VOLUME 1 : 2009

www.lomcworld.com/ijcrimph

International Journal of Collaborative Research on Internal Medicine & Public Health

Online access at:
International Online
Medical Council (IOMC)
www.lomcworld.com

Internal Medicine Faces a New Challenge as SARS-CoV-2 Infection Becomes Chronic

Helen Morgan*

Editorial Office, Journal of Internal Medicine, Belgium

Corresponding Author*
Helen Morgan
Editorial Office, Journal of Internal Medicine,
Belgium E -mail: Hmorg787870@gmail.com

Received: 06-Feb-2023, Manuscript No. IJCRIMPH-23-93488**; Editor assigned:** 07-Feb-2023, Pre QC No**.** IJCRIMPH-23-93488 (PQ); **Reviewed:** 12-Feb-2023, QC No. IJCRIMPH-23-93488 (Q); **Revised:** 16-Feb-2023, Manuscript No IJCRIMPH-23-93488 (R); **Published:** 22-Feb-2023, doi: 10.35248/ 1840-4529.23.15(2).1

Abstract

With a very high death toll globally, the new SARS-CoV-2 coronavirus infection has assumed pandemic proportions. Despite the scientific community's tireless efforts to treat this illness in it's a cute phase and to prevent it by quickly developing vaccines, there is still much work to be done in terms of comprehending and managing symptoms that persist after the acute phase, also known as the protracted COVID-19 syndrome or persistent COVID. These lingering symptoms can affect various organs and systems and may be caused by both the virus's pathogenic mechanisms and the patient's pathophysiological response. There is an urgent need to address this issue using a comprehensive strategy one year after the pandemic started.

Keywords: Internal medicine • SARS-CoV-2 • Infection • Chronic infection

Introduction

With over 155 million confirmed cases and more than 3 million fatalities worldwide, the new coronavirus SARS-CoV-2 infections have epidemic proportionss. In response, the scientific community has been analysing this new virus, learning about its biological traits, and diagnosing, treating, and preventing COVID-19 at an unprecedented rate. Limited research has been done on the follow-up and long-term effects of SARS-CoV-2 infection, despite the fact that there is growing evidence to support the idea that many SARS-CoV-2 patients, even those with mild symptoms or those who are asymptomatic, develop either long-term symptoms that negatively impact their quality of life or sequelae that may be fatal or crucial to their survival [1].

The definition of uniform criteria to describe such a polymorphous and heterogeneous clinical presentation beyond the severe infection phase is the first issue we must address in order to approach this reality in an adequate way. A guideline outlining the stages of COVID-19 disease was published by the National Institute for Health and Care Excellence on December 18, 2020. 3. According to the guidelines, the acute phase of an infection lasts from the time it first manifests itself until four weeks have passed. Instances of "ongoing symptomatic COVID-19" are those in which disease symptoms last for 4 to 12 weeks, and "post-COVID-19 syndrome" is when symptoms that first appeared during or after an infection compatible with COVID-19 last longer than 12 weeks and are unresponsive to treatment. The term "long COVID," which encompasses both post-COVID-19 syndrome and ongoing symptomatic COVID-19, is also used in the guideline to refer to signs and symptoms that persist or worsen after acute COVID-19. In a similar vein, the Spanish Society for General Medicine (SEMG, to give it the Spanish acronym) published data from its survey of individuals with "long COVID," a term the society uses to refer to the collection of symptoms affecting multiple organs in individuals with COVID-19 (with or without a confirmed diagnosis) who continue to experience symptoms after what is thought to be the acute phase of the disease has ended4. 1,834 of the 2,120 patients who took part in the survey had symptoms consistent with long COVID. In the survey, people of all ages were represented. The average age of the respondents was 43 years, and 79% of them were female. A total of 200 varying symptoms were recorded, with 36 symptoms on average per person. An intriguing finding from this survey was the significant impact on quality of life brought on by these persistent symptoms, with significant inability to carry out daily tasks like personal hygiene, employment outside the home, family responsibilities, etc [2].

To date, a "living" systematic review has been developed (the term refers to a system that is continually updated with fresh data as it is produced), and a meta-analysis of COVID-19 symptoms after the acute phase of the disease has also been conducted. Studies up until September 2020 are covered by the ongoing systematic review. 28 studies are analyzed in total, including 2 case series, 16 cohort studies, and 10 cross-sectional studies. 9,442 adults with COVID-19 from 13 different countries were included in the analysis. The average follow-up period was 111 days after hospital discharge, which was the longest. There are numerous systemic, cardiopulmonary, gastrointestinal, neurological, and psychosocial symptoms listed, with dyspnea, altered taste and smell, presence of fatigue, and anxiety ranking among the most prevalent. Both patients who were admitted and those who received outpatient care both described having persistent symptoms. However, the studies that made up this review's evidence had poor quality, high bias risks, and significant disease prevalence heterogeneity [3,4].

Conclusion

Internal Medicine is in a strategic position to take on the challenge of creating and coordinating multidisciplinary units to care for patients with persistent symptoms following SARS-CoV-2 infection because of its comprehensive vision and holistic training of its specialists, which have enabled them to adapt and respond to the wide-ranging challenges and crises that have arisen in recent years20. On the other hand, beyond the physical and psychological or psychiatric sequelae that patients who have recovered from severe COVID-19 may present and that are currently still unknown to us, we cannot forget about the symptomatology of long COVID. The effects that SARS-CoV-2 infection may have on the development of prevalent chronic diseases like ischaemic heart disease, COPD, or diabetes mellitus must also be taken into consideration. In this case, internal medicine's contribution to the post-COVID-19 era is fundamental once more.

References

1. Ritchie, Hannah, et al. "Coronavirus pandemic (COVID-19)." Our world in data (2020).
2. Herridge, Margaret S., et al. "One-year outcomes in survivors of the acute respiratory distress syndrome." New England Journal of Medicine 348.8 (2003): 683-693.
3. Gaebler, Christian, et al. "Evolution of antibody immunity to SARS-CoV-2." Nature 591.7851 (2021): 639-644.
4. Martín-Garrido, I., and F. J. Medrano-Ortega. "Más allá de la infección aguda por SARS-CoV-2: un nuevo desafío para la Medicina Interna." Revista Clínica Española 222.3 (2022): 176-179.

Cite this article: Morgan H. Internal Medicine Faces a New Challenge as SARS-CoV-2 Infection Becomes Chronic. Int. J. Collab. Res. Intern. Med. Public Health. 2023, 15 (2), 1

A Scoping Review of the Literature on Adverse Childhood Experiences, Mental Health and Social Functioning

Atharva Zhainagul*
Editorial Office, Journal of Internal Medicine, Belgium

Corresponding Author*
Atharva Zhainagul
Editorial Office, Journal of Internal Medicine,
Belgium E -mail: AtharZhainag@gmail.com

Received: 09-Feb-2023, Manuscript No. IJCRIMPH-23-93491**; Editor assigned:** 10-Feb-2023, Pre QC No**.** IJCRIMPH-23-93491 (PQ); **Reviewed:** 15-Feb-2023, QC No. IJCRIMPH-23-93491 (Q); **Revised:** 19-Feb-2023, Manuscript No IJCRIMPH-23-93491 (R); **Published:** 25-Feb-2023, doi: 10.35248/ 1840-4529.23.15(2).1-2

Abstract

Negative Childhood Experiences (ACEs) have an adverse effect on a person's physical, mental, and social functioning. To our knowledge, no study has looked at the literature on ACEs, mental health, and social functioning outcomes. Research literature focuses on the effect of ACEs on physical and mental health. to map the ways in which ACEs, mental health, and social functioning outcomes have been defined, evaluated, and studied in the empirical literature and to spot any gaps in the existing body of knowledge that require additional research. Implementation of a five-step framework-based scoping review methodology. The CINAHL, Ovid (Medline, Embase), and Psyc Info databases were all searched. According to the framework, the analysis included both a numerical and a narrative synthesis.

Keywords: Cities • Inequalities Interdisciplinarity • Mental health • Scoping review • Social model Social theory • Youth

Introduction

Adverse Childhood Experiences (ACEs) are traumatic incidents that kids and teenagers under 18 have gone through. A wide range of traumatic events are included under the umbrella term "ACEs," including physical and emotional neglect, physical, sexual, and emotional abuse, exposure to domestic violence, mental health issues, family incarceration, separation, and substance abuse. A child's likelihood of experiencing ACEs can be influenced by a number of individual, family, and societal factors, such as living in unstable housing, having parents who have, and growing up in areas with high levels of social and environmental dysfunction [1-3].

Worldwide, ACEs affect millions of children each year, according to epidemiological research. More than half of the adults surveyed in a World Health Organization (WHO) study of 51,945 adults reported having multiple ACEs, and the study found that ACEs were significantly linked to an increased risk of DSM-IV disorders in all countries.

It has long been known from research that ACEs and poor mental health outcomes are related. People who have experienced ACEs are more likely to struggle with a variety of mental health issues, including depression, bipolar disorder, suicide, and substance abuse. According to research, ACEs and changes in adverse childhood experiences are linked to adjustments in biological systems. Children exposed to maltreatment showed smaller volume of the prefrontal cortex, greater activation of the hypothalamic-pituitary-adrenal (HPA) axis, and elevation in inflammation levels, while adults with a history of maltreatment showed smaller volume of the prefron-tal cortex and hippocampus, greater activation of the HPA axis, and elevation in inflammation levels compared to non-maltreated individuals.

Another important factor in the connection between ACEs and poor mental health outcomes has been found to be social functioning. A meta-analysis of social measures has established two dimensions of social relationships: objective (i.e.,the structure and function of relationships) and subjective (i.e., involvement in relationships, perceived availability, perceived adequacy, feelings/emotions).

Due to a lack of trust, poor emotional regulation skills, and maladaptive coping mechanisms, people who have experienced ACEs are more likely than their peers to have trouble forming healthy relationships. As a result, ACEs are linked to higher levels of loneliness and social isolation in later life (both of which are subjectively perceived gaps between desired and actual social contact). These two social functioning factors have been identified as mediators in the development of adult psychiatric morbidity for people with ACE. As evidenced by research, social isolation and loneliness can make recovering from mental illness more difficult [4].

For those who work in the mental health field, these concepts are especially clinically relevant. To ensure effective mental health care delivery, a trauma-informed approach to clinical care considers the necessity of ACE assessment as well as the significance of the psychosocial aspects of recovery. To that end, future mental health care services will give top priority to developing and implementing trauma-informed care, according to mental health policies (such as the UK NHS Mental Health Implementation Plan 2019/20-2023/24). Reviews that have recently been published have concentrated on examining the relationships between ACEs and health as well as ACE measures and methods in a wider context. For instance, (2017) conducted a thorough analysis of the effects of multiple ACEs on health and discovered links between ACEs and a number of health outcomes, such as mental illness and substance abuse. A correlation between ACEs exposure, functional health, and mental health issues was discovered by Liu et al. in their systematic review and meta-analysis of the lifetime prevalence of ACEs in homeless people published in 2021. In order to ascertain the direction of recent research, (2022) recently conducted a scoping review of the ACEs literature. They discovered that studies had primarily concentrated on the effects of ACEs rather than their causes or ways to prevent them from happening [5-7].

However, none of these reviews specifically addressed ACEs in individuals with mental health issues over the course of their lives or the role that social functioning outcomes, like loneliness and social isolation, play in this population. As a result, there is currently a lack of consensus regarding the types of mental health issues and social functioning outcomes that are most frequently studied in ACEs research, as well as a limited understanding of how ACEs are defined in the mental health literature. The breadth and potential heterogeneity of the ACEs research may make it difficult to conduct a meta-analytic review in this field, even though the literature has not yet undergone a thorough review. Given this, a preliminary scoping review was thought to be the best way to map research on ACEs, social functioning outcomes, and mental health. Both objective and subjective components of social functioning outcomes were measured in studies. Emotional loneliness, harmony among family and friends, and the perception of others' fondness for oneself are just a few examples of the subjective factors that make up loneliness. A variety of objective factors like financial support, neighborhood cohesion, and family resources were also included in the study of social isolation. Four additional studies looked at indicators of social relationships, including annual income and transitions and changes.

Conclusion

This study mapped the evidence in relation to the definitions and operationalization of ACEs and the outcomes of current research on mental health and social functioning. It called attention to the scant research on populations with a range of racial and ethnic backgrounds, gender identities, and minority groups. Given that there is evidence linking particular types of mental health disorders to particular types of childhood adversities, the focus must now shift to looking at ACEs clusters and attributing relationships at the cluster level. Similar to this, it is necessary to establish the mechanisms of social predictors in mental health in order to compare outcomes. It is crucial to consider the validity, reliability, and creation of accepted metrics for evaluating ACEs and social outcomes. We will then be in a better position to examine the connections between the concepts with greater effectiveness and to pinpoint important mechanisms and pathways that will enable comparisons between studies and guide future research and interventions.

References

1. Aberdein, Charlotte, and Cathy Zimmerman. "Access to mental health and psychosocial services in Cambodia by survivors of trafficking and exploitation: a qualitative study." International journal of mental health systems 9 (2015): 1-13.
2. Adli, Mazda, et al. "Neurourbanism: towards a new discipline." The Lancet Psychiatry 4.3 (2017): 183-185.
3. Alam, Meredian. "Double exposure and fractal city: Cultural disengagement and disembodied belonging due to outdoor thermal changes." J. Reg. City Plann 29 (2018): 67-82.
4. Alderton, Amanda, et al. "Reducing inequities in early childhood mental health: How might the neighborhood built environment help close the gap? A systematic search and critical review." International journal of environmental research and public health 16.9 (2019): 1516.
5. Alemi, Qais, et al. "Impact of postmigration living difficulties on the mental health of Afghan migrants residing in Istanbul." International Journal of Population Research 2016 (2016).
6. Aydin, Berna, et al. "Depression and post-traumatic stress disorder in child victims of sexual abuse: perceived social support as a protection factor." Nordic Journal of Psychiatry 70.6 (2016): 418-423.
7. Beilharz, Jessica Elise, et al. "The impact of childhood trauma on psychosocial functioning and physical health in a non-clinical community sample of young adults." Australian & New Zealand Journal of Psychiatry 54.2 (2020): 185-194.

