

# PATIENT CHARACTERISTICS WITH THE DRUGS PROVOCATION TEST IN SANGLAH HOSPITAL FROM 2017 TO 2018

I Kadek Adi Paramartha<sup>1)</sup>, I Ketut Suardamana<sup>2,3)</sup>

<sup>1)</sup>Ari Canti General Hospital, Gianyar, Bali

<sup>2)</sup>Division of Allergy Immunology, Internal Medicine Department, Sanglah Hospital

<sup>3)</sup>Faculty of Health Medicine, Universitas Udayana

## ABSTRACT

**Background:** Drug provocation test (DPT) is one of the diagnostic modalities to determine drugs that are suspected of triggering drug adverse reactions, especially allergic reaction. The aim of the study was to review the characteristics and results of patients undergoing DPT at Sanglah General Hospital, Bali.

**Methods:** This was a retrospective study conducted at Sanglah General Hospital, Bali from 2017 to 2018. A total of 20 patients with 53 provocation tests carried out with different drugs were enrolled in this study. The data were obtained from medical record. The data were analyzed descriptively.

**Results:** Out of the 20 patients, 53 provocation tests were carried out, most patients were women (55%) with an average age of 48.35 years. Positive results were 46 (86.8%) and negative were 7 (13.2%) patients. Patients with the most diagnosis of pulmonary tuberculosis underwent DPT (35%). Ethambutol was the drug most frequently tested for drug provocation tests (18.9%).

**Conclusion:** This study describes the patients experience of hypersensitivity reactions undergoing DPT. DPT is still useful as a gold standard in diagnosing hypersensitivity reactions, especially in patients who are given drugs with a high risk of hypersensitivity reactions.

**Keywords:** drug provocation test, hypersensitivity reaction, allergy

### Correspondence:

I Kadek Adi Paramartha. Ari Canti General Hospital, Gianyar, Bali. Jl. Raya Mas Ubud No.88x Gianyar, Bali. Email: hyperghoul@gmail.com. Mobile: 081353774767

# HYPERTENSION RISK FACTORS AMONG OBESE ADOLESCENT

**Reny Tri Febriani, Nining Loura Sari**

School of Health Sciences of Maharani

## ABSTRACT

**Background:** Obesity is a global health problem, with increased cardiovascular risk, a major contributor to the global burden of disease financing. Obesity causes expansion of extracellular fluid volume and increased blood flow to tissues which can increase venous return and cardiac output, causing hypertension. Obese adolescents throughout their life have a higher risk of suffering from a number of serious health problems such as diabetes, heart disease and stroke. Hypertension in obesity tends to be more difficult to control so that it requires anti-hypertensive medication therapy. This study aimed to analyze the risk factors of hypertension among obese adolescent in Malang, East Java.

**Subjects and Method:** A cross sectional study was conducted in Malang, East Java, Indonesia. A total of 60 respondents was selected for this study. The dependent variable was hypertension. The independent variables were obesity, family history of hypertension, and family history of obesity. The data of obesity were collected using body mass index (BMI) and hypertension by blood pressure. Data were analyzed using logistic regression.

**Results:** Obesity increased the risk of hypertension (OR = 5.8;  $p < 0.001$ ) and it was statistically significant. The obesity, family history of hypertension, and family history of obesity, were simultaneously associated with the risk of hypertension among adolescent.

**Conclusion:** The obesity, family history of hypertension, and family history of obesity, are simultaneously associated with the risk of hypertension among adolescent.

**Keywords:** obesity, hypertension, adolescents

### Correspondence:

Reny Tri Febriani. School of Health Sciences of Maharani. Jl. Akordioan Selatan No. 8B Malang, East Java. Email: reny\_febriani@stikesmaharani.ac.id. Mobile: 081232268321

# ANALYSIS OF THE CAUSES OF DEATH IN INDONESIA DUE TO ACCIDENT BASED ON THE SAMPLE REGISTRATION SYSTEM FROM 2014 TO 2016

Retno Widyastuti<sup>1,2)</sup>, Anhari Achadi<sup>1)</sup>, Yuslely Usman<sup>2)</sup>,  
Tita Rosita<sup>2)</sup>, Merry Lusiana<sup>2)</sup>

<sup>1)</sup>Faculty of Public Health, Universitas Indonesia

<sup>2)</sup>Health Research and Development Department, Ministry of Health, Indonesia

## ABSTRACT

**Background:** Traffic accidents in Indonesia (dominated by motorbikes) are a serious problem because they cause many injuries and deaths at productive age. The sample Registration System (SRS) produces an overview of the causes of death nationally including a description of the causes of death due to accidents. The purpose of this study is to analyze the causes of death due to accidents based on the characteristics of age, sex, place of death, and type of accident.

**Subjects and Method:** A cross-sectional was selected to be this study design. The SRS sample selection method is Probability Proportional to Size (PPS) using the 2008 Potential Village (PODES) survey data. SRS was conducted in 128 sub-districts spread over 119 districts / cities and in 30 provinces in Indonesia. SRS data are collected annually (January 1 to December 31), and the analyzed SRS data are 2014-2016. The cause of death was determined based on a questionnaire from the results of a verbal autopsy interview by the health center health worker to the family of the deceased. Determination of the cause of death by trained health center doctors according to the standards in ICD-10. The data were descriptively described.

**Results:** Transportation accidents were included in the top 10 causes of death. Most deaths occurred among adolescents aged 15-19 years. Mortality in men was higher than in women. Most of the deaths occurred in the hospital, followed by other places and on the way to the hospital / health facility. The most types of accidents were traffic accidents on motorbikes, pedestrians, and car accidents.

**Conclusion:** This study provides information to stakeholders to prioritize policies in an effort to reduce the incidence of traffic accidents, injuries, and deaths due to accidents in Indonesia. Relevant agencies need immediate and comprehensive handling.

**Keywords:** causes of death, verbal autopsy, vital registration, traffic accidents

### Correspondence:

Retno Widyastuti. Faculty of Public Health, Universitas Indonesia/ Health Research and Development Department, Ministry of Health, Indonesia. Email: retno.iriawan@gmail.com. Mobile: 081219303268

# COVID-19 PREVENTION IN MICRONUTRIENTS PERSPECTIVE: A NARRATIVE REVIEW

**Febry Istyanto**

Institute of Health Science Insan Cendekia Medika, Jombang

## ABSTRACT

**Background:** Today the spread of Coronavirus 2019 (Covid-19) is still a global problem. Behind the pandemic of Covid-19 problem we must understand that the human body has inherent and adaptive immunity that can fight back pathogens. This study aimed to examine micronutrients perspective for Covid-19 prevention.

**Subjects and Method:** This was a narrative literature review study based on the collection of a variety of the latest scientific articles related to micronutrients, immunity and Covid-19. This study used standard methodological procedures expected by Cochrane for data analysis and followed The Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach to establish certainty in the findings.

**Results:** Most of the adaptive immunity was built by vaccinations or certain drugs. There was no vaccine for Covid-19 yet and it has not been established. One preventive measure was to increase the immune system by consuming enough micronutrients that were important for the body.

**Conclusion:** Vitamins A, D, C, E, Folic Acid, Zinc, Iron, and Copper can be recommended for increased endurance our body in the pandemic mass of Covid-19.

