination). A continuous wealth index was constructed based on principal component analysis of household asset data per the methodology described by Filmer and Pritchett (19). Participants reported whether their household owned 27 key assets (e.g. a radio, a television, a refrigerator, etc.), selected based on the questions from the 2014/2015 South Africa Living Conditions Survey (20).

Analysis

All data were analyzed using R (R Foundation for Statistical Computing, Vienna, Austria). The primary outcome of interest was 'full coverage,' or whether a child had received their recommended vaccinations by seven months of age. 'Full coverage' was defined for this study as having received Bacillus Calmette–Guérin tuberculosis vaccine at birth; oral polio vaccine at birth and six weeks of age; diphtheria and tetanus toxoids, acellular pertussis adsorbed, inactivated poliovirus, *Haemophilus influenzae* type B, and hepatitis B vaccines at six, 10, and 14 weeks; and rotavirus vaccine (RV) at six weeks. National guidelines recommends that by six months of age, infants should have received all of these vaccinations at the timeframes indicated, as well as pneumococcal conjugate vaccine (PCV) at six weeks and 14 weeks, RV at 14 weeks, and measles vaccine at six months (14). We excluded PCV in our definition of 'full coverage' because it appears that PCV was not available during the study period due to stock-outs, a factor outside of the control of caregivers whose inclusion in our model would make it difficult to elucidate any other factors correlated with immunization status. Measles vaccine was also excluded because the recommended date of administration (six months) and the seven-month assessment visit were so close in time, and did not give caregivers adequate time to present at the clinic and receive the vaccination before assessment. Additionally, RV is recommended at both six weeks and 14 weeks, but the 14-week vaccination was not asked about in our survey, so was necessarily excluded from our definition.

Demographic characteristics are summarized using frequencies for categorical variables and means with standard deviation for continuous variables. We present the proportion of children who had received each vaccination at any point before seven months of age and not necessarily by the time recommended by the government (e.g. a child who at age three months had received a vaccine recommended at one month would be counted as having coverage of this vaccine). We also used logistic regression to identify factors associated with 'full coverage' by age seven months.

Table 2. Vaccination status of children ($N = 317$).[a].

Vaccine	*Recommended time*	*n (%) received*	*South Africa baseline*[c]
BCG	Birth	288/310 (92.9%)	74%
OPV 0	Birth	306/312 (98.1%)	N/A
DTaP-IPV/Hib/HBV 1	Six weeks	286/313 (91.4%)	78%
OPV 1	Six weeks	302/311 (97.1%)	N/A
PCV 1	Six weeks[b]	111/308 (36.0%)	N/A
RV 1	Six weeks[b]	292/310 (94.2%)	N/A
DTaP-IPV/Hib/HBV 2	10 weeks	285/310 (91.9%)	N/A
DTaP-IPV/Hib/HBV 3	14 weeks	294/313 (93.9%)	66%
Measles	Six months	272/311 (87.5%)	75%
Up to date on all vaccines		87/299 (29.1%)	N/A
Up to date on all vaccines besides PCV		211/302 (70.0%)	N/A
Up to date on all vaccines besides PCV and measles (i.e. 'full coverage')		229/303 (75.6%)	N/A

[a]Totals may not add up to 317 for all variables due to missing values, including because they did not bring their Road to Health Card to the appointment ($n = 4$) and were thus not included in this portion of the analysis.
[b]PCV and RV recommended at six and 14 weeks, but data were only collected on the six-week vaccination.
[c]South Africa vaccination coverage is based on 2016 World Health Organization (WHO) and United Nations Children's Fund (UNICEF) estimates (3). N/A is used to indicate vaccinations whose coverage was not estimated by the WHO and UNICEF.
BCG: Bacillus Calmette–Guérin tuberculosis vaccine; OPV: oral polio vaccine; DTaP-IPV: diphtheria and tetanus toxoids and acellular pertussis adsorbed and inactivated poliovirus vaccine; HBV: hepatitis B virus vaccine; Hib: *Haemophilus influenzae* type B vaccine; PCV: pneumococcal conjugate vaccine; RV: rotavirus vaccine

Results

Table 1 shows demographic information for the caregivers at the time of study enrollment. The majority (88%) of the caregivers who brought children to the seven-month assessment were the same as those who completed the baseline enrollment survey. Most caregivers (83%) who brought the child to their seven-month assessment were the child's mother. The average age of caregivers in this study is 31.8 years old (SD 10.4 years), with an average of 10.2 years of schooling completed (SD 2.6 years). Twelve percent of caregivers were employed outside of the home and 42% were married. Additionally, 31% of caregivers surveyed were first-time mothers. While just 29% of caregivers reported clean water on site at home, over 99% of households reported owning a cell phone. Many caregivers (45%) reported that a CHW had visited in the past month, and 38% reported that the CHW had spoken with them about vaccines at their most recent visit.

The vaccination status of children enrolled in the study was based on Road to Health Cards, which all caregivers were asked to bring to each study visit and which 99% of caregivers brought to their seven-month visit. Of note, while vaccination coverage was generally high in this population, coverage was lower for measles (87%) and very low for PCV (36%) (Table 2). In total, only 29% of children were up-to-date on all vaccinations they were supposed to have received by age six months. However, coverage of all vaccines besides PCV was 70%. Furthermore, looking at coverage for all vaccines besides both PCV and measles (i.e. 'full coverage'), this rose to 76%. Notably, coverage for individual vaccinations in the study population was higher than the most recent WHO and UNICEF estimates for South Africa as a whole at this time of this study (3), as seen in the final column of Table 2.

Overall, for the vaccination positivity index, which ranges from –2 (most negative) to 5 (most positive), the mean was 4.1 (SD = 1.1), indicating that caregivers generally had positive feelings about vaccines (Figure 1). For instance, 99% agreed it is important for themselves and their children to get recommended vaccinations. Of note, though, a number of caregivers did not feel confident the clinic

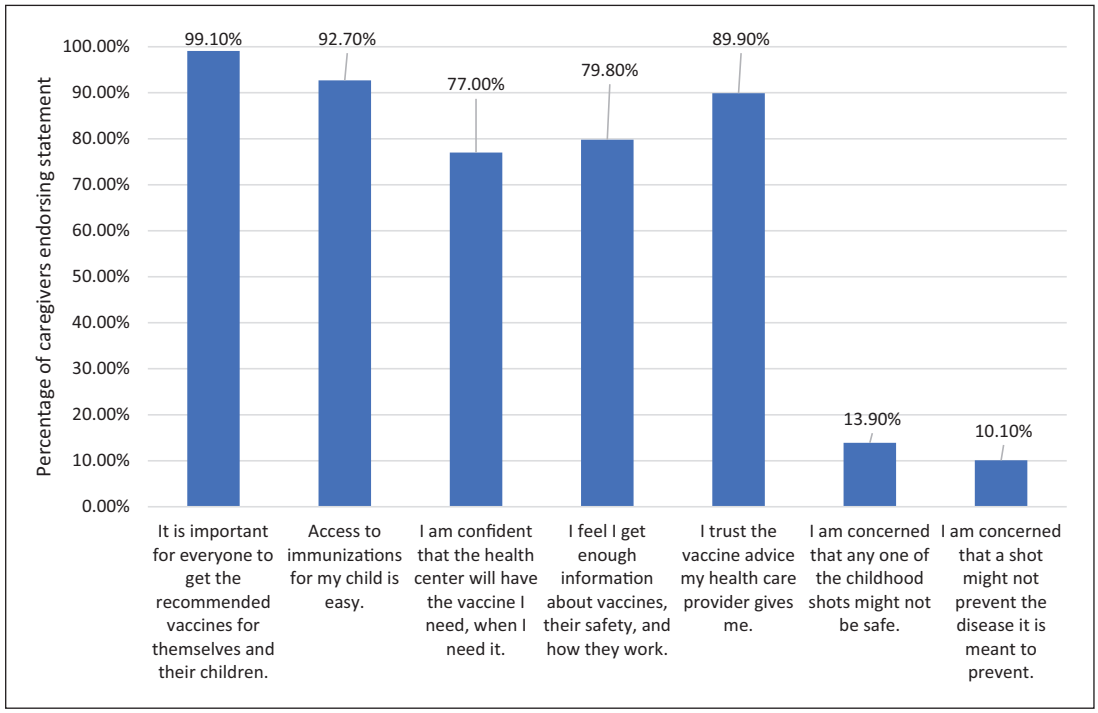

Figure 1. Results of survey on attitudes towards vaccination ($N = 317$).
The variables here were combined into a vaccine positivity index, scored by +1 for agreement with the first five statements (positive statements about vaccines) or –1 for agreement with the final two statements (negative statements about vaccines). The mean vaccine positivity index score was 4.1, with a standard deviation of 1.1.

would have the vaccinations they require when they need them (23%). Additionally, one in five caregivers felt they were not provided with enough information about vaccines, their safety, and how they work (20%).

While several caregivers indicated that barriers for accessing childhood vaccinations included the distance from their home to the clinic (12%) and time needed to reach and wait at the clinic (11%), by far the most commonly cited barrier was that the vaccine was out-of-stock at the clinic (50%) (Figure 2). A higher proportion of caregivers whose children did not receive PCV reported vaccines were out-of-stock compared with caregivers whose children did receive PCV (53% and 41%, respectively; $p = 0.026$). Thus, it appears stock-outs are a major factor driving low PCV coverage. Of note, none of the caregivers indicated vaccine cost was a barrier for them.

Table 3 shows the results of a logistic regression model exploring which factors contributed to whether or not a child achieved 'full coverage' of recommended vaccinations by seven months of age. There was a significant positive association between 'full coverage' and the dummy variable of whether a CHW had visited in the past month (adjusted odds ratio (OR) 1.24 (1.10–1.41), $p < 0.001$). Additionally, there was a smaller but still significant positive association between 'full coverage' and caregiver education, in years of schooling (adjusted OR 1.03 (1.01–1.05), $p = 0.012$). Vaccine positivity index of caregiver, total barriers reported by caregiver, CHW discussion of vaccines at most recent visit, wealth index of household, caregiver age, caregiver parity, and caregiver employment were all found to be statistically insignificant in relation to whether a child had achieved 'full

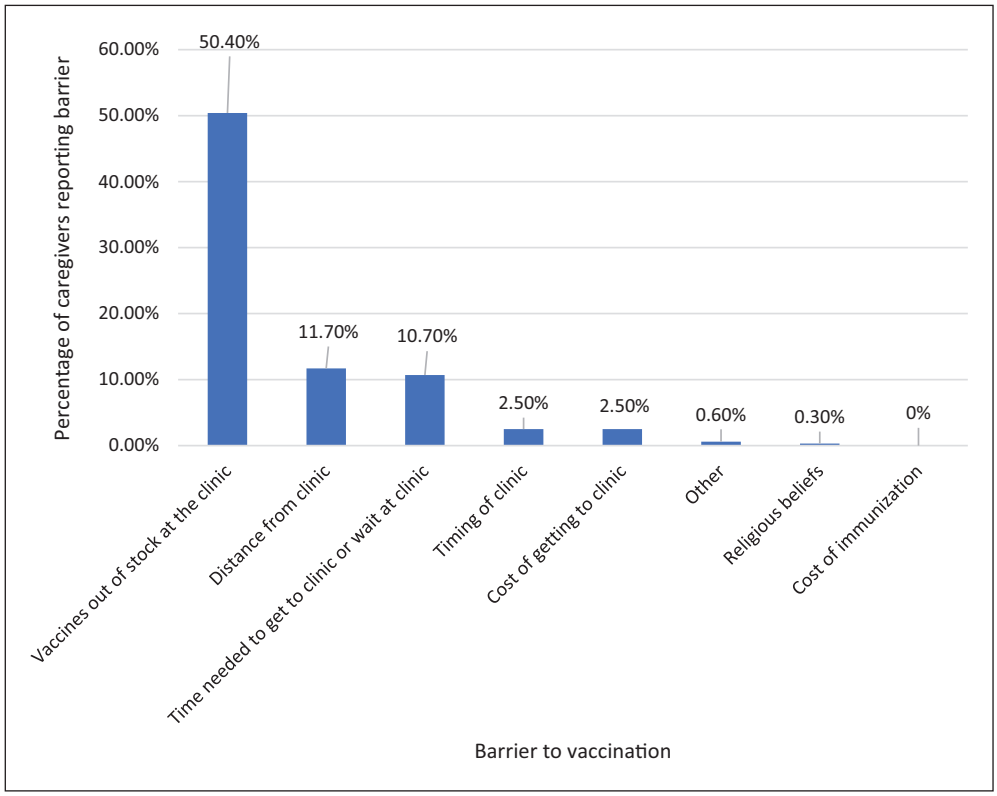

Figure 2. Results of survey on barriers to vaccination ($N = 317$).
In total, 206 caregivers (65.0%) reported at least one barrier to vaccination. A mean of 0.8 barriers to vaccination was reported (SD 0.7).

Table 3. Factors predicting whether child was up-to-date on surveyed vaccinations besides PCV and measles ($n = 280$).[a]

Variable	*Mean (SD)*	*Adjusted OR (95% CI)*	*p-value*
Vaccine positivity index of caregiver	4.1 (1.1)	1.00 (0.96–1.05)	0.989
Total barriers reported by caregiver	0.8 (0.7)	1.01 (0.94–1.08)	0.831
Did CHW discuss vaccines at last visit	119 (37.7%)[b]	0.89 (0.79–1.01)	0.069
Did CHW visit in the past month	141 (44.5%)[b]	1.24 (1.10–1.41)	<0.001[c]
Wealth index of household (*z*-score)	139.8 (80.3)	1.00 (1.00–1.00)	0.572
Caregiver age	31.8 (10.4)	1.00 (0.99–1.01)	0.616
Caregiver parity	2.4 (1.3)	0.99 (0.95–1.03)	0.728
Is caregiver employed	36 (11.5%)[b]	1.00 (0.85–1.17)	0.967
Caregiver education (years of schooling)	10.2 (2.6)	1.03 (1.01–1.05)	0.012[c]

[a]Regression model excludes 37 caregivers from total study population (317) due to missingness of values for one or more variables included in the logistic regression model. For the 280 caregivers included in the model, 213 infants (76.1%) were up-to-date on all surveyed vaccinations besides PCV and measles. Please see Appendix 1 for comparison of sample groups included in and excluded from the regression model.
[b]*n* (%) with outcome.
[c]Statistically significant ($p < 0.05$).
PCV: pneumococcal conjugate vaccine; OR: odds ratio; CI: confidence interval; CHW: community health worker

coverage.' There were 37 participants excluded from the logistic regression model due to missing values for one or more variables included in the model. Participants dropped from the final analysis due to missing data were not systematically different from those who were included (Appendix 1).

Discussion

This analysis yielded four main findings. First, caregivers generally expressed positive attitudes about vaccination. Second, vaccination coverage rates were high except for PCV. Third, low PCV coverage appeared to be related to stock-outs at government clinics. Fourth, recent CHW visits and caregiver education were both associated with higher probability of achieving 'full coverage' by seven months of age.

Attitudes towards vaccinations were generally positive among the caregivers in the study population, but it appears structural factors determined vaccination coverage more than behavioral factors (e.g. knowledge and beliefs about vaccines). In particular, vaccine stock-outs were a common problem among this population, particularly for PCV. South Africa first introduced PCV to its recommended EPI vaccine schedule in 2008, in the form of the older formulation PCV7, before introducing the newer formulation PCV13 in 2011 (14). The introduction of PCV dramatically reduced rates of invasive pneumococcal disease among South African children younger than two years old (21). It is currently recommended that infants receive three different PCV shots, at six weeks, 14 weeks, and nine months of age. However, when PCV was first introduced in South Africa, there were reports of widespread stock-outs, with several reports of continued PCV13 stock-outs in South African government clinics since then. For instance, one study in the Tshwane Health Province of Gauteng Province found 65% of surveyed clinics had experienced a stock-out of PCV13 in the previous 12 months, with similarly high stock-out rates for other vaccines like rotavirus and DTaP-IPV/Hib (22). In Limpopo Province specifically, the Stop Stock Outs Project has uncovered notable vaccine stock-outs; in 2014, for example, 28% of clinics reported they did not have any DTaP-IPV/Hib vaccine in stock (23). For PCV13 in particular, high prices pose a major barrier to access in South Africa, since the country spends more than 30% of its annual vaccination budget on PCV13 alone (24).

The most statistically significant finding of the regression model was a positive association between 'full coverage' and a CHW visit in the past month. This appears to support previous findings which link CHW programs in South Africa with higher rates of vaccination coverage (25). Additionally, there was a significant positive association between 'full coverage' and the number of years of schooling completed by the caregiver. This appears to support previous research which found maternal education has a positive association with child vaccination (26). It is plausible that caregivers with a higher level of education were better able to understand the instructions given to them about when to bring their children in for vaccination, although further study is needed to better understand the mechanism behind this association. It is interesting to note that, although not statistically significant, CHW discussion of vaccines with caregiver at last visit was associated with a decreased likelihood of 'full coverage.' It is plausible this is because CHWs were more likely to discuss vaccines with caregivers whose children were not up-to-date on vaccinations; however, given the lack of statistical significance, further study is needed on this topic.

There are several limitations of this study. Surveyed caregivers were all enrolled in a larger child development study and thus may not be representative of the full population of caregivers in Limpopo Province, because caregivers who participated in this study may be better integrated into the formal health system than other caregivers in this area. Another limitation is that this study only gathered data on whether children had received their first RV and PCV at six weeks of age, even though by six months of age they should all have received two RV and two PCV (at six weeks and 14 weeks for each vaccine). Therefore, it is difficult to accurately assess complete coverage of the PCV and rotavirus vaccine series because coverage of the second vaccine in each series (at 14 weeks) was not recorded. Additionally, the generally positive attitudes about vaccines expressed by caregivers may in part be due to a social desirability bias, whereby respondents expressed these positive views about vaccines because they believed it was what surveyors wanted to hear. Furthermore, the possible barriers to vaccination which we investigated were not exhaustive, and many other conceivable barriers (e.g. immigration status, religious beliefs, behaviors

of local healthcare workers, etc.) were unexplored and may warrant further investigation. Finally, because of the descriptive nature of this cross-sectional study, it is not possible to demonstrate causation from the associations described. Therefore, any conclusions from this study must be treated with caution and further study is warranted in order to better understand the relationships between vaccination coverage and stock-outs, CHW programs, caregiver education, and other variables described in this paper.

Conclusions

Overall, it appears that structural factors (e.g. vaccine availability at clinics) play a much larger role in determining a child's vaccination status than behavioral factors (e.g. caregiver attitudes about vaccines) in this study population. To improve vaccination rates among infants in Limpopo Province, it is important to prevent vaccine stock-outs, with a particular emphasis on PCV. For this reason, the supply chain of PCV in South Africa should be closely studied in order to identify and address the root causes of PCV stock-outs, with a goal of preventing future stock-outs in those regions of the country with relatively low coverage, like Mopani District. Additionally, given the positive association between caregiver education and vaccination coverage, expanded educational opportunities for women and girls in Limpopo Province may augment vaccination coverage in Limpopo Province. Finally, given the strong positive association between vaccination coverage and recent CHW visits, expanded support for CHW programs, including home visits to recent mothers, may be another means for promoting vaccination among infants in Limpopo Province. However, given the descriptive nature of this cross-sectional study, it is difficult to prove causation between any of these associations, and further study of this subject is warranted before policy prescriptions can be confidently made.

Acknowledgements

We would like to thank and acknowledge the invaluable contributions to this project from Eliud Nkuna, Kate Mocheki, Vongani Maluleke, Tintswalo Modiba, Patricia Lashabane, and Elvis Nekokwane at the Health Economics and Epidemiology Research Office (HE2RO) at the University of Witwatersrand, as well as Dr. Jukka Leppänen at Tampere University. We would also like to thank Dr. Gabrielle Jacquet and Dr. Suzanne Sarfaty from the Boston University School of Medicine's Global Health Equity Program for providing the support that made this project possible.

Declaration of conflicting interests

The authors have no conflicts of interest to declare.

Funding

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was supported by the Boston University School of Medicine's Global Health Summer Scholarship and the South African Medical Research Council, as a sub-grant from the Bill and Melinda Gates Foundation (grant number: INV-GC2019).

ORCID iD

John P. Killion https://orcid.org/0000-0003-2454-8129

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Appendix 1. Comparison of samples included and excluded from the logistic regression model (Table 4)

Table 4. Comparison of samples included and excluded from logistic regression model ($N = 317$).[a]

Variable	*280 participants included in regression model* *Mean (SD)*	*37 participants excluded from regression model* *Mean (SD)*
Vaccine positivity index of caregiver	4.1 (1.1)	4.4 (0.8)
Total barriers reported by caregiver	0.8 (0.7)	0.9 (0.7)
Did CHW discuss vaccines at last visit	106/280 (37.9%)[b]	13/36 (36.1%)[b]
Did CHW visit in the past month	126/280 (45.0%)[b]	15/27 (55.6%)[b]
Wealth index of household (*z*-score)	0.2 (1.0)	0.3 (1.0)
Caregiver age	31.3 (10.0)	36.9 (12.4)
Caregiver parity	2.4 (1.3)	2.6 (1.4)
Is caregiver employed	32/280 (11.4%)[b]	4/32 (12.5%)[b]
Caregiver education (years of schooling)	10.3 (2.5)	9.8 (2.8)
Up to date on vaccines	213/280 (76.1%)[b]	16/23 (69.6%)[b]

[a]From the total study population of 317, there were 37 participants excluded from the logistic regression model due to missing values for one or more variables included in the model.
[b]*n* (%).

Analyzing households' food insecurity during the COVID-19 pandemic and the role of public policies to mitigate it: evidence from Ceará, Brazil

Onélia Maria Moreira Leite de Santana[1], Luiz Vinicius de Alcantara Sousa[1], Hermano Alexandre Lima Rocha[2,3], Luciano Lima Correia[4], Laécia Gretha Amorim Gomes[5], Camila Machado de Aquino[3], Sabrina Gabriele Maia Oliveira Rocha[6], David Augusto Batista Sá Araújo[4], Maria Dagmar de Andrade Soares[5], Márcia Maria Tavares Machado[4] and Fernando Adami[1]

Abstract:
Objective: To evaluate the association of conditional cash transfer policies to mitigate the food insecurity (FI) among families living in poverty during the COVID-19 pandemic in Ceará, Brazil.
Methods: An analytical cross-sectional study was carried out through telephone contact during the period of May–July 2021, during the second wave of the COVID-19 pandemic in Ceará. Families in a situation of high social and economic vulnerability participated in this study (monthly per capita income of less than US$16.50). FI was assessed using the EBIA, a Brazilian validated questionnaire. The participation of families in government programs and public policies was also investigated. Logistic regression models were used to assess the association of the several factors assessed with food insecurity.
Results: The prevalence of any food insecurity in this sample was 89.1% (95% Confidence interval (95% CI: 86.2 – 92.1) and of severe food insecurity, 30.3% (95% CI: 26.0 – 34.6). The *Mais Infância* card program, adopted as a cash transfer supplement in the state of Ceará, was significantly associated with food insecurity (OR 4.2 (95% CI: 1.7 – 10.2), with a *p*-value of 0.002. In addition, families affected by job losses due to the COVID-19 pandemic presented higher odds of FI.
Conclusions: In this study, 89% of evaluated families presented food insecurity. Conditional cash transfer programs were associated with FI. We highlight the need for policies and interventions to reduce the impact of the COVID-19 pandemic on food insecurity. Such policies can adopt appropriate criteria for defining the participants, as well as connect the participants to an appropriate set of broader social protection measures.

Keywords: children, communicable disease, food security, Latin America, maternal health, policy/politics, poverty

1. Laboratory of Epidemiology and Data Analysis, University Health Center ABC, FMABC, Santo André, São Paulo, Brazil.
2. Department of Global Health and Population, Harvard T. H. Chan School of Public Health, Boston, MA, USA.
3. Department of Maternal and Child Health, Federal University of Ceará, Fortaleza, CE, Brazil.
4. Department of Community Health, Federal University of Ceará, Fortaleza, CE, Brazil.
5. Social Protection Secretariat. Ceará State Government. Fortaleza, CE, Brazil.
6. ISEC. Unichristus University Center. Fortaleza, CE, Brazil.