Cite this article: Zhainagul A. A Scoping Review of the Literature on Adverse Childhood Experiences, Mental Health, and Social Functioning. Int. J. Collab. Res. Intern. Med. Public Health. 2023, 15 (2), 1-2

Youth Mental Health and Urban Precarity: an Interpretive Scoping Review of New Strategies

Cynthia Miller*

Editorial Office, Journal of Internal Medicine, Belgium

Corresponding Author*
Cynthia Miller
Editorial Office, Journal of Internal Medicine,
Belgium E -mail: Cynthia0120@gmail.com

Received: 08-Feb-2023, Manuscript No. IJCRIMPH-23-93490**; Editor assigned:** 09-Feb-2023, Pre QC No**.** IJCRIMPH-23-93490 (PQ); **Reviewed:** 14-Feb-2023, QC No. IJCRIMPH-23-93490 (Q); **Revised:** 18-Feb-2023, Manuscript No IJCRIMPH-23-93490 (R); **Published:** 24-Feb-2023, doi: 10.35248/ 1840-4529.23.15(2).1-2

Abstract

Living conditions play a crucial role in determining opportunities, long-term health, wellbeing, and emotional and affective experiences. In a time when most of the world is rapidly urbanising, there is growing interest in how mental health and urban environments interact, but not enough focus is given to how mental health is situated in space and time. In many urban areas around the world, socio-economic inequality is pervasive, making living conditions extremely precarious for some social groups, including young people. Young people are impacted by uncertain economic futures, and there are still many unmet needs for mental health services. This scoping review's goal is to create an interdisciplinary, global understanding of the urban factors that influence young people's mental health on a variety of fronts. In order to create an interpretive framework based on viewpoints shared by young people, we aim to broaden the focus of urban mental health research beyond the physical characteristics of urban environments. We provide examples of how social theory ideas can be applied as a framework for integrating both the lived experiences of young people and the larger cultural and political dynamics of urban mental health.

Keywords: Cities • Inequalities Interdisciplinarity • Mental health • Scoping review • Social model Social theory • Youth

Introduction

According to reports, the main factor contributing to youth disability around the world is poor mental health. The mental health of adolescents and young people has reportedly been neglected in terms of unmet health needs, despite the fact that serious mental health problems are frequently diagnosed before the age of 19 in the Global North. Young people are particularly affected by social injustices because they are establishing and molding their unique life paths. In light of this, people are becoming more and more interested in how living in cities affects mental health. In terms of daily life, health, and wellbeing, cities have long been perceived as riskier than rural areas, despite the fact that these areas are undoubtedly also better served by healthcare and employment opportunities [1-2].

Furthermore, neither within nor between high and low income countries is urban living the same. Toxic exposures refer to the characteristics of urban environments that have been linked to poor mental health. More generally, it is believed that urbanization, migration, conflict, and changes in technology, employment, and education around the world have a significant impact on how people live and develop. Therefore, there is a need to integrate the two issues of youth and urban mental health to advance knowledge of how young people experience these global shifts, urban processes, and conditions.

The relationship between urban mental health and young people is the main focus of this scoping review from 2020, with particular attention paid to socioeconomic disparities and societal conditions of "precarity" that existed prior to the global COVID-19 pandemic. The effects of national quarantines, school closings, COVID restrictions, health anxieties, and social isolation on adolescent mental health have been well-documented since this time, and there has been an increase in interest in urban mental health research. Although it has been widely argued that the pandemic has significantly changed how people view their interactions with urban life, the long-term effects on the "post-COVID city" are still unknown. In order to better understand what the future holds for people's mental health in the context of a rapidly growing global population living in cities, we analyze neuroscientific, epidemiological, and psychiatric research that has begun to engage with the disciplines of urban planning, urban sociology, geography, architecture, and urban design.

Literature Review

In this review, we define "urban" and "urbanicity" somewhat differently from how they are defined in current psychiatric and neuroscientific literature, and we use the term "neuropolis" as shorthand for understanding the urban as a place of political expression as well as a place of embodied and biological experience. Which are conceptual strategies intended to foster interdisciplinary cooperation. While acknowledging that the experience of people living in cities can also be understood through a neurobiological disciplinary lens, i.e. that there are "real" biological differences between urban and rural dwellers, but that the boundaries between these two categories remain ill-defined, we use the concept of "neuropolis" as an umbrella term to acknowledge the collective and intertwined social, economic, and political dimensions of mental health. Anthropologists and geographers have highlighted the experiential practices of "niching," urban mobility, atmospheres of recovery, and assemblages of health. could have provided a different point of entry [3]. This requires moving "beyond social determinants" of urban mental health in order to better capture agency, experience, and the particular politics of urban settings, specifically the "moulding and marring of mental life in conditions of precarity and adversity, and the socio-political strategies necessary to build the capabilities that can enable human beings individually and collectively to thrive in the face of adversity."

In order to incorporate a more comprehensive understanding of both the factors that shape urban spatial qualities and the social experiences of urban living, we therefore broaden current conceptualizations of urban stressors in the built environment. We conceptualize the "urban" in this essay as heterogeneous and dynamic, and we conceptualize "urbanicity" as a dynamic process involving the interaction of various social, economic, environmental, and political factors acting at various levels of the urban to shape mental health. Instead of viewing urban residents as static, our definition aims to capture the dynamic nature of urban environments. In our opinion, the city both produces and creates social relations.

There is still much theoretical work to be done in order to formulate precise hypotheses about the mechanistic connections between urban precarity and poor mental health, but there are several promising directions for future research. First, more comprehensive theories of the connection between "place" and mental health are required. Additionally, a thorough understanding of the formation of the "self," youth transitions, and interaction with young people's perceptions of "urban futures" and their own future opportunities in particular contexts must be developed. As the review has shown, unobservable social and political forces, the structures of urban governance, and neurobiological and environmental processes can all have an impact on how social environments are organized, how mental health is experienced in particular neighborhoods, and how people's lives are

perceived to be of high quality. In this case, the built environment is viewed as a potential resource, wherein unequal access to these resources can worsen disparities in mental health. Studies from a wider variety of international contexts are still lacking, and authors have argued that particular contexts like low- and middle-income countries and regions of political conflict deserve more focus. Future research should address the challenge of explaining multiple, interrelated risk factors at various geographic scales. Many have argued that longitudinal and multi-level studies can help with this task [4,5].

Conclusion

In reviewing the interdisciplinary research on urban precarity and young people's mental health, this paper found a rich field and noted some potential weaknesses and significant gaps. There is a growing body of social scientific research that examines the dynamic interactions of spatial, temporal, and embodied factors linking precarious urban living conditions and young people's emotional experiences, as well as a resurgence of interest in urban mental health in the medical, psychological, and psychiatric literature. We have investigated some of these literatures' presumptions, such as how the term "urban" is defined, the tendency to emphasize the urban environment in terms of exposure and risk, and the predominance of proximate rather than distal processes at work. However, it must also be acknowledged that there is a clear lack of concepts, programs, and initiatives to enhance young people's mental health in urban areas. When it comes to urban planning, parenting programs, social and emotional learning, self-esteem building, or preventing homelessness, experts frequently make very specific recommendations at the local level or very general recommendations at the global level. These proposals don't pay enough attention to the intricate power dynamics, the contexts of ongoing discrimination, intersectional identities, or the specifics of how interventions can be made to function at the meso-level and in a variety of geographically and historically diverse contexts. Thus, the notions of neuropolis and ontological insecurity could serve as the foundation for new, interdisciplinary research that can aid in the creation of programs that improve young people's sense of control, comfort, and ability to handle conflict as well as assist them in navigating the choices presented by urban living. Additionally, the ideas highlight the political nature of urban mental health, the significance of a politics of recognition, and our ecological relationships with others. Future interdisciplinary research that centres these issues may create new avenues for inquiry into urban living strategies.

References

1. Aberdein, Charlotte, and Cathy Zimmerman. "Access to mental health and psychosocial services in Cambodia by survivors of trafficking and exploitation: a qualitative study." International journal of mental health systems 9 (2015): 1-13.

2. Adli, Mazda, et al. "Neurourbanism: towards a new discipline." The Lancet Psychiatry 4.3 (2017): 183-185.

3. Alam, Meredian. "Double exposure and fractal city: Cultural disengagement and disembodied belonging due to outdoor thermal changes." J. Reg. City Plann 29 (2018): 67-82.

4. Alderton, Amanda, et al. "Reducing inequities in early childhood mental health: How might the neighborhood built environment help close the gap? A systematic search and critical review." International journal of environmental research and public health 16.9 (2019): 1516.

5. Alemi, Qais, et al. "Impact of postmigration living difficulties on the mental health of Afghan migrants residing in Istanbul." International Journal of Population Research 2016 (2016).

Cite this article: Miller C. Youth Mental Health and Urban Precarity: An Interpretive Scoping Review of New Strategies. Int. J. Collab. Res. Intern. Med. Public Health. 2023, 15 (2), 1-2

Managing Bleeding in Patients Receiving Palliative Care in the General Internal Medicine Ward: A Systematic Review

Atharva Zhainagul*

Editorial Office, Journal of Internal Medicine, Belgium

Corresponding Author*

Atharva Zhainagul
Editorial Office, Journal of Internal Medicine, Belgium
E -mail: AtharZhainag@gmail.com

Received: 06-Feb-2023, Manuscript No. IJCRIMPH-23-93487**; Editor assigned:** 07-Feb-2023, Pre QC No**.** IJCRIMPH-23-93487(PQ); **Reviewed:** 12-Feb-2023, QC No. IJCRIMPH-23-93487(Q); **Revised:** 16-Feb-2023, Manuscript No IJCRIMPH-23-93487(R); **Published:** 22-Feb-2023, doi: 10.35248/ 1840-4529.23.15(2).1-2

Abstract

In general internal medicine wards, palliative care patients—those with at least one chronic, lifelong medical condition—and hospice patients—those with less than six months to live—are frequently admitted. This review aims to provide the internist with a strategy for dealing with bleeding in this population by using a clinical case. First, some helpful guidance on platelet transfusions will be given. Second, the treatment of bleeding in site-specific circumstances (including cutaneous ulcers, gastrointestinal-urogenital tract bleeding, and ENT/pulmonary bleeding) will be covered. Finally, a management algorithm for catastrophic bleeding is suggested. In conjunction with regional recommendations, electronic databases such as EMBASE, Pubmed, Google Scholar, and the Cochrane Library were studied as primary resources to find papers examining platelet transfusions and alternative management of site-specific bleeding in palliative care patients. Palliative care patients in the internal medicine ward frequently experience hemorrhagic complications. Current recommendations call for only therapeutic platelet transfusions. Prophylactic and/or therapeutic transfusion, however, must still be decided by a doctor. On the advice of experts and case studies, site-specific therapeutic options are developed. Even though invasive procedures might be necessary in some circumstances, their use must be consistent with the objectives of the patient. The presence of comforting careers is essential during catastrophic bleeding; drug management comes second.

Keywords: Bleeding • Internal medicine • Patients • Palliative care

Literature Review

A male patient, 49 years old, who is complaining of a decline in his general health, is admitted to the internal medicine ward. He received six cycles of chemotherapy and radiation after receiving his oesophageal cancer diagnosis six months earlier. Personal history reveals significant weight loss since the initial diagnosis and increasing dysphagia with broncho-aspiration episodes over the previous 3 days. He reports melaena over the previous week (no hematemesis). The laboratory work-up reveals bicytopenia with hemoglobin at 90 g/l (norms 140 g/l-180 g/l), platelets 25 G/l (norms 150-400 × 109/L), an inflammatory syndrome CRP 235 mg/dL (norms < 10 mg/dL), white blood cell count at 15.5 G/l (norms 4.0 G/l -10.0 G/l) and renal failure AKIN 1 (Creatinine 130 µmol/l, norms 50 µmol/L -110 µmol/L). You are the on-call resident physician for the weekend. Informing you of recurrent episodes of melaena, the nurse calls you [1-4]. When examined, the patient reports orthostatic symptoms (such as dizziness and blurred vision upon rising from a sitting position), but not nausea or abdominal pain. Due to the high prevalence of admitted patients who meet the requirements for palliative care, general medicine wards are crucial in the implementation of the practice. In general, internal medicine wards, palliative care patients—those with at least one chronic, lifelong medical condition—and hospice care patients—those with less than six months to live—are frequently admitted.

First, some helpful guidance on platelet transfusions will be given. Second, the management of bleeding in site-specific circumstances, such as from the gastrointestinal-urogenital tract, ENT/pulmonary and malignant ulcers, will be covered. Finally, a management algorithm for catastrophic bleeding is suggested.

Every dose recommendation has been modified for use in a general internal medicine ward; many of these recommendations are off-label. The majority of the recommendations below are based on professional judgement. The application to specific clinical settings depends on the resources that are available, the costs involved, and individual preferences. In order to plan access to therapeutic and palliative measures, management must align with overall care goals, which necessitates prior discussion [5-6].