**Keywords:** Covid-19, prevention, immune system, micronutrients

### Correspondence:

Febry Istyanto. Institute of Health Science Insan Cendekia Medika Jombang. Jl. Kemuning No.57A, Candi Mulyo, Kec. Jombang, Jombang 61419, East Java, Indonesia. Email: febryistyanto@gmail.com. Mobile: 082133452012

# THE ASSOCIATION BETWEEN PATIENT SATISFACTION, NUTRITION EXPERT CONSULTATION PRACTICE, AND THE QUALITY OF NUTRITION SERVICE AT INPATIENT WARD, HANAU HOSPITAL

Atet Kurniadi<sup>1)</sup>, Pujiyanto<sup>2)</sup>

<sup>1)</sup>Study Program of Public Health, Universitas Indonesia

<sup>2)</sup>Department of Health Policy Administration, Universitas Indonesia

## ABSTRACT

**Background:** The principal activities within the scope of nutrition service in hospitals are patient nutrition care and food preparation. Indicators of the quality of nutritional services are the planning of nutritional care in accordance with the service standards for successful nutrition consultation, the accuracy of the diet served, food presentation, taste of the food, and the leftovers of the patient. The minimum amount of food left by patients is less than 20% according to the Hospital Minimum Service Standards. This study aimed to evaluate the relationship between the level of patient satisfaction with food services and the practice of nutritionist consultation as evaluated from the leftovers of patients in the inpatient ward in Hanau Hospital.

**Subjects and Method:** This was a cross-sectional study conducted at the Hanau Hospital. The number of respondents in this study was 67 people. The independent variable was the level of patient satisfaction with food services and nutritionist consulting practice services. The dependent variable was food waste assessed by the Visual Comstock method. Food waste data were obtained using the Visual Comstock method. Assessment of patient satisfaction were using a questionnaire. The practice of consulting nutritionists was assessed by observation using a standard operational checklist sheet for nutrition consultation procedures. The data were analyzed using Rank's Spearman.

**Results:** From the assessment of nutritionist consultation services during nutrition consultation, it was found that 44.8% patients were in the sufficient category and 43.3% patients were in the good category. 53.7% patients were satisfied with the food services provided, both from the timeliness of serving the food, the taste of food, and the appearance of the waiters, while 15% were dissatisfied. Measurement of food waste showed that the average food waste was 30.2%. Patient satisfaction level was not related to nutritional service on the leftovers of the patient. The practice service of nutritional consultation was not related to patient satisfaction assessed by the leftovers of the patient.

**Conclusion:** Based on the patient's leftovers, there is no relationship between the level of patient satisfaction with nutrition services. Also, there is no relationship between the nutritional consultation and patient satisfaction.

**Keywords:** food service, leftovers, nutritional consultation, patient satisfaction

### Correspondence:

Atet Kurniadi. Study Program of Public Health, Universitas Indonesia, Depok, West Java.  
Email: atetkurniadi@gmail.com. Mobile: 081250959318

# DETERMINANTS OF LANGUAGE DEVELOPMENT AMONG 1 YEAR OLD CHILDREN IN MALANG, EAST JAVA

Yuniastuti Ni Putu Ayu Krisna, Tarsikah, Widyana Erni Dwi

School of Health Polytechnics, Ministry of Health, Malang, East Java

## ABSTRACT

**Background:** Language development is an indicator of all child development, because language development is sensitive to the delay in child development. This study aimed to determine the factors associated with language development among children aged 1 year.

**Subjects and Method:** This was a cross-sectional study in the Integrated Health Center in Wagir Community Health Center, Malang, East Java, from April to May 2017. The total of 67 children aged 1 year who met the inclusion criteria were enrolled in this study. The data were collected using a questionnaire and a Denver II sheet, then the data were analyzed using logistic regression.

**Results:** Gender and parenting style were influencing in language development among children aged 1 year, and they were statistically significant. Male and parenting by non-mother had a risk to language development suspect among children aged 1 year.

**Conclusion:** Gender and parenting style are associate with language development among children aged 1 year

**Keywords:** gender, parenting style, language development, children aged 1 year

### Correspondence:

Ni Putu Ayu Krisna Yuniastuti. School of Health Polytechnics, the Ministry of Health, Malang, East Java. Jl. Besar Ijen No. 77C Malang, East Java. Email: ayukrisna143@gmail.com. Mobile: 085339277780.

# DISABILITY PERCEPTION IN SEXUALITY AND REPRODUCTIVE HEALTH NEEDS: A SCOPING REVIEW

Youlenta Ernesontha, Nurul Kurniati, Mufdlilah

Universitas 'Aisyiyah Yogyakarta

## ABSTRACT

**Background:** Persons with disability are every person who experiences physical, intellectual, mental, and/ or sensory limitations for a long period of time. These people may experience obstacles and difficulties to participate fully and effectively with other citizens based on equal rights. This study aimed to review the disability perception in sexuality and reproductive health needs.

**Subjects and Method:** This was a scoping review study using the Arksey and O'Malley framework. The framework used to manage research questions was Population, Exposure, Outcome dan Study Design (PEOS). A total of 3 databases, namely Science Direct, PubMed, and Wiley were selected for this study. The data were collected by identifying relevant articles according to inclusion and exclusion criteria.

**Result:** People with disability were human beings who can feel biological needs. Negative stigma from family, health workers, and parents were a very perceived barrier for people with disabilities. These people need to receive special attention regarding information and application of health sexual and reproductive health. Access to information can be applied in communities that gather a large number of people with disability so that it is easy for them to get information on their reproductive needs and rights.

**Conclusion:** People with disability need special attention regarding information and application of sexuality and safe reproductive health.

**Keywords:** persons with disability, sexuality and reproductive health

### Correspondence:

Youlenta Ernesontha. Universitas 'Aisyiyah Yogyakarta. Email: Youlenta0110@gmail.com.  
Mobile: 085245639293

# **BURDEN AND QUALITY OF LIFE OF DEPENDENT ELDERLY CAREGIVERS IN PAKUNCEN VILLAGE YOGYAKARTA**

**Herose Cendrasilvinia, The Maria Meiwati Widagdo,  
Widya Christine Manus**

Faculty of Medicine, Universitas Duta Wacana Christian, Yogyakarta

## **ABSTRACT**

**Background:** Elderly people face health problems associated with reduced health and increased disability. Dependent elderly on caregivers who cause a burden affecting the quality of life of caregivers. The aim of this study was to analyze the correlation between the burden and quality of life among dependent elderly caregivers.

**Subjects and Method:** A cross-sectional study was carried out in Pakuncen Village, Yogyakarta. The study subjects were 30 informal caregivers who cared for their family member aged  $\geq 60$  years with moderate dependence. Instruments used to screen dependent elderly included Activities of Daily Living (ADL) and Instrument Activities of Daily Living (IADL) to measure level of independence, MMSE and AD-8 to assess cognitive function of elderly. Caregivers aged  $\geq 60$  years underwent MMSE and those with scores  $<24$  was excluded. Caregivers' burden were measured using The Zarit Burden Interview (ZBI) and Caregiver Reaction Assessment (CRA). Measurements of quality of life among caregivers was conducted by WHOQOL-BREF. Data were analyzed using Spearman-rank correlation.

**Results:** Out of 30 caregivers, 24 were female and 6 were male with an average age of 49 years. Most respondents had light to moderate burden (Mean= 34.27; SD=18.94). Caregivers' quality of life were low ( $<60$ ) in psychological (Mean= 58.17; SD= 12.31), social relation (Mean= 59.77; SD= 9.04), and the environment domains (Mean= 51.90; SD= 10.00). Caregivers' quality of life was high ( $\geq 60$ ) in physical health domain (Mean= 63.30; SD=12.83). There were negative correlations between caregiver burden (ZBI and CRA) and the quality life of caregivers (WHOQOL-BREF).

**Conclusion:** In Yogyakarta, the burden of caregivers (ZBI and CRA) and the quality of caregivers' lives (WHOQOL-BREF) are negatively correlated.