Correspondence to: Hermano Alexandre Lima Rocha, Rua Papi Júnior, Department of Maternal and Child Health, Federal University of Ceará, 1223 – 5º andar – Fortaleza – Ceará, CEP: 60430-280, Brasil. Email: hrocha@hsph.harvard.edu

(This manuscript was submitted on 4 February 2022. Following blind peer review, it was accepted for publication on 22 May 2022.)

Global Health Promotion 1757-9759; Vol 30(1): 53–62; 1107035 DOI: 10.1177/17577597221107035 journals.sagepub.com/home/ghp

Introduction

It is estimated that approximately 820 million people worldwide experience hunger every day, and that more than two billion people have important nutritional deficiencies that directly affect people's life expectancy (1). In addition, the United Nations have estimated that 24,000 people die every day due to hunger and that only half of children in the 91 assessed countries consume at least the minimum number of meals a day (2). Moderate or severe food insecurity has a prevalence of 23.9% in the world and among the assessed continents in the latest FAO report of 2017, Latin America has the second-worst result, with 23.5%, which represents more than twice the prevalence of the United States and Canada and almost three times that of Europe (3). Brazil is a noteworthy example in the fight against hunger, with the creation of the Zero Hunger Program in 2003, which contributed to the reduction of food insecurity and malnutrition through three main axes: conditional cash transfers, school meals, and programs of encouraging family farming, the latter being particularly important (4). The Program for Food Acquisition from Family Agriculture Production (PAA), for example, has an important impact on achieving the second United Nations sustainable development goal (5).

The COVID-19 global pandemic exceeded 232 million cases worldwide in September 2021, and Brazil has recorded more than 21 million confirmed cases. Aiming to control the transmission of COVID-19, social distancing measures were implemented in several cities in Brazil and around the world, which led to social distancing, the closing of companies and unemployment, in addition to potentially increasing the risk of food insecurity through multiple pathways, including loss of employment and disruption of the food supply chains (6,7). There are estimates that the number of people going through food insecurity has increased from 27 million in 2019 to 41 million in 2021, and that number is expected to increase in the coming years (8). In Brazil, evidence shows that overall food insecurity rates have increased by 15% (9). Social distancing and the closure of commercial establishments were implemented in Ceará, one of the poorest northeastern states in Brazil, after the government decree of March 19, 2020.

Theoretical framework

The causes of food insecurity are complex and multidimensional. They are linked to a series of closely related factors, such as poverty, low access to basic social services and inadequacy of some public policies (10). Social distancing due to the COVID-19 pandemic has led to job losses and reduced household income, which has led to increased food insecurity (11). In this context of increasing poverty and food insecurity, it is essential to assess public policies that are being developed to mitigate the increase of food insecurity. Food insecurity is associated with malnutrition, which in children affects their intellectual and economic development. In turn, this can lead to an intergenerational cycle of malnutrition and affect the economic development of society as a whole (9).

Nevertheless, evidence on food insecurity and public policies to mitigate it among the poorest population are still scarce, particularly in Latin America. To address this evidence gap, we report on the association of public policies to mitigate the food insecurity among families living in poverty during the COVID-19 pandemic in Ceará, Brazil.

Methods

Study population and place

An analytical cross-sectional study was carried out through telephone contact during the period of May–July 2021, during the second wave of the COVID-19 pandemic in Ceará, a state in northeastern Brazil. Interviews were carried out by researchers who were specifically trained for this purpose by the research coordination team, using a standardized form to prevent possible input errors. In case of failure to contact a study participant after up to three attempts on three different days, the interviewers called at commercial establishments close to the informed addresses (such as grocery stores) to ask if someone they knew could call the participant.

Families in a situation of high social and economic vulnerability in the state of Ceará participated in this study. Ceará is a poor state in northeastern Brazil, with an average per capita income of US$150.00. Subsistence agriculture is the predominant economic activity in rural areas of the state. The population of this study comprises families with children up to six

years of age in a situation of extreme vulnerability in Ceará, who were selected using three criteria: houses with walls made of inappropriate materials (wattle and daub, straw, reclaimed wood, in the case of rural families), no bathroom or sanitation, and no running water in at least one room (urban dwellings), in addition to a monthly per capita income of less than US$16.50. These families are already the recipients of the Brazilian federal government's conditional cash transfer program (*Bolsa Família*). This population was fully registered by the state of Ceará, which has the address and telephone number of all families in this situation—a total of 48,000 families. For this study, 2,000 families were randomly selected for the study participation. This number was obtained considering events with a prevalence of at least 5, a type 1 error of 5%, and a type 2 error of 20%, reaching an estimate of 1,643 families and performing a larger sampling process due to possible losses.

Assessment tools

The study questionnaires in 2017 and 2020 included the Brazilian Food Insecurity Scale (EBIA, *Escala Brasileira de Insegurança Alimentar*), which is validated in Brazil for food security screening and recommended by the Brazilian Ministry of Social Development and Fight against Hunger (12). In this study, we used the short version of the EBIA that contains five questions, of which answers vary from never experiencing the measured aspect of insecurity to experiencing it every day.

The participation of families that benefitted from government programs and public policies currently effective in the state of Ceará was also investigated. Below we briefly describe each of them:

Ceará *Mais Infância* card

This is a benefit that gives a monthly aid of R$100.00 (US$16.00), granted by the government of the state of Ceará to families in situations of extreme social vulnerability (as defined above), and who have children aged zero to six years and a per capita income of up to R$89.00 (~ US$15.00).

Cooking gas voucher

This is a benefit granted by the government of the state of Ceará from May 2020, which supplies a cooking gas canister to families in a situation of social vulnerability.

Basic food parcels

This service distributes basic food parcels to families in situations of social vulnerability on a continuous basis since from May 2020. The food parcels are distributed by the state government to the municipal assistance secretariats. The families who benefit from the distribution are those who have the *Mais Infância* card and those who are registered in municipal assistance programs.

Fresh food

This service distributes 'fresh' food: fruit, vegetables, as well as fruit powder and dehydrated soups, since April 2020. The recipients are families with children and young people in a situation of social vulnerability, assisted by NGOs that already had a partnership with the *Mais Nutrição*, another Ceará state government program.

Emergency aid

The Brazilian government has provided assistance during the COVID-19 pandemic starting in April 2020. This assistance comprised a monthly cash payment of approximately US$120.00 for self-employed and informal workers over 18 years of age who do not receive any other benefit from the federal government (except for the conditional cash transfer program), individuals who did not have formal employment, and for families with a per capita monthly income (per person) up to half the Brazilian minimum wage (approximately US$93.00) or a total monthly family income of up to three times the minimum wage (approximately US$560.00).

Estimation methods for food insecurity

Food insecurity was defined by the confirmation of any of the five questions, and severe food insecurity by a positive response to the most severe item in any of the asked items. The social and economic conditions of the families, participation in public policy programs, as well as demographic data, were assessed by the caregiver self-report. The participant was also asked to inform whether the

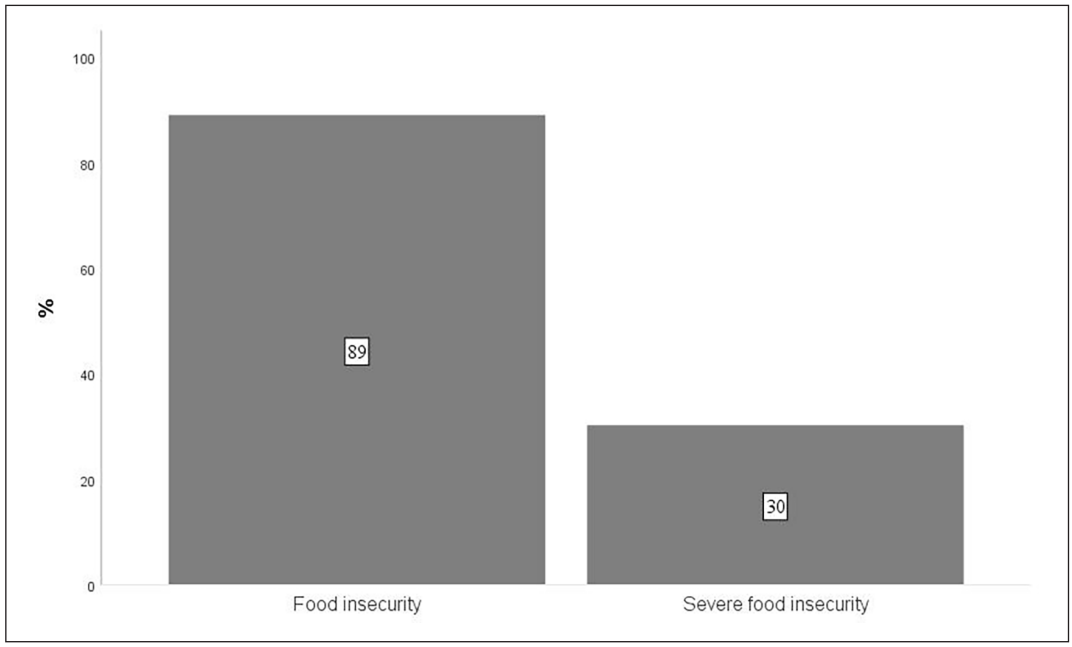

Figure 1. Prevalence of food insecurity and severe food insecurity in families living in poverty.

pandemic had negatively affected the availability of food according to the respondent's perception.

Statistical analysis

The categorical quantitative results were presented as percentages and counts and the numerical ones as measures of central tendency. Bivariate logistic regression models were used to assess the association of the several factors assessed with food insecurity. Values of $p < 0.05$ were considered significant. The obtained data were tabulated and analyzed using the software IBM SPSS Statistics for Windows, version 23.0.

Ethics

The study was approved by the Research Ethics Committee of Federal University of Ceará. Free and informed consent was obtained from the research participants, and these were recorded on the online platform.

Results

A total of 429 maternal-child pairs participated in the study during the COVID-19 pandemic (recruitment rate of 26.1%). The prevalence of any food insecurity in this sample was 89.1% (95% Confidence interval (95% CI): 86.2 – 92.1) and of severe food insecurity, 30.3% (95% CI: 26.0 – 34.6), as shown in Figure 1.

Table 1 shows the social and economic characteristics of the assessed families and the associations of the factors evaluated with the observed food insecurity. Child gender and age were not statistically associated with food insecurity, as well as the caregiver's ethnicity/skin color or educational level in this sample. Moreover, the number of people living in the household was also statistically associated with severe food insecurity, with an increased risk as the number of residents increased (p-value of 0.02), but was not associated with food insecurity. The monthly income perceived by the family was not associated with food insecurity. In addition, households that were not affected by the COVID-19 pandemic had lower odds of food insecurity (OR 0.1 (95% CI: 0 – 0.2)) and severe food insecurity (OR 0.3 (95% CI: 0.2 – 0.6)). Finally, families that reported not raising animals or not planting food for their own consumption had higher odds of food insecurity (OR 3.4 and 2.8, respectively) and severe food insecurity (OR 1.7 and 1.8, respectively), all with p-values lower than 0.05 (Table 1).

Table 1. Social and economic characteristics of families and the presence of mental disorders and their associations with food insecurity. Total $n = 429$.

	Food insecurity (prevalence)			*Severe food insecurity (prevalence)*		
	n (%) or mean + SD	*OR (95% CI)*	*p-Value*	*n (%) or mean + SD*	*OR (95% CI)*	*p-Value*
Child's gender						
Female	200 (89.6)	1.2 (0.6–2.1)	0.55	65 (29.1)	0.9 (0.6–1.4)	0.66
Male	181 (87.8)	Ref		64 (31)	Ref	
Child's age in months	43.8 + 16.4	1.0 (1.0–1.0)	0.25	41.8 + 17.7	1.0 (1.0–1.0)	0.17
What is the caregiver's skin color/ethnicity?						
White	47 (90.3)	0.4 (0–3.4)	0.65	15 (28.8)	0.6 (0.2–1.7)	0.68
Brown	317 (90.5)	0.4 (0.1–3.0)		108 (30.8)	0.7 (0.3–1.6)	
Black	25 (96.1)	Ref		10 (38.4)	Ref	
Maternal level of schooling						
Up to eight years	205 (93.1)	1.3 (0.1–11.4)	0.27	78 (35.4)	–	0.32
9 to 12 years	171 (88.6)	0.8 (0.1–6.3)		55 (28.4)	–	
More than 12 years	10 (90.9)	Ref		0 (0)	Ref	
Does the father of the child under six years live in the same house as you?						
No	159 (95.2)	2.7 (1.2–6.0)	**0.01**	61 (36.5)	1.5 (1.0–2.3)	**0.04**
Yes	235 (88)	Ref		73 (27.3)	Ref	
If he DOES NOT, does he see or stay with the child sometimes?						
No	56 (98.2)	3.8 (0.5–31.7)	0.22	25 (43.8)	1.6 (0.8–3.0)	0.16
Yes	103 (93.6)			36 (32.7)	Ref	
Are you currently working?						
Doesn't work at all (not even housework)	4 (100)	–	0.21	3 (75)	6.4 (0.7–62.4)	0.12
Work from home, for a job outside the home	17 (77.2)	0.3 (0.1–0.9)		3 (13.6)	0.4 (0.1–1.1)	
Yes, out of the home	46 (92)	1.0 (0.4–3.2)		14 (28)	0.8 (0.4–1.6)	
Yes, only at home (housework)	327 (91.3)	Ref		114 (31.8)	Ref	
Lives in						
Rural region	273 (87.5)	0.6 (0.3–1.2)	0.13	90 (28.8)	0.8 (0.5–1.3)	0.33
Urban region	113 (92.6)	Ref		41 (33.6)	Ref	
How many people live in this house besides you?	3 + 2	1.1 (0.9–1.4)	0.28	4 + 2	1.2 (1.0–1.3)	**0.02**
In all, how much money have people in the family earned in the last month including pension?	540.7 + 258.4	1.0 (1.0–1.0)	0.32	530.0 + 256.0	1.0 (1.0–1.0)	0.47
Does anyone in your household currently have any paid work?						

(Continued)

Table 1. (Continued)

	Food insecurity (prevalence)			*Severe food insecurity (prevalence)*		
	n (%) or mean + SD	*OR (95%CI)*	*p-Value*	*n (%) or mean + SD*	*OR (95%CI)*	*p-Value*
No	268 (91.4)	1.3 (0.7–2.5)	0.48	96 (32.7)	1.3 (0.8–2.0)	0.22
Yes	126 (89.3)	Ref		38 (26.9)	Ref	
Do you think there was a change in food availability after the COVID-19 pandemic?						
Didn't change	47 (66.1)	0.1 (0–0.2)	**<0.001**	10 (14)	0.3 (0.2–0.6)	**0.004**
Yes, it increased	18 (94.7)	0.8 (0.1–6.6)		5 (26.3)	0.7 (0.2–1.9)	
Yes, it decreased	329 (95.6)	Ref		119 (34.5)	Ref	
Do you raise animals that are used for consumption by your family?						
No	233 (95.1)	3.4 (1.7–6.9)	**0.001**	88 (35.9)	1.7 (1.1–2.7)	**0.01**
Yes	161 (85.1)	Ref		46 (24.3)	Ref	
Do you plant foods that are used for consumption by your family?						
No	202 (94.8)	2.8 (1.4–5.7)	**0.006**	79 (37)	1.8 (1.2–2.7)	**0.006**
Yes	192 (86.8)	Ref		55 (24.8)	Ref	

Bold: P-values lower than 0.05.

Table 2. Participation in government social aid programs and their association with food insecurity. Total *n* = 429.

	Food insecurity (prevalence)			*Severe food insecurity (prevalence)*		
	n (%)	*OR (95% CI)*	*p-Value*	*n (%)*	*OR (95%CI)*	*p-Value*
Has anyone in the household received emergency aid from the federal government?						
No	11 (84.6)	0.5 (0.1–2.5)	0.44	4 (30.7)	1.0 (0.3–3.3)	0.99
Yes	383 (90.9)	Ref		130 (30.8)	Ref	
Basic food parcels						
No	202 (87.8)	1.3 (0.7–2.4)	0.36	69 (30)	1.0 (0.7–1.5)	0.88
Yes	192 (90.5)	Ref		65 (30.6)	Ref	
Mais Infância card						
No	18 (69.2)	4.2 (1.7–10.2)	**0.002**	4 (15.3)	2.5 (0.8–7.4)	0.10
Yes	376 (90.3)	Ref		130 (31.2)	Ref	
Cooking gas voucher						
No	13 (54.1)	8.7 (3.6–20.8)	**<0.001**	3 (12.5)	3.1 (0.9–10.9)	0.06
Yes	381 (91.1)	Ref		131 (31.3)	Ref	
Fresh food						
No	352 (88.4)	2.7 (0.6–11.7)	0.17	123 (30.9)	0.7 (0.4–1.5)	0.42
Yes	42 (95.4)	Ref		11 (25)	Ref	

Bold: P-values lower than 0.05.

Table 2 presents the relationship of government welfare programs created during the COVID-19 pandemic and food insecurity. The federal government's emergency aid was not associated with food insecurity or severe food insecurity, nor was the basic food parcel distribution program. In contrast, the *Mais Infância* card program, which was adopted as a cash transfer supplement in the state of Ceará, was significantly associated with food insecurity (OR 4.2 (95% CI: 1.7 – 10.2)), with a *p*-value of 0.002. Additionally, the cooking gas voucher program was also associated with food insecurity (OR 8.7 (95% CI: 3.6 – 20.8)). The fresh food distribution program was not associated with food insecurity.

Discussion

In this cross-sectional study of families with children living in extreme poverty in the state of Ceará, Brazil, we identified a prevalence of food insecurity of 89% and of severe food insecurity of 30% during the COVID-19 pandemic. Our results also suggest that government programs with participant selection criteria that took into account factors other than income to identify candidates (*Mais Infancia* card and gas voucher) were associated with food insecurity in families living in poverty. Additionally, we found that the pandemic negatively impacted the food availability of poor families, that the income of these families is not associated with the presence of food insecurity, and that families that have subsistence cultures (such as raising animals and planting for their own consumption) had lower chances of food insecurity.

An increased risk of food insecurity during the COVID-19 pandemic is in accordance with studies in high-income and low- and middle-income country settings (9,13,14). However, our study is one of the first to specifically evaluate families living below the poverty line, and the prevalence found—close to 90%—is much higher than that previously found in the general population of the state of Ceará (30.9%) (10). A study carried out through online questionnaires in Kenya and Uganda (which therefore reached respondents who had access to technological means to answer the questionnaires), identified an increase in food insecurity of 41% on average in both countries, and more than half of the respondents were classified as experiencing food insecurity (15).

In Bangladesh, a study also carried out using electronic forms identified 47% of families that reported food insecurity (16). On the other hand, in Nigeria, 88% of the respondents to a national survey carried out through random phone calls were classified as experiencing food insecurity, reaching 94% in the poorest assessed quintile (17). It is possible that the use of telephone calls, as carried out in our study, has facilitated access to a more vulnerable population, identifying a prevalence of insecurity close to that of the poorest population in the state of Ceará. It should be noted that the per capita Nigerian gross domestic product is one third of that of Brazil (18), and the evidence from this study demonstrates that there may be pockets of high prevalence of food insecurity in higher-income developing countries.

Among the factors associated with food insecurity, there is a vast literature associating family income with food insecurity and the greatest impact of the pandemic on food insecurity increase was associated with the loss of family income (15,19); however, in the present study, family income was not associated with food insecurity. We understand that such association was not observed due to the fact that all families are very poor, and the difference in income between them was not a differential for the occurrence of food insecurity. Nevertheless, the families reported that the pandemic impaired their food availability, perhaps due to the interruption of food supply chains, which can also contribute to the increased risk of food insecurity (16). The presence of the father at home was a protective factor against the odds of food insecurity, with the same effect being identified in Tanzania (20). Poverty itself is associated with parental absence, but as all assessed families are very poor, this study identified that the effect of paternal absence is a negative one on food insecurity, regardless of the income. In addition to the previously mentioned factors, families that survived on subsistence crops, such as raising animals and planting vegetables in their backyards, were associated with a reduction in the odds of food insecurity. Although there is no consensus in the literature on the importance of subsistence agriculture for rescuing families from the cycle of poverty, due to the population's low educational level and access to capital (21), this study brings new evidence that in a situation of very high food insecurity, subsistence crops can decrease the chances of the latter.

In addition to the abovementioned factors, we identified that two public policies, the *Mais Infância* card and the gas voucher, were statically associated with food insecurity, suggesting that they reach the population with a higher prevalence of food insecurity, while the government's emergency aid does not. The main differences between the programs are that the programs that were associated have more robust inclusion criteria (as they include objective criteria, as housing conditions are assessed and emergency aid is based on self-reported income) and the fact that they link the recipients to several other social protection measures of the state government, in addition to the cash transfer program. According to the Ministry of Citizenship of Brazil, approximately 3m recipients of the emergency aid were expected to return the benefit during the annual tax adjustment (or about 5% of the recipients), with a total of R$5.1bn having already been reimbursed to the public treasury (22).

A study carried out in Africa showed similar results, identifying that irregular emergency aid was not associated with the reduction in food insecurity (23). A similar finding was observed in Peru during the COVID-19 pandemic (24). On the other hand, other studies have already identified the importance of well-structured public policies for the reduction of food insecurity in developing countries, especially during the pandemic (10,23,25). The effect of public policies that were initiated during the pandemic may even have the effect of decreasing food insecurity measured before the pandemic, as seen in an online survey study conducted in Tehran (26).

Our study has several limitations. First, as our study is a cross-sectional one, one cannot establish causal relationships, as the occurrence of the outcome may have led to the emergence of exposures. However, it is reasonable to believe that food insecurity, which increased due to the COVID-19 pandemic, emerged after some of the evaluated factors and before others. In addition, the modality of data collection (telephone contact) may have led to an information bias; however, it is not clear the degree to which participants may have over- or underreported food insecurity by telephone, and according to the observed evidence, telephone surveys have shown high rates of food insecurity.

Conclusion

Ceará is a poor state of Brazil, and the average monthly per capita income of US$150.00 can be compared to that of many other developing countries. These findings highlight the need for policies and interventions to reduce the impact of the COVID-19 pandemic on food insecurity and maternal mental health in Brazil. A few potential strategies include public policies such as government COVID-19 assistance programs and direct food provision to families in need. Such policies can adopt appropriate criteria for defining the participants, as well as connect the participants to an appropriate set of broader social protection measures. Measures to minimize the worsening of the socioeconomic condition of these families have been adopted by the government of the state of Ceará and future studies are necessary to assess the impact of these interventions, after the long period of social distancing caused by the COVID-19 pandemic.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: Maria Cecília Souto Vidigal Foundation. Porticus América Latina. Fundação Cearense de Apoio ao Desenvolvimento Científico e Tecnológico. Edital Jovens Doutores – Edital nº 02/2017. Fundação Cearense de Apoio ao Desenvolvimento Científico e Tecnológico. Programa Cientista Chefe.

ORCID iD

Hermano Alexandre Lima Rocha https://orcid.org/0000-0001-9096-0969

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Inequity and disparities mar existing global research evidence on Long COVID

Mohammad Hossein Taghrir[1*], Hossein Akbarialiabad[1*], Ashkan Abdollahi[2], Nasrollah Ghahramani[3], Bahar Bastani[4], Shahram Paydar[1], Babak Razani[5,6,7], John Mwangi[8], Ali A. Asadi-Pooya[9,10], Jamshid Roozbeh[2], Leila Malekmakan[2] and Manasi Kumar[11,12]

Abstract: Since the pandemic began in December 2019, SARS-Cov2 has accentuated the wide gap and disparities in socioeconomic and healthcare access at individual, community, country, and regional levels. More than two years into the current pandemic, up to three-fourths of the patients are reporting continued signs and symptoms beyond the acute phase of COVID-19, and Long COVID portends to be a major challenge in the future ahead. With a comprehensive overview of the literature, we found that most studies concerning long COVID came from high and upper-middle income countries, and people of low-income and lower-and-middle income regions and vulnerable groups with comorbid conditions have been neglected. Apart from the level of income, there is a significant geographical heterogeneity in investigating the Post-Acute Sequelae of COVID-19 (PASC) or what we call now, long COVID. We believe that these recognizing health disparities is crucial from equity perspective and is the first step toward global health promotion.