In conjunction with regional recommendations, electronic databases such as EMBASE, Pubmed, Google Scholar, and the Cochrane Library were used as the main sources to find papers examining platelet transfusions and alternative management of site-specific bleeding. Selected articles' references were manually searched to find relevant additional papers. The relevant tables provide specific information on the inclusion criteria for site-specific guidelines. Palliative care, end-of-life, chronic progressive disease, incurable, platelet transfusion, hemorrhage, massive blood loss, major bleeding, and catastrophic bleeding were all searched for in the aforementioned resources. Publications in English, French, and German were given consideration.

Studies that did not meet the inclusion criteria were excluded from the data selection process, which was carried out by RS and data extraction in duplicate by RS and AE. Bias risk was investigated at the level of the results. PRISMA and AMSTAR 2 criteria were followed in reporting the research (refer to supplementary material).

A Cochrane systematic review that was updated in 2015 found no difference between a prophylactic platelet transfusion policy and a therapeutic-only policy in terms of all-cause 30-day mortality or adverse events. Due to inadequate recruitment, the OPTIMAL pilot study, which sought to examine the frequency of bleeding events in patients receiving therapeutic or preventative transfusions in this population, was abandoned. This highlights the difficulties associated with conducting such studies.

The prevalence of bleeding in head and neck cancers is explained by anatomical factors; it has been reported that 74% of this population experienced bleeding in the month before death. When deciding on management, the accessibility of the actively bleeding lesion is crucial. Patients with visible, actively bleeding lesions qualify for local treatment.

Sticks of silver nitrate can be used in the nasopharynx. For anterior epistaxis, tranexamic acid-soaked gauze inserted into the nostril for 10 minutes is a viable treatment option, whereas sympathomimetic vasoconstrictors work best for posterior epistaxis. For bleeding caused by vascular erosion, endovascular techniques can be used; embolization has proven to be highly effective but not without risks. Another good option is radiotherapy, but many patients have already received the maximum doses, precluding further radiation. According to existing descriptive studies, surgical management may be taken into consideration if conservative measures fail in a particular population. There were no studies on the use of palliative chemotherapy for controlling bleeding [7,8].

Conclusion

Patients receiving palliative care frequently experience the complication of site-specific bleeding. Even though invasive measures may be necessary in some circumstances, their adoption necessitates access to specific resources and must be in line with the patient's care objectives. Both non-pharmacological interventions and local pharmacology, as necessary, must be a part of primary management. Intervention at the system level usually comes later. The objectives of care must be defined and patients at risk of catastrophic bleeding must be identified. It is necessary to make an effort to foresee possible outcomes, such as disastrous circumstances. The presence of the healthcare professional is essential to management. Pharmacological management comes second; Midazolam is the drug of choice to achieve sedation when crisis medication is necessary and does not interfere with the latter. Further research is required to improve management in at-risk patients due to the growing prevalence of palliative care patients with specific needs. Such studies might take into account examining, for instance, the effect of bleeding control on patient quality of life.

References

1. Clemans, L., T. Cooksley, and M. Holland. "Palliative and end of life care on the Acute Medical Unit." Acute Med 13.1 (2014): 12-5.

2. Pennell, Simon, and Andrew Jenks. "Palliative care on the acute medical unit." Medicine 49.2 (2021): 71-74.

3. Torres, María Elena Uceda, et al. "Transfusion in palliative cancer patients: a review of the literature." Journal of Palliative Medicine 17.1 (2014): 88-104.

4. Estcourt, Lise, et al. "Guidelines for the use of platelet transfusions." British journal of haematology 176.3 (2016).

5. Stanworth, Simon J., et al. "A no-prophylaxis platelet-transfusion strategy for hematologic cancers." New England Journal of Medicine 368.19 (2013): 1771-1780.

6. Estcourt, Lise J., S. J. Stanworth, and M. F. Murphy. "Platelet transfusions for patients with haematological malignancies: who needs them?." British journal of haematology 154.4 (2011): 425-440.

7. Aldridge Carlson, Melissa D., et al. "Hospices' enrollment policies may contribute to underuse of hospice care in the United States." Health Affairs 31.12 (2012): 2690-2698.

8. Prommer, Eric. "Management of bleeding in the terminally ill patient." Hematology 10.3 (2005): 167-175.

Cite this article: Zhainagul A. Managing Bleeding in Patients Receiving Palliative Care in the General Internal Medicine Ward: a Systematic Review. Int. J. Collab. Res. Intern. Med. Public Health. 2023, 15 (2), 1-2

Astronomy and Medicine: Synthesis of Amrita, the Vaccine of Immortality

Muhammad Fazlul Islam*

Jalalabad Ragib-Rabeya Medical College Hospital, Sylhet-3100, Bangladesh

Corresponding Author*

Muhammad Fazlul Islam
Jalalabad Ragib-Rabeya Medical College Hospital,
Sylhet-3100, Bangladesh
E-mail:mfazlulislam@gmail.com

Received: 12-Feb-2023, Manuscript No. IJCRIMPH-23-89269; **Editor assigned:** 15-Feb-2023, Pre QC No. IJCRIMPH-23-89269 (PQ); **Reviewed:** 22-Feb-2023, QC No. IJCRIMPH-23-89269 (Q); **Revised:** 25-Feb-2023, Manuscript No IJCRIMPH-23-89269 (R); P**ublished:** 28-Feb-2023, **DOI:** 10.35248/1840-4529.23.15(2).1-11

Abstract

The World Health Organization (WHO) defines health as a state of complete physical, mental, social, and spiritual well-being. The WHO definition of health predicts a universal vaccine that can eradicate not only infectious diseases, but all kinds of physical, mental, social, and spiritual diseases. Such a universal vaccine is described in Indian religions. The universal vaccine that can prevent and cure all physical, mental, social, and spiritual disorders and ensure eternal heaven in the world hereafter is called amrita, the vaccine of immortality, in the Indian Holy Scriptures. In ancient India, deities and demons worked together for a millennium to churn the Milky Way galaxy and synthesize the amrita. Bioengineering is the application of the principles of natural sciences and engineering to biology, medicine, and health sciences to develop knowledge, interventions, or technologies that can improve the health of society. This study developed a universal vaccine applying modern astronomical discoveries to medical science with an effect similar to that of amrita described in the Indian Holy Scriptures. This study also identified a new virus, known as the supernatural virus, which is the ultimate cause of all physical, mental, social, and spiritual disorders. Amrita is a recombinant fourth-generation vaccine made up of materials from astronomy and medicine, which will eradicate the supernatural virus and change our sick world into a pious, happier, healthier, and prosperous world like a terrestrial paradise.

Keywords: Space exploration • Extra-terrestrial object identification • Bioengineering • Biomedical research • Translational medicine • The vaccine of immortality

Introduction

In Vedic literature, the deities are benevolent supernatural beings, Indra is their leader. The asuras or demons are supernatural demigods. They are divided into two groups: good and evil. The good asuras are known as adityas, Varuna is their leader. Evil asuras are known as danavas, Vritra is their leader. The demons battle constantly with the deities. Amrita is a drink of the deities, which ensures them immortality, a higher level of knowledge and power [1]. However, they lost this credit due to the curse of the sage Durvasa. In the battles that followed the incident, the deities were defeated and the demons took over the world. The deities sought Lord Vishnu's help, who advised them to churn the cosmic ocean of milk (the Milky Way galaxy) and collect the amrita. According to Indian myth, the deities and demons worked together for a millennium to churn the cosmic ocean of milk (the Milky Way galaxy) and collect the amrita [2, 3].

Mankind has been thinking about the starry night sky since ancient times. The cave dwellers also had many questions about the sky. Of course, the horizon was the limit of their sky [4, 5]. Their question was what is on the other side of the horizon and sky? The Holy Scriptures described the existence of heaven and hell in the extraterrestrial world, which is located on the other side of the horizon and sky [6-8]. In ancient times, religious cosmologies explained the universe based on religious scriptures [9]. According to religious cosmologies, the universe consists of heaven, hell, and earth. Heaven is located in the upper universe near-by the holy throne of God and hell is in the lower universe closer to the earth [10]. In a spherical earth and a spherical universe, the earth is surrounded by hell, and hell is surrounded by heaven [11-13].

Scientific cosmology is the study of the universe with the help of physics and astronomy. Astronomers have been studying the universe since ancient times [14, 15]. In the last century, scientists have achieved great success in space research [16]. By the early 1920s, most astronomers believed that all the stars in the universe were located in the Milky Way galaxy [17]. Edwin Hubble, in 1924, showed that there are many galaxies in the universe beyond the Milky Way galaxy. Since the 1990s, astronomers have improved observation of the deep sky and shown that there are about 200 billion galaxies in the observable universe [18,19]. Milky Way is a typical galaxy in the universe, which contains over 100 billion stars [20]. Stars are giant fiery furnaces of heat and light. Their characteristics can be compared with each other [21-23].

The Sun is a medium-sized star in the Milky Way galaxy. Although the sun is the source of our life, it does not seem that it is shining in the sky for our earthly needs. A very small portion of the heat and light of the sun reaches the earth, and most of the energy radiates to outer space. How is such a huge waste of energy possible for such meagre resources? What is the need for the huge number of stars that are shining in the galaxies like our Sun? These giant fireballs are located in the vast areas of the universe beyond the Earth's atmosphere, where the location of hell is described in the Holy Scriptures. So these huge fires in the sky seem to us to be the fires of hell described in the Holy Scriptures. The Holy Scriptures describe two types of hells in the universe: hot hells and cold hells [24]. The temperature inside a solar mass star is 15 million degrees Celsius. Black holes are so cold that the temperature inside a solar mass black hole is almost absolute zero, -273°C [25]. Scientists have found evidence that supermassive black holes exist at the center of most of the galaxies of the universe.

Comparative study analyzes the similarities and differences between the two groups to understand both groups and generalize the findings. The aim of this study was to provide a critical evaluation of the data available from current astronomical and religious knowledge about the universe and synthesize the amrita. The comparative analysis found that all the stars in the visible galaxies, including the supermassive black holes at the centers of the galaxies, are religious hells. The location and characteristics of hells are identical to the location and characteristics of the huge number of stars and black holes discovered by astronomers. Prophets were not astronomers, so they could not tell the existence of hells in the lower universe and heavens in the upper universe, without receiving a message from Extraterrestrial Intelligence. The Holy Scriptures, which predicted the existence of both hells and heavens in the universe, were revealed to the prophets from Extraterrestrial Intelligence. Therefore, the existence of hells in the lower universe confirms the existence of heavens in the inaccessible upper universe.

In this article, I have reviewed various religious cosmologies and discussed astronomical discoveries which are the foundation of modern scientific cosmology. I proceed then to compare religious cosmologies with modern scientific cosmology. Comparative analysis has shown that all religious cosmologies are identical stories in different cultures and all celestial bodies beyond the Earth's atmosphere are galaxies of hells and heavens described in the Holy Scriptures in ancient times. Finally, integrating this astronomical discovery with medical science, I have synthesized the vaccine of immortality, known as amrita in the Indian Holy Scriptures, which will significantly improve global healthcare and ensure eternal paradise for all in the world hereafter.

Literature Review

Religious data

Religious cosmology explains the universe based on the religious scriptures [26]. Religious cosmology divides the universe into the two worlds, this world and the world hereafter. This world is located on the Earth, a very small part of the universe, separated by an atmosphere from the rest of the universe. Earth is the test world, also known as the temporary world, while the rest of the universe is the world hereafter, where eternal heaven and hell are located. Heaven is also called Paradise.

Sometimes, the highest Heaven is called Paradise. Heaven is a world of everlasting happiness for the recompense of the righteous actions on earth, and hell is a world of everlasting punishment for the recompense of the unrighteous actions on earth (Table 1).

Hinduism is one of the most ancient religions probably dating back to prehistoric times. In Hindu cosmology, the Universe, which is made up of Heaven, Hell and Earth, was created by God from a cosmic egg (RV 10.121) [27]. Although the concept of Hell does not exist in early Hindu scriptures such as the Vedas, later Hindu literature, the Puranas, mentions a realm similar to Hell. According to Puranas, there are fourteen extraterrestrial worlds seven upper worlds or heavens, where blissful souls reside after death, and seven lower worlds or hells, where unfortunate souls reside after death [28].

Buddhism was founded by Gautama Buddha in India in the 6th century BC. Classical Buddhism recognizes seven fiery hells. They are situated at the bottom of the world, apparently in descending order, corresponding to the ascending heavens [7]. Each hell is surrounded on two sides by four torture chambers. These include a fiery pit and quinine. There is also a stygian river known as Vaitarani which will have to pass to reach eternal paradise. Buddhist scriptures also describe the existence of eight cold hells and certain short-lived borderline hells for those guilty of lesser sins.

Jainism is a contemporary religion of Buddhism in India. Jainism divides the universe into 3 parts: upper universe, middle universe and lower universe. Upper universe is the world of heavens, middle universe is earth, and lower universe is the world of hells [29].

Zoroastrianism was founded by the Iranian prophet Zoroaster in the 6th century BC. Avesta is the sacred book of Zoroastrianism that contains its cosmology, which stated that the earth is connected with heaven by a bridge known as the Chinvat Bridge [30]. Every person must cross this bridge to enter heaven. If evil deeds prevail, the souls fall down the bridge into hell. The Zoroastrian scriptures describe hell as a place of punishment with blazing fire and bitter cold (Ardā Wirāz nāmag 18:3–4).

Abrahamic religions are the three Middle Eastern religions which originate from Prophet Abraham. The three major Abrahamic religions are Judaism, Christianity and Islam. Abrahamic religions emphasize an afterlife where the soul goes either to heaven or hell. According to early Jewish scriptures, many Jews believe that people after death enter a dark place called Sheol. In later Jewish scriptures, Garden of Eden is the heaven for the reward of the righteous people and Gehenna is the hell for the punishment of the unrighteous people [31]. Jewish Talmud describes two types of Garden of Eden. The first is terrestrial, of abundant fertility and luxuriant vegetation. The second is extraterrestrial; the eternal abode of happiness for the righteous people [32].