**Keywords:** caregiver, burden, quality of life, dependent, elderly

### **Correspondence:**

Herose Cendrasilvinia. Faculty of Medicine, Universitas Duta Wacana Christian, Yogyakarta. Jl. Dr. Wahidin Sudirohusodo 5-25 Yogyakarta, 55224. Email: herosecendrasilvinia@gmail.com. Mobile: 081226466770.

# DETERMINANT OF MALARIA INCIDENCE IN THE COASTAL AREA OF EAST LOMBOK, WEST NUSA TENGGARA

Muhammad Kazwaini<sup>1,3)</sup>, Chatarina U. Wahyuni<sup>2)</sup>

<sup>1)</sup>Public Health Doctoral Program, Faculty of Public Health, Universitas Airlangga

<sup>2)</sup>Department of Epidemiology, Faculty of Public Health, Universitas Airlangga

<sup>3)</sup>Waikabubak Research and Development Center

## ABSTRACT

**Background:** Coastal area is a location for the economic movement of fishermen families. Malaria transmission and malaria cases in coastal areas are higher than in non-coastal areas. This study aimed to determine fishermen, control activity, and environmental factors of fishing communities with the incidence of malaria in the coastal area of East Lombok Regency.

**Subjects and Method:** An observational study was conducted in the coastal area of East Lombok Regency, West Nusa Tenggara. The fisherman selected in this study were 30 people from all coastal villages using simple random sampling technique. The dependent variable was malaria incidence. The independent variables were fishermen characteristics, control activity, and environmental condition. Data were carried out using questionnaire and analyzed using Chi-square test.

**Results:** The incidence of malaria in the coastal areas of East Lombok were caused by fisherman characteristics (age of fishermen <45 years, duration of being fishermen <5 years, and education below primary school), control activity (indoor residual spray (IRS) activities), and environmental condition (type of semi-permanent housing), and they were statistically significant.

**Conclusion:** The incidence of malaria in the coastal areas of East Lombok were caused by fisherman characteristics, control activity, and environmental condition. The most related to malaria incidence is fishermen characteristic.

**Keywords:** control, determinants, malaria, coastal, fisherman

### Correspondence:

Chatarina U. Wahyuni. Public Health Doctoral Program, Faculty of Public Health, Universitas Airlangga, Surabaya, East Java. Email: chatarina.uw@fkm.unair.ac.id. Mobile: 081339432903

# RISK FACTORS OF MALARIA CASES AMONG CHILDREN UNDER FIVE IN BONGGO COMMUNITY HEALTH CENTER, SARMI, PAPUA PROVINCE

Lalu Irwandi<sup>1)</sup>, Hari Basuki Notobroto<sup>2)</sup>

<sup>1)</sup>Epidemiology Masters Study Program, Faculty of Public Health, Universitas Airlangga

<sup>2)</sup>Department of Biostatistics and Population, Faculty of Public Health, Universitas Airlangga

## ABSTRACT

**Background:** Currently in tropical and sub-tropical countries, malaria is still a world health problem of an infectious disease. In 2019, the malaria report of Sarmi Regency shows the number of malaria cases is 14,409 with 2,246 cases (15.5%) in the children under five group. This study aimed to analyze various risk factors related to the incidence of malaria among children under five in the working area of the Bonggo Community Health Center, Sarmi Regency, Papua Province.

**Subjects and Method:** This was a case control study conducted in Bonggo Community Health Center, Sarmi Regency, Papua Province. A total of 99 parents with children under five divided into two groups of 33 malaria cases and 66 controls (non-malaria), were enrolled in this study. The dependent variable was malaria incidence. The independent variables were parents habit, bed net, density of the residential wall, and parents' occupation. The sampling technique used was stratified random sampling with reference to data from the E-Sismal report at Bonggo Community Health Center from April to May 2020 and the cohort for infants and children under five at the Bonggo Health Center in 2020. Data collection was carried out by observing home visits and questionnaire. Data were analyzed using multiple logistic regression.

**Results:** The habit of parents carrying their children outside the home at night increased the risk of malaria among children under five (OR= 7.05; 95% CI= 1.79 to 27.7; p= 0.005). Sleeping with insecticide-treated bed nets had a malaria protective effect on children under five (OR= 0.24; 95% CI= 0.07 to 0.78; p= 0.019). Meanwhile, the density of the residential walls (OR= 1.62; 95% CI= 0.45 to 5.86; p= 0.461) and the parents' occupation (OR= 1.92; 95% CI= 0.56 to 6.62; p= 0.299) was not significant in influencing the incidence of malaria among children under five.

**Conclusion:** The habit of carrying toddlers outside the home at night increases the risk of developing malaria in children under five, while sleeping habits using insecticide-treated bed nets have a protective effect in reducing the risk of developing malaria among children under five.

**Keywords:** malaria, children under five, risk factors

### Correspondence:

Lalu Irwandi. Epidemiology Masters Study Program, Faculty of Public Health, Universitas Airlangga, Surabaya, East Java. Email: irwanzlalu@gmail.com Mobile: 081354122984

# THE CORRELATION BETWEEN SOCIAL DETERMINANTS AND ENVIRONMENTAL CONDITION WITH MEASLES CASES AMONG INFANTS IN PADANG, WEST SUMATERA

Iyana Putri<sup>1)</sup>, Adang Bachtiar<sup>2)</sup>

<sup>1)</sup>Faculty of Public Health, Universitas Indonesia

<sup>2)</sup>Department of Health Administration and Policy,  
Faculty of Public Health, Universitas Indonesia

## ABSTRACT

**Background:** Indonesia is targeting to eliminate measles by 2020. In 2018 there were still 191 cases of measles in the city of Padang. This study aimed to determine the risk factors most associated with the incidence of measles among children under five in Padang City in 2018.

**Subjects and Method:** A case-control study was conducted in Padang City, West Sumatera. The total of 74 children under five were enrolled in this study consisting of 37 with measles and 37 without measles. The study subjects were selected using sampling technique for cases and purposive sampling with matching age and sex for controls. The dependent variable was measles incidence. The independent variable was exclusive breastfeeding, measles immunization status, and vitamin A intake. The data were collected using medical records and questionnaire. The data were analyzed using logistic regression.

**Results:** The logistic regression showed that the most influential variable with the incidence of measles among children under five was measles immunization status with (OR= 6.33; 95% CI= 1.87 to 21.39; p= 0.003).

**Conclusion:** Children under five who are not immunized against measles have the highest risk of measles incidence among children under five in Padang City.

**Keywords:** measles, immunization, children under five

### Correspondence:

Iyana Putri. Faculty of Public Health, University of Indonesia, Depok, West Java. Email: iyanaputri71@gmail.com. Mobile: 085264332552

# THE RELATIONSHIP BETWEEN SUN EXPOSURE, HAT, AND PTERYGIUM DISEASE AMONG FISHERMAN IN BENGKULU

Dwi Putri Sulistiya Ningsih<sup>1)</sup>, Ida Rahmawati<sup>2)</sup>

<sup>1)</sup>Study Program of Public Health, School of Health Science Tri Mandiri Sakti, Bengkulu

<sup>2)</sup>Study Program of Nursing, School of Health Science Tri Mandiri Sakti, Bengkulu

## ABSTRACT

**Background:** Fishermen are at high risk for suffering from Pterygium disease. Pterygium has the potential to cause decreased visual acuity, chronic irritation, recurrent inflammation, double vision, impaired eye movement and even blindness. This study aimed to analyze the relationship between sun exposure and hat use with Pterygium disease in a group of fishermen in Malabero, Bengkulu City.