Keywords: COVID-19, Long COVID, Long haulers, Post COVID syndrome, SARS-Cov2, PASC, Post-Acute Sequela of COVID-19, chronic COVID syndrome

Growing concerns about the long-lasting consequences of the COVID-19 infection currently dominate the global discourse. More than two years into the current pandemic, up to 10–20% of the patients are reporting continued signs and symptoms beyond the acute phase of the disease (1). Despite its recognition and a widespread acknowledgement of this prolonged illness period, there was no explicit

1. Trauma Research Center, Shahid Rajaee (Emtiaz) Trauma Hospital, Shiraz University of Medical Sciences, Iran.
2. Shiraz Nephro-Urology Research Center, Shiraz University of Medical Sciences, Iran.
3. Division of Nephrology, Department of Medicine, Penn State University College of Medicine, Hershey, USA.
4. Saint Louis University School of Medicine, USA.
5. Cardiology Division, Department of Medicine, Washington University School of Medicine, St. Louis, USA.
6. Veterans Affairs St. Louis Healthcare System, John Cochran Division, St. Louis, USA.
7. Department of Pathology & Immunology, Washington University School of Medicine, St Louis, USA.
8. Pulmonary and Critical Care Medicine, Saint Louis University School of Medicine, Saint Louis, USA.
9. Epilepsy Research Center, Shiraz University of Medical Sciences, Iran.
10. Department of Neurology, Jefferson Comprehensive Epilepsy Center, Thomas Jefferson University, Philadelphia, USA.
11. Brain and Mind Institute, Aga Khan University, Nairobi, Kenya.
12. Department of Clinical, Educational and Health Psychology, University College London, UK.

Correspondence to: Manasi Kumar, Brain and Mind Institute, Aga Khan University, Nairobi, Kenya. Email: manasi.kumar@aku.edu

*These authors shared the first authorship of the paper.

(This manuscript was submitted on 15 April 2021. Following blind peer review, it was accepted for publication on 23 June 2022.)

Global Health Promotion 1757-9759; Vol 30(1): 63–67; 1113276 DOI: 10.1177/17577595221113276 journals.sagepub.com/home/ghp

and widely accepted definition or nomenclature for this emerging syndrome. It has been variously referred to as: 'acute post-infection COVID', 'Long COVID', 'Long haulers', 'Lingering COVID-19', 'chronic COVID syndrome', and 'PASC (Post-Acute Sequelae of COVID-19)' (2). Recently, the World Health Organization named this entity the 'Post COVID-19 Condition' and proposed its definition as 'the illness that occurs in people who have a history of probable or confirmed SARS-CoV-2 infection; usually within three months from the onset of COVID-19, with symptoms and effects that last for at least two months. The symptoms and effects of the post-COVID-19 condition cannot be explained by an alternative diagnosis' (1). Given this backdrop, this paper elaborates on the underlying disparities in the current literature concerning the populations and countries that have been studied to fully understand the long-lasting COVID-19 research on medical and socioeconomic impacts.

Since the pandemic began in December 2019, SARS-Cov2 has accentuated the already existing wide treatment gap, disparities in socioeconomic status, and access to healthcare between 'the haves and the have nots'. Apart from the global hardship and devastation that this pandemic has caused, those living in low- and middle-income countries (LMICs), who were already struggling with poor access to healthcare services, have been hit the hardest (3) directly due to the spread of the virus or as a consequence of the pandemic. Meager resources are allocated to research in these regions, and little is known about the effects this syndrome has had in these regions.

An exemplar here is the Global Research Collaboration for Infectious Disease Preparedness and the UK Collaborative on Development Research that have created a COVID-19 Research Coordination and Learning Initiative (COVID CIRCLE initiative) in recognition of this gap (4). While regions in LMICs have a lot of experience and expertise in managing disease outbreaks at a massive scale, with epidemics such as Ebola and HIV, most COVID-19 research globally comes from high-income countries prioritizing their population and system needs, and there is a need to leverage the experience of these lesser-known geographies to create new solutions. The COVID CIRCLE priority setting meeting reached an unanimous decision on the need to facilitate collective efforts to strengthen COVID-19 research in LMICs as an immediate research funding priority.

Given this backdrop, we are offering a secondary analysis and an extension to a systematic scoping review published at the earliest stages of Long COVID emergence (2) earlier. We carried out a comprehensive literature search on 30 January 2021 to evaluate the potential disparities in research and reporting regarding Long COVID. Using relevant search words, that is, 'long COVID' or 'long haulers' or 'post-acute COVID' or 'chronic COVID syndrome,' we searched without language restriction via Cochrane Library, PsycINFO, PubMed, Embase, Scopus, and Web of Science. With a rigorous selection strategy, and after removing duplicates, screening the titles/abstracts and full texts, searching the reference lists and citations of the included papers for eligibility by two independent authors, a total of 67 publications in English with original data were retrieved.

Out of 67 papers with original information, 43 were published as original articles, nine were case reports/series, and 15 were short articles. The World Bank (5) classification of countries in the 2021 fiscal year was set for categorization of the countries where the studies came from. Results are shown in global heat-maps in Figure 1.

Our analysis focused on the country and region where the original investigation was carried out. Italy, United Kingdom (UK), China, and the USA comprised most of the populations who were evaluated and reported for Long COVID. Of the 67 publications, 42 (62.6%) were from Europe and Central Asia populations, nine were from East Asia and Pacific, nine were from North America, two from the Middle East and North Africa, two from sub-Saharan, and one from South Asia, and three studies were cross-country analyses. The majority of studies (91%) came from high- and upper-middle-income countries. Moreover, all of the cohort, case–control, cross-sectional, longitudinal observational, and qualitative studies were from high- and upper-middle-income countries. Articles from low- and lower-middle-income countries were largely in the form of case reports.

To 9 March 2021, COVID-19 had affected 219 countries and territories (6). In our study, we found significant geographic heterogeneity regarding the populations studied. Of the nine original studies from North America, eight were from the USA and

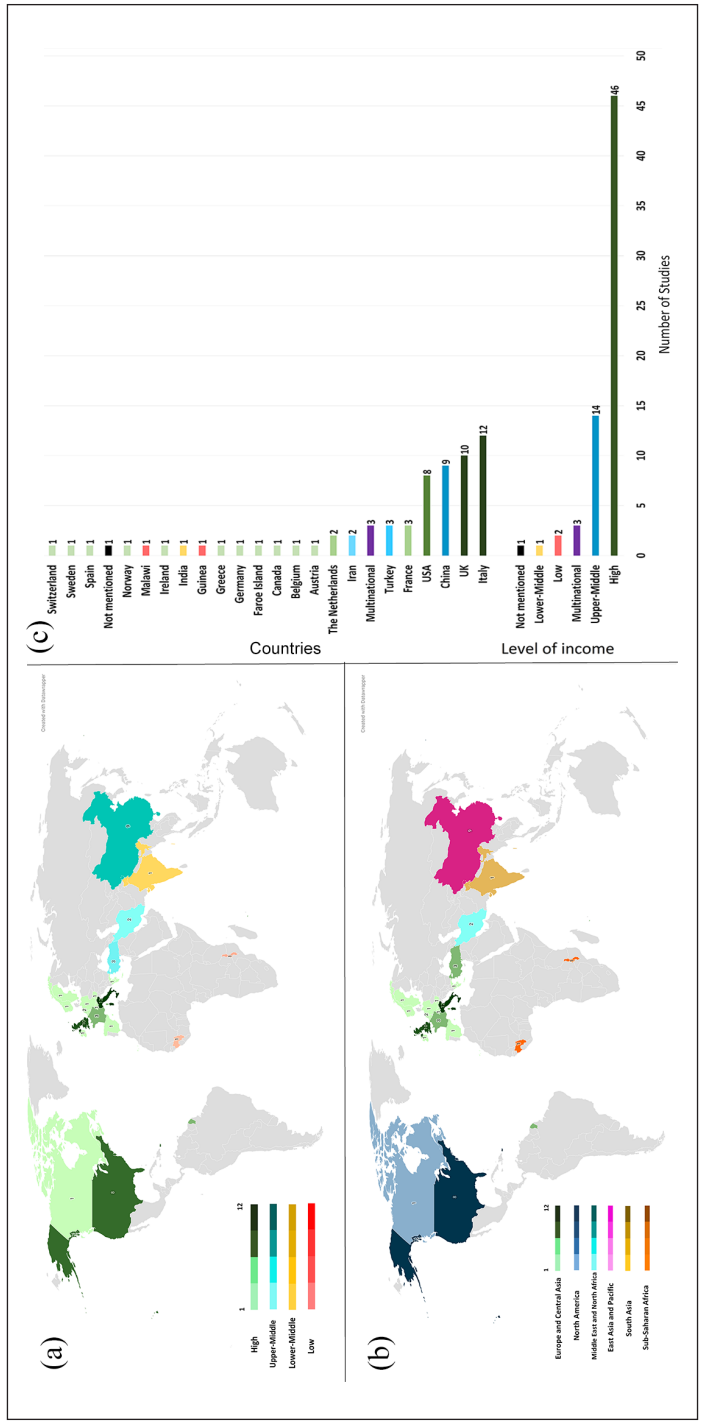

Figure 1. Global distribution of studies with original data ($N = 67$), (a) based on level of income, (b) based on geographical region. Classifications are rooted in the World Bank classification for the 2020–2021 fiscal year. (c) Number of studies based on countries according to the level of income on the bar chart. Maps were created by Datawrapper ©.

one from Canada. In East Asia and the Pacific region, all original studies were from China. Out of 42 studies from Europe and Central Asia, Italy and the UK were the most common populations studied and reported 12 and 10 studies, respectively. The disparities were not limited to geographical regions; three countries (Italy, the UK, and the USA) accounted for 30 (65%) out of 46 original articles from the high-income countries.

In terms of Long COVID phenomena from the field of pediatrics, we only found two articles. One focused on the multi-system inflammatory syndrome in children affected by the virus, and another one was a case series of five children with COVID-19. The scarcity of investigations on pediatrics is compelling. Another clear gap was Long COVID in particular groups encompassing those with organ transplantation, hemodialysis patients, and patients on immunosuppressive therapy, highlighting the need for more research.

Unfortunately, there is a significant gap in the literature regarding Long COVID globally, reflecting the need for multi-country studies and diverse population analyses. This would allow for extensive subgroup analyses involving a wide range of ages, gender, race and ethnicities, occupations, and socioeconomic backgrounds. Also, the low number of studies reported from the low and middle-income countries (LMICs) by no means reflects fewer patients suffering from COVID-19 infection and complications.

Recognition of health disparities is crucial from an equity perspective and also is the first step towards improving global health research to achieve a healthy and just world. We believe that funding should prioritize and enable institutions from LMICs to carry out vital research on long COVID. The scarcity of publications from LMICs and regions such as Sub-Saharan Africa and South Asia may reflect a lack of resources and under-recognition of the condition of the long-term impact in those areas. We suggest providing funding, resources, and continued medical education for primary healthcare workers globally and especially in LMICs. Funding should also be directed toward studies focusing on children and those with specific medical conditions at higher risk of adverse health outcomes. Due to ongoing mitigation measures such as social distancing, travel and border restrictions, the current pandemic has made communities more isolated, impacted their socialization and deactivated platforms for exchange. Such unintended measures have made societies more disconnected and distant. We believe that global health discussions have to address these issues and create bonding and synergies within research platforms to counteract possible disparities that some regions,researchers and institutions might continue to experience. In this regard, it is imperative for the decision- and policy-makers to view these challenges through the lens of equity.

On a final note, it is worth stating that the literature has exploded after conducting this research with papers published on this subject. Although this is a comprehensive analysis up to January 2021, future research is highly recommended to map the studies on this issue along the lines of global partnership and equity focusing on long COVID research on socioeconomic and health impacts.

Author contributions

All the authors have made a substantial contribution to the conception, design, analysis, and interpretation of data; they have also contributed to the article drafting and revising it critically for intellectual content

Declaration of conflicting interests

The authors have no conflicts of interest to declare.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

ORCID iD

Mohammad Hossein Taghrir https://orcid.org/0000-0003-2293-0383

Supplemental material

Supplemental material for this article is available online.

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Successful health promotion, its challenges and the way forward in Nepal

Madhu Koirala Dhital[1], Shalik Ram Dhital[2], Bhakta Bahadur KC[2], Vickie Owens[3], Hem Raj Khadka[4] and Prajwal Gyawali[5]

Abstract: Health promotion is the most favorable approach and process to achieve a positive health outcome of the population. Several countries across the world are committed to achieving positive health for their people with the best health promotion strategies. Health promotion, in fact, shares a large portion of health care economy and resources in many countries. A low-income country like Nepal, however, lacks the implementation of rigorous health care strategies on a large scale and is deficient in evidence of the potential scope of health promotion. Nepal has adopted the global health promotion declaration on paper; however, health care providers and authorities are still working in a traditional way using existing health policies and strategies. This paper aims to explore some of the global best practices of health promotion, including the challenges and opportunities by adopting such practices in Nepal, and provides some recommendations as a way forward.

Keywords: challenges, diseases, health promotion, success, Nepal

Nepal is currently facing difficulties with the triple burden of diseases such as the unwavering presence of communicable diseases including a newly (re) emerging COVID-19 pandemic, rapidly increasing non-communicable diseases, and nutritional deficiencies (1). The need and challenge for health promotion seem to be much more crucial now than ever before. Health promotion is a proactive discipline that enables people to have control over their lives (2). It has core functions of responsibility, empowerment, and participation (3). Further, the services related to health promotion are guided by its values, core principle, and ethics. The concept of health promotion was generated in the Ottawa Conference held in Canada in 1986, to overcome the gap of traditional public health services which were focusing more on the individual perspective. The scope of health promotion is wider and focuses beyond the individual (4). Health promotion and its series of international conferences focused on the settings-based approach to promoting the health of the people in specific settings such as schools, hospitals or health facilities, workplaces, industries, households, and many more (5).

It is timely that health promotion is being adopted as a new concept in Nepal (6). The Health Promotion and Education Association Nepal was established in 2013 with the initiation of the League of Health

1. New South Wales, Hunter New England-Local Health District, Australia.
2. National Health Education, Information and Communication Center, Kathmandu, Nepal.
3. New South Wales Health, Australia.
4. Ministry of Social Development, Sudurpakshim Pradesh, Dhangadi, Nepal.
5. School of Health and Wellbeing, University of Southern Queensland, Toowoomba, Queensland, Australia.

Correspondence to: Madhu Koirala Dhital, John Hunter Hospital, NSW Health Share, Newcastle, Australia.
Email: koiralamadhu33@outlook.com

(This manuscript was submitted on 20 July 2021. Following blind peer review, it was accepted for publication on 16 July 2022.)

Global Health Promotion 1757-9759; Vol 30(1): 68–71; 1117792 DOI: 10.1177/17579759221117792 journals.sagepub.com/home/ghp

Education Graduates under the initial leadership of the chairperson Mr. Laxmi Raman Ban and the General Secretary Dr. Shalik Ram Dhital. Some examples of health promotion activities in Nepal include behavior change through mass media campaigns, targeted health programs such as school health programs, primary health care outreach clinics, urban health promotion centers, promotion of yoga and the use of the bicycle, as well as the Golden 1000 days concept (the period between when a mother becomes pregnant and her child's second birthday) with good health and nutrition to mitigate the risk of malnutrition and improve children's cognitive development through nutrition promotion campaigns, and smoking banned in public buses (7). While these are important efforts, there is room for further improvements in health promotion in Nepal that can be achieved by learning from other countries.

Lessons from health promotion global best practices

Countries around the world including Canada, Australia, New Zealand, and Thailand are good examples in terms of the successful implementation of health promotion strategies globally (4).

The Canadian government implements its health promotion strategies based on primary health care principles adopted with the philosophy of community participation and inter-sectoral collaboration to improve health (8). The concept of healthy communities or cities, health-promoting school initiatives, strengthening community health projects and actions, social marketing, and the development of knowledge and evidence-based research can be cited as some of the best health promotion practices (9,10). In Nepal, the provincial and local governments expanded integrated settlements, introduced the community forest concept, and advanced menstruation hygiene in schools. However, there has been quite a delay in adopting those actions.

Australia focuses on the primary level of prevention among its diverse population. The Australian government has successfully supported initiatives in its Indigenous Australian communities, which is considered one of the milestones for health promotion initiation. There have been success stories in eliminating cervical cancer and decreasing skin cancer, reducing the incidence of road traffic accidents, and decreasing mental health illness and suicide in Australia through a mass media approach, community participation, banning tobacco advertising, better taxation policy, and environmental policies (11). There are some success stories in line with such achievements evidenced in Nepal, such as the banning of tobacco advertising and stopping smoking on public transportation; however, there remains much to do.

The New Zealand government has been working on implementing health promotion strategies including an anti-tobacco campaign through a tax increase, implementing The Sale and Supply of Alcohol Act 2012, improvement in nutrition and increased physical activity, transformational approaches to mental health well-being and addiction, improved access to health information, child and youth oral health promotion initiatives, and provision of low-cost general physician services to everyone to differentiate from the free-cost general services for under 14 years (12). Healthy active learning initiatives such as school support, Kura, and early learning setting for healthy eating and physical activities were applied through joint efforts of ministries in New Zealand in 2019 (13). Most recently Madhesh Province in Nepal declared that girls who marry after undergraduate education, for example around 20 years old, or the general age for graduating from a Bachelor-level education in Nepal, will receive an incentive from the government, which helps reduce early age marriage. Furthermore, schools provide scholarships for girls, school uniforms, free textbooks, and other small subsidies to students' parents to promote a reduction in early marriages in Nepal (14).

The Thai Health Promotion Foundation addressed the healthy school concept through the means of a happy community, happy environment, happy family, happy organization, and happy students in Thailand (15). These strategies are more applicable in Nepal, where the government endorsed Healthy Nepali and Prosperous Nepal strategies. The Thai Health concept was made possible through a dedicated funding mechanism, transparent and accountable organization roles, and government and citizens' active participation in a tax increase up to 2% on tobacco and alcohol. These funds were allocated to social mobilization to address non-communicable risk factors such as tobacco use, harmful alcohol drinking, sedentary lifestyles, and

lack of evidence-based health promotion campaigns (16). Tangible outcomes of these health promotion practices were noticed in Thailand as follows: tobacco usage rate decreased from 22% in 2001 to 18% in 2014, consumption of alcohol rate decreased from 8% in 2005 to 7% in 2014, participation in physical activity practiced by the adult Thai population increased moderate-intensity exercises or 75 minutes of high-intensity aerobic exercise per week from 66% in 2012 to 73% in 2017 of at least 150 minutes.

Challenges to implementing the best health promotion strategies in Nepal

Challenges include lack of evidence-based health promotion practices, lack of application of evidence while developing policies and programs (17), treating all communities in a similar way for all kinds of community diversity, addressing diverse interests of various groups, developing and maintaining the trust the community has towards health care services, the influence of alcohol and tobacco industries and food chains selling junk foods (18), and capacity building of health workforce and infrastructure development (17).

A high level of poverty, inadequate improved water, sanitation, and hygiene facilities, high rates of tobacco use, excessive use of alcohol, inadequate physical activity, high incidence of obesity, poor nutrition, and a polluted environment are the major causes of the overall poor health status of people (19). Limited resources such as manpower, money, and material in addition to poor infrastructure, poorly managed organization, poor time management, and low coordination and collaboration are further challenges for better health promotion (7). Nepal is trying to adopt health promotion initiatives, however is lacking a prevalent embedding of its core principles, values, and ethics, which remains a significant challenge.

The way forward

Nepal is suggested to prioritize the major pillars of health promotion such as healthy public policy, holistic health promotion, optimum health regulation, health promotion case studies, and fostering a supportive health environment.

The following strategies are recommended to federal, provincial, and local level health and non-health policymakers to apply a multilevel health promotion approach involving a cross-section of the population.

Prioritize context-specific, feasible, and evidence-based health promotion strategies—for example, organic vegetable and fruit production strategies, promotion of local food products, reduction in consumption of junk food, salt, sugar, tobacco, and alcohol; increase the promotion of bicycles in all cities; continue construction of green spaces or parks; establish yoga and exercise spaces; and facilitate widespread promotion of improved hand washing practices. In general, build healthy policies, strategies, and directives at local levels, however with a national focus. Health practitioners must accept that the world is continuously changing and adopt new health concepts, models and theories to fight lifestyle and behavioral-related diseases. Health practitioners will, in time, begin to understand that the health promotion approach is a more efficient, effective, and economical way of preventing diseases rather than treating them in an acute setting. Health promotion through a multi-sectoral approach, incorporating the socio-ecological model, would involve federal, provincial, and local levels. It would be visionary for policymakers to involve health promotion graduates in health organizations, schools and universities, most workplaces, and in people's everyday lives.

The simple, practical, and actionable health promotion models and initiatives need to be developed and applied at all levels of health care settings and personnel. Strong collaboration with non-health actors is required in Nepal. Community engagement can support sustained health promotion action. However, there is an urgent need to formulate health promotion strategies through evidence-based health promotion practices and experiences in Nepal.

The success stories of international health promotion practices discussed in this paper are key examples to adopt and apply in Nepal. Related health promotion policies and strategies are applied, however more evidence-based practices, work ethics, workforce strategies, people-centered approaches, and superior proven actions are required to effectively launch comprehensive health promotion strategies in Nepal. These are some activities and actions already taking place, however they need to be supported and expanded in a more strategic way.

Positive health outcomes are possible through timely updated policy and working strategies, by changing traditional work mindsets, and by adopting global best practices of health promotion. Therefore, health promotion is a priority-based effective tool for global health, the timely adopted new public health concept, and a proactive discipline that addresses multilevel determinants of health.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

ORCID iD

Madhu Koirala Dhital https://orcid.org/0000-0003-1380-4449

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Abstracts

What are the gaps in knowledge, and what should be prioritized, in research on older adult mental health? A quali-quantitative study using the Matrix of Combined Strategies for Argentina (MECA)

Carolina Prado, Marilina Santero, Diego Caruso, Fabián Ortiz, María Silvia Zamorano and Vilma Irazola

Introduction: population aging is a worldwide phenomenon. Mental health problems, highly prevalent in this group, impact the lives of individuals, their families, and society as a whole.
Objective: to identify gaps in knowledge and research priorities regarding the mental health of older adults in Argentina.
Materials and methods: this study used a quali-quantitative design, in three stages: (1) situational diagnosis, (2) global evaluation of research needs, and (3) prioritization exercise based on the Matrix of Combined Strategies for Argentina (MECA).
Results: the first stages of the study identified two thematic research areas and dimensions to prioritize in the country: (a) loneliness/isolation and (b) cognitive deterioration and dementia. The following dimensions arose from the prioritization exercise. In relation to loneliness/isolation: (1) effect of the programs, (2) lack of access to resources, (3) capacity to adapt to local contexts (social integration of older adults), and (4) quality of services. In relation to cognitive deterioration and dementia: (1) the impact of caretakers and environment, (2) barriers to the implementation of guides training, (3) studies of cost-effectiveness on interventions and quality of life, and (4) collection of publication of epidemiological data.
Conclusion: we must emphasize the importance of strengthening research in Argentina on the implementation and diffusion of promotion, prevention, and public benefits and services on the mental health of older adults.