Most Christians believe that heaven and hell are two physical worlds. On the Day of Judgment, Jesus will descend from heaven to earth. He will sit on the glorious throne. Heavenly angels will surround him. The dead will rise from the graves to face judgment. All the nations will be gathered before him. Righteous will be sent to the eternal happiness of heaven and the sinners to the eternal fire of hell (Matthew 25:31-46). A cold hell is also described in early Christian literature [33]. In the Inferno, Dante describes a frozen lake in the innermost circle of hell [34]. At the very center of it is the Devil. He is a three-headed beast frozen up to his waist in ice. Each of his mouths chews up another person. In one he has Judas Iscariot who had betrayed Jesus Christ.

Table 1. Religious cosmology: Basic facts.

Topics	Religious Cosmology
Source	Religious scriptures
Origin of the universe	God-Created
Structure of the universe	This world and world hereafter
This World	Earth
World Hereafter	Heaven and Hell
Location of heaven	Upper Universe
Location of Hell	Lower Universe
Constituent of heaven	Biological World
Constituent of hell	Burning fire/freezing cold
Fate of the universe	Known
Aim of creation	Known

There are many descriptions of eternal heaven and hell in the Quran and Islamic traditions [6, 7]. Heaven is described as a Garden of Eden where various physical and biological materials exist for eternal pleasure. Hell is described as an eternal dwelling of torment made of blazing fire. A cold hell is also described in the Quran and Hadith called Zamhareer [24]. Hell is also a purgatory where sinful believers will be cleansed of their sins and admitted to heaven [35]. On the Day of Judgment, the earth will be surrounded by hell. A very long bridge will be built over hell extending from earth to heaven. Every person will have to pass this bridge over hell to enter heaven (Quran, 19:68-72; Bukhari, 7437). This scenario of the universe on the Day of Judgment confirms that hell is located in the lower universe adjacent to earth and heaven is in the upper universe much further away from earth. (Figures 1and 2).

The twentieth century has indeed seen development in all areas of science. After the invention of airplanes, rockets were the second most amazing invention. The invention of the rocket was the first step in space exploration. The big leap in spaceflight was the Apollo 11 Lunar Module on the surface of the Moon. Apollo 11 was launched on July 16, 1969. However, the Quran and Islamic traditions mention the possibility of spaceflight as early as the 7th century. Isra and Miraj are two parts of the night journey into outer space (Quran, 17:1; Bukhari, 349, 3342), which Prophet Muhammad (pbuh) made in one night around the year 621. Prophet Muhammad (pbuh) travels on Buraq to the Masjid al-Aqsa in Jerusalem, where he leads other prophets in prayer. Then he ascends to outer space where he meets with distinguished prophets, visits hell and heaven and converses with God. Prophet Muhammad (pbuh) visited the whole universe in a few minutes of Earth, which can be explained by the time contraction.

Figure 1. Stairway to eternal heaven: every person will have to pass a bridge over hell to enter eternal heaven.

Figure 2. In ancient religions, a long bridge set over hell or river vaitarani can be compared to a celestial pathway leading to eternal heaven.

Astronomical data

Our home Earth is the fifth largest planet in the solar system. We know so far Earth is the only place in the universe where life exists. Scientists believe that the earth and moon formed with the rest of the solar system about 4.5 billion years ago. Earth's diameter is about 8000 miles [36]. The sky is a large dome-shaped canopy above the earth. This is also called celestial sphere. In a clear night sky, the celestial sphere is seen decorated with constellations. A constellation is a group of stars that have a particular shape. The International Astronomical Union (IAU) divides the celestial sphere into 88 constellations. Horizon is the line at which the Earth's surface and the sky or celestial sphere appear to meet [37]. As the earth rotates, the Sun, Moon, stars, and constellations rise and set on the horizon. Atmosphere is the layer of gases that surrounds the Earth. The universe beyond the Earth's atmosphere is called outer space, which was unknown to people in ancient times. The Kármán line is the boundary between the earth and outer space, located 62 miles above the earth's surface. All the stars, galaxies, clusters of galaxies, and superclusters are located in outer space [38].

In ancient times, the earth was at the center of the universe and all celestial bodies moved around the earth. Aristotle believed that the earth is fixed at the center of the universe and that the starry sky is the outer limit of the universe, nothing exists outside the sky. In 1543, Copernicus established the heliocentric model of the universe. He said that not the earth but the sun is the center of the universe. All other celestial bodies revolve around the Sun [39]. In 1919, Harlow Shapley showed that the Sun is not located at the center of the universe, but as a member of the Milky Way galaxy it is located 50,000 light-years away from the galactic center. Now, this distance is determined by astronomers at about 26,000 light years. Until 1920, astronomers considered the Milky Way to be the only galaxy in the universe. In 1924, Edwin Hubble showed that the Andromeda is located outside the Milky Way galaxy, and Milky Way is one of many galaxies in the universe. Since the 1990s, the Hubble Space Telescope has made better observations of the galaxies and found about 200 billion galaxies [19] in the universe. The James Webb Space Telescope is the most powerful telescope ever sent to the space. It can see fainter galaxies that are further away. In 2016, a study showed that the total number of galaxies in the observable universe is about 2 trillion, which is 10 times higher than the previous number [40]. Galaxies are clumped together in clusters, which clump further to form superclusters [41-43]. There are about 10 million superclusters in the observable universe. Scientists believe galaxies discovered so far are not more than ten percent of the total galaxies in the universe (Table 2).

Galaxies are systems of huge numbers of stars with interstellar gas and dust. A small galaxy contains about 100,000 stars and a giant galaxy contains 3000 billion stars. As a medium-sized galaxy, the Milky Way contains 200 billion-400 billion stars. The study of stars and their evolution is fundamental to our understanding of the universe. Stars are formed within massive clouds of interstellar gas and dust, which are known as nebulae [44]. In dense nebulae, most of the hydrogen is in molecular form, so these nebulae are called molecular clouds. Due to gravitational collapse, the molecular clouds begin to congregate and form gas masses, and this continues until the center starts nuclear fusion reaction. Protostar is the early stage of star formation. It looks like a star but is not so hot that can fuse hydrogen into helium. When a protostar fuses hydrogen into helium, it is called a main sequence star [45]. Most of the stars in the universe are main sequence stars. The star remains a main sequence for about 90 percent of its life. The Sun is a main sequence star that will remain in this phase for about 10 billion years.

Table 2. Scientific cosmology: basic facts.

Topics	Scientific Cosmology
Source	Physics and Astronomy
Origin of the Universe	Big Bang Theory
Structure of the Universe	200 Billion Galaxies
Constituent of Galaxies	Stars and Black Holes
Constituent of Stars	Burning Fire
Constituent of Black Holes	Freezing Cold
Location of Galaxies	Lower Universe
Upper Universe	Unknown
Fate of the Universe	Uncertain
Aim of Creation	Uncertain

There are two processes constantly going on in main sequence stars - thermonuclear fusion and gravitation [46]. When gravitation wins over fusion, the star becomes unstable and begins to collapse. When all hydrogen in the core is converted into helium, the nuclear reactions temporarily cease and the core begins to contract. This increases the internal temperature of the star and a shell of hydrogen forms around the dense core. As the helium core continues to contract and heat up, the rate of nuclear reactions in the hydrogen shell increases. This causes the outer part of the star to expand and cool, increasing in brightness and becoming a red giant star. When all helium in the core is converted into carbon, the inert carbon core begins to contract and the temperature rises. The ultimate fate of a star depends on its mass. Stars below 8 solar masses do not evolve further, as their core temperature will never be high enough to initiate carbon burning to form heavier elements [47]. The star becomes unstable and the star collapses inward due to gravity and becomes extremely dense and compact. The star then becomes a white dwarf and the outer layers become a planetary nebula. Stars larger than 8 solar masses become red supergiants [48]. A red supergiant can continuously fuse heavier elements for millions of years until its core is filled with iron. The iron core cannot produce enough energy to support the stellar mass, which breaks down the equilibrium between nuclear fusion and gravitation. As a result, the stellar core collapses and the outer layers explode as a huge supernova. When the collapsing stellar core at the center of a supernova is smaller than three solar masses, the collapse continues until electrons and protons combine to form neutrons. At this stage, neutron pressure can stop the core from collapsing and the star becomes a neutron star [49]. These neutron stars rotate rapidly with intense magnetic fields and form pulsars. If the collapsing stellar core is larger than three solar masses, the neutron pressure is not strong enough to withstand gravity and it will collapse into a black hole [50, 51]. Black holes are extremely dense objects where all the mass of the star is concentrated in a single point. Their gravitational force is so strong that even light cannot escape.

Black holes can grow in size, absorbing the surrounding matter and merging with other black holes. Supermassive black holes can have millions to billions of solar masses. Scientists found evidence that large galaxies have supermassive black holes at their centers [52, 53]. Stellar black holes can have 10 solar masses to 100 solar masses. Smaller black holes also exist in galaxies with the mass of a mountain. The temperature of black holes is much lower than the background temperature, so they emit absolutely no radiation [54]. Supermassive black holes can shine with the energy of billions of stars when they become quasars, consuming hot gas and dust from surrounding regions (55]. Quasars are the most curious objects in the universe. The current theory is that quasars are active galactic centers powered by supermassive black holes of billions of solar masses. The temperature of a quasar can exceed 10 trillion degrees Celsius [56].

Scientific cosmology is the study of the origin, evolution, and ultimate fate of the universe. Scientific cosmology is founded on the results of the study of astronomy. Scientific cosmology is considered to have begun in 1917 with the publication of Albert Einstein's general theory of relativity and his static model of the spherical universe [57,58]. Later modeling of the universe explored the possibility of an expanding universe. Thus, the Big Bang theory was proposed by a Belgian physicist Georges Lemaitre in 1927, which was corroborated by Edwin Hubble's discovery of the red shift in 1929, and then by the discovery of the Cosmic Microwave Background Radiation in 1964 [16, 59]. In modern cosmology, the Big Bang is the principal theory that explains the origin of the universe. However, much of what we know about the earliest times of the universe is still a matter of extensive speculation [60-62].

About 13.8 billion years ago, the universe began with a massive explosion of an extremely dense primordial atom. All matter and energy was contained in this highly dense atom at a temperature of 10^{32}°K. Immediately after the explosion of primordial atom, the universe was extremely hot due to the rushing of particles of matter and antimatter. When it began to cool, about 10^{-43} sec after the explosion, there were roughly equal but disproportionate amounts of matter and antimatter. They collide together and destroy each other to produce pure energy. The particles of matter dominated the particles of antimatter. As the universe continued to expand and hence cool, ordinary particles such as quarks, neutrinos, photons, and electrons began to form. These particles are collectively known as baryons. Due to the intense heat during the period of baryonic genesis, heavy particles such as protons and neutrons, called hadrons, were not

detectable. After one second the universe expanded and cooled down to about 10^{10} °K, at this period heavy particles began to appear. Although lighter particles such as neutrinos, photons, and electrons, called leptons, were also existed, they could not react with hadrons at these temperatures. However, leptons soon combine with hadrons in an alliance to form today's ordinary matter. After about 100 seconds, the temperature dropped to about 10^9 degrees Kelvin. At this temperature a proton and a neutron combined to form an isotope of hydrogen, called deuterium. Then two protons and a neutron combined to form an isotope of helium, and then another neutron joined to form the nucleus of helium. This process continued for about 1000 seconds and then discontinued when temperature dropped to 10^8 degrees Kelvin that was not hot enough for nuclear fusion reactions to continue. For the next million years the universe expanded and cooled down until temperature dropped to 3000°K when protons captured electrons in the orbitals to form hydrogen atoms. After about 1 billion years of the massive explosion of primordial singularity, which we called the Big Bang, everything was made of gas and dust, mostly of hydrogen and helium molecules. These gaseous matters progressively concentrated by gravitational forces to make stars, galaxies, clusters of galaxies, and superclusters.

How the universe began and what was the force behind the Big Bang is still a mystery. However, the universe is a collection of active elements and all are in the process of change. Change requires an external force. Newtonian mechanics states, "Everybody remains in a state of rest or uniform motion unless it is acted upon by an external force." The ultimate fate of the universe is still unknown. Most observations suggest that the universe will continue to expand forever [63, 64]. The prevailing theory is that galaxies will exhaust their energy and the universe will cool down, resulting in a Great Chill.

Comparative study

Comparative research is the comparison of two or more groups to identify similarities and differences between groups and generalize the findings. The comparative study of mythology was very popular among scholars in the 18th and 19th centuries. Many scholars believed that all myths originated from a single thought, which over time became distorted into seemingly different stories [65, 66]. Social scientists have shown that religious stories and myths are almost identical in different cultures [67].

In this study, we have found that religious cosmologies are almost identical stories in different cultures (Table 3). They have been developed from a single thought, which over time became distorted, turning into seemingly diverse stories in different religions and cultures. We have found a striking similarity in the cosmological terms used in different religious scriptures indicating that all religious cosmologies originated from a single source through spiritual methods such as meditation, intuition and revelation, and the same cosmology was presented in different forms in different cultures.

Social scientists have several views on the interpretation of the meaning of religious myths in different cultures [68, 69]. The first view sees myth as the primitive counterpart to natural science, which reflects the nineteenth-century approach to myth. The second view does not see myth as the primitive counterpart to natural science but as something like folklore or fairy tale. This view reflects the twentieth-century approach to myth. The twenty-first-century approach to myth is that myths are accepted only if they are compatible with modern science. In this study, religious cosmologies were examined in the light of modern science, which has found that religious heaven and hell are no longer just religious beliefs or myths. They are compatible with modern science.