**Subjects and Method:** A case-control study was conducted in Malabero, Bengkulu City. A sample of 120 fishermen consisting of 40 cases and 80 controls selected by purposive sampling. The dependent variable was pterygium. The independent variables were length of sun exposure and the use of a hat. The pterygium case data were obtained from hospital medical records. Other data were collected by questionnaire and then analyzed using Chi-Square.

**Results:** Fishermen who were exposed to  $\geq 5$  hours of sunlight were associated with pterygium disease (OR= 4.32; 95% CI= 0.20 to 0.96; p= 0.038). Fishermen who did not wear a hat while working was associated with pterygium disease (OR= 11.13; 95% CI= 0.78 to 0.54; p= 0.001).

**Conclusion:** Fishermen who were exposed for  $\geq 5$  hours had a high risk of developing pterygium disease, as well as fishermen who worked without wearing a hat were at high risk for developing pterygium disease.

**Keywords:** pterygium disease, sunshine, hat, fisherman

### Correspondence:

Dwi Putri Sulistiya Ningsih. School of Health Science Tri Mandiri Sakti, Bengkulu. Jl. Hibrida Raya No.3, Bengkulu 38829, Email: dwiputri238@gmail.com Mobile: +6281377733346

# GENDER AND OCCUPATION ON FINE MOTOR SKILL AMONG INFANTS AGED 6-11 MONTHS

**Catur Retno Lestari**

Study Program of Biomedical Science, Universitas IVET Semarang

## ABSTRACT

**Background:** After birth, the growth and growth of boys will tend to be faster than girls and will last until a certain moment. This is affected by testosterone, a hormone that is higher in male babies than in female babies. The employment status of mothers may affect the role and presence of mothers in stimulating children to achieve motor development according to their age. Working mothers can have a negative or positive influence on the development of children. The negative impact of working mothers is that the presence of the mother in the child's daily life is lower than that of the mother who is not working, so that the mother can provide motivation and stimulation. This study aimed to determine the gender and occupation relationship on fine motor skill among infants aged 6-11 months.

**Subjects and Method:** This was a cross-sectional study of 284 infants aged 6-11 months. This study was carried out in eight community health centres in Kulon Progo Regency, Yogyakarta. The dependent variable was fine motor skill. The independent variable was gender. Data on fine motoric development were based on the results of the pre-screening development questionnaire. Other data were collected from interview and questionnaire. Data were analyze using the Chi-square test.

**Results:** There was a significant relationship between gender and fine motor development among infants aged 6-11 months.

**Conclusion:** Gender is proven to have a significant relationship with fine motor development among infants aged 6-11 months.

**Keywords:** gender, fine motor development, infant

### Correspondence:

Catur Retno Lestari. Study Program of Biomedical Science, Universitas IVET Semarang. Email: [caturretno.lestari@gmail.com](mailto:caturretno.lestari@gmail.com)

# THE INFLUENCE OF SOCIAL CAPITAL, PARENTING, AND ENVIRONMENT ON QUALITY OF LIFE AMONG 2-4 YEARS OLD CHILDREN

Heni Puji Wahyuningsih<sup>1,2)</sup>, Bhisma Murti<sup>3)</sup>, Eny Lestari<sup>4)</sup>, Reviono<sup>5)</sup>

<sup>1)</sup>Doctoral Program of Development Counseling, Universitas Sebelas Maret

<sup>2)</sup>School of Health Polytechnis, Yogyakarta, Indonesia

<sup>3)</sup>Masters Program in Public Health, Universitas Sebelas Maret, Solo, Indonesia

<sup>4)</sup>Masters Program in Development Counseling, Postgraduate Program,  
Universitas Sebelas Maret, Solo, Indonesia

<sup>5)</sup>Faculty of Medicine, Universitas Sebelas Maret, Solo, Indonesia

## ABSTRACT

**Background:** Quality of life is actually a broader construct that encompasses aspects of life that may not be amenable to healthcare service. The quality of life of children is a subjective perception of satisfaction or happiness on quality of life. The quality of life is influenced by various factors, namely health conditions, socio-economic status, parenting styles, and the environment. According to HL Bloom's theory, health status is determined by 40 percent of environmental factors, 30 percent of behavioral factors, 20 percent of health services, and 10 percent of genetics or heredity. The purpose of this study was to determine the effect of social capital, parenting, and the environment on the quality of life among children.

**Subjects and Method:** This was a retrospective cohort study. Total of 400 children aged 2-4 years old who reside in the *desa layak anak* villages and ordinary villages in the region of Sleman regency. The dependent variable was quality of life among children. The independent variables were social capital, parenting, and the environment. Data were obtained from in-depth interview and questionnaire. Data were analyzed using path analysis.

**Results:** The good quality of life of children was affected directly by positive social capital ( $b = 0.084$ ;  $SE = 0.049$ ;  $p = 0.001$ ), good parenting style ( $b = 0.123$ ;  $SE = 0.050$ ;  $p < 0.001$ ), and good environment ( $b = 0.128$ ;  $SE = 0.048$ ;  $p < 0.001$ ).

**Conclusion:** Social capital, parenting and environment have a direct influence on the quality of life among children.

**Keywords:** quality of life, children, social capital, parenting, environment

### Correspondence:

Heni Puji Wahyuningsih. Doctoral Program of Development Counseling, Universitas Sebelas Maret/ School of Health Polytechnis, Yogyakarta, Indonesia. Email: [heni.pujiw@poltekkesjogja.ac.id](mailto:heni.pujiw@poltekkesjogja.ac.id)

# A COMPLIANCE ON PROFILACTICAL AS A DOMINANT FACTOR TOWARDS FILARIASIS EVENTS IN JAMBI PROVINCE AS A HIGH ENDEMIS REGENCY

Umami Kalsum, Jumati, Damris Muhammad

Study Program of Public Health, Universitas Jambi

## ABSTRACT

**Background:** Tanjung Jabung Timur Regency is a district where filariasis is endemic. In 2018, the Microfilaria rate (Mf rate) was 1.33% and is the only district / city in Jambi Province with an Mf rate > 1%, so mass treatment was performed again for 2 years (2017-2018), but cases have still been identified. Novelty in 2019. This study aimed to analyze the relationship between the incidence of filariasis in the physical, biological, social and cultural environment and the dominant factors in the incidence of filariasis.

**Subjects and Method:** This was a case control design conducted in Tanjung Jabung Timur Regency from March to July 2020. Total of 84 patients with filariasis were enrolled in this study. The dependent variable was the incidence of filariasis while the independent variables were the socio-cultural environment and individual characteristics (age, education, occupation, income, level of knowledge, spending habits of the day, preventive measures, and compliance with prophylactic medication), attitude (physical environment), The data were collected using questionnaire and environmental observation. Data were analyzed using a multiple logistic regression.

**Results:** Most of patients with filariasis were male (61.9%), had low education (73.8%), was a farmer, and 60% had a job at risk of developing filariasis. Age (OR = 0.16 ; 95%CI= 0.06 to 0.41), education (OR = 4.50 ; 95%CI= 1.56 to 12.96), occupation (OR = 4.66, 95% CI = 1.76 to 12.31), adherence to taking prophylactic medication (OR = 4.70, 95% CI = 1.83 to 12.04) were affected on the filariasis incidence. Adherence to taking prophylactic drugs was the most dominant risk factor for filariasis (OR = 12.97; 95% CI = 3.35 to 50.15).

**Conclusion:** Following control for resting place, occupation, age and height of residence, the most dominant factor in the incidence of filariasis is adherence to taking prophylactic drugs.