Keywords: health services research, older adults/senior citizens, mental health, loneliness, isolation, dementia, cognitive deterioration, Argentina. (Global Health Promotion, 2023; 30(1): 87–94)

Corporate capture, pro-cannabis fake news, and the positioning of consumers vis-à-vis cannabis regulation

Manuel Isorna Folgar, Guillermo Burillo-Putze and Víctor José Villanueva-Blasco

Introduction: corporate capture is the process by which political decisions are influenced by a particular private interest, to the detriment of the public interest. The cannabis industry has developed strategies of political capture and diffusion of fake news with the object of fomenting a vision of cannabis as an innocuous substance and even one capable of curing illnesses, promoting a positive image for corporations and consumers, and pressing for its legalization.
Objectives: (1) to analyze strategies for the diffusion of messaging and fake news promoting the cultivation, consumption, and regulation of cannabis through distinct channels; and (2) to explore the positioning of this substance in the legislative debate through a sampling of university students who consume cannabis.
Methodology: we carried out (1) an exploratory study to identify and analyze the industry's strategies, and (2) a non-probabilistic study using a convenience sampling to digitally survey students at 11 Spanish universities (439 participants).
Results and conclusions: the promotion of the cultivation and consumption of cannabis, minimizing its harmful effects and presenting it as a medicinal substance, appears in the distinct strategies used by the industry to spread a positive image of cannabis and its users. These messages correspond to its positioning among consumers, of whom 82.6% support some form of regulated cannabis.

Keywords: corporate capture, fake news, health promotion, cannabis, regulation. (Global Health Promotion, 2023; 30(1): 95–104)

Global Health Promotion 1757-9759; Vol 30(1): 72; 1156717 DOI: 10.1177/17579759231156717 journals.sagepub.com/home/ghp

Rompre avec les présupposés coloniaux en promotion de la santé

Carlos E. Sanchez-Pimienta

Les déclarations de Waiora, Rotorua et Tiohtià:ke

Entre 2019 et 2022, l'Union internationale de Promotion de la Santé et d'Education pour la Santé (UIPES) a publié trois déclarations importantes. Tout d'abord, les délégués à la Conférence mondiale de l'UIPES, à Rotorua, en Aotearoa, Nouvelle-Zélande, en 2019, ont élaboré la Déclaration de Rotorua WAIORA : Promouvoir la santé planétaire et le développement durable pour tous (1) et la Déclaration des peuples autochtones de Waiora sur la santé planétaire et le développement durable (2). En reconnaissant que les savoirs et pratiques du monde occidental qui séparent les êtres humains de la nature ont contribué de manière disproportionnée au risque d'effondrement écologique, les délégués de l'UIPES ont appelé à privilégier les voix des peuples autochtones dans les domaines de la promotion de la santé planétaire et du développement durable autour de quatre domaines d'action essentiels.

En 2022, les délégués à la Conférence mondiale de l'UIPES ont préparé la Déclaration de Tiohtià:ke sous le thème « Catalyser les politiques de santé, de bien-être et d'équité » (3). Tiohtià:ke est un mot kanien'kéha (la langue parlée par le peuple des silex, les Kanien'kehà:ka) qui fait référence au lieu ancestral connu sous le nom de Montréal, au Canada, où la conférence a eu lieu. La Déclaration de Tiohtià:ke s'appuie sur les domaines d'action proposés dans la Déclaration de Rotorua, décrivant les étapes à suivre pour privilégier les voix des peuples autochtones en promotion de la santé et s'engager à la décolonisation.

En tant que jeune chercheur du Mexique vivant actuellement au Canada, je suis particulièrement attiré par l'appel de la Déclaration de Tiohtià:ke à désapprendre et chambouler les postulats et préjugés anciens. Dans cet éditorial, je partage des idées sur ce que ce désapprentissage a signifié pour moi dans le contexte de la promotion de la santé. Inspiré par les façons non directives qu'ont les communautés anishinaabe de partager les connaissances, je n'ai pas l'intention de faire valoir mes idées sur un ton prescriptif. Au contraire, les lecteurs sont invités à réfléchir à savoir si ces idées s'appliquent à leur contexte et comment.

Savoir d'où vous venez avant de définir votre parcours

Dans un récent podcast (4), le Dr Michael Hart, de la Nation crie de Fisher River, a déclaré que les sociétés colonisatrices ont tendance à être trop centrées sur les objectifs sans nécessairement réfléchir aux raisons pour lesquelles ces objectifs ont été fixés. Du point de vue de sa nation, il est impératif de savoir qui vous êtes, d'où vous venez et les valeurs que portent vos communautés d'origine avant de réaliser un projet. C'est seulement alors que vous serez bien préparé à fixer des objectifs pour arriver là où vous voulez aller.

Si je suis bien les conseils du Dr Hart, je dois vous parler de mes origines. Je suis né et j'ai grandi à Guadalajara, au Mexique et je vis au Canada depuis six ans. Je suis *mestizo* (une catégorie sociale ou identité non autochtone attribuée aux personnes d'ascendance mixte en Amérique latine), à ne pas confondre avec les Métis, une nation autochtone au Canada); la plupart de mes ancêtres sont originaires du Mexique et j'ai un parent connu espagnol. Dans le contexte d'où je viens, les processus historiques et qui se perpétuent aujourd'hui de colonialisme ont

Dalla Lana School of Public Health, University of Toronto, Toronto, Canada.

Correspondance à: Carlos Ernesto Sanchez-Pimienta, Dalla Lana School of Public Health, University of Toronto, Toronto, Canada. Email: carlos.pimienta@mail.utoronto.ca

Global Health Promotion 1757-9759; Vol 30(1): 73–76; 1156541 DOI: 10.1177/17577592311565 41 journals.sagepub.com/home/ghp

tenté d'imposer des systèmes de gouvernance, des institutions et des savoirs eurocentriques aux divers peuples qui habitent le pays aujourd'hui connu sous le nom de Mexique. On peut exemplifier la naturalisation des présupposés et des pratiques eurocentriques par la manière dont le système d'éducation publique du Mexique a été consolidé au XXe siècle. Les écoles publiques ont renforcé les savoirs eurocentriques, ont imposé l'espagnol comme langue dominante et ont négligé une riche diversité de connaissances autochtones sur la gestion de l'environnement, les systèmes de gouvernance et le développement communautaire.

Malheureusement, le racisme envers les Autochtones demeure largement répandu parmi les *mestizos*, ce qui limite notre capacité d'apprendre des savoirs, de la spiritualité et des pratiques de ces peuples. Parmi les exemples les plus connus de leadership autochtone sur les déterminants sociaux et écologiques de la santé au Mexique, mentionnons Cherán K'eri, une communauté P'urhépecha qui a défendu avec succès ses forêts contre le crime organisé et la corruption gouvernementale (5); et le mouvement zapatiste, un mouvement autochtone multiethnique qui a développé l'un des exemples les plus inspirants au monde de développement économique et communautaire anticapitaliste (6).

La décolonisation, c'est pour tout le monde

Bien que mes antécédents en tant que *mestizo* aient suscité chez moi un vif intérêt à remettre en question les présupposés eurocentriques, la pensée décoloniale m'a appris que les processus de décolonisation peuvent intéresser n'importe qui, peu importe leurs antécédents. Ce qu'on appelle souvent « occidental » ou « eurocentrique » dans la littérature en promotion de la santé renvoie à une façon particulière d'être, de savoir et de faire que les philosophes ont appelée « modernité ». La modernité ne fait pas référence à quelque chose de « nouveau », mais à une forme d'existence apparue il y a plus de 500 ans. La modernité s'est développée en Europe et vers le reste du monde à travers le colonialisme européen, les idées des Lumières, la consolidation des États-nations et l'expansion du capitalisme (7). Avec l'avancée de la modernité, les façons préexistantes d'être dans le monde – dont certaines partagent des présupposés relationnels avec les systèmes de connaissances autochtones – ont été rejetées ou éliminées.

En apprenant sur l'expansion de la modernité et du colonialisme dans le monde, cela me fait penser que, peu importe d'où nous venons, à un moment donné, nos ancêtres humains ont pratiqué des modes d'existence qui étaient adaptés aux écosystèmes qu'ils habitaient et garantissaient la continuation de la vie. Se reconnecter avec ces façons de vivre et les actualiser aux contextes d'aujourd'hui pourraient être une source précieuse de conseils pour faire face à l'Anthropocène.

Désapprendre ce que nous savons sur les présupposés et les prejugés dits modernes

Il peut être difficile de renouer avec les traditions de sagesse ancestrales pour ceux d'entre nous qui sont très socialisés par le biais des institutions modernes, car nous pouvons par inadvertance décontextualiser les pratiques ancestrales de leurs visions du monde telles que conçues à l'origine et les réinterpréter à travers les présupposés de la pensée moderne (8). Pour cette raison, se familiariser avec les prémisses de la modernité peut être une étape dans tout le parcours de vie vers la décolonisation (9). Les présupposés de la modernité incluent les suivants (7,9) :

- La séparation entre les êtres humains et la nature,
- Le désengagement entre le sacré et l'humain,
- Le droit de contrôler la nature pour poursuivre les objectifs que les êtres humains se sont fixés,
- Le désir de créer du progrès à travers la science et la technologie,
- Une conception linéaire du temps qui préfère « le nouveau »,
- Une vision de la réalité qui privilégie les « choses » plutôt que les « relations »,
- Le rôle auto-attribué de la science comme la meilleure forme de connaissance,
- La conviction que le savoir et la capacité d'agir ne viennent que des êtres humains; et
- La supériorité automatiquement assignée à l'être humain moderne par rapport à l'Autre.

Lorsque la déclaration de Tiohtià:ke appelle à désapprendre et à bousculer les idées préconçues du passé, je pense aux présupposés de modernité énumérés

ci-dessus, dont beaucoup sont toujours rarement analysés dans diverses traditions scientifiques, y compris la promotion de la santé occidentale. Les présupposés de la modernité contrastent fortement avec les caractéristiques fondamentales des représentations autochtones du monde présentées dans la Déclaration de Waiora, y compris l'interactivité entre les mondes matériel et spirituel, la place de l'humanité comme une composante d'une Terre-Mère nourricière, et l'accent mis sur les relations et l'interdépendance entre tout ce qui existe.

Donner des soins palliatifs à la modernité

Bien qu'il n'y ait pas de recette pour remettre en cause les présupposés coloniaux en promotion de la santé ou dans tout autre domaine, je trouve inspirant le travail de Vanessa Andreotti sur « les soins palliatifs à donner à la modernité » (9) pour répondre par l'action à l'appel de la Déclaration de Tiohtià:ke nous invitant à effectivement remettre en question nos hypothèses et préjugés. Andreotti (connue sous le nom de Machado de Oliveira) décrit la modernité comme une seule et même histoire du monde qui protège farouchement son caractère unique en écartant ou en éliminant d'autres histoires. Bien sûr, la modernité n'est pas bonne ou mauvaise en soi. Le problème, c'est que beaucoup d'entre nous sont si imprégnés sur les plans intellectuel, émotionnel et relationnel des enseignements de la modernité que nous avons maintenant de la difficulté à aborder d'autres histoires. Ce problème est malheureux parce que l'adoption des postulats des histoires non-modernes peut être essentielle au maintien de la santé humaine et de l'écosystème dans l'Anthropocène. Andreotti propose que nous « donnions » des soins palliatifs à la modernité en nous et autour de nous afin que nous aidions la modernité à mourir d'une manière qui honore ses enseignements tout en ouvrant la voie à d'autres histoires pour guider nos relations entre nous et avec la terre. Ces histoires peuvent venir des Peuples autochtones et d'autres communautés (par exemple, les paysans, les groupes communautaires de terrain) qui ont été forcés de survivre dans les conditions particulièrement difficiles du capitalisme, du colonialisme et du patriarcat dans les pays du Sud (y compris la partie sud des pays du Nord).

Vers un dialogue avec diverses traditions de connaissances en promotion de la santé

La métaphore de la « donner des soins palliatifs à la modernité » ainsi que d'autres notions comme le *Etuaptmumk* des Micmacs (Approche à double perspective) (10), l'espace éthique de l'Ermine (11) et les écologies du savoir de Santos (12) peuvent nous aider à établir des relations respectueuses entre la science moderne, les systèmes de connaissances autochtones et d'autres traditions de connaissances. Si l'on admet que la science moderne n'est qu'une façon d'apprendre parmi beaucoup d'autres systèmes de connaissances tout aussi valables, il s'ensuit que des idées modernes comme la santé, la promotion de la santé et le développement durable ne doivent pas nécessairement être au centre de nos conversations.

Considérées conjointement, les déclarations de Waiora, Rotorua et Tiohtià:ke me portent à penser que des notions comme celles de *Waiora* (la bonne santé) des Maori (13), de *Mino Bimaadiziwin* (la façon de bien vivre) des Anishinabés (14), ou de *Sumak Kawsay* (bien vivre) en Quechua (15), sont tout aussi – et peut-être mieux – capables de transmettre les types de principes, de relations et de connaissances nécessaires pour développer une planète saine et équilibrée dans l'Anthropocène. Issues des visions autochtones du monde sur le plan relationnel, ces notions (i) parlent des interconnexions entre les humains, la nature et le monde spirituel (ii) et vont au-delà des conceptions occidentales de la santé et du bien-être pour inclure des enseignements sur l'identité culturelle, la participation sociale, le respect et l'interdépendance entre tous les êtres, et (iii) la mobilisation de la sagesse ancestrale pour assurer des conditions adéquates pour la poursuite de la vie aujourd'hui et pour les générations à venir.

J'espère que ceux qui travaillent en promotion de la santé pourront de plus en plus façonner notre compréhension et notre pratique en faisant valoir les similitudes, les différences et l'incommensurabilité des diverses traditions du savoir. Pour acquérir cette compétence, il faut être bien au fait des notions de santé et de développement durable dans le monde occidental, ainsi que des notions locales et des traditions

de connaissances des communautés dont nous sommes issus et avec lesquelles nous travaillons. Une telle tâche est profondément interactive parce que, comme nous le rappelle Etuaptmumk, chaque individu et chaque communauté ne portent qu'une des pièces du puzzle, une partie limitée des connaissances et des pratiques incarnées nécessaires pour soutenir la vie dans le métabolisme vivant de la Terre. Continuons à rassembler ces pièces.

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Résumés

Évaluation de l'impact sur la santé des politiques locales : méthodologie et outils

Rosa Mas-Pons, Mar Caturla-Bastit, Josep Bisbal-Sanz, Mireia López-Nicolás et Carmen Barona-Vilar

L'objectif de ce travail était de concevoir des outils et une procédure pour réaliser l'évaluation de l'impact sur la santé des politiques municipales. Un groupe de travail composé de spécialistes municipaux et de santé publique de la Communauté valencienne (Espagne) a été mis sur pied. Après un examen des outils utilisés dans d'autres contextes, le questionnaire Fem Salut? pour l'évaluation simplifiée de l'impact sur la santé des politiques régionales a été adapté pour être utilisé au niveau local. Une étude pilote a été menée dans six municipalités et des initiatives locales promues par différents secteurs ont été analysées. Deux ateliers se sont tenus par municipalité (regroupant des spécialistes et des citoyens) et des techniques participatives ont été utilisées afin d'identifier les impacts possibles sur les déterminants sociaux de la santé, les groupes de population les plus particulièrement affectés et les propositions d'amélioration. La faisabilité de la méthodologie et les difficultés impliquées dans sa mise en œuvre ont été discutées. Une procédure a été définie pour l'évaluation de l'impact sur la santé des initiatives locales en six étapes : Décrire (la municipalité et le projet), Extraire (phase de sélection), Co-produire (ateliers participatifs), Intégrer (les données scientifiques avec les informations qualitatives obtenues), Diffuser (vers les responsables politiques, les spécialistes et la communauté) et Évaluer (résultats directs et indirects) (DECIDE). Un guide a été développé pour faciliter son application au niveau local avec deux outils complémentaires (un questionnaire et des fiches de travail). Le groupe technique a évalué le processus comme étant simple et flexible, de même que facile à adapter aux caractéristiques de la municipalité et du projet. En plus de l'approche intersectorielle, l'intégration de la participation citoyenne au processus constitue une importante valeur ajoutée.

Mots clés : évaluation de l'impact sur la santé, équité en santé, participation citoyenne. (Global Health Promotion, 2023; 30(1): 7–15)

Développement et évaluation sur le terrain de l'Échelle salutogène de promotion du bien-être – formulaire abrégé (SWPS-SF) auprès d'étudiants américains

Craig M. Becker, Hui Bian, Ryan J. Martin, Kerry Sewell, Michael Stellefson et Beth Chaney

La recherche par sondage est importante pour comprendre la santé et améliorer la pratique dans les professions de santé. Cependant, la recherche par sondage peut avoir des inconvénients, comme leur surutilisation et la longueur excessive des questionnaires qui gêne les répondants. Ces problématiques entraînent de faibles taux de réponse et des questionnaires incomplets, qui entraînent à leur tour des données manquantes et des échantillons de taille réduite, ce qui altère la valeur des informations recueillies, et la possibilité de les utiliser et de les généraliser. Afin d'aborder les problématiques liées aux taux de réponse et d'améliorer la recherche en santé, il est recommandé de recourir à des questionnaires plus courts, car ils représentent une charge moins importante pour les répondants et sont utiles auprès de populations plus étendues. Les enquêtes liées à la santé se concentrent aussi souvent sur les facteurs qui mènent à une mauvaise santé, sans accorder d'attention égale aux facteurs qui soutiennent une santé positive. Cette étude a développé et évalué un formulaire abrégé (short form, SF) de l'Échelle salutogène validée de promotion du bien-être (Salutogenic Wellness Promotion Scale, SWPS), qui mesure les causes de la santé (plutôt que les causes de la maladie) en utilisant les réponses de 2052 étudiants universitaires. Les participants ont répondu à des questions sur leurs données démographiques et ont complété l'échelle SWPS ainsi qu'une évaluation de la santé perçue. Des tests statistiques ont démontré que la version abrégée de l'échelle, SWPS-SF, avait une relation significative avec la version complète de l'échelle SWPS, l'état de santé, et la moyenne générale des étudiants. Des tests statistiques ont également été utilisés pour établir des scores limites avec des taux de vrais positifs élevés et des taux de faux négatifs faibles.

Global Health Promotion 1757-9759; Vol 30(1): 77–82; 1156723 DOI: 10.1177/17577592311567 23 journals.sagepub.com/home/ghp

Ces scores limites ont démontré une relation de performance plus élevée et de meilleure santé. Ces résultats prometteurs suggèrent que ce test abrégé peut fournir des informations valables sans surcharger les répondants. Les auteurs recommandent la réalisation de tests supplémentaires pour valider l'échelle SWPS-SF.
Mots clés : mesure, salutogénèse, formulaire abrégé, promotion de la santé. (Global Health Promotion, 2023; 30(1): 16–22)

La relation entre les styles de vie et la santé mentale positive chez les étudiants de l'enseignement supérieur au Portugal

Olga Valentim, José Vilelas, José C. Carvalho, Carmen M. Silva Maciel Andrade, Catarina Tomás, Patrício Soares Costa et Carlos Sequeira

Des styles de vie sains sont fréquemment associés à une meilleure santé physique et mentale. Les habitudes de sommeil, la nutrition, l'activité physique, la consommation de substances psychoactives, entre autres, peuvent fortement influencer la santé mentale positive. Les objectifs étaient : caractériser les styles de vie sur la base de groupes de santé mentale positive, en considérant l'échantillon de la cohorte intersectorielle des étudiants de l'enseignement supérieur, et analyser les styles de vie associés à une santé mentale positive. Une étude multicentrique, descriptive, intersectorielle et corrélationnelle avec une approche quantitative a été menée. Le questionnaire sur la santé mentale positive a été administré. À travers la méthode des k-moyennes, quatre groupes ont été obtenus d'après leurs niveaux de santé mentale positive. L'échantillon de 3647 étudiants de l'enseignement supérieur était principalement composé de femmes (78,8 %), célibataires (89,5 %), avec une moyenne d'âge de 23 ans (ET = 6,68). Des différences ont été trouvées entre les groupes selon leurs caractéristiques sociodémographiques et de leurs styles de vie. Les résultats du Groupe 1 ont été mis en avant car ils incluaient des étudiants avec un niveau de santé mentale positive plus élevé, qui était associé à une plus grande satisfaction dans les relations affectives, plus d'activités sportives et de loisirs, une meilleure qualité du sommeil, une alimentation saine, et une plus faible consommation de médicaments et de substances illicites. Ces résultats clés mettent l'accent sur la promotion des styles de vie sains et soulignent l'importance de la santé mentale positive pour promouvoir la santé des étudiants de l'enseignement supérieur.
Mots clés : santé mentale positive, étudiants de l'enseignement supérieur, style de vie, promotion de la santé. (Global Health Promotion, 2023; 30(1): 23–32)

Les répercussions de la menace perçue pour la santé dans la population espagnole

María del Mar Molero Jurado, África Martos Martínez, María del Carmen Pérez-Fuentes, María del Mar Simón Márquez, Inmaculada Méndez Mateo, Ana Belén Barragán Martín et José Jesús Gázquez Linares

Des études ont montré que la COVID-19 avait eu un impact psychologique dans le monde entier. Le confinement dû à la COVID-19 a eu des répercussions importantes sur la santé mentale de la population générale, avec des niveaux élevés de stress, d'anxiété, de symptômes dépressifs, de troubles de stress post-traumatique, etc. De même, d'importants changements ont lieu en termes professionnel, économique et social qui affectent le bien-être des personnes. L'objectif de cette étude était d'analyser les répercussions de la menace perçue de la COVID-19 sur la santé mentale de la population, et d'évaluer le rôle médiateur de l'impact économique perçu. Les participants étaient 1160 adultes résidant en Espagne et âgés de 18 à 82 ans, dont 69,9 % étaient des

femmes. Un questionnaire sociodémographique, le Questionnaire sur la perception de la menace de la COVID-19, ainsi que le Questionnaire sur la santé générale ont été administrés. La menace perçue avait un effet positif direct sur l'ensemble des quatre dimensions analysées. Parmi les effets indirects, l'impact économique perçu de la COVID-19 avait un effet médiateur sur la relation entre la menace perçue et chacune des dimensions de santé. Les résultats de cette étude ont démontré le besoin de promouvoir une action conjointe pour promouvoir la santé mentale publique afin de minimiser les répercussions psychologiques de nouvelles épidémies.
Mots clés : menace perçue, COVID-19, population générale, santé mentale. (Global Health Promotion, 2023; 30(1): 33–41)

La couverture vaccinale à l'âge de sept mois dans la Province du Limpopo, en Afrique du Sud : une étude intersectorielle

John P. Killion, David T. Silverman, Denise Evans, Lezanie Coetzee, Amanda R. Tarullo, Davidson H. Hamer et Peter C. Rockers

De nombreux pays à faibles et moyens revenus font face à des difficultés pour atteindre des niveaux adéquats de couverture vaccinale, et les facteurs qui sous-tendent cette couverture insuffisante n'ont pas été complètement élucidés. Dans cette étude intersectorielle, nous avons examiné les facteurs associés à la couverture vaccinale dans le District de Mopani, Province du Limpopo, en Afrique du Sud. Entre le mois de juillet et le mois d'octobre 2017, nous avons interrogé 317 soignants (dont 83 % étaient des mères) de nourrissons âgés de sept mois dans le District de Mopani, au sujet des obstacles rencontrés pour atteindre la vaccination et des attitudes autour de la vaccination, et nous avons examiné les antécédents documentés des nourrissons en termes de vaccination. Les données démographiques des soignants et des enfants ont été recueillies peu de temps après la naissance. Nous avons décrit la couverture pour les vaccins qui devaient être reçus avant l'âge de sept mois, selon le calendrier du Programme élargi de vaccination pour l'Afrique du Sud. Nous avons exploré la relation entre la couverture et les caractéristiques des soignants, leurs facteurs comportementaux (par ex. les attitudes par rapport à la vaccination), et les facteurs structurels (par ex. les ruptures de stock dans les cliniques). Nous avons trouvé que les soignants rapportaient des attitudes positives par rapport à la vaccination, d'après une enquête par questionnaire en sept questions qui portait sur les attitudes au sujet de la vaccination. Même si la couverture était élevée pour la plupart des vaccins recommandés, elle était faible pour le vaccin pneumococcique conjugué (VPC), avec seulement 36 % des enfants l'ayant reçu avant l'âge de sept mois. Cela semble être dû à des ruptures de stock de VPC dans les cliniques gouvernementales. Pour les vaccins autres que le VPC, les enfants étaient plus susceptibles d'être à jour dans leurs vaccinations si un agent de santé communautaire (ASC) leur avait rendu visite à domicile au cours des derniers mois (rapport de cotes ajustées [RC] 1,24, intervalle de confiance [IC] [1,10–1,41] ; $p < 0{,}001$) et si le soignant avait un plus haut niveau d'études (RC ajusté 1,03 [IC 1,01–1,05] ; $p = 0{,}012$). Nous concluons qu'il est nécessaire d'aborder les ruptures de stock de VPC dans les cliniques gouvernementales du District de Mopani afin de garantir que la couverture vaccinale atteigne les niveaux adéquats. En outre, le soutien des programmes pour les ASC pourrait être un moyen productif d'améliorer la couverture vaccinale.
Mots clés : Afrique du Sud, couverture vaccinale, hésitation vaccinale, agents de santé communautaires. (Global Health Promotion, 2023; 30(1): 42–52)

Analyser l'insécurité alimentaire des ménages durant la pandémie de COVID-19 et le rôle des politiques publiques pour l'atténuer : des données probantes du Ceará, au Brésil

Onélia Maria Moreira Leite de Santana, Luiz Vinicius de Alcantara Sousa, Hermano Alexandre Lima Rocha, Luciano Lima Correia, Laécia Gretha Amorim Gomes, Camila Machado de Aquino, Sabrina Gabriele Maia Oliveira Rocha, David Augusto Batista Sá Araújo, Maria Dagmar de Andrade Soares, Márcia Maria Tavares Machado et Fernando Adami

Objectif : Évaluer l'association des politiques de transfert conditionnel en espèces pour atténuer l'insécurité alimentaire (IA) parmi les familles vivant dans la pauvreté durant la pandémie de COVID-19 au Ceará, au Brésil.