Discovery of Hell and Paradise in the Universe

According to religious cosmologies, the universe consists of hell, heaven, and earth. In ancient times, with the concept of a flat earth, hell was located in the lower universe, and heaven in the upper universe in comparison to an observer on earth. Now with the concept of a spherical earth and a spherical universe [11], hell is located in the lower universe all around the earth and heaven is in the upper universe all around the hell (Figure 3). The universe beyond the Earth's atmosphere is called the extraterrestrial world, where religious heaven and hell are located. Therefore, religious heaven and hell are two extraterrestrial objects that can be studied under the domain of astronomy.

The Sun, Moon, stars, and planets all are extraterrestrial objects. Since the seventh century, Islamic scholars have been recognizing the sun as a hell (Bukhari, 533-537). In the 16th century, Giordano Bruno proposed that the stars were other suns [70]. In1838, Friedrich Bessel measured the parallax of the star 61 Cygni and proved that the stars are far away from the atmosphere and that they are all suns [71]. In the 20th century with the advent of improved technology, it was proven that other stars were similar to our sun. Now, it is understood that there are about 200 billion galaxies of stars in the observable universe and the rest of the universe is unknown to mankind (Figure 4).

Among the huge number of stars in the universe, the Sun is a medium-sized star having a volume about 1.3 million times that of the Earth. It is very difficult to understand from earth how big and terrible the sun or stars of the sky are [72-74]. The surface temperature of the sun is 6,000°C. The core temperature of the sun is 15 million degrees Celsius. Excessive heat inside the sun causes nuclear fusion reactions [75]. It combines four hydrogen atoms to form helium. During this process, some matter is converted into energy. One kilogram of hydrogen produces 992 grams of helium and the excess mass is converted into energy, which is utilized in converting more hydrogen into helium. For 5 billion years, every second 600 million tons of hydrogen is being converted into energy. This fusion reaction will continue until one-tenth of the sun's hydrogen is converted to helium [76]. The Sun will need another 5 billion years to reach this state [77]. Other stars in the sky are undergoing the same process as the Sun. Therefore, all the stars in the visible galaxies of the universe are made of hellish fire.

According to religious cosmologies, in a spherical earth and a spherical universe, the earth is surrounded by hell, and hell is surrounded by heaven (Figure 3). At present, all around the earth, astronomers have found billions of galaxies of stars made of hellish fire. The location of stars in the universe and their characteristics are surprisingly identical to the location and characteristics of the religious hells (Figures 3-5 and Table 4). Therefore, the sun and sun-like stars in the galaxies, clusters of

Table 3. Comparison of religious cosmologies.

Topics	Hindu Cosmology	Buddhist Cosmology	Jain Cosmology	Zoroastrian Cosmology	Jewish Cosmology	Christian Cosmology	Islamic Cosmology
Source	Hinduism	Buddhism	Jainism	Zoroastrianism	Judaism	Christianity	Islam
Origin of the Universe	God created	Unknown	Unknown	God created	God created	God created	God created
Structure of the Universe	This world and world hereafter	This world and world hereafter	This world and world hereafter	This world and world hereafter	This world and world hereafter	This world and world hereafter	This world and world hereafter
This world	Earth	Earth	Earth	Earth	Earth	Earth	Earth
World Hereafter	Heaven and Hell	Heaven and Hell	Heaven and Hell	Heaven and Hell	Heaven and Hell	Heaven and Hell	Heaven and Hell
Location of Heaven	Upper Universe	Upper Universe	Upper Universe	Upper Universe	Upper Universe	Upper Universe	Upper Universe
Location of Hell	Lower Universe	Lower Universe	Lower Universe	Lower Universe	Lower Universe	Lower Universe	Lower Universe
Constituent of Heaven	Biological World	Biological World	Biological World	Biological World	Biological World	Biological World	Biological World
Constituent of Hell	Burning Fire	Burning Fire/ Freezing Cold	Burning Fire	Burning Fire/ Freezing Cold	Burning Fire	Burning Fire/ Freezing Cold	Burning Fire/ Freezing Cold
Fate of the Universe	Known	Known	Known	Known	Known	Known	Known
Aim of Creation	Known	Known	Known	Known	Known	Known	Known

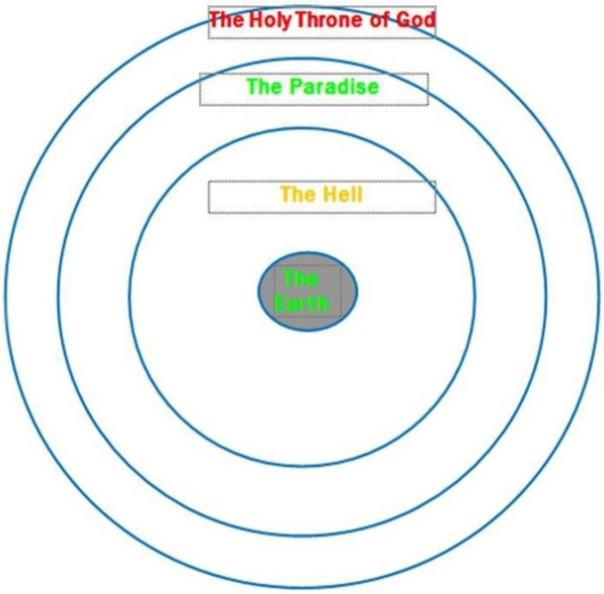

Figure 3. Location of religious objects in the universe. Hell is located in the lower universe and heaven in the upper universe in comparison to an observer on Earth. In a spherical earth and a spherical universe, the earth is surrounded by hell, and hell is surrounded by heaven.

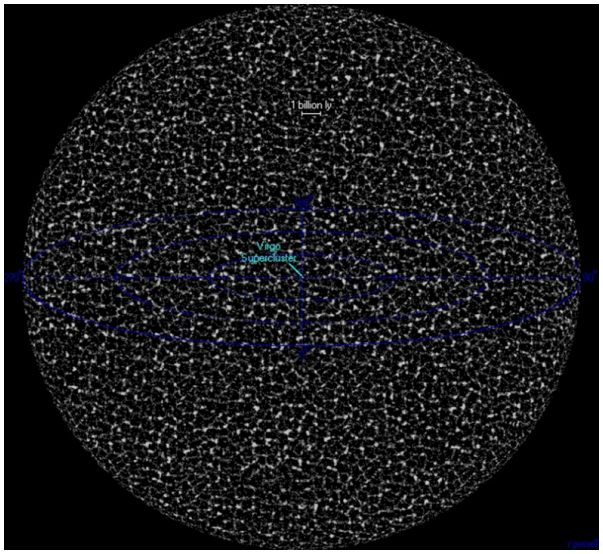

Figure 4. Location of extraterrestrial objects: The universe within 15 billion light-years from the Earth. In this picture, clusters of galaxies are seen in the lower universe all around the Virgo cluster, which is the home to the Earth.

galaxies and the superclusters, which are located around the earth in the region of hells, all are hells.

In 1916, Albert Einstein predicted the existence of black holes in the universe in his general theory of relativity [78, 79]. In 1965, Roger Penrose showed that black hole formation is a strong prediction of the general theory of relativity [80]. In the early nineties, observing high proper-motion stars near the center of the Milky Way galaxy, astronomers found evidence of an invisible supermassive black hole at the galactic center [81, 82], and in 2019, scientists obtained the first image of a supermassive black hole of about 6.5 billion solar masses at the center of the M87 galaxy [83], which confirms the existence of black holes in the universe. Black holes have existed in the galaxies since the beginning of the universe [84]. The temperature of a supermassive black hole with millions of solar masses is only 1.4 x 10^{-14}°K [25, 85]. Black holes are so cold that they resemble the extremely cold hells described in the Holy Scriptures. Quasars are the most energetic and hottest objects in the galactic centers, which can be compared to the extremely hot hells described in the Holy Scriptures.

From the scientific point of view, the existence of Heaven and Hell in the universe is a religious myth or hypothesis proposed by the prophets in ancient times. Through the scientific study of the universe, religious

Table 4. Comparison between Scientific and Religious Cosmology.

Topics	Scientic Cosmology	Religious Cosmology
Source	Physics and Astronomy	Religious Scriptures
Origin of the Universe	Big Bang Theory	Command of God
Structure of the Universe	200 Billion Galaxies	Earth, Heaven and Hell
Location of Heaven	Unknown	Upper Universe
Location of Hell	Unknown	Lower Universe
Constituent of Heaven	Unknown	Biological World
Constituent of Hell	Unknown	Burning Fire/Freezing Cold
Location of Galaxies	Lower Universe	Lower Universe
Constituent of Galaxies	Stars and Black Holes	Hells
Constituent of Stars	Burning Fire	Hot Hells
Constituent of Black Holes	Freezing Cold	Cold Hells
Fate of the Universe	Uncertain	Known
Aim of Creation	Uncertain	Known

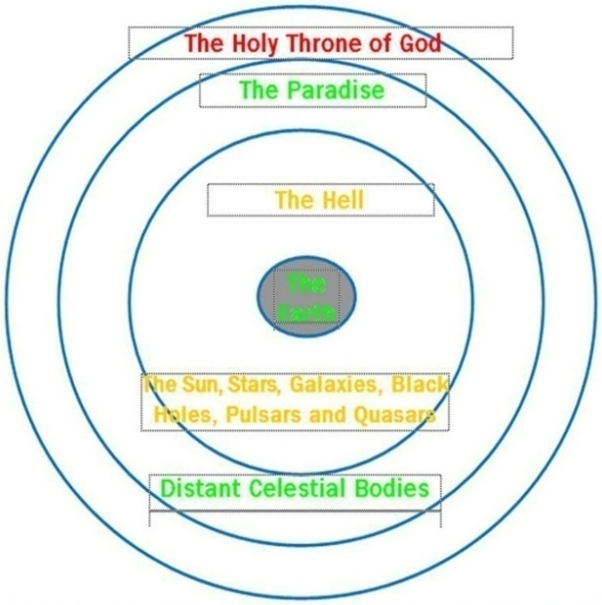

Figure 5. Comparative location of religious and extraterrestrial objects. All stars in the visible galaxies, including the black holes, are located in the region of hells in the lower universe all around the earth.

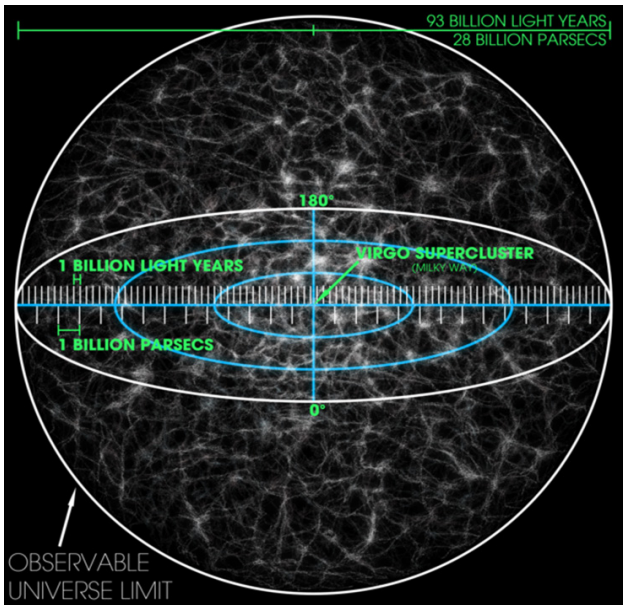

Figure 6. The range of the visible Mega Hell. The fine grains are collection of many superclusters. The Virgo Supercluster home to the earth is marked in the center.

Hell is now discovered in the universe making that myth or hypothesis a scientific fact [86]. All the stars, quasars, and black holes in the visible galaxies of the universe are now identified as religious hells. The Hubble Space Telescope [87], and later on New Horizons space probe provided evidence that at least 200 billion galaxies of hells are now discovered in the observable universe [88].

The galaxies of hells are clumped together in groups, clusters and superclusters that are held together by gravity as one spherical Mega Hell all around the Earth. Galaxy groups are much smaller than galaxy clusters. The Local Group of galaxies contains our Milky Way galaxy along with Andromeda and Triangulum galaxies [89]. Galaxy clusters contain thousands of galaxies of hells. Famous galaxy clusters are the Virgo Cluster, the Fornax Cluster and the Hercules Cluster. Superclusters contain 3 clusters to 10 clusters of hells. About 10 million superclusters of hells are visible in the spherical Mega Hell that has been discovered around the earth (Figures 4, 6). With the expansion of the universe, the comoving distance between two objects remains constant, but proper distance changes. The comoving distance between the Earth and the peripheral edge of the visible spherical Mega Hell is about 46.5 billion light-years. The diameter of this visible spherical Mega Hell is about 93 billion light years [90] (Figure 6).

Observation of galaxies of hells in the lower universe is a sure sign of the existence of galaxies of heavens in the inaccessible upper universe [like a positive Murphy's sign in medical science that confirms the existence of an inflamed gall bladder in the inaccessible deep abdomen palpating the surface of the abdomen[91]. All the stars, black holes and quasars in the lower universe are now identified as religious hells. Religious hells are now under continuous observation by thousands of telescopes from all around the world. It was impossible for the people of ancient times to know about the existence of galaxies of hells in the universe beyond the Earth's atmosphere, without the intervention of Extraterrestrial Intelligence. It was not only Hell; the existence of both Heaven and Hell in the universe was predicted by the Holy Scriptures in ancient times. The Holy Scriptures were written and compiled in ancient times based on messages from Extraterrestrial Intelligence. Therefore, observation of hells in the lower universe confirms the existence of heavens in the inaccessible upper universe (Figures 7- 9).