**Keywords:** adherence, prophylaxis, filariasis, risk factors, environment

### Correspondence:

Umami Kalsum. Study Program of Public Health, Universitas Jambi. Jl. Tri Brata, Km 11 Unja Campus Pondok Meja Mestong, Kab. Muaro Jambi. Email: ummi2103@unja.ac.id. Mobile: 081314385775

# DETERMINANT FACTORS OF COVID-19 TRANSMISSION AMONG OF HEALTH PERSONNEL: A SYSTEMATIC REVIEW

Wenny Wiharsini<sup>1)</sup>, Wahyu Sulistiadi<sup>2)</sup>

<sup>1)</sup>Master Program in Public Health, Faculty of Public Health, Universitas Indonesia

<sup>2)</sup>Faculty of Public Health, Universitas Indonesia

## ABSTRACT

**Background:** The number of Covid-19 infected cases is still increasing, pandemic has yet to be controlled. This can increase the risk of Covid-19 transmission among health personnel in hospitals. Data as of September 7, 2020, the Indonesian Doctors Association (IDI) states that more than 100 doctors in Indonesia who have died due to Covid-19 infection. The phenomenon of transmission in health personnel is urgent. This study aimed to systematically review the determinant factors of covid-19 transmission among of health personnel.

**Subjects and Method:** This was a systematic review study from various article sources that have been done previously. The databases used in this study were Science Direct and Scopus, journals published from February to September 2020. The articles were extracted using the Preferred Reporting System for Systematic Review and Meta-analysis (PRISMA) 2009 flowchart.

**Results:** Total of 5 articles were reviewed. The results of this study showed that the variables of gender, age, and profession showed significant results on Covid-19 transmission in 2 articles, but the results were not significant in 3 other articles. Meanwhile, the work location variable shows significant results in 2 articles that raise this variable with the location of the work place, including the medical ward and the emergency department. Ethnic variables, raised by one article with insignificant results and for the variable personal protective equipment and masks showed significant results related to Covid-19 transmission.

**Conclusion:** Workplace arrangements, especially for Covid-19 special isolation and the use of good personal protective equipment, can reduce the transmission of Covid-19 to health personnel, especially those in emergency rooms and medical wards.

**Keywords:** determinants, Covid-19, health personnel, personal protective equipment,

### Correspondence:

Wenny Wiharsini. Universitas Indonesia. Depok, West Java, Indonesia. Email: wennywiharsini@gmail.com. Mobile: 081316790160

## DEVELOPMENT OF SURVEILLANCE FOR STUNTING IN PARIGI-MOUTONG, CENTRAL SULAWESI

Revy Tilaar, Asmarafia, Kurniati, Ismi Maudilah Hardianti, Rossi Sanusi

Assistant for Economy and Development Parigi Moutong Regency  
Faculty of Medicine, Universitas Gadjah Mada

### ABSTRACT

**Background:** The prevalence of stunting in Parigi-Moutong District (Parimo District) was 33.7% at 10 villages. Stunting prevention effort are structured into a response-surveillance system (SSR) that includes all stages of the natural course of child growth disorders (GPA) to detect (Dx) and provide action (Rx) on the agent-environment (primordial prevention) and the host (primary prevention to rehabilitation). This study aimed to examine the development of a stunting-response surveillance system in Parigi-Moutong District, Central Sulawesi.

**Subjects and Method:** This was a qualitative study conducted at Faculty of Medicine, Public Health and Nursing, Gajah Mada University, Yogyakarta from November 26 to 30. The development of SSR Stunting in Parimo Regency was carried out by means of a Training of Trainer (ToT), the following stages: (1) ToT 1 in the health sector (secondary and tertiary prevention); (2) training in 10 locus villages, sub-districts and districts by trainer from parimo district; (3) establishing ssr stunting; (4) ToT 2 across sector (primordial prevention, primary prevention and rehabilitation); (5) training throughout parimo district; and, (6) establishing the sr system for priority diseases.

**Results:** SSR officers are able to train Individual Health Effort (UKP) officers, Information technology (IT) officers, Surveillance-Response (SR) officers

**Conclusion:** SSR follows the WHO SSR pattern which consists of four components: (1) Main functions; (2) Supporting functions; (3) Structure; and, (4) quality criteria.

**Keywords:** stunting, SSR, surveillance

### Correspondence:

Rossi Sanusi. Faculty of Medicine, Universitas Gadjah Mada. l. Farmako, Senolowo, Sekip Utara, Depok, Sleman, Daerah Istimewa Yogyakarta 55281.

# THE EFFECT OF INFECTION PREVENTION AND CONTROL LINK NURSE SUPERVISION AND RESOURCE AVAILABILITY ON PARAMEDIC HAND HYGIENE AT HANAU HOSPITAL, SERUYAN DISTRICT, CENTRAL KALIMANTAN

Jhonferi Sidabalok<sup>1)</sup>, Pujiyanto<sup>2)</sup>

<sup>1)</sup>Hospital Administration Studies Master Program, Faculty of Public Health, Universitas Indonesia

<sup>2)</sup>Department of Health Administration and Policy, Faculty of Public Health, Universitas Indonesia

## ABSTRACT

**Background:** Hand hygiene was the most straightforward and most effective behavior to prevent nosocomial infection. Doing hand-hygiene in 5 moments must be endeavored to improve the quality of service in the hospital. Hospitals must have a PPI team where the Infection Prevention and Control Link Nurse (IPCLN) is part of the structure. The availability of facilities in the hospital is needed to support hand hygiene behavior. This study aimed to know the effect of IPCLN supervision and facilities' availability on paramedical hand hygiene behavior at Hanau Hospital.

**Subjects and Method:** This was a cross-sectional conducted at Hanau Hospital, Seruyan District, Central Kalimantan. A sample of 83 paramedics at Hanau Hospital was selected for this study by total sampling. The dependent variable was the behavior of hand hygiene paramedic. The independent variable was IPCLN supervision and the availability of facilities. The data were collected by questionnaire. The data was analyzed by Chi Square.

**Results:** The respondents in this study were 67.5% women, 72.3% were under 30 years old, 74.7% had a Diploma-III education, and 69.9% worked less than 5 years. The supervision carried out by IPCLN (OR = 35.25; CI: 4.36 to 258.22), and the availability of facilities (OR = 24.35; CI: 5.10 to 116.26) was statistically significant ( $p < 0.001$ ). Variables that influence the behavior of paramedic hand hygiene at Hanau Hospital are supervision of the IPCLN towards paramedics (B = 2.86; OR = 17.42; 95% CI= 1.94 to 156.78;  $p = 0.011$ ) together with the variable availability of facilities (B = 2.62; OR = 13.69; 95% CI= 2.62 to 71.49;  $p = 0.002$ ).

**Conclusion:** The supervision of IPCN and the availability of facilities affect the hand hygiene behavior of paramedics at Hanau Hospital.

**Keywords:** hand hygiene, IPCLN, Supervision, Facilities, PPI

## Correspondence:

Jhonferi Sidabalok, Hospital Administration Studies Master Program, Faculty of Public Health, Indonesia University. Email: jfs.usu98@gmail.com. Mobile 082154643424

# RUBELLA OUTBREAK IN SCHOOL AGE CHILDREN IN KULON PROGO DISTRICT, YOGYAKARTA

Siti Nurfadilah H<sup>1)</sup>, Riris Andono Ahmad<sup>1)</sup>, Sugiarto<sup>2)</sup>

<sup>1)</sup>Field Epidemiology Training Program (FETP) Universitas Gadjah Mada, DIY

<sup>2)</sup>Kulon Progo District Health Office, Yogyakarta

## ABSTRACT

**Background:** On 24 November 2015, public health center Kokap 2 reported an outbreak of suspected measles in the village of Hargowilis. In Kokap District, outbreaks of suspected measles have never occurred in school-age children in the last three years. This study aims to ascertain the suspected measles outbreaks and identify risk factors, sources, and transmission routes.