Méthodes : Une étude analytique intersectorielle a été menée par entretien téléphonique durant la période de mai à juillet 2021, lors de la seconde vague de la pandémie de COVID-19 au Ceará. Des familles en situation de grande vulnérabilité sociale et économique ont participé à cette étude (revenu mensuel par habitant inférieur à 16,50 USD). L'IA a été évaluée à l'aide du questionnaire brésilien validé EBIA. La participation des familles aux programmes gouvernementaux et aux politiques publiques a également été examinée. Des modèles de régression logistique ont été utilisés pour évaluer l'association des différents facteurs évalués avec l'insécurité alimentaire.

Résultats : La prévalence de l'insécurité alimentaire en général dans cet échantillon était de 89,1 % (IC à 95 % : 86,2 – 92,1) et de 30,3 % pour l'insécurité alimentaire sévère (IC à 95 % : 26,0 – 34,6). Le programme de carte Mais Infância, adopté comme un supplément de transfert en espèces dans l'État du Ceará, était associé de manière significative à l'insécurité alimentaire (RC 4,2 (IC à 95 % : 1,7 – 10,2), avec une p-valeur de 0,002. En outre, les familles touchées par des pertes d'emploi du fait de la pandémie de COVID-19 présentaient des cotes plus élevées d'IA.

Conclusions : Dans cette étude, 89 % des familles évaluées présentaient une insécurité alimentaire. Les programmes de transfert conditionnel en espèces étaient associés à l'IA. Nous mettons en avant la nécessité de politiques et d'interventions destinées à réduire l'impact de la pandémie de COVID-19 sur l'insécurité alimentaire. De telles politiques peuvent adopter des critères appropriés pour définir les participants, de même que connecter les participants à un ensemble approprié de mesures de protection sociale plus larges.

Mots clés : enfants, maladie transmissible, insécurité alimentaire, Amérique latine, santé maternelle, politiques, pauvreté. (Global Health Promotion, 2023; 30(1): 53–62)

Les inégalités et les disparités affectent les données probantes mondiales existantes sur la COVID longue

Mohammad Hossein Taghrir, Hossein Akbarialiabad, Ashkan Abdollahi, Nasrollah Ghahramani, Bahar Bastani, Shahram Paydar, Babak Razani, John Mwangi, Ali A. Asadi-Pooya, Jamshid Roozbeh, Leila Malekmakan et Manasi Kumar

Depuis le début de la pandémie en décembre 2019, le SARS-Cov2 a accentué l'important fossé et les disparités en termes socioéconomiques et en ce qui concerne l'accès aux soins de santé aux niveaux individuel, communautaire, national et régional. Après plus de deux ans de la pandémie en cours, jusqu'à trois quarts des patients rapportent des signes et symptômes qui persistent au-delà de la phase aigüe de la COVID-19, et la COVID longue s'annonce comme une difficulté majeure pour l'avenir. Avec un aperçu complet de la littérature, nous avons trouvé que la plupart des études portant sur la COVID longue provenaient de pays à revenus élevés et intermédiaires supérieurs, et que les populations des régions à revenus faibles et intermédiaires

inférieurs ainsi que les groupes vulnérables avec des comorbidités avaient été négligés. Hormis le niveau de revenus, il existe une hétérogénéité géographique significative lorsqu'on examine les séquelles post-aigües de la COVID-19 (SPAC) ou ce que nous appelons désormais la COVID longue. Nous pensons qu'il est essentiel de reconnaître les disparités de santé du point de vue de l'équité et que cela constitue la première étape vers la promotion de la santé mondiale.
Mots clés : COVID-19, COVID longue, malades de longue durée, syndrome post-COVID-19, SARS-Cov2, SPAC, séquelles post-aigües de la COVID-19, syndrome de COVID chronique. (Global Health Promotion, 2023; 30(1): 63–67)

Réussite, difficultés et voie à suivre pour la promotion de la santé au Népal

Madhu Koirala Dhital, Shalik Ram Dhital, Bhakta Bahadur, Vickie Owens, Hem Raj Khadka et Prajwal Gyawali

La promotion de la santé est l'approche la plus favorable, et le meilleur processus, pour atteindre un résultat de santé positif pour la population. Plusieurs pays à travers le monde sont engagés afin d'atteindre une santé positive pour leur population avec les meilleures stratégies de santé. En réalité, dans de nombreux pays, la promotion de la santé partage une grande partie de l'économie et des ressources des soins de santé. Cependant, un pays à faibles revenus comme le Népal connaît des manques au niveau de la mise en œuvre de stratégies rigoureuses de soins de santé à grande échelle et de données probantes sur la portée potentielle de la promotion de la santé. Le Népal a adopté la déclaration mondiale sur la promotion de la santé sur le papier ; cependant, les prestataires de soins de santé et les autorités travaillent toujours de manière traditionnelle en utilisant les politiques et les stratégies de santé existantes. Cet article vise à examiner certaines des pratiques exemplaires mondiales de promotion de la santé, y compris les difficultés et les opportunités pour l'adoption de telles pratiques au Népal, et fournit certaines recommandations pour aller de l'avant.
Mots clés : difficultés, maladies, promotion de la santé, réussite, Népal. (Global Health Promotion, 2023; 30(1): 68–71)

Quelles sont les lacunes de la connaissance et quelles sont les priorités dans la recherche en santé mentale des personnes âgées ? Étude qualitative-quantitative utilisant la matrice des stratégies combinées pour l'Argentine

Carolina Prado, Marilina Santero, Diego Caruso, Fabián Ortiz, María Silvia Zamorano et Vilma Irazola

Introduction : le vieillissement de la population est un phénomène mondial. Les problèmes de santé mentale, très répandus dans ce groupe, ont un impact sur la vie des individus, de leurs familles et de la société dans son ensemble.
Objectif : identifier les lacunes dans les connaissances et les priorités de recherche en santé mentale des personnes âgées en Argentine.
Matériel et méthodes : conception qualitative-quantitative, en trois étapes : (1) diagnostic de situation, (2) évaluation globale des besoins de recherche et (3) exercice de priorisation basé sur la Matrice de Stratégies Combinées validée pour l'Argentine.
Résultats : sur la base des deux premières étapes de l'étude, deux domaines thématiques ont été identifiés pour la recherche dans le pays de même que les dimensions priorisées : (a) la solitude-l'isolement et (b) la détérioration cognitive et la démence. À la suite de l'exercice de hiérarchisation des priorités, les dimensions suivantes sont apparues en relation avec la solitude et l'isolement : 1. l'impact des programmes, 2. le manque

d'accès aux ressources, 3. la capacité d'adaptation aux contextes locaux (intégration sociale des personnes âgées) et 4. la qualité des services. En ce qui concerne le déclin cognitif et la démence : 1. l'impact sur les soignants et l'environnement, 2. les obstacles à la mise en œuvre de guides et de formations, 3. les études coût-efficacité sur les interventions et la qualité de vie, et 4. la collecte et la publication de données épidémiologiques.
Conclusion : il faut mettre l'accent sur l'importance de renforcer la recherche en Argentine sur la mise en œuvre et la diffusion d'interventions de promotion, de prévention et de prestation de services dans le domaine de la santé mentale des personnes âgées.
Mots-clés : recherche liée aux services de santé, personnes âgées/personnes du troisième âge, santé mentale, solitude, isolement, démence, déficience cognitive, Argentine. (Global Health Promotion, 2023; 30(1): 87–94)

Emprise des entreprises, *fake news* en faveur du cannabis et position des consommateurs face à sa règlementation

Manuel Isorna Folgar, Guillermo Burillo-Putze et Víctor José Villanueva-Blasco

Introduction : l'emprise des entreprises est le processus par lequel les décisions politiques répondent à un intérêt particulier de caractère privé, au détriment de l'intérêt public. L'industrie du cannabis a développé des stratégies de récupération politique et de diffusion de *fake news* (fausses informations) afin de promouvoir une vision du cannabis comme étant une substance inoffensive, voire curative de certaines maladies, favorisant ainsi une bonne image de cette substance, des entreprises qui la commercialisent et des consommateurs, faisant ainsi pression en faveur de sa réglementation.
Objectifs : (1) analyser les stratégies de diffusion de messages et de *fake news* encourageant la culture, la consommation et la réglementation du cannabis par différents canaux, et (2) explorer le positionnement d'un échantillon d'étudiants universitaires consommateurs de cannabis face au débat législatif sur cette substance.
Méthodologie : (1) étude exploratoire pour identifier et analyser les stratégies de l'industrie, et (2) étude non probabiliste avec un échantillonnage de commodité par enquête télématique diffusée auprès des étudiants de 11 universités espagnoles (439 participants).
Résultats et conclusions : la promotion de la culture et de la consommation du cannabis, en relativisant ses effets néfastes et en le présentant comme une substance médicinale, apparaît dans les différentes stratégies utilisées par l'industrie pour diffuser une image positive du cannabis et des consommateurs. Ces messages ont une résonance auprès des consommateurs, dont 82,6 % soutiennent une forme de réglementation du cannabis.
Mots clés : emprise des entreprises, fake news/fausses informations, promotion de la santé, cannabis, réglementation. (Global Health Promotion, 2023; 30(1): 95–104)

Sobre el cuestionamiento de los supuestos coloniales en la promoción de la salud

Carlos E. Sánchez-Pimienta

Las declaraciones de Waiora, Rotorua y Tiohtià:ke

Entre el 2019 y el 2022, la Unión Internacional de Promoción de la Salud y Educación para la Salud (UIPES) emitió tres notables declaraciones. En primera instancia, de la Conferencia Mundial de la UIPES 2019, realizada en Rotorua, Aotearoa/Nueva Zelanda, surgieron la Declaración de Rotorua WAIORA: Promover la Salud Planetaria y el Desarrollo Sostenible para Todos (1) y la Declaración de los Pueblos Indígenas para la Salud Planetaria y el Desarrollo Sostenible (2). Conscientes de que los conocimientos y prácticas occidentales que separan a los humanos de la naturaleza han contribuido de manera desproporcionada al riesgo de un colapso ecológico, los delegados de la UIPES hicieron un llamado para dar prioridad a las voces indígenas en la promoción de la salud planetaria y el desarrollo sostenible en torno a cuatro áreas fundamentales.

En el 2022, los delegados de la Conferencia Mundial de la UIPES prepararon la Declaración de Tiohtià:ke: 'Favorecer el desarrollo de políticas para la salud, el bienestar y la equidad' (3). Tiohtià:ke es una palabra Kanien'kéha (la lengua del pedernal, hablada por la comunidad Kanien'kehá:ka), que hace referencia al lugar ancestral conocido como Montreal (Canadá), donde se realizó la Conferencia. La Declaración de Tiohtià:ke se basa en las áreas de acción propuestas en la Declaración de Rotorua, y delinea el camino para privilegiar las voces indígenas y comprometerse con la descolonización dentro de la UIPES.

Como investigador emergente de México que vive actualmente en Canadá, estoy especialmente interesado en el llamado que hace la Declaración de Tiohtià:ke para "desaprender y romper los supuestos y los sesgos del pasado". En este editorial comparto ideas sobre lo que desaprender ha significado para mí en el contexto de la promoción de la salud. Inspirado por las formas no-directivas de compartir conocimiento de las comunidades Anishinaabe, no pretendo compartir mis entendimientos en un tono de prescripción. Por el contrario, invito a quienes leen este texto a reflexionar sobre si las ideas que presento se aplican a sus contextos y de qué manera.

Saber de dónde venimos antes de fijar el rumbo

En una reciente entrevista para un podcast (4), el Dr. Michel Hart, de la Fisher River Cree Nation, dijo que las sociedades no-indígenas tienden a estar demasiado orientadas hacia los objetivos, sin reflexionar necesariamente en por qué se fijaron dichos objetivos. Desde la perspectiva de su nación, es imprescindible saber quién eres, de dónde vienes y los valores de tus comunidades de origen antes de crear cualquier proyecto. Solo entonces habrás alcanzado una buena preparación para fijar las metas a las que quieras llegar.

Siguiendo el consejo del Dr. Hart, debo compartir unas palabras sobre mis orígenes. Nací y crecí en Guadalajara (México) y desde hace seis años vivo en Canadá. Soy mestizo (una categoría de identidad no indígena, asignada en Latinoamérica a las personas que tienen una ascendencia mixta), la mayoría de

Dalla Lana School of Public Health, University of Toronto, Toronto, Canada.

Correspondencia a: Carlos Ernesto Sánchez-Pimienta, Dalla Lana School of Public Health, University of Toronto, Toronto, Canada. Email: carlos.pimienta@mail.utoronto.ca

Global Health Promotion 1757-9759; Vol 30(1): 83–86; 1156540 DOI: 10.1177/17579759231156540 journals.sagepub.com/home/ghp

mis antepasados son nativos de México y sólo tengo información de un pariente de España. En el contexto de donde vengo, los procesos históricos y actuales de colonialismo han intentado imponer sistemas de gobernanza, instituciones y conocimientos eurocéntricos a los diversos pueblos que habitan el territorio hoy conocido como México. La naturalización de las suposiciones y prácticas eurocéntricas se puede ilustrar a través de la consolidación del sistema de educación pública de México en el siglo 20. Las escuelas públicas reforzaron los conocimientos eurocéntricos, reivindicaron al español como el idioma dominante y pasaron por alto una rica diversidad de conocimientos indígenas sobre la administración ambiental, los sistemas de gobernanza y el desarrollo comunitario.

Desafortunadamente, el racismo antindígena continúa *siendo* muy extendido entre los mestizos, limitando nuestra habilidad para aprender de los conocimientos, las espiritualidades y las prácticas de los Pueblos Indígenas. Algunos de los ejemplos más conocidos de liderazgo indígena sobre los determinantes sociales y ecológicos de la salud en México están en Cherán K'eri, una comunidad P'urhépecha que ha defendido *con éxito* sus bosques del crimen organizado y de la corrupción gubernamental (5), y en el movimiento Zapatista, un movimiento indígena multiétnico que ha desarrollado uno de los modelos más inspiradores de desarrollo económico y comunitario anticapitalista (6).

La descolonización es para todos

Siendo mestizo, he desarrollado un profundo interés en cuestionar los supuestos eurocéntricos. Sin embargo, la teoría decolonial me ha enseñado que los procesos de descolonización pueden interesar a cualquier persona, sin importar su ascendencia. Lo que se conoce a menudo como "occidental" o "eurocéntrico" en la literatura de la promoción de la salud se refiere a una forma particular de ser, saber y hacer, que los filósofos han bautizado como "modernidad". La modernidad no se refiere a algo "nuevo", sino a una forma de existencia que surgió hace más de 500 años. La modernidad se expandió en Europa y hacia el resto del mundo a través del colonialismo europeo, las ideas de la Ilustración, la consolidación de los Estados-nación y la expansión del capitalismo (7). Con el avance de la modernidad, las formas preexistentes de ser y estar en el mundo – algunas de las cuales comparten premisas relacionales asociadas con los sistemas de conocimiento indígena– fueron descartadas o eliminadas.

Aprender sobre la expansión de la modernidad y del colonialismo a través del mundo me hace pensar que sin importar de dónde vengamos, en algún momento nuestros antepasados humanos practicaban medios de existencia que estaban en sintonía con los ecosistemas en los que habitaban y aseguraban la continuación de la vida. Reconectar con estas formas de vivir y adaptarlas a los contextos actuales puede ser una fuente valiosa de orientación para afrontar el Antropoceno.

Desaprender los supuestos y los prejuicios (modernos)

Reconectar con las tradiciones ancestrales de conocimiento puede ser un desafío para quienes hemos sido excesivamente socializados a través de las instituciones modernas, pues sin darnos cuenta podemos descontextualizar las prácticas ancestrales de sus cosmovisiones de origen y reinterpretarlas a través de los supuestos del pensamiento moderno (8). Por esta razón, familiarizarnos con las premisas de la modernidad puede ser un paso en la larga travesía hacia la descolonización (9). Los supuestos de la modernidad incluyen (7,9):

- La separación entre el ser humano y la naturaleza
- La desvinculación entre lo sagrado y lo humano
- El derecho a controlar la naturaleza para lograr objetivos humanos
- El deseo de generar progreso a través de la ciencia y la tecnología
- Un entendimiento lineal de tiempo que prefiere lo "nuevo"
- Una visión de la realidad que prefiere las "cosas" antes que las "relaciones"
- El papel autoasignado de la ciencia como la mejor forma de conocimiento
- La creencia de que el conocimiento y la agencia provienen solo de los humanos
- La superioridad autoasignada del ser humano moderno en relación con el Otro

Cuando la Declaración de Tiohtià:ke hace un llamado a desaprender y a romper los supuestos del pasado, yo pienso en los supuestos de la

modernidad arriba citados, muchos de los cuales raramente se examinan en varias tradiciones científicas, incluida la promoción de la salud occidental. Los supuestos de la modernidad contrastan claramente con las características de las cosmovisiones indígenas presentadas en la Declaración Waiora, entre ellas, la interactividad entre lo material y lo espiritual, la posición de la humanidad como parte de una Madre Tierra viviente, y el énfasis en las relaciones y en la interdependencia entre todo lo que existe.

Darle cuidados paliativos a la modernidad

Aunque no hay una fórmula para desafiar los supuestos coloniales en la promoción de la salud o en algún otro campo, pienso que el trabajo de Vanessa Andreotti *"Hospicing modernity"* (9) es una inspiración para responder al llamado de la Declaración Tiohtià:ke a cuestionar nuestros supuestos y prejuicios. Andreotti (también conocida como Machado de Oliveira) describe la modernidad como una única historia sobre el mundo que protege ferozmente su unicidad descartando o eliminando otras historias. Por supuesto, la modernidad no es buena o mala en sí misma. El problema es que la mayoría de las personas estamos tan comprometidas intelectual, emocional y relacionalmente con las enseñanzas de la modernidad que ahora nos cuesta trabajo involucrarnos con otras historias. Este problema es desafortunado porque tomar en serio las historias no modernas puede ser fundamental para darle sostenibilidad a la salud humana y a la de los ecosistemas en el Antropoceno. Andreotti propone la práctica de "darle cuidados paliativos" a la modernidad que existe en nuestros cuerpos y en el entorno. Si le ayudemos a la modernidad a morir de una forma tal que se honren sus enseñanzas, también podría abrirse un espacio para que otras historias guíen nuestras relaciones con otras personas y con la tierra. Dichas historias pueden provenir de los Pueblos Indígenas y de otras comunidades (campesinos, grupos de base comunitaria, por ejemplo) que han sido obligados a sobrevivir en las condiciones más desafiantes del capitalismo, el colonialismo y el patriarcado en el Sur global (incluyendo el Sur en el Norte).

Hacia la integración de diversas tradiciones de conocimiento en la promoción de la salud

La metáfora de "darle cuidados paliativos a la modernidad" y otras nociones como el *Etuaptmumk* Mi'kmaw (también conocida como 'Ver con dos ojos') (10), el espacio ético de Ermine (11) y las ecologías de saberes de Santos (12) nos pueden ayudar a establecer relaciones respetuosas entre la ciencia moderna, los sistemas de conocimiento indígenas y otras tradiciones de conocimiento. Si aceptamos que la ciencia moderna es solo una forma de saber entre muchos otros sistemas de conocimiento igualmente válidos, entonces ideas modernas como "salud", "promoción de la salud" y "desarrollo sostenible" no tienen que estar necesariamente en el centro de nuestras conversaciones.

En su conjunto, las Declaraciones de Waiora, Rotorua y Tiohtià:ke me llevan a pensar que nociones como el Waiora maorí (13), el *Mino Bimaadiziwin* anishinaabe (14) o el *Sumak Kawsay* (Buen Vivir) quechua (15), pueden ser igualmente – y tal vez más – capaces de transmitir los tipos de principios, relaciones y conocimientos necesarios para promover un planeta saludable y balanceado en el Antropoceno. Al derivarse de las cosmovisiones relacionales indígenas, dichas nociones (i) se refieren a las interconexiones entre el ser humano, la naturaleza y el reino espiritual, (ii) van más allá de los entendimientos occidentales de la salud y el bienestar para incluir enseñanzas sobre la identidad cultural, la participación social, el respeto y la interdependencia entre todos los seres, y (iii) movilizan la sabiduría ancestral con el fin de garantizar las condiciones adecuadas para la continuación de la vida hoy y para las generaciones venideras.

Mi sueño para quienes nos dedicamos a la promoción de la salud es que podamos moldear cada vez más nuestra comprensión y nuestra práctica a través de las similitudes, las diferencias y las inconmensurabilidades de las diversas tradiciones de conocimiento. Desarrollar esta competencia puede implicar ser bien versados en nociones occidentales como "salud" y "desarrollo sostenible" y en las tradiciones de conocimiento de las comunidades de donde venimos y con las que trabajamos. Esta tarea es profundamente relacional porque, como *Etuaptmumk* nos los recuerda, cada individuo y comunidad aporta solo una pieza del

rompecabezas, una parte limitada del conocimiento y las prácticas acuerpadas que son necesarias para sostener la vida dentro del metabolismo vivo de la Tierra. Sigamos uniendo estas piezas entre todas las personas y pueblos.

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¿Cuáles son las brechas de conocimiento y qué priorizar en investigación en salud mental del adulto mayor? Estudio cuali-cuantitativo utilizando la matriz de estrategias combinadas para Argentina (MECA)

Carolina Prado[1], Marilina Santero[1], Diego Caruso[3], Fabián Ortiz[2], María Silvia Zamorano[2] y Vilma Irazola[1]

Resumen

Introducción: el envejecimiento poblacional es un fenómeno mundial. Los problemas de salud mental, altamente prevalentes en este grupo, impactan en la vida de los individuos, sus familias y la sociedad en su conjunto.