Scientific cosmology as a branch of astronomy is concerned with the study of the universe as a whole while astronomy deals with individual celestial bodies. Religious cosmology explains the origin, evolution, and ultimate fate of the universe on the basis of religious scriptures. Astronomers today have made so many great discoveries to understand the nature of the universe, but still, they have not been able to determine the purpose of the creation of the celestial bodies and the ultimate fate of the universe. Religious scholars also did not evaluate astronomical

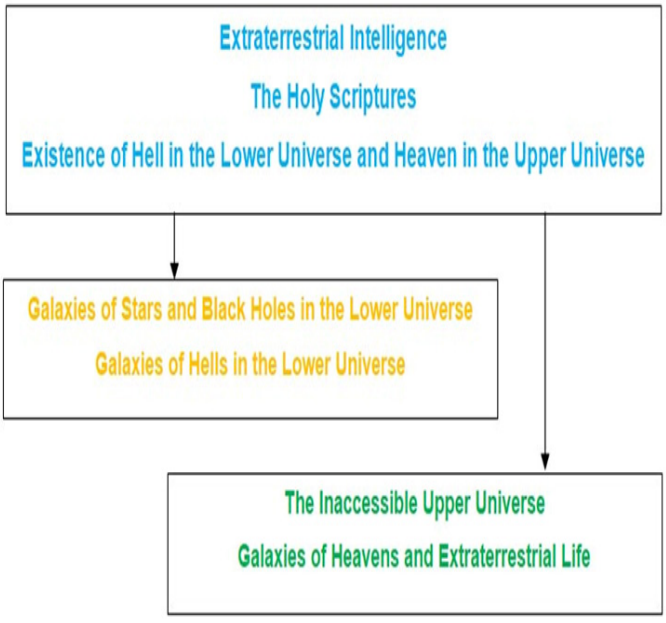

Figure 7. The Holy Scriptures predicted the existence of hells in the lower universe and heavens in the upper universe. Observation of hells in the lower universe confirms the existence of heavens and extraterrestrial life in the inaccessible upper universe (like a positive Murphy's sign in medical science).

Figure 8. Murphy's sign is a medical technique during examination of a patient for abdominal pain. It is useful for the diagnosis of acute cholecystitis. Gall bladder is a bile containing organ lies in the deep abdomen. Acute inflammation of gall bladder is called acute cholecystitis. Acute cholecystitis is suspected when a patient present with fever and pain in the right upper abdomen. Murphy's sign is shown by asking the patient to take a deep breath while palpating the right upper abdomen. If pain with inspiratory arrest occurs, Murphy's sign is positive [92].

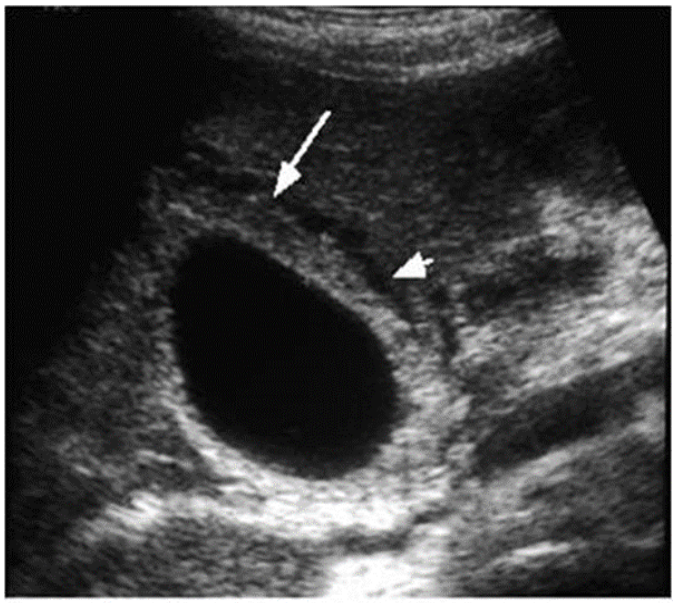

Figure 9. The ultrasound findings of a positive Murphy's sign: marked thickening of the gall bladder wall (arrow) with fluid surrounding the distended gall bladder (arrowhead). Courtesy: Jonathan Kruskal, MD.

discoveries in the light of the Holy Scriptures. According to religious cosmology, the universe consists of hell, heaven, and earth. Although Albert Einstein constructed a spherical model of the universe in 1917 through his theory of relativity, he showed neither hell nor paradise in the universe [93]. This study identified all the visible galaxies of stars in the universe as the galaxies of religious hells, which are created to recompense the earthly actions of mankind.

In the past, however, the prophets and messengers of God did not directly say that the stars and constellations are hells. Because, in ancient times, people thought of the celestial bodies as different sizes of lamps in the sky. Therefore, they did not say directly against the common notion that the stars and constellations are hells. Prophets and messengers of God spoke in harmony with the common sense and the intelligence of the people [94]. Their purpose was to establish God's law and order in society. For this reason, they did not make statements that could disrupt their original purpose and that could be considered ridiculous by the people. In ancient times, to describe celestial bodies such as the stars and constellations as hells, which were known to people as different sizes of lamps in the sky, was considered ridiculous and bizarre.

At present, at least 200 billion galaxies of stars can be observed in the universe. Each galaxy contains hundreds of billions of stars. Among this huge number of stars, the sun is a medium-sized star 1.3 million times larger than the Earth, whose core temperature is about 15 million degrees Kelvin. Now, to call the celestial bodies such as the stars and galaxies hells would not be considered ridiculous and bizarre. Because after hundreds of years of investigation, scientists found that the celestial bodies are not lamps of various sizes in the sky, rather most of them are giant fireballs "hells" scattered throughout billions of galaxies in the universe beyond the Earth's atmosphere, which is now unanimously accepted by the people all over the world. The Holy Scriptures predicted the existence of "hells" in the lower universe and "heavens" in the upper universe. The existence of "galaxies of hells" in the lower universe confirms the existence of "galaxies of heavens" in the inaccessible upper universe. Now, it is the unanimous decision of religion and science that all celestial bodies in outer space are "galaxies of hells and heavens" created to recompense the earthly actions of mankind.

Almost all religious scriptures teach people about the immortality of the soul and the physical resurrection after death. On the Day of Resurrection, God will recompense the earthly actions of mankind. The existence of heavens and hells in the universe confirms the Day of Resurrection, the Day of Recompense, and the eternity of human life. Billions of years of life in the heavens and hells are considered eternal life in the Holy Scriptures (Daniel, 12: 2-3; Quran, 11:107-108). Ozone depletion and global warming could wipe out all life from the Earth to begin the resurrection and judgment. After the judgment, the righteous will pass a very long celestial path safely over Mega Hell to enter Heaven. The unrighteous can never pass through this path and will remain in Hell forever.

Today, most scientists believe that the universe began with the Big Bang of an infinitely dense primordial object. Change in any being requires an external force. Beyond the primordial singularity, there was a force that started the Big Bang. The discovery of galaxies of hells and heavens in the universe confirms the existence of a creator God, who started the Big Bang and is still active in moving the galaxies in our vast universe.

Diagnosis of supernatural virus

In medical practice, the aim of the treatment of a disease is to establish an aetiological diagnosis to find out the cause and achieve a cure. There are several theories for the causation of disease in the world. The main theories of causation of disease are supernatural theory, germ theory, and multi-factorial theory. Supernatural theory is the oldest theory of causation of disease in the world [95, 96]. According to this theory, a supernatural virus, also known as a malevolent demon, invades the human body, disrupts the purpose of life and spiritual health by fallacious arguments and evil suggestions that leads people to a delusional lifestyle and behaviour, alters the dynamic equilibrium between man and the environment and causes all physical, mental, and social disorders, national, international and inter-religious conflicts and wars in the world. The germ theory and multi-factorial theory can be explained under the supernatural theory of disease. Supernatural virus activates the germs and factors for the causation of disease leading people to a delusional lifestyle and behavior. Most of the people of the world today have been infected by the supernatural virus. The HIV disaster, corona virus disaster, and the Russian invasion of Ukraine with the possibility of a nuclear disaster and the third world war, is a complication of chronic infection by the supernatural virus.

In the Holy Scriptures, the supernatural virus is known as an evil spirit. Human being possessed by this evil spirit acquires a delusional lifestyle and behaviour, loses the ability to enter the eternal paradise and progresses to a dangerous punishment in the hell fire. This evil spirit is traditionally identified as the serpent (Figure 10), who deceived Adam and Eve in the "Garden of Eden" to eat the forbidden fruit (Genesis 3:4–5). In Judaism, the supernatural virus is seen as a metaphor for evil tendencies. In Christianity, the supernatural virus is seen as a fallen angel, who once was pious and beautiful, but rebelled against God. In Christianity, this virus is sometimes called Lucifer, which tempts people to sin by following their lower desires [97].

In Zoroastrian religion, Ahura Mazda is the benevolent spirit lives in light and knowledge, and Angra Mainyu is the malevolent spirit lives in darkness and ignorance [98]. In Indian religion, the evil spirits and demons are known as asuras. Asuras are described as omnipresent beings that constantly push people to sin [99].

Figure 10. The serpent has been a symbol of the Supernatural Virus (SNV), the evil spirit, demon or devil, in the Holy Scriptures and Health Sciences since ancient times. This symbol is also used today by the World Health Organization (WHO) and physicians all over the world.

The asuras of Indian religions resemble the Islamic notion of jinn. In the Quran, Devil appears to be an angel, but it came from jinn (Quran, 18: 50). Devil and his offspring are the sworn enemies of mankind. They lie in wait everywhere in the world to attack mankind (Quran, 7:16-22). Their activities are extensively described in the Holy Scriptures. They deviate people from the right path through deceptions, evil suggestions, and applying evil forces. They materialize their plans in collaboration with their followers in humans. Humans are the carriers of the supernatural virus (Quran, 6:112-113, 128), which can be compared to mosquitoes and flies (Matthew 12:24-27, Luke 11:15).

Jinn is an Arabic word, whose primary meaning is "to hide" [100]. The demons, asuras, or jinns are invisible to any kind of microscope, but their manifestations are so obvious by which religious scholars confirm their existence. They can be compared to black holes which can never be seen physically as the physical universe is just the electromagnetic phenomena, whereas black holes, demons, asuras, or jinns have no electromagnetic properties to be visible through electromagnetic wave of light. A black hole is a place in the universe where gravity pulls so strong that even light cannot get out. The gravity is so strong matter is squeezed into a tiny space. Because no light can get out, people cannot see black holes as well as demons, asuras, or jinns. Circumstantial evidence confirms the existence of black holes as well as demons, asuras, or jinns. The discovery of religious hells and heavens in the universe is a confirmatory evidence for the existence of invisible demons, asuras, or jinns. Almost all religious scriptures mention that demons, asuras, or jinns are working all over the world to mislead people from the path of heaven to hell. The people who are possessed by the malevolent demons, asuras, or jinns become their property and companions in hell.

Demonic possession is a belief that a supernatural virus or demon can control a person's actions by producing a false spirituality with fallacious arguments and evil suggestions. Exorcism is the practice of evicting demons from a person or territory that is believed to be possessed [101, 102]. The first pair of man and woman was created from the soil with a mechanism that has not been described in the Holy Scriptures. Having arisen from the soil, they lived in the Garden of Eden or a terrestrial paradise. Devil possessed Adam and Eve and expelled them from that paradise (Genesis, 3:5-7; Quran, 2:35-36). Devil is a demon, who has now possessed the children of Adam all over the world (Figure 11). This is a massive demonic possession [103, 104]. Modern astronomy can evict the massive demonic possession in the following mechanism to restore the Garden of Eden or a terrestrial paradise all over the world.

Synthesis of Amrita, the Vaccine of Immortality

Mankind has been thinking about the universe since ancient times. Now, astronomers have discovered approximately 200 billion galaxies of stars in the universe. A typical galaxy contains hundreds

Figure 11. The global distribution of supernatural virus. The whole world is under the threat of a supernatural virus. Most of the people are infected by this virus. This is a massive demonic possession.

Figure 12. Modern astronomy can treat the current global epidemic of supernatural virus and massive demonic possession to restore the Garden of Eden or terrestrial paradise all over the world.

of billions of stars. All the stars in the galaxies are now identified as the religious hells predicted by prophets in ancient times. Scientists have found many burning processes in these hells for the punishment of malevolent demons and their followers. There are two main processes in stars that burn hydrogen fuel to produce energy: proton-proton chain reactions and carbon-nitrogen-oxygen cycle [105, 106]. In lower mass stars, core temperature reaches about 15 million degrees Kelvin to start proton-proton chain reactions. When all hydrogen in the core is converted into helium, nuclear fusion reactions stop and the helium core begins to contract. When core temperature and pressure reach high enough, helium begins to burn into carbon. When all helium is converted into carbon, the carbon core continues to contract but the temperature and pressure never reach high enough to burn the carbon. In higher-mass stars, the contracting core will reach a temperature of about 100 million degrees Kelvin to burn the carbon. When all the carbon is burned in the core, neon burning occurs that creates a new core of oxygen, neon, sodium and magnesium. After neon burning is complete, the star reaches a temperature high enough to burn the oxygen. Silicon burning is the last step in higher mass stars. This follows the previous steps of hydrogen burning, helium burning, carbon burning, neon burning, and oxygen burning processes. Silicon burning begins when the core temperature reaches about 3.5 billion degrees Kelvin. In massive and older stars that have produced iron in their cores, no further fusion is possible. The star collapses and explodes as a type II supernova [107]. In a type II supernova, core temperatures can reach 100 billion degrees Kelvin [108].