**Subjects and Method:** This was a matched case control study conducted from November 2015 to January 2016, in Hargowilis Village, Central Java. A sample of 21 who has the main clinical symptoms suspected of measles such as: fever, rash and followed by one of the symptoms of cough, flu, and red eyes (cases) and classmates who did not have case-like symptoms (control) were selected by snowball sampling. The data were analyzed using McNemar's test and logistic regression.

**Results:** Five out of ten sera tested were positive for rubella. There were 21 total cases. None of the pregnant women was a rubella case. Most of the patients were male (61.90%) with ages ranging from 5 to 11 years (71.43%) and were served at the public health center (80.95%). The case index is a student who travels in the District of Wates. The highest number of cases was at week 46 of 2015 (9 cases). Bivariate analysis showed that contact history (OR = 0.14; 95% CI 0.03 to 0.39;  $p = <0.001$ ) and age (OR = 0.06; 95% CI 0.00 to 0.24;  $p = <0.001$ ) were risk factors for this Rubella outbreak.

**Conclusion:** There has been an outbreak of rubella in the village of Hargowilis, Yogyakarta. Public health centers are recommended to provide information to the public about rubella. Health workers need to take all blood serum cases to confirm outbreak. Public health centers are suggested to strengthen the surveillance system for measles and rubella.

**Keywords:** Rubella, risk factors, Public health center, outbreaks

### Correspondence:

Siti Nurfadilah H. Center for Health Policy and Management (PKM) Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada, Yogyakarta. Email: siti.nurfadilah.h@mail.ugm.ac.id. Mobile: 085255987009

# FACTORS RELATED TO MALNUTRITION EVENTS IN UNDER-FIVE CHILDREN IN KABUKARUDI VILLAGE, EAST NUSA TENGGARA

Nepriana Buta Rade<sup>1)</sup>, Theresia Puspitawati<sup>2)</sup>, Jati Untari<sup>2)</sup>

<sup>1)</sup>Non-governmental organization Sumba foundation

<sup>2)</sup>Public Health Study Program, Faculty of Health Sciences, Universitas Respati Yogyakarta

## ABSTRACT

**Background:** Malnutrition has become an urgent global health problem. Millions of people are killed or disabled every year due to insufficient nutrition. Indirectly influenced by upbringing, food availability, socio-economic, cultural, and environmental factors. Based on the regency, the highest percentage is in West Sumba (12.20%). This study aimed to find out the factors related to malnutrition events in under-five children in Kabukarudi village, East Nusa Tenggara.

**Subjects and Method:** This was a cross sectional study conducted in Kabukarudi Village, Lamboya District, West Sumba Regency, East Nusa Tenggara. A sample of 99 was selected by purposive sampling. The data was analyzed by chi square.

**Results:** Relationship between knowledge level ( $p = 0.047$ ), type of foodstuff ( $p < 0.001$ ), and infectious diseases ( $p < 0.001$ ) it was statistically significant.

**Conclusion:** Malnutrition events in under-five children is associated with knowledge level about nutrition, type of food consumed and infectious disease.

**Keywords:** malnutrition, knowledge, food variant, infection disease

### Correspondence:

Theresia Puspitawati. Public Health Study Program, Faculty of Health Sciences, Universitas Respati Yogyakarta. Jl. Laksda Adisucipto KM.6,3, Ambarukmo, Caturtunggal, Sleman distric, Yogyakarta 55281 E-mail: thpuspitawati@gmail.com. Mobile: +628122719110.

# THE INFLUENCE OF BEHAVIOR FACTORS ON THE INCIDENCE OF SYPHILIS IN HIGH-RISK MEN IN PUBLIC HEALTH CENTERS, MEDAN, NORTH SUMATERA

Vicky Arfeni Warongan, Fazidah Aguslina Siregar, Etti Sudaryati

Faculty of Public Health, Universitas Sumatera Utara

## ABSTRACT

**Background:** Sexually Transmitted Infection is still a public health problem globally, because the pattern of the disease almost occurs in all countries until now, especially syphilis. Homosexual behavior, sexual promiscuity, and migration from one place to another can be potential to be transmitted by syphilis. This study aimed to analyze the influence of behavioral factors towards the incidence of syphilis in the work area of the Public Health Centers in Medan, 2019.

**Subjects and Method:** A case control study was conducted in Teladan, Helvetia and Padang Bulan Public health centre. A sample of 80 consisting of 40 cases and 40 control was selected by purposive sampling. The dependent variable was syphilis. The independent variables were HIV status, history of sexually transmitted diseases, previous history of syphilis, history of circumcision, use of condoms, use of drugs, number of sex partners and the average frequency of sex. The data were collected by questionnaire and analyzed by a multiple logistic regression.

**Result:** Variables that influence syphilis are the history of syphilis (OR= 28.52; 95% CI= 7.55 to 107.78; p= 0.0001) and drug use (OR= 15.12; 95% CI= 2.57 to 89.24; p= 0.003). Meanwhile, HIV status (OR = 1.55; 95% CI= 0.41 to 5.87; p= 0.520), use of condoms (OR= 0.2 01; 95% CI= 0.63 to 8.90; p= 0.201) and sexually transmitted diseases (OR= 1.53; 95%CI= 0.23 to 10.18; p= 0.660). The previous history of syphilis was the dominant influence of the incidence of syphilis (OR=28.52; 95% CI= 7.55 to 107.78; p=0.001).

**Conclusion:** Variables that influence syphilis are the history of syphilis (OR= 28.52; 95% CI= 7.55 to 107.78; p= 0.0001) and drug use (OR= 15.12; 95% CI= 2.57 to 89.24; p= 0.003). Meanwhile, HIV status (OR = 1.55; 95% CI= 0.41 to 5.87; p= 0.520), use of condoms (OR= 0.2 01; 95% CI= 0.63 to 8.90; p= 0.201) and sexually transmitted diseases (OR= 1.53; 95%CI= 0.23 to 10.18; p= 0.660). The previous history of syphilis was the dominant influence of the incidence of syphilis (OR=28.52; 95% CI= 7.55 to 107.78; p=0.001).

**Conclusion:** It is recommended that the Health Service of Medan can give inputs for developing health intervention program, including the evaluation of STI intervention programs. The management of Teladan, Helvetia and Padang Bulan Public Health Centers should increase counseling, medication, and prevention programs towards syphilis for the high risk male population.

**Keywords:** Influence, Syphilis, Case Control

### Correspondence:

Vicky Arfeni Warongan, SKM. Fakultas Kesehatan Masyarakat, Universitas Sumatera Utara. Jl. Universitas No.32, Padang Bulan, Kecamatan Medan Baru, Kota Medan, Sumatera Utara 20222. Email: vickyarfeni@gmail.com. Mobile: 081263197791

# RISK FACTORS OF COVID-19 TRANSMISSION BETWEEN HOSPITAL EMPLOYEES

Siti Ulfah<sup>1)</sup>, Cicilya Candi<sup>2)</sup>, Ede Surya Darmawan<sup>2)</sup>

<sup>1)</sup>Masters Program in Hospital Administration, Faculty of Public Health, Universitas Indonesia

<sup>2)</sup>Faculty of Public Health, Universitas Indonesia

## ABSTRACT

**Background:** Coronavirus disease 2019 (Covid-19) in healthcare workers at hospital has caused concern because of the higher rates of infection from patients. The aimed of the study was to investigate the risk factors of covid-19 transmission between hospital employees.

**Subject and Method:** This was a qualitative study conducted from August to September 2020. A total of 19 confirmed Covid-19 cases were selected for this study. The data were collected by in-depth interview analyzed descriptively.