Objetivo: identificar brechas de conocimiento y prioridades de investigación en salud mental del adulto mayor en Argentina.

Material y métodos: diseño cuali-cuantitativo, en tres etapas: (1) diagnóstico de situación, (2) evaluación global de necesidades de investigación y (3) ejercicio de priorización basado en la Matriz de Estrategias Combinadas validada para Argentina (MECA).

Resultados: con base en las primeras dos etapas del estudio se identificaron dos áreas temáticas investigar en el país y dimensiones priorizadas: (a) soledad-aislamiento y (b) deterioro cognitivo y demencia. Como resultado del ejercicio de priorización surgieron las siguientes dimensiones: en relación con soledad-aislamiento: 1. efecto de los programas, 2. falta de acceso a los recursos, 3. capacidad de adaptación a los contextos locales (integración social del adulto mayor) y 4. calidad de servicios. En relación con deterioro cognitivo y demencia: 1. impacto cuidadores y entorno, 2. barreras para la implementación de guías y capacitación, 3. estudios de costo-efectividad sobre intervenciones y calidad de vida, y 4. recolección y publicación de datos epidemiológicos.

Conclusión: se debe enfatizar la importancia de fortalecer la investigación en Argentina sobre la implementación y difusión de intervenciones de promoción, prevención y prestación de servicios en la salud mental del adulto mayor.

Palabras clave: investigación en servicios de salud, adultos mayores / personas de la tercera edad, salud mental, soledad, aislamiento, demencia, deterioro cognitivo, Argentina

Introducción

El envejecimiento poblacional es un fenómeno mundial (1). En el 2018, por primera vez la población de adultos de 60 años o más superó al número de niños menores de cinco años (2). Argentina es uno de los países con mayor proporción de adultos mayores de la región y, según datos publicados por

1. Departamento de Enfermedades Crónicas, Instituto de Efectividad Clínica y Sanitaria (IECS), Buenos Aires, Argentina.
2. Academia Nacional de Medicina, Buenos Aires, Buenos Aires, Argentina.
3. Departamento de Investigación Clínica. Hospital Dr. César Milstein, asociado con la Universidad de Buenos Aires, Buenos Aires, Argentina.

Correspondencia a: Marilina Santero MD, MSc, Departamento de Enfermedades Crónicas, Instituto de Efectividad Clínica y Sanitaria (IECS), Emilio Ravignani 2024 (C1414CPV), Buenos Aires, 08025, Argentina.
Email: marilinasantero@gmail.com

(Este manuscrito fue presentado el 28 de julio del 2021. Tras revisión por pares, fue aceptado para la publicación el 22 de febrero del 2022.)

Global Health Promotion 1757-9759; Vol 30(1): 87–94; 1086282 DOI: 10.1177/17577595221086282 journals.sagepub.com/home/ghp

el Centro Latinoamericano y Caribeño de Demografía, para el año 2050 una de cada cinco personas tendrá 60 años o más (3,4). El envejecimiento poblacional y, por consiguiente, la prolongación del ciclo de vida, suponen nuevos retos para la definición de políticas públicas, principalmente en temas de salud, acceso a seguridad social y políticas de cuidado (5).

Los problemas de salud mental son altamente prevalentes y generan discapacidad, tienen un fuerte impacto sobre la vida de los individuos, sus familias y la sociedad en su conjunto (6). Las patologías mentales son responsables del 6.6% de la discapacidad de las personas mayores de 60 años, y más de un 20% de las personas en este grupo etario padecen alguna (7–9). Según la Encuesta Nacional de Calidad de Vida de Adultos Mayores (ENCaViAM) del 2012, en Argentina, un 8% de los adultos mayores entrevistados fue diagnosticado con depresión, la mitad de los cuales había recibido durante el último año algún tratamiento psiquiátrico o psicológico (10).

El abordaje del envejecimiento en general, y en este caso, la salud mental del adulto mayor, requiere respuestas a través del establecimiento de políticas públicas y programas (11). La promoción de la salud, definida por la Organización Mundial de la Salud (OMS) como "el proceso que permite a las personas incrementar el control sobre su salud", se pone en práctica usando enfoques participativos; los individuos, las organizaciones, las comunidades y las instituciones colaboran para crear condiciones que garanticen la salud y el bienestar para todos (12). La investigación, entonces, en el ámbito de la salud mental del adulto mayor es esencial para mejorar la calidad de los servicios de salud (13,14).

El fortalecimiento de la capacidad de investigación es uno de los medios potenciales para la promoción de la salud y control de las enfermedades. El Foro Global para la Investigación en Salud y otros autores han descrito en múltiples publicaciones que el 90% de los recursos de investigación científica en salud son asignados apenas al 10% de los problemas sanitarios prioritarios del mundo (15).

La fijación de prioridades de investigación para el contexto local a través de procesos objetivos, transparentes y participativos es fundamental para lograr el máximo aprovechamiento de los recursos disponibles (16). La escasez de metodologías y la transparencia en los procesos de priorización son aspectos que exigen actualmente ser abordados, sobre todo en los países en desarrollo (17).

En este contexto se llevó a cabo un estudio cuyo objetivo fue identificar brechas de conocimiento y prioridades de investigación en salud mental del adulto mayor en Argentina, con la finalidad de contribuir con información rigurosa a los decisores a cargo de establecer la agenda de investigación y optimizar el uso de los recursos.

Materiales y métodos

Se utilizó un diseño mixto, cualitativo y cuantitativo. La metodología se basó en una adaptación del marco elaborado por Witkin (18). Se realizó en tres etapas.

1. Diagnóstico de situación

Se llevó a cabo una revisión bibliográfica y documental para identificar programas nacionales y provinciales de prevención y control, producción científica local y proyectos de colaboración en la temática de salud mental del adulto mayor. Se realizó una búsqueda sistemática de artículos publicados en las bases de datos electrónicas PubMed y LILACS, sin restricciones de idioma. Para la inclusión de literatura gris se realizó una búsqueda avanzada en Google y Google Académico utilizando términos específicos, con el fin de incorporar documentos publicados por instituciones y organizaciones pertinentes.

2. Evaluación de las necesidades de investigación en salud mental

Se llevó a cabo un diseño cuali-cuantitativo para identificar necesidades de investigación en salud mental del adulto mayor. El mismo incluyó la realización de entrevistas en profundidad a profesionales de la salud e investigadores expertos en el tema, se realizaron grupos focales con asociaciones de pacientes y con profesionales de la salud mental. Finalmente, se realizó una encuesta a docentes universitarios de gerontología, geriatría y salud mental.

Abordaje cualitativo

Las entrevistas y grupos focales se suscribieron bajo el paradigma interpretativo cualitativo, basados

en la teoría fundamentada propuesta por Strauss y Corbin (19,20). Adherimos a la guía COREQ para el reporte de investigación cualitativa (21).

Participantes. Para las entrevistas en profundidad, se realizó un muestreo por conveniencia de seis profesionales de la salud mental de diferentes edades procedentes de Argentina. Los criterios de inclusión fueron ser profesionales de salud (psicólogos y/o psiquiatras), con experiencia laboral en la atención de adultos mayores. El único criterio de exclusión fue no consentir el consentimiento informado. Se invitó a los participantes por medio de un correo electrónico en el cual se explicaban los objetivos de la investigación.

Se llevaron a cabo tres grupos focales (dos encuentros con profesionales de la salud mental y uno con adultos mayores). El tamaño de los grupos se definió según las recomendaciones de 6 a 8 participantes (22).

Recolección de datos. Tres investigadores, dos mujeres y un hombre, con formación en investigación cualitativa, llevaron a cabo las entrevitsas en profundidad y los grupos focales, utilizando una guía de preguntas semiestructuradas abiertas, sobre la definición de salud mental, dimensiones de la salud mental en el adulto mayor, principales problemas relacionados y su prevalencia, experiencia profesional, y brechas en el conocimiento que sería importante investigar.

Las entrevistas y grupos focales duraron entre 20 y 60 minutos y se realizaron en los lugares en los cuales los profesionales se desempeñaban laboralmente. Las entrevistas fueron grabadas digitalmente y transcritas de manera manual, y se tomaron notas.

Análisis. Se recolectaron datos hasta alcanzar la saturación de la información. El análisis fue realizado por dos de los investigadores, se determinaron las categorías principales y subcategorías de acuerdo con su contexto colectivo. Los transcritos fueron ingresados en el programa *QDA miner* (23) combinándolo con una técnica manual de codificación. Se realizó un análisis para cada grupo, posteriormente se desarrollaron matrices para facilitar la comparación entre los materiales de la transcripción y el contexto de los datos (tipo de entrevista, edad del profesional, profesión). Finalmente, los datos fueron resumidos e interpretados.

Abordaje cuantitativo

Se realizó una encuesta mediante la cual se administraron un total de 21 preguntas. Los principales componentes incluidos fueron estructurados en 2 secciones: (a) caracterización (género, edad, nivel educativo, lugar de residencia, formación, experiencia, rol, etc.) y (b) necesidades de investigación (cantidad, calidad, prioridad, difusión, temas a investigar y capacitación). Para el desarrollo del cuestionario se utilizó la plataforma electrónica *Survey Monkey* (24).

Participantes. La encuesta se envió por correo electrónico entre marzo y mayo del 2019 a docentes universitarios en el área de salud mental del adulto mayor. Las direcciones se obtuvieron de una búsqueda manual en sitios web de las universidades argentinas que tuvieran relación con áreas como salud mental y adulto mayor. Los criterios de elegibilidad fueron: haber participado como docente o en alguna función de formación en los últimos 5 años y asentir el consentimiento informado.

Análisis. Se realizó un análisis descriptivo. Se reportaron las características generales de los encuestados mediante el cálculo de medidas de tendencia central y dispersión. Para las variables continuas se calcularon mediana y rango intercuartil debido a la distribución asimétrica de las variables. En el caso de las variables categóricas, se reportaron frecuencias absolutas y relativas.

3. Establecimiento de prioridades basado en la Matriz de Estrategias Combinadas

Se realizó un ejercicio de priorización de las necesidades identificadas en las etapas anteriores. Se utilizó la versión validada para Argentina de la Matriz de Estrategias Combinadas (MECA), un instrumento que permite establecer prioridades de investigación (25–27). La información se sistematizó en cinco componentes: carga de enfermedad, determinantes del problema, estado actual de conocimiento, costo-efectividad y flujo de financiamiento. Para cada componente se contemplaron cuatro dimensiones: el individuo y la familia, ministerios y otras instituciones, otras instituciones extra sectoriales y políticas macroeconómicas (Anexo 1). Para el proceso de priorización se convocó un panel de expertos independientes de carácter multidisciplinario.

Este estudio fue aprobado por el Comité de Etica en investigación de la Academia Nacional de Medicina y fue conducido de acuerdo con los principios de Helsinki (28).

Resultados

1. Diagnóstico de situación

La estrategia de búsqueda bibliográfica recuperó en PubMed 734 artículos al 21-06-2018; en LILACS 529 artículos. Los autores, grupos de investigación identificados y palabras claves más frecuentes en PubMed se presentan en la suplementaria Figura 1.

2. Evaluación de las necesidades de investigación en salud mental

Entrevistas a expertos

Se realizaron entrevistas en profundidad a tres psicólogos y tres psiquiatras especialistas en salud mental del adulto mayor. En general, los expertos consideraron múltiples dimensiones para definir la salud mental que incluyen el envejecimiento exitoso, el equilibrio emocional de causa multidimensional (bio-psico-socio-cultural) y la calidad de vida. Tanto los psicólogos como los psiquiatras identificaron determinantes estructurales e intermedios que ejercen influencia en la situación de salud mental. Entre los factores estructurales se encontraron el contexto socioeconómico y político, el género y la edad. Los factores intermedios incluyeron las condiciones de empleo y trabajo, sus ingresos, los estilos de vida, los factores psicosociales, conductuales y biológicos y el acceso al sistema de salud. La opinión de los expertos permitió identificar un conjunto de problemáticas en relación con la salud mental del adulto mayor:

- Aislamiento/Soledad
- Memoria/Alzheimer
- Patologías prevalentes pero que llegan sin diagnóstico
- Dignidad
- Depresión
- Viudez
- Falta de datos epidemiológicos locales
- Limitaciones del sistema de salud
- Apatía

Asimismo, los expertos identificaron una serie de tópicos relevantes para investigar en función de la posibilidad de generar cambios a corto o mediano plazo. Entre ellos se encuentran la prevención primaria, el adecuado diagnóstico, tratamiento y seguimiento, los costos sociales del cuidado de los pacientes, la gestión del cuidado, y las intervenciones grupales en el abordaje de la depresión geriátrica en hospitales a través de programas psicoeducativos.

Grupos focales

Se realizaron tres grupos focales, uno con adultos mayores, en el que participaron cuatro mujeres y dos hombres mayores de 65 años pertenecientes a una asociación de pacientes, otro con profesionales de la salud mental mayores de 65 años (tres psicólogos y dos psiquiatras) y el último con profesionales de la salud mental en formación (ocho psiquiatras con menos de 5 años de experiencia). En relación con la definición de la salud mental, los profesionales señalaron que se trata de un constructo multidimensional en el que intervienen un conjunto de factores determinantes como la vivienda, la red social, el nivel socio económico y la asistencia médica. Las personas adultas mayores indicaron la importancia de la contención familiar y social, pero hicieron hincapié en aspectos individuales, como el estar en actividad, la capacidad de memoria, la posibilidad de adaptarse a la tecnología y la integración de mente y cuerpo.

Entre los principales problemas identificados, tanto por los profesionales como por los adultos mayores, se encuentran la medicalización, el aislamiento y la soledad; el deterioro cognitivo; la falta de acceso al sistema de salud; la presencia de problemas socio-económicos; la depresión y el viejismo; la falta de formación a nivel de los profesionales y la desestimación de la patología psiquiátrica.

Encuesta

Se envió por correo electrónico una encuesta a 30 docentes universitarios, de las cuales se obtuvieron 12 respuestas. El 70% de los participantes fueron mayores de 55 años y el 56% correspondió al sexo masculino. Respecto a las necesidades de investigación, solo el 30% consideró que la cantidad de investigación en salud mental en el país es adecuada, y la calidad fue considerada buena o muy buena por el 40% de los encuestados, mientras que la difusión fue considerada inadecuada en el 90%. Todos los encuestados manifestaron su acuerdo en que la salud mental del adulto mayor debería ser un

eje prioritario de investigación en el país. Las áreas prioritarias por investigar consideradas fueron: detección temprana (70%), trastornos cognitivos y demencia (40%), depresión (40%) y programas integrales de salud mental (40%). Los encuestados manifestaron en más del 60% de los casos haber brindado formación en el área de demencia y trastornos de conducta, depresión, envejecimiento y detección temprana de trastornos de salud mental.

3. Resultados de la MECA

En agosto del 2019 se realizó el taller de identificación de prioridades de investigación en salud mental de personas mayores utilizando la MECA (27). En el taller participaron psiquiatras, psicólogos, investigadores, generadores de políticas públicas, asistentes sociales, médicos generalistas y miembros de asociaciones de pacientes.

La jornada se dividió en dos momentos. En el primero, el equipo de investigación presentó la MECA (Anexo 1) con los resultados obtenidos en la segunda etapa del proyecto. Dos expertos en salud mental del adulto mayor realizaron exposiciones sobre estos temas.

Durante el segundo segmento de la jornada, los participantes se dividieron en dos grupos de trabajo (Soledad-Aislamiento y Deterioro cognitivo-Demencia). En cada uno de los grupos, un facilitador orientó el inicio de la conversación a partir de la MECA. Luego del debate general sobre cuáles eran los temas a priorizar, se propuso trabajar en los desafíos y soluciones para la investigación, y las posibles preguntas o líneas de investigación que permitirían abordarlos. Este disparador permitió identificar distintas problemáticas y líneas de acción (suplementaria Figura 2).

Hacia el cierre de la jornada se realizó la puesta en común y la elección conjunta de los temas prioritarios para cada eje temático (suplementaria Figura 3).

Discusión

Según nuestro conocimiento, este es el primer estudio en evaluar las prioridades en investigación en salud mental del adulto mayor en Argentina. Los resultados de este trabajo sugieren que las áreas prioritarias para la investigación en salud mental son Soledad/Aislamiento y Deterioro cognitivo/Demencia.

Nuestros hallazgos están en línea con los obtenidos por otros autores. Courtin y cols., entre otros, afirman que el aislamiento social y la soledad son problemáticas comunes entre los adultos mayores (29,30). A su vez, se han propuesto posibles asociaciones con la aparición de trastornos psicológicos, así como su identificación como factor predictor de deterioro cognitivo y demencia (31). Numerosos estudios coinciden en que la interconexión presente entre las problemáticas termina influyendo negativamente en la salud mental de los adultos mayores (32–35).

Según la OMS (36), la demencia es una de las principales causas de dependencia y discapacidad en adultos mayores, e impacta a nivel físico, psicológico, social y económico. Estudios realizados en países de altos ingresos no observaron resultados en relación con tratamientos farmacológicos, pero sí en acciones preventivas poblacionales para disminuir su incidencia. Es decir, para trabajar en las áreas identificadas y priorizadas por nuestro estudio, consideramos necesario un abordaje preventivo y multidisciplinario que se oriente a mejorar la salud de este grupo etario.

Sin embargo, para poder planificar este tipo de políticas poblacionales de salud, es necesario contar con datos epidemiológicos, y actualmente los datos son insuficientes y heterogéneos en Argentina (37,38).

Particularmente, para Soledad/Aislamiento resultaron prioritarios aspectos como la necesidad de medir el efecto de los programas, identificar barreras de acceso a los recursos, adaptación a los contextos locales e inclusión social y calidad de servicios. En relación con el área temática Deterioro cognitivo/Demencia, se priorizaron aspectos como el impacto en cuidadores y su entorno, barreras para la implementación de guías de práctica clínica y capacitación de profesionales, estudios de costo-efectividad, calidad de vida y generación de datos epidemiológicos.

Ahora bien, para los aspectos priorizados resultaría interesante explorar si las amplias experiencias interinstitucionales e interdisciplinarias en otras áreas, como por ejemplo enfermedades crónicas, diabetes, hipertensión (39–41), podrían ser implementadas para el abordaje de la salud mental en nuestro contexto. Consideramos que un buen enfoque podría ser el de la investigación en implementación, vinculando a la investigación y la práctica para acelerar el desarrollo de intervenciones de salud pública (42). La investigación en

implementación implica la creación y aplicación de conocimientos para mejorar la implementación de políticas, programas y prácticas de salud.

Las prioridades en investigación fueron designadas por un panel multidisciplinario de expertos, compuesto por psiquiatras, psicólogos, investigadores, generadores de políticas públicas, asistentes sociales, médicos generalistas y miembros de asociaciones de pacientes. Este enfoque mixto permitió abordar los temas de una manera más integral, evaluando la problemática desde distintas perspectivas. Consideramos necesario, entonces, fomentar la comunicación entre investigadores, profesionales de la salud dedicados al asistencialismo y tomadores de decisiones para que la información que sea generada a través de la investigación pueda sustentar la elaboración e implementación de políticas públicas.

Entre las limitaciones de nuestra investigación es necesario mencionar en primer lugar que, si bien, la metodología permite alcanzar los objetivos principales, posibilitando la priorización de qué investigar en salud mental del adulto mayor, se plantea como una primera aproximación, por lo que algunas cuestiones de interés requerirían un tratamiento con mayor profundidad. Asimismo, encontramos algunas desventajas de la matriz ya reportadas por otros autores (43), como que: presenta dificultades en su implementación y requiere mucho tiempo, ya que implica una discusión en varias etapas; no proporciona un algoritmo para establecer y calificar las prioridades de investigación, por lo tanto, dificulta su replicabilidad; no proporciona metodología para identificar participantes. En segundo lugar, los resultados pueden estar sesgados por la elección de los expertos participantes. Sin embargo, incluso si existiera ese sesgo, la metodología presenta de manera transparente los aportes de cada experto en cada etapa, por lo que otros expertos podrían revisar y cuestionar el aporte, y un ciclo de retroalimentación dentro de la metodología podría tomar en cuenta esos cambios. Este proceso de revisión también podría ayudar a identificar los puntos de acuerdo generalizado y los puntos de controversia, dirigiendo y enfocando la discusión sobre la priorización de la investigación en los temas clave.

Finalmente, es necesario considerar que hay una importante vía de investigación que se encuentra en la frontera entre la investigación en salud y el desarrollo y planificación de políticas de atención en salud. Para lograr que la investigación responda a las problemáticas sanitarias prioritarias, consideramos que es importante trabajar de manera multidisciplinaria y actualizar periódicamente las agendas de investigación.

Conclusión

En conclusión, identificamos brechas en el conocimiento y prioridades de investigación en salud mental del adulto mayor en Argentina: Soledad/Aislamiento, Deterioro cognitivo/Demencia. Se debe enfatizar la importancia de fortalecer la investigación sobre la implementación y difusión de intervenciones de promoción, prevención y prestación de servicios en la salud mental del adulto mayor. La complejidad de la salud mental y su conceptualización más amplia requiere enfoques de investigación complementarios y colaboración interdisciplinaria para satisfacer mejor las necesidades de la población argentina.

Agradecimientos

A Zulma Ortiz por asesorar metodológicamente al grupo de investigación y apoyar en la redacción del proyecto. A los participantes del taller de priorización: Barrios, Ezequiel; Baru, Silvia; Bosque, Laura; Brusco, Luis Ignacio; Burlando, Alejandro; Bustin, Julian; Chavi, Jorge; Diaz, Romina; Ducant, Adriana; Durante, Adriana; Grosso, Luciano; Loewy, Matías; Mantero, Alejandro; Mendoza, Horacio; Perman, Gastón; Ponce, Sebastián; Penso, Carla; Richly, Pablo; Saez, Maria Mercedes; Serrano, Cecilia; Tartaglini, Florencia; Virgilio, Ludmila.

Declaración de conflicto de intereses

Ningún conflicto declarado.

Financiación

El presente trabajo de investigación fue realizado con el apoyo de las Becas SALUD INVESTIGA "Dr. Abraam Sonis", del Ministerio de Salud de Argentina, a través de la Dirección de Investigación para la Salud.

ORCID iDs

Carolina Prado https://orcid.org/0000-0002-5554-0958
Marilina Santero https://orcid.org/0000-0001-5371-0979

Material complementario

Este artículo tiene material complementario disponible en línea.

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Captura corporativa, fake news procannabis y posición de los consumidores ante su regulación

Manuel Isorna Folgar[1], Guillermo Burillo-Putze[2] y Víctor José Villanueva-Blasco[3]

Resumen

Introducción. La captura corporativa es el proceso en el que las decisiones políticas responden a un interés particular de carácter privado, en detrimento del interés público. La industria del cannabis ha desarrollado estrategias de captura de políticas y de difusión de *fake news* (noticias falsas) con el objeto de fomentar una visión del cannabis como sustancia inocua e, incluso, sanadora de enfermedades, promoviendo así una buena imagen de esta sustancia, de las corporaciones y consumidores, presionando para su legalización. Objetivos. (1) Analizar las estrategias de difusión de mensajes y *fake news* promotoras del cultivo, consumo y regulación del cannabis a través de distintos canales, y (2) explorar el posicionamiento frente al debate legislativo sobre esta sustancia en una muestra de estudiantes universitarios consumidores de cannabis. Metodología. (1) Estudio de carácter exploratorio para identificar y analizar las estrategias de la industria y, (2) estudio no probabilístico con muestreo por conveniencia mediante encuesta telemática difundida entre estudiantes de 11 universidades españolas (439 participantes). Resultados y conclusiones. La promoción del cultivo y del consumo de cannabis, relativizando sus efectos perjudiciales y presentándolo como una sustancia medicinal, aparece en las distintas estrategias utilizadas por la industria para difundir una imagen positiva del cannabis y de los consumidores. Estos mensajes tienen correspondencia con el posicionamiento de los consumidores, de los que el 82.6 % apoya alguna forma de regulación del cannabis.