Stars are so hot that the temperature inside the stars ranges from 15 million degrees to 100 billion degrees Celsius according to their mass and stage of evolution. Quasars are the most luminous and hottest objects in the universe. Black holes are the darkest and coldest objects in the universe. Scientists measured the temperature of the quasar core which could be hotter than 10 trillion degrees Celsius. Black holes are so cold that the temperature inside a supermassive black hole is almost absolute zero, −273°C [109, 110]. All these stars, quasars, and black holes are now identified as religious hells. Religious hells are now visible in the universe in thousands of telescopes from all around the world, which invalidated all the deceiving arguments and evil suggestions posed by demons for a demonic lifestyle and behaviour. Now, it will not be possible for any human being in the world to accept the penalty of a demonic lifestyle and behaviour in the burning fire of hells or the extreme cold of hells that has been discovered by astronomers in the universe [111]. Therefore, the discovery of hells in the near universe that also confirms the existence of eternal heavens in the inaccessible upper universe will activate mankind to a normal lifestyle and behaviour based on the "Universal Religion" explained in the Gita, Bible, Tripitaka and Quran to enter the eternal paradise and escape the hellfire that might evict the massive demonic possession, resolve national, international, and inter-religious conflicts and wars, and change our sick world into a pious and prosperous world like a terrestrial paradise (Figure 12) [112, 113].

This universal therapy, which has been produced by the prophets and astronomers for thousands of years of exploration of the cosmos, can be designed as a universal vaccine or a behavioral intervention. In Indian mythology, this universal vaccine is known as amrita, which was produced in ancient India by the deities and demons for thousands of years of exploration of the Milky Way galaxy [2, 3].The universal vaccine that can prevent and cure all physical, mental, social and spiritual disorders and ensure eternal heaven in the world hereafter is called amrita in the Indian Holy Scriptures [1]. This Indian myth of amrita has now become compatible with modern science for the exploration of galaxies by the astronomers [68], which the World Health Organization (WHO) can implement all over the world. In 1948, the World Health Organization defined health as a state of complete physical, mental, and social well-being. Recently this definition has been amended by a fourth dimension of health called spiritual health [114, 115]. The WHO definition of health has founded a strong base for a universal vaccine like amrita that can eradicate not only infectious diseases, but all kinds of physical, mental, social, and spiritual diseases. Understanding the purpose of life is called spiritual health. Physical, mental, and social health directly depends upon the purpose of life and spiritual health [116, 117]. Amrita is the common ground of astronomy and medicine that shows the existence of hell and paradise in the universe to stimulate the cognitive and affective centers of the human brain and correct the purpose of life. The cognitive and affective centers are concerned with the intellectual ability of the human mind to come to correct conclusions about what is actually true and what is false. Cognitive behavioural therapy is a form of psychological intervention that can solve problems by changing the way of thinking and behaviour [118, 119].

Vaccines are antigenic materials that provide active immunity against a specific virus. Vaccines that are prepared from whole pathogens - attenuated or inactivated are called first-generation vaccines. Second-generation vaccines are prepared from specific protein components isolated from the pathogens to reduce risks and side effects. Bioengineering is the application of engineering concepts to biology, medicine and health sciences to provide effective solutions to biological, medical and healthcare problems [120,121]. DNA and RNA vaccines are genetically engineered third generation vaccines that induce host cells to produce antigenic proteins, which the body recognizes as non-self and produce protective antibodies. Amrita is a bioengineered fourth generation vaccine, which induces central nervous system to produce intellectual immunity against the supernatural virus. First, second and third generation vaccines are constructed on the specificity of antigen-idiotype binding. As a fourth-generation vaccine, amrita is constructed on the specificity of receptor-ligand binding [122]. Hell and Paradise are two religious objects recently discovered in outer space that will block the cognitive and affective centers of the human brain for the supernatural virus. The supernatural virus injects a false instruction to the human brain that there exists neither hell nor paradise in the universe, which misleads people to an abnormal lifestyle and behaviour.

In the case of third-generation vaccines, a genetic message or instruction is injected into the body of an individual through a recombinant DNA or messenger RNA. The creation of recombinant vectors containing DNA fragments is termed a genomic library. The genomic library is a permanent source of DNA sequence of interest. These DNA sequences can be used as a message or instruction for the production of vaccine or antibody against the specific virus [123]. As a bioengineered fourth-generation vaccine, amrita will inject a cosmic message or instruction (as a permanent mass vaccination programme) to the entire population of the world that the religious hell and paradise exist in the universe, which will stimulate the cognitive and affective centers of the human brain to produce intellectual immunity against the supernatural virus.

DNA and RNA vaccines are recombinant vaccines, because they are made up of material from two different species. Amrita is also a recombinant vaccine; it is made up of material from two different fields of knowledge. First, second and third generation vaccines are traditional vaccines that give protection against specific diseases [124]. Amrita is a universal vaccine that gives protection against the supernatural virus, which is the ultimate cause of all physical, mental, social and spiritual disorders. Prophylactic vaccines are administered to healthy individuals to prevent disease. Therapeutic vaccines are used after infection occurs to alter the course of the disease. Amrita is a prophylactic as well as a therapeutic vaccine against the supernatural virus. Although amrita was predicted in ancient Indian religious scriptures, this does not mean that it is a religious vaccine. In ancient times, science was taught in religious institutions.

First-generation live-attenuated vaccines contain a large variety of pathogens, which have all the pathogenic properties of the main organisms and are attenuated under laboratory conditions. They are the most potent vaccines for the prevention, control, and even eradication of diseases due to their strong antibody and cellular responses [125]. They have long-term safety and do not require a booster dose. Although amrita is a fourth-generation vaccine, it will act as a live attenuated vaccine to produce an overwhelming immune response against the supernatural virus. The religious hell and paradise are two real and live materials in outer space, but their real effect has been concealed from the Earth. Amrita will translate a cosmic signal all over the world (like the North Pole Star that translates a cosmic signal to guide navigators to the right path) that the religious hell and paradise exist in the universe to produce an overwhelming immune response against the supernatural virus, which misleads people to an abnormal lifestyle and behaviour and causes all physical, mental, social, and spiritual disorders, national, international, and inter-religious conflicts and wars in the world.

The Russian invasion of Ukraine, with the possibility of a nuclear disaster and a third world war, is an incident caused by the supernatural virus, as it is described in the Indian Holy Scriptures [2, 3]. If there is a nuclear war, most of the world's population will be destroyed, because the after effects of war can be more dangerous. The survivors of nuclear war will be exposed to radiation. All crops grown and stored will also be poisoned by radiation. Therefore, the survivors of a nuclear war will be very sick, hungry, crippled, and homeless [126]. It might be better to die than live in a nuclear war. It is still good for mankind to try to live in harmony with each other. Amrita will send a cosmic signal all over the world that the religious hells and heavens exist in the universe, which will re-spiritualize the entire population of the world, eradicate the supernatural virus and its human carriers, and unite all the nations into one all-embracing faith to remain safe from the hellfire and enter the eternal paradise that can stop the threat of a nuclear disaster and the third world war.

Cosmic rays are high-energy protons and atomic nuclei that are blamed for physical ailments and electronic problems. Earth's magnetic field and atmosphere protect people from cosmic rays. The typical daily dose of radiation received by the average person living on Earth is 10 microsieverts. A dose of 1 sievert of cosmic rays is associated with a 5.5% increase in cancer risk [127]. However, amrita is a cosmic signal to the whole world in a message that the religious hells and heavens exist in the universe, which can be imparted without the use of any physical agent on the human body. Therefore, it has no adverse effects.The concept of a "universal vaccine" or a "magic bullet" that can eliminate all physical, mental, social, and spiritual diseases without harming the host, now becomes a reality with the synthesis of amrita [128-130] .

Conclusion

Heaven and Hell are two extraterrestrial objects predicted in the Holy Scriptures in ancient times. This study identified the existence of religious hells in the universe with the help of astronomical investigations. The comparative analysis found that all the stars, including the black holes, in the visible galaxies of the universe, are religious hells. The Holy Scriptures predicted the existence of hells in the lower universe and heavens in the upper universe. The discovery of hells in the lower universe confirms the existence of heavens and extraterrestrial life in the inaccessible upper universe.

For most of the time in human history, the lack of scientific knowledge about the universe has been a major cause of the missed diagnosis of religion and the origin of so many delusional lifestyles and behaviours that have given rise to many serious complications in the world. This study confirms the message of the prophets that the hells and heavens are awaiting in outer space for the recompense of the earthly actions of mankind. Therefore, the findings of this study will activate mankind to a normal lifestyle and behaviour based on the "Universal Religion" described in the Holy Scriptures to remain safe from the hellfire and enter the eternal paradise that can change our sick world into a pious and prosperous world like a terrestrial paradise.

Bioengineering is a discipline that applies principles of physical sciences to biological systems and biomedical technologies. Biomedical research transforms the latest scientific discoveries into new technologies and treatments to improve the health of society. This study synthesized a hybrid vaccine applying modern astronomical discoveries to medical science, which is known as amrita, the vaccine of immortality, in the Indian Holy Scriptures. This study also identified a new virus, known as the supernatural virus which is the ultimate cause of all physical, mental, social, and spiritual disorders. Most of the people of the world today have been infected by this supernatural virus. This is called a massive demonic possession. Amrita is a prophylactic as well as a therapeutic vaccine against the supernatural virus.

Today, scientists are trying to make this world a healthy planet through their work. The Discovery Channel has listed 100 discoveries as the big or greatest discoveries that changed science, history, and the world. However, scientists are not working to solve the problems of the world hereafter. Without addressing the supernatural virus and massive demonic possession, the problems of this world and the world hereafter could not be resolved. The vaccine of immortality amrita, which has been synthesized applying modern astronomical discoveries to medical science, can defeat the supernatural virus, evict the massive demonic possession, and stop the threat of a nuclear war and the third world war. Amrita can also change our sick world into a Garden of Eden or terrestrial paradise, liberate mankind from the hellfire, and ensure health for all in this world and eternal paradise in the world hereafter. Therefore, amrita is the most wonderful and biggest scientific discovery in the history of mankind.

Acknowledgment

I express grateful thanks to Muhammad Abdul Motalib and Muhammad Abdul Hayee for their valuable comments on the draft manuscript. I also thank Muhammad Akhter Hussain for his technical support in completing this work.

Conflicts of Interest

The author declares that he has no financial or personal relationship which may have inappropriately influenced him in writing this article.

References

1. Wikipedia contributors. Amrita. In Wikipedia, The Free Encyclopedia. Retrieved 13:06, November 21, 2022
2. Britannica, The Editors of Encyclopedia. churning of the ocean of milk. Encyclopedia Britannica, 16 Feb. 2018. Accessed 11 October 2022
3. Wikipedia contributors. (2022, October 28). Samudra Manthana. In Wikipedia, The Free Encyclopedia. Retrieved November 23, 2022.
4. Evers, J. Horizon, National Geographic. Ed. 2022. Retrieved June 12, 2022.
5. Young, A T. Distance to the Horizon. Retrieved June 12, 2022.
6. Giles, S. The Faiths of the World: Blackwood, Edinburgh. 1882. Retrieved June 12, 2022.
7. Hastings, J. State of the Dead. Encyclopedia of Religion and Ethics 1908-26; pp. 817- 54.
8. Gardner, J. Faiths of the World. Kessinger Publishing, *Whitefish*, MT, USA. 2003.
9. Fitzgerald, J T. "Religion, theology and cosmology." *In die Skriflig* 47.2 (2013): 1-5.
10. Bernstein, A E. Heaven and Hell. 2018. Retrieved July 12, 2022.
11. Valentino D, et al. "Planck evidence for a closed Universe and a possible crisis for cosmology." *Nat. Astron.* 4.2 (2020): 196-203.
12. Sirat, Merriam-Webster, . Accessed 5 Nov. 2022.
13. Mark, J J. Chinvat Bridge, Retrieved June 12, 2022.