**Result:** From 19 confirmed Covid-19 cases, 15 of it were medical staff (78.95%) and the rest were non-medical staff (21.05%). The risk factors of transmission were direct contact with confirmed Covid-19 patient and neglected health protocol.

**Conclusion:** The risk of Covid-19 transmission among hospital employees increases with a direct contact with patients and the neglection of health protocol.

**Keywords:** Covid-19 transmission, hospital employees

### Correspondence:

Siti Ulfah. Masters Program in Hospital Administration, Faculty of Public Health, Universitas Indonesia. Email: sitiulfah111@gmail.com. Mobile: (021) 7864975.

# ANALYSIS OF EARTHQUAKE PREPAREDNESS MEASURES IN STUDENTS AT ELEMENTARY SCHOOL, DENPASAR, BALI

Yustina Ni Putu Yusniawati, Putu Inge Ruth Suantika

Institute of Technology and Health, Bali

## ABSTRACT

**Background:** In addition to unsuccessful policies to prepare communities for disaster reduction, the high risk of earthquakes and their harmful consequences indicate that more consideration should be given to social factors in this regard. All community shelters are vulnerable to disasters, especially children, so efforts are needed to determine disaster preparedness factors for elementary school students in Denpasar City. This study aimed to analyze earthquake preparedness measures in students at elementary school, Denpasar, Bali.

**Subjects and Methods:** This was a descriptive study conducted at an elementary school in Denpasar from January to September. A sample of 350 elementary school students in Denpasar whose schools have a disaster preparedness school (SSB) program selected by purposive sampling. The inclusion criteria were elementary school students grades 5 and 6 in Denpasar City, who can read fluently and are willing to be research respondents. The exclusion criteria were respondents who refused to be research subjects. The data were collected by 40 questions, where knowledge was 10 items, attitude was 10 items, facilities and infrastructure were 10 items, and IEC was 10 items. The data was analyzed by descriptively

**Results:** The preparedness factors of elementary school students in facing earthquake disasters were still low. There were five earthquake preparedness factors for elementary students in Denpasar, namely (1) experience, (2) knowledge, (3) attitude, (4) facilities and (5) infrastructure, and IEC. The dominant knowledge variable of elementary school students is less than 233 (63.7%), the prevalent attitude variable is negative 244 (64%), the prevalent facilities and infrastructure variable are less than 215 (61.4%), and 300 (85.7%) dominant information and education communication.

**Conclusion:** It is essential to be able to improve these preparedness factors with a variety of continuous education and training for elementary students, and health workers should work together with regional disaster management agency to establish disaster prepared schools in Denpasar City.

**Keywords:** preparedness factors, students, and earthquake

### Correspondence:

Yustina Ni Putu Yusniawati. Institute of Technology and Health, Bali. Jl. Tukad Balian no. 180 Renon Denpasar-Bali. Email: yustinaindrayana@gmail.com. Mobile: 087860000191

# A COHORT STUDY ON THE PRIMARY PREVENTION OF STROKE INCIDENCE IN ADULT POPULATION IN BOGOR, WEST JAVA

Woro Riyadina<sup>1)</sup>, Dewi Kristanti<sup>1)</sup>, Julianty Pradono<sup>1)</sup>,  
Ekowati Rahajeng<sup>1)</sup>, Yuda Turana<sup>2)</sup>

<sup>1)</sup>National Institute of Health Research and Development,  
Ministry of Health Republic Indonesia

<sup>2)</sup>Faculty of Medicine and Health Science, Universitas Katolik Atmajaya Jakarta

## ABSTRACT

**Background:** Incidence of stroke showed an increasing trend in Indonesia, 12 new cases per 1,000 in 2013, and 19 new cases per 1,000 in 2018 despite the stroke control programs from the government. This study aimed to estimate Cumulative Incidence, Incidence Rate, and Population Attributable Fraction (PAF). This study also estimated the effect of blood pressure, physical activity, blood sugar levels, and smoking habits on the risk of stroke in adults.

**Subjects and Method:** This was a cohort study conducted for 6 years in 5 Districts, Bogor City, West Java. An adult population of 5,189 subjects with aged  $\geq 25$  years was selected. The dependent variable was stroke. The independent variables included blood pressure, physical activity, blood sugar level, and smoking habits. Data for independent variables (except blood sugar level) were collected by using questioners. Data were analyzed by Cox Proportional Hazard Model.

**Results:** The Cumulative Incidence was 2.09% and Incidence Rate was 480 new stroke cases per 100,000 person-year (CI 95%= 130 to 670) over 6 years. Predictors of stroke incidence were hypertension (HR= 2.50; CI 95%= 1.50 to 4.10; p= 0.001), low physical activity (HR= 2.40; CI 95%= 1.50 to 3.90; p< 0.001), high blood sugar level (HR= 3; CI 95%= 1.70 to 5.50; p= 0.001), and heavy smoking (HR= 3.90; CI 95%= 1.40 to 11.10; p= 0.007). PAF of blood sugar level and physical activity was 67.75%, and able to reduce stroke incidence by 1,990 from 2,937.

**Conclusion:** Hypertension, low physical activity, high blood sugar level, and heavy smoking are predictors of stroke in adult. Primary prevention by increasing physical activity and decreasing blood sugar level can reduce incidence of stroke.

**Keywords:** stroke, Cumulative Incidence, Incidence Rate, PAF, primary prevention

### Correspondence:

Woro Riyadina. National Institute of Health Research and Development, Ministry of Health, Indonesia. Email: w.riyadina02@gmail.com. Mobile: +6281297673074.

# RISK FACTORS FOR MORTALITY IN PATIENTS WITH COVID-19: A SYSTEMATIC REVIEW

Ratna Yustinawati<sup>1)</sup>, Anhari Achadi<sup>2)</sup>

<sup>1)</sup>Master of Public Health Program, Faculty of Public Health, Universitas Indonesia

<sup>2)</sup>Department of Health Administration and Policy, Faculty of Public Health, Universitas Indonesia

## ABSTRACT

**Background:** SARS-CoV-2, a new strain of the coronavirus, caused a global outbreak of fatal acute pneumonia. Globally, WHO has recorded 709,511 deaths from COVID-19, and the number is increasing. This study aimed to determine the risk factors for mortality in COVID-19 patients.

**Subjects and Method:** A systematic review was conducted by searching for articles from ScienceDirect, PubMed, SpringerLink, Scopus, and Google Scholar databases. The inclusion criteria were open access, English-language, and full-text articles published in journals between 20019 and 2020. The keywords were (*Coronavirus Disease 2019 AND clinical characteristics AND epidemiological characteristics AND comorbidities*) OR (*COVID-19 AND clinical characteristics AND epidemiological characteristics AND comorbidities*). A total of eight articles was reviewed to answer the research question. The data were analyzed by PRISMA flow chart.

**Results:** Based on the reports from China and Korea, a total of 1,314 (100%) COVID-19 patients who died was aged  $\geq 60$  years with comorbidity, in which 845 (64%) were male patients. Before the death of patients, the increase D-dimer level of  $\geq 1 \mu\text{g} / \text{mL}$  and Sequential Organ Failure Assessment (SOFA) score of  $\geq 4$  were reported. It indicated the occurrence of multi-organ failure and Acute Respiratory Distress Syndrome (ARDS). Most of the comorbidities were hypertension, diabetes mellitus, and cardiovascular diseases.

**Conclusion:** Risk factors for mortality in COVID-19 patients include age at  $\geq 60$  years, male, and presence of comorbidity. The clinical features are D-dimer levels  $\geq 1 \mu\text{g} / \text{mL}$ , high SOFA score ( $\geq 4$ ), and ARDS. Comprehensive efforts are needed to identify risk factors early and conduct effective treatment timely to reduce the mortality of COVID-19 patients.