Palabras clave: Captura corporativa, *fake news*/noticias falsas, Promoción de la salud, cannabis, regulación

Introducción

Actualmente, las políticas de promoción de la salud relacionadas con el consumo de cannabis son sometidas a una captura corporativa por parte de la industria. La captura de las políticas es el proceso por el cual las decisiones políticas responden al interés particular de una organización privada en detrimento del interés público, a causa de las acciones intencionadas de agentes privados. Estos colisionan con los objetivos de salud pública de reducción del consumo de cannabis, dada su relación con diversas enfermedades (1,2).

El razonamiento prolegalización del cannabis y promoción de su consumo incluye argumentos sobre los supuestos beneficios terapéuticos, reducción de delitos violentos y tráfico ilegal, libertad personal, ingresos fiscales, creación de empleo, oportunidad de negocio, regulación de productos e inocuidad (3). Sin embargo, teniendo en cuenta los riesgos para la salud que presenta el consumo de cannabis (4,5) y el conflicto entre la salud pública y los intereses comerciales de estas franquicias (6), la industria del cannabis ha empleado estrategias y mecanismos de influencia, similares a

1. Facultad de Educación y Trabajo Social, Campus As Lagoas, Universidad de Vigo, Ourense, España
2. Área de Toxicología Clínica, Servicio de Urgencias, Universidad Europea de Canarias, Tenerife, España
3. Facultad de Ciencias de la Salud, Universidad Internacional de Valencia, Valencia, España

Correspondencia a: Víctor José Villanueva-Blasco, Facultad de Ciencias de la Salud, Universidad Internacional de Valencia, C/ Pintor Sorolla, 21, Valencia, 46002, España. Email: vjvillanueva@universidadviu.com

(Este manuscrito fue presentado el 23 de enero del 2022. Tras revisión por pares, fue aceptado para la publicación el 29 de mayo del 2022.)

Global Health Promotion 1757-9759; Vol 30(1): 95–104; 1107604 DOI: 10.1177/17577597221107604 journals.sagepub.com/home/ghp

los empleados por la industria del tabaco y del alcohol (7,8) con el objetivo de influir sobre la opinión pública y política para reducir la percepción de riesgo sobre su consumo y así aumentar ventas (9–11). Entre sus principales estrategias se destacan la difusión de *fake news* (12–14). Las *fake news* son noticias falsas difundidas deliberadamente con el objetivo de engañar, manipular, inducir a error, desprestigiar o enaltecer a una institución, grupo o persona, u obtener algún tipo de beneficio económico, ideológico o político (15).

En los últimos años han proliferado las noticias falsas que proclaman que el cannabis previene y cura todo tipo de enfermedades, como esclerosis múltiple, cáncer, glaucoma, epilepsia, o los trastornos de conducta alimentaria. Incluso, aprovechando la pandemia por el coronavirus (de la COVID-19), hacen creer que podría prevenirlo y curarlo (16). Los jóvenes presentan mayor confianza y uso de redes sociales para informarse sobre salud (17). Por ello, la sobreabundancia de desinformación y de noticias falsas que circulan en internet sobre el cannabis puede producir un efecto pernicioso entre los jóvenes debido a una sobreexposición a noticias falsas y a datos pseudocientíficos (18).

La industria ha puesto en marcha maniobras de *rebranding* promoviendo el cambio de la imagen del consumidor problemático y con desarraigo social hacia la imagen del consumidor enfermo de una patología crónica grave que encuentra en el cannabis un recurso terapéutico. También ha financiado y participado en asociaciones procannábicas, así como en investigación del cannabis (11). El objetivo es facilitar el cambio de percepción social de esta sustancia, de manera que el cannabis sea socialmente aceptado y obtener apoyo ciudadano (19). En este sentido, diversas personalidades que sufrían enfermedades han promovido públicamente que se automedicaban con cannabis (20). Sin embargo, la evidencia científica (16,21–23) muestra que los efectos beneficiosos de los cannabinoides extraídos del cannabis se ciñen a paliar cierta sintomatología y únicamente en algunas enfermedades, como la espasticidad muscular en esclerosis múltiple, la anorexia en personas con sida, las náuseas y los vómitos asociados a la quimioterapia para el cáncer, y las convulsiones asociadas con el síndrome de Lennox Gastaut (23). Pero en ningún caso ni previene ni cura esta sintomatología. Además, bajo ningún concepto se recomienda por vía fumada (4). No es lo mismo un medicamento autorizado por la FDA o la Agencia Europea del Medicamento (EMA), cuya seguridad y eficacia como fármaco ha sido probada, que el consumo del cogollo (hierba) de cannabis ni de derivados o extractos de manera fumada (21).

Redes sociales como Facebook, Twitter o YouTube permiten que las organizaciones publiquen y compartan sus propios anuncios con un amplio rango de audiencia (24). A través de estas plataformas, mediante la contratación o apoyo de "influencers" se ha facilitado la promoción del cultivo y del consumo de cannabis; el fomento de una imagen positiva y de éxito del cultivador, del consumidor e, incluso, del vendedor, así como la difusión de noticias falsas sobre sus propiedades medicinales. Los *influencers* de las redes sociales presentan una vía de contacto directo para que las marcas de cannabis conecten con los posibles consumidores, utilizando imágenes sexualizadas, modelos de aspecto juvenil que comparten reseñas sobre el cannabis, fotos de cogollos, explicaciones sobre el cultivo, formas de consumo y promocionan mercancías y productos derivados del cannabis (25,26).

Otras estrategias utilizan el cine, series de televisión y videojuegos para promocionar el cultivo y el consumo de cannabis, relativizando sus efectos perjudiciales o presentándolo como una sustancia medicinal (14).

Los objetivos de la investigación fueron: (a) visibilizar los canales y estrategias de difusión de mensajes y de noticias falsas promotoras del cultivo, del consumo y de la regulación del cannabis, y (b) explorar el posicionamiento frente al debate legislativo sobre esta sustancia en una muestra de estudiantes universitarios consumidores de cannabis. La hipótesis de investigación es que el posicionamiento mayoritario de los consumidores frente al debate legislativo sobre el cannabis será favorecedor a su legalización, en consonancia con el mensaje difundido por la industria cannábica a través de las noticias falsas.

Métodología

Para el primer objetivo, la investigación cualitativa siguió un diseño exploratorio utilizando un muestro intencional sobre las interacciones que los consumidores mantienen con los canales de información utilizados por la industria del cannabis. La selección de los canales se realizó con base en los

estudios de referencia sobre las estrategias utilizadas por la industria del tabaco (27) y en las conclusiones obtenidas en un grupo de expertos en el consumo dual de cannabis-tabaco (28) (https://evictproject.org/) al que pertenecen los investigadores. Los criterios de inclusión considerados fueron: a) referencia al cannabis a través de mensajes promotores del cultivo, del consumo y/o de la regulación; b) canales de uso predominante en población joven y, c) medios de difusión masiva, no especializados, con acceso abierto y gratuito.

Los canales seleccionados fueron sitios web; películas, series y documentales; aplicaciones móviles, y redes sociales. Las palabras de búsqueda utilizadas fueron "cannabis" o "*marijuana*", "industria" y "estrategias", y su traducción al inglés "*industry*" o "*strategies*". La prospección de información se realizó del 2 de octubre al 22 de diciembre del 2021.

Para el segundo objetivo, se utilizó un diseño no probabilístico con muestreo por conveniencia mediante encuesta telemática, difundida entre estudiantes de 11 universidades españolas a través de redes sociales (*i. e.* Facebook, Twitter, Instagram) y listas de correo electrónico. Para evaluar el consumo de cannabis se preguntó por consumo alguna vez en la vida y últimos 12 meses; edad de inicio en el consumo, y frecuencia de consumo, ofreciendo las opciones (1) Esporádicamente (menos de una vez al mes), (2) Con regularidad, pero no a diario, y (3) Diariamente. Para conocer el posicionamiento personal con relación al debate sobre el estatus legal del cannabis, se ofrecieron las opciones: (1) Regulación del autocultivo, (2) Regulación del acceso para uso terapéutico/medicinal a través de farmacias, (3) Regulación del acceso para cualquier uso a través de clubs de usuarios, (4) Regulación del acceso para cualquier uso a través de dispensarios (tiendas, estancos, etc.), (5) Prohibición, y (6) No tengo postura definida. Se formuló la opción de respuesta abierta "Si lo deseas, indica tus razones", para recoger la justificación del posicionamiento señalado.

El número inicial de participantes fue de 472, pero fueron eliminados aquellos que presentaban valores faltantes o patrones de respuesta incoherentes. La muestra final quedó compuesta por 439 estudiantes universitarios, de los cuales el 64.2 % ($n = 282$) reportó consumo de cannabis alguna vez en la vida (62.8 % mujeres; 34.8 % hombres), con una edad media de 24.88 años (DT = 7.96). Los análisis descriptivos se realizaron con el paquete estadístico SPSS-25.

Resultados

En relación con las estrategias de difusión de mensajes y noticias falsas promotoras del cultivo, del consumo y de la regulación del cannabis a través de distintos canales, se encontraron un total de: (a) 7 videojuegos (Tabla 1); (b) 18 series, películas o documentales (Tabla 2), y (c) 10 *influencers* (Tabla 3). Entre las noticias falsas más extendidas, los mensajes se centraron mayormente en los beneficios derivados del consumo para prevenir y curar enfermedades graves (Tabla 4).

En relación con el segundo objetivo, a nivel descriptivo, del 64.2 % ($n = 282$) de participantes que consumió cannabis alguna vez en la vida, el primer consumo se sitúa en los 16.94 años (DT = 2.71). El 58.5 % ($n = 165$) lo había consumido en los últimos 12 meses. La mayor parte lo consumía de manera esporádica (66.2 %), pero un 19.5 % lo consume con regularidad aunque no diariamente, y un 14.3 % indicó consumo diario.

Respecto a la posición personal que adoptaron en el debate sobre el estatus legal del cannabis, el 22 % ($n = 62$) se posicionó a favor de la regulación del autocultivo; el 24.8 % ($n = 70$) por una regulación del acceso para uso terapéutico/medicinal a través de farmacias; el 16.7 % ($n = 47$) por la regulación del acceso para cualquier uso a través de clubs de usuarios; el 19.1 % ($n = 54$) a favor de una regulación del acceso para cualquier uso a través de dispensarios (tiendas, estancos); el 2.8 % ($n = 8$) apoyó la prohibición, y el 14.6 % ($n = 41$) no tuvo una postura definida.

Respecto a las razones que ofrecieron los participantes que quisieron justificar su posicionamiento ($n = 64$), tras un análisis y agrupación por parte de los investigadores para evitar reiteraciones, se concretan en:

1. Regulación del autocultivo. No adujeron ninguna.
2. Regulación del acceso para uso terapéutico/medicinal a través de farmacias
   - Tiene muchos fines terapéuticos por lo que es importante que se valore su uso por estas razones, siempre que un profesional lo considere oportuno, con autorización y administración en farmacias.
   - Si su uso moderado tiene características paliativas o beneficiosas considero una administración

Tabla 1. Relación de videojuegos promotores del cultivo y del consumo de cannabis.

Nombre	*Edad mínima*	*Trama*	*Gratuito / Pago*
Bud Factory Tycoon	No consta	Construye invernaderos para producción de cannabis.	Gratuito
Bud Farm: 420	No consta	Transforma la cosecha de cannabis en golosinas, galletas y otros productos para su venta. Renueva la tienda y consigue ser un empresario de éxito.	Gratuito
Cannabis Grow Box	>17 años	Visita la *grow shop* y adquiere todo lo necesario para plantar cannabis. Observa cómo crecen las plantas, cosecha y seca la hierba el tiempo que creas oportuno.	Gratuito, pero con anuncios
Gansgter Mafia Crime City Thug Weed Game 3 D	No consta	Juego de rol, con personajes mafiosos y violencia. Incluye granja donde cultivar cannabis, contrabando y defensa de la plantación ante policías y ladrones.	Gratuito con anuncios. Ofrece compras
Hempire	>17 años	Cultiva y gana dinero con la venta del cannabis y sus derivados. El objetivo es construir un "imperio verde".	Gratuito, pero con elementos de pago
Weed Inc: Idle Tycoon	>17 años	Administra la producción de cannabis desde la sala de cultivo, la sala de procesamiento y la tienda. Contrata gerentes, mejora variedades y expande el negocio.	Gratuito, pero con anuncios y ofrece compras
Weed Factory Idle	>13 años	Desarrolla el cultivo de cannabis para sacar el máximo rendimiento y beneficio. Reinvierte los beneficios y haz crecer el negocio.	Gratuito, pero con elementos de pago

regulada y controlada por parte de los servicios sanitarios.
- Aunque haya gente que fume "por placer", muchas personas se podrían beneficiar de algunos de sus efectos, como ayudar a enfermos de cáncer a tener más apetito y obtener más nutrientes para luchar contra la enfermedad.
- Habría más regulación del consumo. Aunque permitirlo legalmente en una población sin conocimientos sería atentar contra la salud pública.
- El dinero de la droga en forma de impuestos para el estado, no para mafias y particulares.
- Sería una forma de controlar este consumo. Tener una planta en casa evitaría los "trapicheos" y dinero negro de este negocio.

3. Regulación del acceso para cualquier uso a través de clubs de usuarios.
   - Para que ganen dinero negro es preferible que sea legal, tenga impuestos y el país se beneficie.
4. Regulación del acceso para cualquier uso a través de dispensarios (tiendas, estancos, etc.).
   - Muchos países permiten el THC haciéndolo más suave y así se sigue fumando pero no con los mismos efectos.
   - Se debería de poder consumir igual que el alcohol, como libre elección, pero tendría que ir acompañado de educación e información.
   - El uso responsable de cualquier "droga blanda" como el cannabis no tiene por qué ser malo y se debe tener libertad para tomar la decisión de consumirlo o no.
   - Puede ser fuente de ingresos y si se regula bien, no debería haber más problema.
   - Me gustaría un producto de calidad con garantías pero que viniese de manos de la empresa privada y no del Estado en forma de impuestos, y que si se venda en farmacias, estancos y clubs.
   - La educación es más efectiva que la prohibición, y se trata de una droga menos peligrosa que el alcohol.
   - Fin de la criminalización del autoconsumo.
5. Prohibición.

Tabla 2. Relación de series, películas y documentales promotores del cultivo, del consumo y de la regulación del cannabis.

Nombre	*Formato/Canal*	*Discurso/Trama*
13th	Documental YouTube	Aborda el encarcelamiento de personas como consecuencia de la "guerra contra las drogas".
Cheech & Chong Up in Smoke	Película YouTube	Comedia *stoner* (subgénero en el que la trama gira en torno al consumo de cannabis).
Disjointed	Serie Netflix	Personajes con sentido del humor abordan el cultivo y la venta del cannabis como un negocio lucrativo.
Grass Is Greener	Documental Netflix	Refleja el desarrollo del cannabis en EE. UU. y su relación con el jazz y el hiphop, con una mirada condescendiente con el consumo.
Green is Gold	Película YouTube	Después de que el padre de un adolescente va a prisión, este se ve obligado a vivir con su hermano mayor que tiene un negocio de cannabis muy lucrativo.
High Maintenance	Serie HBO	Tragicomedia de un comerciante de cannabis.
Illegal (La vida no espera)	Documental 3Boxmedia	Aborda la lucha de las madres brasileñas para tratar a sus hijos con cannabis terapéutico, una práctica ilegal en Brasil.
Mac and Devin go to High School	Película YouTube	Ofrece información sobre aspectos relacionados con el cultivo y el consumo de cannabis.
Pico de Neblina	Serie HBO	Ante una supuesta legalización del cannabis en Brasil, un joven narcotraficante decide abandonar su vida criminal y comercializar cannabis como lo estipularía la nueva legislación.
Pineapple Express	Película YouTube	Vivencias de un secretario judicial a quien le gusta consumir con regularidad diversos tipos de cannabis.
Reincarnated	Documental YouTube	Historia de un rapero que se sumerge en la cultura rastafari al tiempo que produce un álbum de reggae entre rimas y marihuana.
Rolling Papers	Documental YouTube	Mientras la industria de la prensa escrita estaba en crisis, *The Denver Post* inauguraba una rompedora sección dedicada a la cultura del cannabis.
Slow Burn	Película YouTube	Ofrece lecciones sobre cómo fumar, qué fumar y cómo distinguir el tipo de cannabis.
Super High Me	Documental YouTube	Aborda los efectos de consumir cannabis de manera intensa durante 30 días. Incluye entrevistas con activistas procannabis, dueños de dispensarios, políticos y pacientes que utilizan la marihuana con fines medicinales.
The Beach Bum	Película YouTube	Comedia donde el consumo de cannabis y otras drogas forma parte de una aventura sin consecuencias negativas.
The Legend of 420	Documental YouTube	Historia de un activista cannábico y jugador de baloncesto quien, tras convertirse en entrenador y ganar todos los campeonatos, fue despedido por causa del cannabis. Relata su uso para el tratamiento de su cáncer.
Weeds	Serie Showtime	Historias y personajes donde prevalecen el sentido del humor y la inocuidad del consumo de cannabis.
Weed the people	Documental YouTube	Realiza un seguimiento a niños con cáncer que reciben tratamientos con cannabis.

- Debido a la baja efectividad del uso terapéutico del cannabis, su consumo debería prohibirse.
- El acceso al cannabis es fácil. Si no se prohíbe, regularlo podría llevar a consecuencias peores que las actuales.

Tabla 3. *Influencers* promotores del cultivo y del consumo de cannabis.

Influencer	*Red social*	*Descripción*
Andavolu, Krishna Sai	Twitter	Productor ejecutivo y presentador de la serie documental *Weediquette* en Viceland, el canal de cable de Vice Media. Relata la cultura y la economía de la legalización del cannabis.
Cervantes, Jorge	theweedtube	Escritor, editor, horticultor y defensor del cannabis. Con más de treinta años de experiencia en el cultivo, en su libro "Marihuana: Horticultura del cannabis" explica técnicas para cultivar cannabis.
CoralReefer	YouTube	Matrimonio dedicado a la distribución de cannabis y sus derivados.
DeAngelo, Steve	YouTube	Empresario, activista y político. Cofundador de empresas y organizaciones dedicadas al cannabis (Harborside, Steep Hill Laboratory, Arc View Group, National Cannabis Industry Association).
Green Flower	YouTube	Empresa de servicios sobre cannabis, incluidos certificados en cannabis medicinal para pacientes que buscan obtener licencia de cultivo.
Haley420	YouTube	Fumadora y activista del cannabis. A través de sus videos se puede aprender a fumar en todo tipo de dispositivos, incluido el "hotbox". Uno de sus videos más populares, "Smoking in NaturelParents & Weed", consiguió más de 550.000 reproducciones.
Hradecky, Joel	YouTube	Creador y protagonista del canal "CustomGrow420".
Khalifa, Wiz	YouTube	Cantante de rap, compositor, actor, empresario y creador de la semilla Khalifa Kush, también conocida como "KK".
Ross, Michele	Facebook	Neurocientífica que estudia las adicciones y defensora del uso medicinal de drogas como el cannabis y las setas.
Young, Josh	YouTube	Presenta su web "StrainCentral" como una plataforma para la "educación en cannabis" y habla de sus "potenciales" beneficios.

- Con la regulación se normalizaría más el consumo y sería todavía más accesible para los jóvenes.
- Todo el tema de los porros está "romantizado".
- No puede ser legal algo que es perjudicial para la salud y que está ayudando al aumento de enfermedades. Es perjudicial no sólo para quien lo fuma, sino para su entorno.
- No tengo postura definida.
- No lo legalizaría porque puede conllevar apología del consumo recreativo. Tampoco es seguro que el consumo medicinal a la larga no cree adicción. Por otra parte, si se regulariza dejará de haber vacíos legales.
- No creo que la mejor opción sea prohibirlo, sino regularlo. Pero dentro de esta opción no sé de qué manera sería más efectivo.
- No me gustaría que se normalizara su consumo hasta el punto de venderlo en estancos, porque los menores de edad podrían consumirlo más fácilmente. Pero si consumes en casa una dosis que te permita hacer vida normal, no creo que hagas daño a nadie más que a ti mismo, al igual que el tabaco.
- Mi pareja es consumidor habitual y en ocasiones especiales le acompaño, él es mi motivo de consumo.

Discusión y conclusiones

El objetivo del presente estudio fue visibilizar las acciones de captura corporativa y *fake news* promovidas desde la industria del cannabis y grupos afines a la legalización. Asimismo, establecer si existe consonancia entre los mensajes promotores del cultivo, del consumo y de la regulación del cannabis promovidos a través de estas estrategias, con el posicionamiento expresado por estudiantes universitarios consumidores sobre el estatus legal de esta sustancia, y las justificaciones que ofrecen para dicho posicionamiento. A pesar de las limitaciones para establecer una relación causal, se observa consonancia entre el posicionamiento a favor de la regulación del autocultivo, consumo y uso

Tabla 4. Relación de *fake news* relacionadas con el cannabis.

Mensaje	*Enlace Web*
Cannabis para el tratamiento del cáncer	https://www.facebook.com/cannabiosalud/photos/a.1792682034299319/1818198245081031/
El cannabis es ilegal porque cura el cáncer, anorexia, glaucoma, depresión y eso significa pérdidas millonarias para las farmacéuticas	https://m.facebook.com/RHSweed/photos/a.1529490920447934/1727423853987972/?type=3&source=48
Enfermedades que pueden ser tratadas con cannabis medicinal: dolores crónicos, fibromialgia, cáncer/tumores, artritis/artrosis, anorexia, trastornos del sueño, cólicos menstruales, depresión/psicosis, diabetes, autismo, epilepsia, alzheimer, parkinson, ansiedad, glaucoma, migraña, fracturas, psoriasis, herpes, vih, lupus. . .	https://www.facebook.com/runa.tiendaonline/photos/cannabis-medicinal-podes-consegirlo-en-runa-tiendaaceites-elaborados-por-econatu/488818945091250/
El cannabis es eficaz en pacientes con demencia en estadio temprano y tardío	https://www.lamarihuana.com/estudio-cannabis-eficaz-pacientes-demencia-estadio-temprano-tardio/
Alzheimer se cura con cannabis	https://www.ingenieria.es/alzheimer/
Los pacientes de cannabis sufren menos de depresión y ansiedad	https://www.lamarihuana.com/investigacion-los-pacientes-cannabis-sufren-menos-depresion-ansiedad/
La marihuana puede mejorar la salud de las mujeres	https://www.semillasdemarihuana.info/marihuana-cannabis-mejorar-salud-mujeres/
Los dolores menstruales podrían combatirse con cannabis medicinal	https://www.lamarihuana.com/nueva-york-dolores-menstruales-podrian-combatirse-cannabis-medicinal/
El cannabis puede mitigar los síntomas de la menopausia	https://www.royalqueenseeds.es/blog-el-cannabis-puede-mitigar-los-sintomas-de-la-menopausia-n426?fbclid=IwAR2ob3eVuZXIN6UMzRxhrRt04GJVqc-sN1UAQw2agpEASdNZ1tWD4BJjPJM
Los cannabinoides protegen la aparición de osteoporosis	https://www.lamarihuana.com/los-cannabinoides-protegen-la-aparicion-osteoporosis/
El CBD es una cura para la diabetes y debe ser legal	https://www.lamarihuana.com/prof-mechoulam-cbd-una-cura-la-diabetes-legal/
La gente prefiere cannabis medicinal a otros medicamentos	https://www.lamarihuana.com/estudio-la-gente-prefiere-cannabis-medicinal-otros-medicamentos/
Componente del cannabis ayuda a pacientes graves de COVID a superar la enfermedad	https://www.forbes.com.mx/noticias-cbd-componente-del-cannabis-ayuda-a-enfermos-graves-de-covid/
Extractos de la cannabis reducen la posibilidad de enfermar de COVID-19	https://www.elfinanciero.com.mx/ciencia/extractos-de-la-cannabis-reducen-la-posibilidad-de-enfermar-de-covid-19-segun-estudio/

terapéutico/medicinal del cannabis, con los mensajes promovidos por la industria y grupos afines con el objetivo de influir sobre la opinión pública y reducir la percepción de riesgo sobre su consumo.