14. Neugebauer, O. "The history of ancient astronomy problems and methods." *J. Near East. Stud*. 4.1 (1945): 1-38.
15. Forbes, G. History of Astronomy. London: Watts & Co. 1909. Retrieved June 1, 2022.
16. Dick, W R. History of Modern Astronomy. *Argelander-Institut für Astronomie*, University of Bonn. 2015.
17. Shapley, H. and Curtis, H. The Scale of the Universe. *Bull. Natl. Res. Counc.* 1921; 2: 171.
18. Ferguson, H C., et al. "The Hubble deep fields." *Annu. Rev. Astron. Astrophys.* 38.1 (2000): 667-715.
19. Howell, E. How Many Galaxies Are There?2018.
20. Howell, E. How Many Stars in the Milky Way?2021.
21. Pettersen, B. R. "A review of stellar flares and their characteristics." *Int. Astron. Union Colloq*. Vol. 104. No. 1. Cambridge University Press, 1989.
22. Sichevskij, S. G. "Determining basic characteristics of stars from evolutionary computations." *Astron. Rep*. 61 (2017): 193-205.
23. Hazen, R. Astronomy: Understanding the Characteristics of Stars. 2021.
24. Tottoli, R. "The Qur'an, Qur'anic Exegesis and Muslim Traditions: The Case of zamharīr (Q. 76: 13) Among Hell's Punishments." (2008): 142-152.
25. Cain, F. How cold are black holes? *Universe Today*.2016.
26. Halvorson, H, and Helge K. "Cosmology and theology." (2011).
27. Cosmology: Hindu Cosmology, Encyclopedia of Religion. Encyclopedia.com. 22 Feb. 2023
28. Klostermaier, K K. A Survey of Hinduism, 3rd Edition. *N. Y.: State Univ. N. Y. Press.* 2007; pp. 94-95.
29. Shah, N. Jainism: The World of Conquerors, Volume I and II, *Sussex: Sussex Acad. Press*. 1998; p.194-202.
30. Britannica, The Editors of Encyclopaedia. Zarathushtra. *Encycl. Br*., 29 Sep. 2022. Accessed 2 November 2022.
31. Gaster, M. "Art XV.—Hebrew Visions of Hell and Paradise." *J. R. Asiat. Soc.* 25.3 (1893): 571-611.
32. Hirsch, E G. et al. Garden of Eden, Jewish Encyclopedia.
33. Gardiner, E. Visions of Heaven and Hell before Dante. *Italica Press.* 1989: p. 43.
34. Alighieri, D. Inferno. *Cantos trans. John Ciardi* (2nd Ed.). New York: Penguin (June 2001)
35. Evans, A P. A Commentary on the Creed of Islam by Sad al-Din al-Taftazani. *Columbia Univ. Press*, New York. pp. 107-115.
36. Greshko, M. Planet Earth, explained. *Natl. Geogr.*
37. Britannica, The Editors of Encyclopaedia. horizon. *Encycl. Br*. 21 Feb. 2012.
38. Richard J, et al. "A Map of the Universe." *Astrophys. J*. 624.2 (2005): 463.
39. Williams, M. What is the heliocentric model of the universe? Published on January 5, 2016.
40. Conselice, C J., et al. "The evolution of galaxy number density at z< 8 and its implications." *Astrophys. J*. 830.2 (2016): 83.
41. Bahcall, N A. "Large-scale structure in the universe indicated by galaxy clusters." *Annu. rev. astron. astrophys*. 26.1 (1988): 631-686.
42. Gibney, E. "Earth's new address:'Solar System, Milky Way, Laniakea'." *Nature* (2014).
43. Marov, M Y, and Mikhail Y M. "The Structure of the Universe." *Fundam. Mod. Astrophys.: Surv. Cosm. Home Planet Space Front*. (2015): 279-94.
44. Star Formation. Center for Astrophysics, Harvard & Smithsonian. 20 October, 2022.
45. Stars. NASA Official: Dana Bolles. Last updated: November 02, 2022
46. Tillman, N. T. & Biggs, B. Main sequence stars: definition & life cycle. Published on January 26, 2022.
47. Karakas, A I. "Low-and Intermediate-Mass Stars." *Handb. Supernovae* (2017): 461.
48. Peters, G J., and Hirschi R. "The Evolution of High-Mass Stars." *Planets Stars Stellar Syst*. 4 (2013): 447.
49. Vuorinen, A. "Neutron stars and stellar mergers as a laboratory for dense QCD matter." *Nucl. Phys*. A 982 (2019): 36-42.
50. Fryer, C L. "Black-hole formation from stellar collapse." *Class. Quantum Gravity* 20.10 (2003): S73.
51. Rees, M J., and Marta V. "Massive black holes: formation and evolution." *Proc. Int. Astron. Union* 2.S238 (2006): 51-58.
52. Narayan, R. Black holes in astrophysics, New J. Phys. 2005; 7 199.
53. Creighton, T, and Richard H. P. "Black holes." *Scholarpedia* 3.1 (2008): 4277.
54. Wald, R M. "The thermodynamics of black holes." *Living rev. relativ.* reviews in relativity 4 (2001): 1-44.
55. Nulsen, P E, and Fabian A C. "Fuelling quasars with hot gas." *Mon. Not. R. Astron. Soc*. 311.2 (2000): 346-356.
56. Kovalev, Y. Y., et al. "RadioAstron observations of the quasar 3C273: a challenge to the brightness temperature limit." *Astrophys. J. Lett*. 820.1 (2016): L9.
57. Bucher, M, and Wei-Tou N. "General relativity and cosmology." *Int. J. Mod. Phys*. D 24.14 (2015): 1530030.
58. Tillman N. T. and Harvey A. What is cosmology? *De in. hist*.Feb. 21, 2022. Retrieved June 12, 2022.
59. Mardon, A, et al. Supercolliders. *Gold. Meteor. Press*, 2021.
60. Boesgaard, A M, and Gary S. "Big Bang nucleosynthesis: theories and observations." *Annu. Rev. Astron. Astrophys*. 23.1 (1985): 319-378.
61. Scott, D. "The Physics of the Early Universe." (2007): 5725.
62. Haubold, H J., and Mathai A M. "Structure of the Universe." arXiv preprint astro-ph/9612145 (1996).
63. Islam, J N. "The ultimate fate of the universe." *Camb.: Univ. Press* (1983).
64. Frautschi, S. "Entropy in an expanding universe." *Science* 217.4560 (1982): 593-599.
65. Cohen, P S. "Theories of myth." *Man* 4.3 (1969): 337-353.
66. Lugli, U. The Concept of Myth. *J. Stud. Soc. Sci*. ISSN 2201-4624. 2014;6 (1): 38-57.
67. Akbar, A. "The Zoroastrian provenance of some Islamic eschatological doctrines." *Stud. Relig./Sci. Relig.* 49.1 (2020): 86-108.
68. Segal, RA. The Modern Study of Myth and Its Relation to Science. Zygon: *Journal of Religion and Science*, 2015; 50(3): 757-771.
69. Liberman, A. "Myth and Theory." JEGP, *J. Engl. Ger. Philol*. 119.1 (2020): 121-127.
70. Aquilecchia, G. Giordano Bruno. Encyclopedia Britannica, 2022.
71. Britannica, The Editors of Encyclopaedia. Friedrich Wilhelm Bessel. Encyclopedia Britannica. Accessed 4 November 2022.
72. Morgan, W W, and Keenan P C. "Spectral classification." *Annual Rev. Astron. Astrophys*. 11.1 (1973): 29-5.
73. Schönrich, R, and Bergemann M. "Fundamental stellar parameters and metallicities from Bayesian spectroscopy: application to low-and high-resolution spectra." *Mon. Not. R. Astron. Soc.* 443.1 (2014): 698-717.
74. Jofré, E., et al. "Stellar parameters and chemical abundances of 223 evolved stars with and without planets." *Astron. Astrophys*. 574 (2015): A50.
75. Choi, Charles Q. Facts about the sun's age, size and history. June 09, 2021.
76. Todd, I. The life cycle of a star: How will our Solar System end? 21October, 2022.
77. Sackmann, I. J. et al. Our Sun. III. Present and Future. The Astrophysical Journal. 1993; 418: 457.
78. Wald, R M. "Gravitational collapse and cosmic censorship." *Black holes gravitational radiat. universe*: essays in honor of CV Vishveshwara (1999): 69-86.

79. Celotti, A, et al. "Astrophysical evidence for the existence of black holes." *Class. Quantum Gravity* 16.12A (1999): A3.

80. Penrose, R. "Gravitational collapse and space-time singularities." *Phys. Rev. Lett*. 14.3 (1965): 57.

81. Eckart, A., and R. Genzel. "Observations of stellar proper motions near the Galactic Centre." *Nature* 383.6599 (1996): 415-417.

82. Ghez, A M., et al. "High proper-motion stars in the vicinity of Sagittarius A*: Evidence for a supermassive black hole at the center of our galaxy." *Astrophys. J*. 509.2 (1998): 678.

83. Castelvecchi, D. "Black hole imaged for first time." *Nature* 568.7752 (2019): 284-285.

84. Brügmann, B, et al. "Black holes." *Proc. natl. acad. sci*. 98.19 (2001): 10525-10526.

85. Beckwith, Steven V. W. et al. The Hubble Ultra Deep Field. The Astronomical Journal, 2006; 132 (5): 1729 -1755

86. Asekhauno, A. A., and C. E. Ukhun. "God, Heaven and Hell: The Philosophy of Belief." *Ilorin j. relig. stud*. 5.1 (2015): 35-52.

87. Beckwith, Steven V. W. et al. The Hubble Ultra Deep Field. The Astronomical Journal, 2006; 132 (5): 1729 -1755.

88. Lauer, T R., et al. "New Horizons observations of the cosmic optical background." *Astrophys. J.* 906.2 (2021): 77.

89. Blanton, M R., and Moustakas J. "Physical properties and environments of nearby galaxies." *Annu. Rev. Astron. Astrophys.* 47 (2009): 159-210.

90. Tillman N T; Gordon, J. How big is the universe?. Retrieved June 10, 2022.

91. Bailey & Love. Murphy's sign, Short Practice of Surgery, 26th edition. *Taylor Fr. Group Lond.*2013; p.1107.

92. Musana, K, and Steven H. Y. "John Benjamin Murphy (1857–1916)." *Clin. Med. Res.* 3.2 (2005): 110-112

93. Gleiser, M. The Universe According To Albert Einstein: Relativity. March 14, 2018.

94. al-Dihlawi, W.A. Huzzatullahil Baligah: The Conclusive Argument from God. Trans. Marcia K. Hermansen. Leiden: Brill. 1996; pp. 255-256.

95. Kumar, Vinay, et al. Robbins and Cotran pathologic basis of disease, professional edition e-book. Elsevier health sci., 2014.

96. Park, K. Men and Medicine: Towards Health for All. In: Park's Text Book of Preventive and Social Medicine, 24th edition, Jabalpur, India. 2017; p.1.

97. Britannica, the Editors of Encyclopaedia. 2020, May 21. devil. Encyclopedia Britannica.

98. Jackson, A W. "The moral and ethical teachings of the ancient zoroastrian religion." *Int. j. ethics* 7.1 (1896): 55-62.

99. Britannica, the Editors of Encyclopaedia. 2022, May 24. asura. Encyclopedia Britannica.

100. Wikipedia contributors. Jinn. In Wikipedia, the Free Encyclopedia. Retrieved 17:29, December 20, 2022

101. Khalifa, N, and Hardie T. "Possession and jinn." J. R. Soc. Med. 98.8 (2005): 353.

102. Diamond, S A. "Possession, Exorcism, and Psychotherapy." Encycl. Psychol. Relig. Cham: Springer Int. Publ., 2020. 1800-1803.

103. Weir, E. "Mass sociogenic illness." CMAJ 172.1 (2005): 36-36.

104. Perrotta G. Clinical evidence in the phenomenon of Demonic Possession. Ann Psychiatry Treatm, 2021; 5(1): 088-095.

105. Prantzos, N.& Stellar E S Nucleosynthesis. In: et al. Encyclopedia of Astrobiology. Springer, Berlin, Heidelberg. 2011.

106. Wallerstein, G, et al. "Synthesis of the elements in stars: forty years of progress." *Rev. Mod. Phys*. 69.4 (1997): 995.

107. Woosley, S E et al. "The evolution and explosion of massive stars." *Rev. mod. phys.* 74.4 (2002): 1015.

108. Janka, Hans-Thomas, et al. "Core-collapse supernovae: Reflections and directions." Prog. Theor. Exp. Phys. 2012.1 (2012)

109. Hawking, S W. "Black hole explosions?" Nature 248.5443 (1974): 30-31.

110. Davies, P C W. "Thermodynamics of black holes." *Rep. Prog. Phys.* 41.8 (1978): 1313.

111. Wogalter, M et al. Warnings and Risk Communication, Safety sci, 1993; 16 (5-6).

112. Fabian, A. "The impact of astronomy." *Astron. Geophys.* 51.3 (2010): 3-25.

113. Strach, E. H. Astronomy and Medicine. *J. Br. Astron. Assoc.*, 1982; 92(4):164-169.

114. World Health Organization. About World Health Organization. Constitution. . Accessed 10 October 2022

115. Neera D, et al. "Spiritual health scale 2011: Defining and measuring 4th dimension of health." Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine 36.4 (2011): 275.

116. Bensley, R J. "Defining spiritual health: A review of the literature." *J. Health Educ*. 22.5 (1991): 287-290.

117. Ghaderi, A, et al. "Explanatory definition of the concept of spiritual health: a qualitative study in Iran." *J. med. ethics hist. med.* 11 (2018).

118. Gaudiano, B A. "Cognitive-behavioural therapies: achievements and challenges." *BMJ Ment Health* 11.1 (2008): 5-7.

119. Fenn, K, and Byrne M. "The key principles of cognitive behavioural therapy." *InnovAiT* 6.9 (2013): 579-585.

120. John E, and Bronzino J, eds. Introduction to biomedical engineering. Academic press, 2012.

121. Drolet, B C., and Lorenzi N M. "Translational research: understanding the continuum from bench to bedside." *Translational Research* 157.1 (2011): 1-5.

122. Chiappelli, F. "2019-nCoV-Towards a 4th generation vaccine." *Bioinformation* 16.2 (2020): 139.

123. Leitner, W W., et al. "DNA and RNA-based vaccines: principles, progress and prospects." *Vaccine* 18.9-10 (1999): 765-777.

124. Plotkin, S A. "Vaccines: past, present and future." *Nature medicine* 11.Suppl 4 (2005): S5-S11.

125. Plotkina, S A. "Vaccination against the major infectious diseases." *C. R. Acad. Sci.-III-Sci. Vie* 322.11 (1999): 943-951.

126. Solomon F, Marston R Q, Institute of Medicine (US) Steering Committee for the Symposium on the Medical Implications of Nuclear War;. The Medical Implications of Nuclear War. Washington (DC): *National Academies Press* (US); 1986. The Consequences of Nuclear War: An Economic and Social Perspective.

127. International Atomic Energy Agency. Cosmic Radiation: Why we should not be worried.

128. Smith, A. Universal vaccine advancement through AI and recombinant technology. *Sino Biological Inc*. Oct 3 2022

129. Ehrlich, P. "Man with the magic bullet." *Singapore Med* J 51.11 (2010): 842

130. Blair, J. "Making magic bullets." *Nat. Microbiol*. 2.8 (2017): 1-1.

Cite this article: Islam MF. Astronomy and Medicine: Synthesis of Amrita, the Vaccine of Immortality . Int. J. Collab. Res. Intern. Med. Public Health, 2023, 15(2), 001-011.