En el análisis del discurso sobre el cannabis difundido a través de los distintos canales analizados, predomina el mensaje de banalización de los efectos perjudiciales del consumo y se ensalzan los beneficios del autocultivo y del consumo. Algunas propuestas utilizan el humor como estrategia de banalización, otras plantean la legalización del cannabis apoyándose en las "bondades de su consumo" y abordando de soslayo los problemas de salud pública que causa este. Estos mensajes, al menos en la muestra de

consumidores del presente estudio, reflejan una consonancia con su posicionamiento sobre la regulación del cannabis. Apenas el 2.8 % aboga por la prohibición, frente al 82.6 % que apoya alguna forma de regulación del cannabis. Asimismo, al analizar los mensajes procannábicos difundidos que fomentan la banalización de riesgos y los potenciales beneficios, tanto en términos de salud como económicos, puede observarse cómo estos tienen su reflejo en los argumentos que utilizan los consumidores para justificar sus posicionamientos favorecedores al autocultivo (22 %). También a posiciones más liberales que faciliten el acceso y consumo de cannabis a través de clubs de usuarios (16.7 %) o a través de dispensarios (tiendas, estancos) (19.1 %).

En el proceso de "normalización" (29) se identificaron varias dimensiones presentes, entre ellas la acomodación social. Es decir, la generación de actitudes liberales hacia el uso recreativo de drogas entre los jóvenes y entre los exusuarios, así como el fomento de representaciones neutrales o positivas del consumo de drogas en los medios y en la población en general. Esta estrategia de reducción de la percepción del riesgo ha sido utilizada en EE. UU. con éxito, lo que se ha asociado con un aumento del consumo (30).

La permisividad de la publicidad engañosa distribuida en tiendas físicas y en línea, la difusión en ferias, foros, webs y las propias manifestaciones vertidas por: los consumidores en clubes cannábicos, grupos de presión, defensores de su legalización en foros especializados y políticos, han contribuido a crear un estado de opinión favorecedor hacia su legalización y consumo (16).

La promoción del cultivo y del consumo de cannabis presentándolo como una sustancia medicinal, enmarcando su discurso en narrativas "como proveedores compasivos que están ayudando a las personas necesitadas" y permitiendo "el derecho a una existencia libre de dolor" (11), han contribuido a difundir una imagen positiva del cannabis y de los propios consumidores. Las noticias falsas difunden la creencia de que el consumo de cannabis tiene potenciales beneficios terapéuticos. La mayor parte atribuye propiedades terapéuticas al cannabis fumado, no a los fármacos cannabinoides aprobados por la FDA o la EMA. Además, estos supuestos beneficios terapéuticos se extienden a enfermedades para las que no existe evidencia científica.

Este discurso, presente de manera mayoritaria en las estrategias de captura corporativa y *fake news* analizadas, se ve reflejado en la postura sobre el posicionamiento de los consumidores que más apoyo tiene, con un 24.8 % a favor de su regulación con fines terapéuticos/medicinales. Sin embargo, queda la duda de si lo que apoyan es el acceso a fármacos cannabinoides dispensados bajo prescripción o, si víctimas de las noticias falsas, apoyan el acceso a cogollos y resinas de cannabis para su consumo por vía fumada o ingerida. La manipulación informativa que distintos sectores realizan sobre los derivados cannábicos con usos medicinales (23), difundiendo información sesgada o carente de rigor científico, promueve la falsa creencia del "porro terapéutico", generando una percepción de equivalencia del uso con fines recreacionales con el uso terapéutico.

Igualmente, el uso medicinal del cannabis, junto con la tolerancia hacia su consumo que existe en España (31), ha propiciado un proceso de normalización de su consumo. Estos procesos sociales pueden explicar, al menos en parte, que el 47.2 % de la población estaría a favor de la legalización de la venta de marihuana para uso recreativo y el 84 % a favor del uso terapéutico (32).

Asimismo, a través de diversas estrategias, la industria fomenta una percepción del autocultivo como vía para ganar dinero con la distribución y venta de cannabis. Difunde distintos aspectos del cultivo (*i. e.* variedades de semillas, cruces para obtener cepas nuevas, equipos de interior), de la venta (subastar, pujar y transacciones), e incluso enseña a producir comestibles derivados (galletas, *cookies*, pasteles) y otros productos (aceites y extractos) con los que ampliar el negocio. Esto tiene implicaciones directas en el negocio para la industria cannábica. Primero, porque es la que comercializa los productos destinados al cultivo de cannabis y, en segundo lugar, porque la mayor accesibilidad y disponibilidad son importantes factores de riesgo para el consumo (33) y para el desarrollo de una adicción (34,35). A este respecto, de nuevo se observa consonancia con la posición de los consumidores, de los cuales el 22 % apoya una regulación del autocultivo, siendo la segunda opción más apoyada.

En conclusión, a pesar de que la evidencia científica ha mostrado que el consumo de cannabis presenta graves problemas para la salud personal y pública (4,36), los beneficios económicos de la industria prevalecen frente al bien común promovido desde

una perspectiva de salud pública y promoción de la salud. Resulta imprescindible denunciar las estrategias desplegadas por la industria del cannabis, similares a las desarrolladas por el tabaco, e influir en las orientaciones legislativas de los gobiernos (20,37). En el presente estudio se observa consonancia entre el posicionamiento a favor de la regulación del autocultivo, del consumo y del uso terapéutico/medicinal del cannabis, con los mensajes promovidos por la industria y grupos afines con el objetivo de influir sobre la opinión pública y reducir la percepción de riesgo sobre su consumo. Es preciso una legislación fundamentada en la evidencia científica y la promoción de la salud pública que dificulte y penalice las estrategias de captura de las políticas públicas y la proliferación de *fake news* en relación con el cannabis. La población, consumidora o no consumidora, tiene derecho a información veraz, libre de manipulación a favor de los intereses de la industria.

En cuanto a las posibles limitaciones del presente trabajo, hay que señalar que las características de la muestra limitan la extrapolación de los resultados. Su diseño transversal no permite establecer relaciones de causalidad entre las variables de estudio. Únicamente permite reflejar la consonancia entre los discursos promovidos por la industria cannábica y grupos afines, y las creencias expresadas por un grupo de consumidores. Una limitación de este tipo de estudios es establecer una relación causal entre la exposición a los procesos de influencia directa e indirecta y las creencias generadas en torno al consumo de cannabis y al posicionamiento sobre su estatus legal. Son múltiples las influencias que a lo largo del ciclo vital han podido configurar dichas creencias, tales como la intensidad y frecuencia del consumo, la experiencia previa de consumo, creencias normativas o estigmatizadoras del consumo y los consumidores, actitudes y expectativas frente al consumo. Finalmente, las variables han sido autoinformadas, aunque las medidas de autoinforme han demostrado ser fiables e incluso mejores que otros métodos a la hora de evaluar los niveles de consumo de drogas (38,39).

Declaración de conflicto de intereses

Ningún conflicto declarado.

Financiación

Ninguna financiación declarada.

ORCID iDs

Manuel Isorna Folgar https://orcid.org/0000-0002-3398-8882
Víctor José Villanueva-Blasco https://orcid.org/0000-0001-6081-1583

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Resúmenes

Evaluación del impacto en salud de las políticas locales: metodología y herramientas

Rosa Mas-Pons, Mar Caturla-Bastit, Josep Bisbal-Sanz, Mireia López-Nicolás y Carmen Barona-Vilar

El objetivo de este trabajo fue diseñar algunas herramientas y un procedimiento para realizar la Evaluación del Impacto en la Salud de las políticas municipales. Se creó un grupo de trabajo conformado por especialistas de salud pública y del sector municipal de la Comunidad Valenciana (España). Después de revisar las herramientas utilizadas en otros contextos, se adaptó el cuestionario Fem Salut? para darle un uso local a la Evaluación simplificada del Impacto en la Salud de las políticas regionales. Un estudio piloto fue llevado a cabo en seis municipalidades y se analizaron las iniciativas locales promovidas por los diferentes sectores. En cada municipalidad se organizaron dos talleres (con especialistas y ciudadanos) y se utilizaron técnicas de participación para identificar los posibles impactos en los determinantes sociales de la salud, los grupos de población que pueden verse particularmente más afectados y las propuestas para mejorar. Se discutió sobre la viabilidad de la metodología y las dificultades para llevarla a cabo. Se definió un procedimiento, DECIDE, para la Evaluación del Impacto en la Salud de las iniciativas locales en seis etapas: Describir (la municipalidad y el proyecto), Extraer (fase de selección), Coproducir (talleres participativos), Integrar (la evidencia científica con la información cualitativa obtenida), Difundir (hacia políticos, especialistas y la comunidad) y Evaluar (los resultados directos e indirectos). Con el fin de facilitar la puesta en práctica en el ámbito local, se desarrollaron una guía y dos herramientas complementarias (un cuestionario y fichas de trabajo). El grupo técnico calificó el proceso como simple y flexible, así como fácil de adaptar a las características de la municipalidad y del proyecto. Además del enfoque intersectorial, el hecho de incluir la participación ciudadana en el proceso es también un importante valor agregado.

Palabras clave: Evaluación del Impacto en la Salud, equidad en salud, participación ciudadana. (Global Health Promotion, 2023; 30(1): 7–15)

Desarrollo y prueba de campo de la forma abreviada de la Escala Salutogénica de la Promoción del Bienestar en estudiantes de educación superior en Estados Unidos

Craig M. Becker, Hui Bian, Ryan J. Martin, Kerry Sewell, Michael Stellefson y Beth Chaney

La encuesta como técnica de investigación es importante para comprender la salud y mejorar la práctica en las profesiones relacionadas con la salud. Sin embargo, este tipo de sondeo puede tener inconvenientes como el sobreúso o la elaboración de cuestionarios excesivamente largos que agobian a quienes los responden. Estas desventajas ocasionan bajas tasas de respuesta y cuestionarios incompletos, lo que resulta en ausencia de datos y reducción del tamaño de la muestra, alterando el valor, la usabilidad y la capacidad de generalización de la información recopilada. Para abordar los problemas relacionados con las tasas de respuesta y mejorar la investigación en salud, se recomienda abreviar las encuestas para facilitar la tarea a quienes las responden y que estas sean útiles en poblaciones más grandes. Además, los cuestionarios relacionados con la salud se enfocan con frecuencia en factores que tienen que ver con la mala salud sin dedicarles una igual atención a los factores que promueven la salud positiva. Este estudio desarrolló y puso a prueba una forma abreviada de la ya validada Escala Salutogénica de la Promoción del Bienestar (SWPS-SF, por sus iniciales en inglés) que mide las causas de salud (en lugar de las causas de enfermedad), utilizando las respuestas de 2 052 estudiantes de educación superior. Los participantes contestaron preguntas demográficas y completaron la SWPS y una evaluación de la salud percibida. Las pruebas estadísticas demostraron que la SWPS-SF tuvo una relación significativa con la Escala en su forma completa, el estado de salud y el Promedio General de Calificación

Global Health Promotion 1757-9759; Vol 30(1): 105–109; 1156724 DOI: 10.1177/17579759231156724 journals.sagepub.com/home/ghp

(GPA, en inglés). Las pruebas estadísticas también se utilizaron para establecer puntos de corte que tuvieron una alta tasa de verdaderos positivos y una baja tasa de falsos negativos. Estos puntos de corte demostraron una relación de mayor rendimiento y mejor salud. Dichos resultados prometedores sugieren que los cuestionarios cortos pueden ofrecer una información válida sin abrumar a quienes los responden. Los autores recomiendan realizar pruebas adicionales para validar la SWPS-SF.

Palabras clave: mediciones, salutogénesis, forma abreviada, promoción de la salud.(Global Health Promotion, 2023; 30(1): 16–22)

Relación entre estilos de vida y salud mental positiva en estudiantes portugueses de educación superior

Olga Valentim, José Vilelas, José C. Carvalho, Carmen M. Silva Maciel Andrade, Catarina Tomás, Patrício Soares Costa y Carlos Sequeira

Los estilos de vida saludables se asocian frecuentemente con una mejora de la salud física y mental. Los patrones de sueño, la nutrición, el ejercicio físico, el consumo de sustancias psicoactivas, entre otros, pueden influir fuertemente en la salud mental positiva. Objetivos: caracterizar los estilos de vida basados en clústeres de salud mental positiva, considerando una muestra transversal de una cohorte de estudiantes de educación superior, y analizar los estilos de vida asociados con la salud mental positiva. Se realizó un estudio transversal, descriptivo, correlacional y multicéntrico del enfoque cuantitativo y se administró el Cuestionario de Salud Mental Positiva. A través del método k-means se obtuvieron cuatro clústeres basados en los niveles de salud mental positiva. La muestra de 3 647 estudiantes de educación superior fue en su mayoría femenina (78.8 %), soltera (89.5 %) y con un promedio de edad de 23 años (SD = 6.68). Se encontraron diferencias entre los clústeres basadas en las características sociodemográficas y en los estilos de vida. Hay que resaltar los hallazgos en el Clúster 1 porque este incluyó estudiantes con más alto nivel de salud mental positiva, lo cual fue asociado con una mayor satisfacción en relaciones afectivas, más actividades recreativas y deportivas, una mejor calidad de sueño, una dieta saludable y más bajos niveles de medicación y de consumo de drogas ilícitas. Estos resultados clave ponen de relieve la promoción de estilos de vida saludables y realzan la importancia de la salud mental positiva en la promoción de la salud de los estudiantes de educación superior.

Palabras clave: salud mental positiva, estudiantes de educación superior, estilo de vida, promoción de la salud. (Global Health Promotion, 2023; 30(1): 23–32)

Repercusiones de las amenazas percibidas contra la salud en la población española

María del Mar Molero Jurado, África Martos Martínez, María del Carmen Pérez-Fuentes, María del Mar Simón Márquez, Inmaculada Méndez Mateo, Ana Belén Barragán Martín y José Jesús Gázquez Linares

Diversos estudios han demostrado que la COVID-19 ha tenido un impacto psicológico a nivel mundial. El confinamiento debido a la COVID-19 tuvo importantes repercusiones en la salud mental de la población en general, con altos niveles de estrés, ansiedad, síntomas depresivos y trastornos de estrés postraumático, por citar solo algunos efectos. Del mismo modo, los importantes cambios laborales, económicos y sociales que se están dando afectan el bienestar de las personas. El objetivo de este estudio fue analizar las repercusiones de las amenazas percibidas por la COVID-19 en la salud mental de la población y evaluar el papel mediador del

impacto económico percibido. Participaron 1 160 adultos residentes en España, con edades entre 18 y 82 años, 69.9 % de los cuales fueron mujeres. Se les administró un cuestionario sociodemográfico, el Cuestionario de Percepción de Amenaza de la COVID-19 y el Cuestionario General de Salud. La amenaza percibida tuvo un efecto directo positivo en todas las cuatro dimensiones de salud analizadas. Entre los efectos indirectos, el impacto económico percibido de la COVID-19 medió en la relación entre la amenaza percibida y cada una de las dimensiones de salud. Los resultados de este estudio demostraron la necesidad de llevar a cabo una acción conjunta para promover la salud mental pública con el fin de minimizar las repercusiones psicológicas de nuevos brotes.

Palabras clave: amenaza percibida, COVID-19, población general, salud mental. (Global Health Promotion, 2023; 30(1): 33–41)

Cobertura de vacunación a los 7 meses de edad en la provincia de Limpopo, Suráfrica: estudio transversal

John P. Killion, David T. Silverman, Denise Evans, Lezanie Coetzee, Amanda R. Tarullo, Davidson H. Hamer y Peter C. Rockers

Muchos países de bajos y medianos ingresos enfrentan desafíos tratando de alcanzar niveles adecuados en la cobertura de vacunación, y aún no se han elucidado completamente los factores que impiden salir de la insuficiencia. En este estudio transversal, investigamos los factores asociados con la cobertura de vacunación en el Distrito Mopani, provincia de Limpopo, en Suráfrica. Entre julio y octubre del 2017, sondeamos 317 cuidadores (83 % de los cuales eran madres) de bebés de 7 meses de edad en el Distrito Mopani, acerca de las barreras a las que se enfrentan para acceder a las vacunas y de las actitudes hacia la vacunación. Así mismo, revisamos los historiales de vacunación documentados de los bebés. Los datos demográficos de los cuidadores y de los niños se recolectaron poco después del nacimiento. Describimos la cobertura de vacunación que deberían recibir a los 7 meses de edad, de acuerdo con el esquema del South Africa's Expanded Programme on Immunization y exploramos la relación entre la cobertura y las características de los cuidadores, los factores de comportamiento (como las actitudes frente a la vacunación) y los factores estructurales (como la escasez de vacunas en las clínicas). Encontramos que los cuidadores reportaron una actitud positiva frente a la vacunación, basados en un sondeo de siete preguntas. Aunque la cobertura fue alta para la mayoría de las vacunas recomendadas, resultó baja para la vacuna conjugada contra el neumococo (PCV), con solo 36 % de niños vacunados a los 7 meses. Al parecer, esto se debe a un desabastecimiento de la PCV en las clínicas gubernamentales. Para otras vacunas, los niños estaban más al día en su cuadro de vacunación si han recibido la visita, en el último mes, de un trabajador comunitario de salud (razón de posibilidades ajustada (OR) 1.24, intervalo de confianza (CI) (1.10–1.41), $p < 0.001$) y si el cuidador tiene más años de escolaridad (OR ajustada 1.03 (CI 1.01–1.05); $p = 0.012$). Concluimos que es necesario abordar el problema de desabastecimiento de la PCV en las clínicas gubernamentales del Distrito Mopani para asegurar que la cobertura alcance niveles adecuados. Además, apoyar los programas de trabajadores comunitarios de salud puede resultar productivo para mejorar la cobertura de vacunación.

Palabras clave: Suráfrica, cobertura de vacunación, reticencia a la vacunación, trabajadores comunitarios de salud. (Global Health Promotion, 2023; 30(1): 42–52)

Análisis de la inseguridad alimentaria en hogares durante la pandemia de la COVID-19 y el papel de las políticas públicas para mitigarla: evidencia de Ceará, Brasil

Onélia Maria Moreira Leite de Santana, Luiz Vinicius de Alcantara Sousa, Hermano Alexandre Lima Rocha, Luciano Lima Correia, Laécia Gretha Amorim Gomes, Camila Machado de Aquino, Sabrina Gabriele Maia Oliveira Rocha, David Augusto Batista Sá Araújo, Maria Dagmar de Andrade Soares, Márcia Maria Tavares Machado y Fernando Adami

Objetivo: evaluar el alcance de las políticas de transferencia monetaria condicional para mitigar la inseguridad alimentaria (IA) en familias que viven en la pobreza, durante la pandemia de la COVID-19 en Ceará (Brasil).

Métodos: se realizó un estudio analítico transversal a través de contactos telefónicos durante el periodo de mayo a julio del 2021, en la segunda ola de la pandemia de la COVID-19, en Ceará. En este estudio participaron familias en situación de alta vulnerabilidad social y económica (ingreso per cápita mensual de menos de 16.50 US$). La IA se estimó utilizando el EBIA, un cuestionario brasileño validado. También se investigó la participación de las familias en los programas gubernamentales y políticas públicas. Se utilizaron modelos de regresión logística para evaluar la relación de los diversos factores estimados con la inseguridad alimentaria.
Resultados: la prevalencia de alguna medida de inseguridad alimentaria en esta muestra fue de 89.1 % (95 % de intervalo de confianza (95 % CI: 86.2 – 92.1) y la de inseguridad alimentaria grave fue de 30.3 % (95% CI: 26.0 – 34.6). El programa de la tarjeta Mais Infância, adoptado como una transferencia de dinero suplementario en el estado de Ceará, fue asociado de manera significativa con la inseguridad alimentaria (OR 4.2 (95 % CI: 1.7 – 10.2), con un valor p de 0.002. Además, las familias que se vieron afectadas por la pérdida del empleo debido a la pandemia de la COVID-19 presentaron más altas probabilidades de IA.
Conclusiones: en este estudio, 89 % de las familias evaluadas presentaron inseguridad alimentaria. Los programas de transferencia monetaria condicional fueron relacionados con la IA. Resaltamos la necesidad de políticas e intervenciones para reducir el impacto de la pandemia de la COVID-19 en la inseguridad alimentaria. Tales políticas pueden adoptar los criterios que se requieran para definir los participantes así como para conectarlos con un conjunto adecuado de medidas más amplias de protección social.

Palabras clave: niñez, enfermedades transmisibles, seguridad alimentaria, Latinoamérica, salud materna, normas/política, pobreza. (Global Health Promotion, 2023; 30(1): 53–62)

La inequidad y las desigualdades afectan la evidencia científica mundial de la COVID de larga duración

Mohammad Hossein Taghrir, Hossein Akbarialiabad, Ashkan Abdollahi, Nasrollah Ghahramani, Bahar Bastani, Shahram Paydar, Babak Razani, John Mwangi, Ali A. Asadi-Pooya, Jamshid Roozbeh, Leila Malekmakan y Manasi Kumar

Desde que comenzó la pandemia en diciembre del 2019, el SARS-CoV-2 ha acentuado la gran brecha y las disparidades socioeconómicas y de acceso a los servicios de salud en los niveles individual, comunitario, nacional y regional. Son más de dos años de pandemia, unas tres cuartas partes de los pacientes reportan continuos signos y síntomas que sobrepasan la fase aguda de la COVID-19, y se presagia que la COVID de larga duración será un gran desafío en el futuro que se avecina. Con una revisión completa de la literatura, encontramos que la mayoría de los estudios relacionados con la COVID de larga duración provienen de

países de ingreso alto y mediano alto, y que las poblaciones de las regiones de ingreso bajo y mediano bajo, así como los grupos vulnerables con condiciones de comorbilidad, han sido pasadas por alto. Además del nivel de ingreso, hay una heterogeneidad geográfica significativa en la investigación de las Secuelas Posagudas de la COVID-19 (SPAC), o lo que ahora se conoce como la COVID de larga duración. Creemos que es esencial reconocer estas desigualdades en salud desde la perspectiva de la equidad, y que es el primer paso hacia la promoción mundial de la salud.

Palabras clave: COVID-19, COVID de larga duración, efectos a largo plazo, síndrome pos-COVID, SARS-CoV-2, SPAC, Secuelas Posagudas de la COVID-19, síndrome de COVID persistente. (Global Health Promotion, 2023; 30(1): 63–67)

Promoción exitosa de la salud, sus desafíos y el camino por seguir, en Nepal

Madhu Koirala Dhital, Shalik Ram Dhital, Bhakta Bahadur, Vickie Owens, Hem Raj Khadka y Prajwal Gyawali

La promoción de la salud es el método y el proceso más favorable para alcanzar un resultado de salud positivo en la población. Varios países alrededor del mundo están comprometidos en lograr la salud positiva para sus habitantes, con las mejores estrategias de promoción de la salud. De hecho, la promoción de la salud comparte una gran porción de la economía y los recursos de la atención médica en muchos países. Sin embargo, un país de ingreso bajo como Nepal carece de la implementación de estrategias rigurosas de atención en salud a gran escala y es deficiente en la evidencia del alcance potencial de la promoción de la salud. En el papel, Nepal adoptó la declaración de la promoción mundial de la salud, no obstante, los proveedores de la atención médica y las autoridades siguen trabajando de una manera tradicional, utilizando las estrategias y políticas de salud que existían antes. Este artículo tiene como objetivo explorar algunas de las mejores prácticas de la promoción de la salud en el mundo, así como los desafíos y las oportunidades al adoptar tales prácticas en Nepal, y presenta algunas recomendaciones como un camino por seguir.

Palabras clave: desafíos, enfermedades, promoción de la salud, logro, Nepal. (Global Health Promotion, 2023; 30(1): 68–71)