**Keywords:** SARS-CoV-2, COVID-19, risk factors, mortality, comorbidity

### Correspondence:

Ratna Yustinawati. Master of Public Health Program, Faculty of Public Health, Universitas Indonesia, Depok, West Java, Indonesia. Email: ratnayustinawati@gmail.com. Mobile: +628179324304.

# **NITRATE IN GROUNDWATER AND HEALTH RISK ASSESSMENT: A CROSS-SECTIONAL STUDY IN THREE VILLAGES IN TANAH MERAH DISTRICT, KELANTAN, MALAYSIA DURING PADDY PRE-PLANTING SEASON**

**Muhammad Syafiq N<sup>1)</sup>, Shaharuddin MS<sup>1)</sup>, Zaenal Abidin<sup>2)</sup>**

<sup>1)</sup>Department of Environmental and Occupational Health, Faculty of Medicine  
and Health Sciences Universiti Putra Malaysia

<sup>2)</sup>School of Health Sciences Bhakti Husada Mulia, Madiun, East Java, Indonesia

## **ABSTRACT**

**Introduction:** Contamination of nitrate is one of the most common groundwater problems worldwide. Around 70% of residents in the state of Kelantan still rely on groundwater as their primary source of water supply. Extensive usage of fertilizer in agricultural areas may cause nitrate leaching into the groundwater. This study aimed to determine the level of nitrate in groundwater and health risk assessment at three villages in Tanah Merah District, Kelantan, Malaysia.

**Subjects and Method:** This was a cross-sectional study conducted at Tanah Merah district, Kelantan, in January 2020. A total of 52 residents was selected by purposive sampling. The inclusion criteria for study subjects were long life residents, age  $\geq 18$  years old, and groundwater as a primary source of drinking supply. The study variables were (1) Level of nitrate in groundwater measured according to age (year), depth (meter), and distance (meter) of well from the agricultural area; and (2) Health risk assessment measured by hazard quotient (HQ). A set of questionnaires consisted of four sections to gather information related to socio-demographic, water usage, living environment, and health status. Groundwater samples were collected in duplicates and were analysed using a Hanna Instruments portable pH/ORP/ISE meter with an attached nitrate electrode. The data were reported descriptively.

**Results:** Nitrate levels were found to be under the maximum acceptable value of 10 mg/L, as stated by the Drinking Water Quality Standard of Malaysia. Nitrate level ranged from 0.22 to 8.81 mg/L (Mean= 2.94; SD= 2.27). Spearman rho correlation showed that nitrate level was significantly and negatively correlated the age of wells ( $r = -0.31$ ;  $p = 0.025$ ). Nitrate level was not significantly correlated with the depth ( $r = 0.19$ ;  $p = 0.183$ ) and distance of wells ( $r = -0.05$ ;  $p = 0.751$ ). Hazard quotient (HQ) for all study subjects was  $< 1$ , which means that exposure to nitrate contained drinking water in study subjects was not detrimental to health.

**Conclusion:** Nitrate levels were below the maximum acceptable value, but continuous monitoring from health authorities is essential since other seasons of paddy planting may contribute higher deposition of nitrate into groundwater.

**Keywords:** nitrate, groundwater, levels, hazard quotient, Tanah Merah

## **Correspondence:**

Muhammad Syafiq N. Department of Environmental and Occupational Health, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia. UPM Serdang, Selangor, Malaysia. Email: syafiqnor29@gmail.com. Mobile: +601140731881.

# **ANALYSIS OF INDIVIDUAL, PHYSICAL, AND PSYCHOSOCIAL RISK FACTORS ON WORK-RELATED SKELETAL MUSCLE DISORDERS IN WORKERS IN TOURISM SECTOR: A SYSTEMATIC REVIEW**

**Muhammad Luthfi, Baiduri Widanarko**

Occupational Safety and Health Program, Faculty of Public Health, Universitas Indonesia

## **ABSTRACT**

**Background:** Based on observations and interviews conducted with workers in the tourism sector, there were subjective complaints of work-related skeletal muscle disorders experienced by workers. But it was still an inadequate explanation of the cause of work-related skeletal muscle disorders in workers. This study aimed to investigate the analysis of individual, physical, and psychosocial risk factors on work-related skeletal muscle disorders in workers at the tourism sector.

**Subjects and Method:** A systematic review was conducted by searching from PubMed, Science Direct, and Scopus databases. The inclusion criteria were the studies identifying the association of individual, physical, and psychosocial risk factors with work-related skeletal muscle disorders in workers of the tourism sector. The articles must be published full texts in English-language between 2005 and 2020. The quality, measure of association, and level of evidence of the selected studies were critically appraised. The data were reported according to PRISMA flow chart.

**Results:** Twelve articles, consisting of ten cross-sectional, one exploratory, and one cohort study designs, were obtained. The study subjects worked at hotels and restaurants. Nine articles showed high quality, and the other three articles showed low-quality. These articles reported an association between risk factors and work-related skeletal muscle disorders. The individual, physical, and psychosocial risk factors included gender, BMI, repetitive motion, excessive reaching, and the number of room cleaning per day.

**Conclusion:** Twelve articles with different quality show the association between risk factors and work-related skeletal muscle disorders. The risk factors include gender, BMI, repetitive motion, excessive reaching, and the number of room cleaning per day in workers of the tourism sector.

**Keywords:** work-related skeletal muscle disorders, risk factors, ergonomics, tourism

### **Correspondence:**

Muhammad Luthfi. Occupational Safety and Health Program, Faculty of Public Health, Universitas Indonesia. Email: Muhluthfi93@gmail.com. Mobile: 082220279794.

# THE OBESITY PREVALENCE IN NAVY PERSONAL AND CIVIL SERVANTS AT LANTAMAL X JAYAPURA

Yuli Arisanti<sup>1)</sup>, Janri Manullang<sup>2)</sup>

<sup>1)</sup>National Institute of Health Research and Development Papua

<sup>2)</sup>Navy Central Hospital Dr. Soedibjo Sardadi

## ABSTRACT

**Background:** Central (visceral) obesity, one of the risk factors of metabolic syndrome, is becoming the major public health concern of non-communicable diseases. Predictions estimated that by 2030, 50% of adults will be listed as obese. This study aimed to examine smoking and exercise as the risk factors of central obesity in navy personal and civil servants at Lantamal X Jayapura.

**Subjects and Method:** This was a cross sectional study conducted from November to December 2017 at Lantamal X Jayapura, Indonesia. A sample of 100 navy personal and civil servants was selected by random sampling. The dependent variable was central obesity. The independent variables were smoking and exercise. Waist circumference was measured by metline. The other variables were collected by questionnaires. Data were analyzed by Chi square.

**Results:** The risk of central obesity increased with smoking (OR= 3.13; 95% CI= 1.63 to 5.98; p<0.001) and duration of exercise less than 60 minute per week (OR= 2.49; 95% CI= 1.14 to 5.40; p= 0.017).

**Conclusion:** Risk of central obesity increases with smoking and duration of exercise.

**Keywords:** central obesity, smoking, exercise, navy personal, civil servants

### Correspondence:

Yuli Arisanti. National Institute of Health Research and Development Papua. Jl. Ahmad Yani No. 48, Gurabesi, Jayapura Utara. Email: yuliarisanti88@gmail.com. Mobile: +6281248978639.

# MULTILEVEL ANALYSIS OF FACTORS ASSOCIATED WITH PERFORMANCE OF MIDWIVES IN INTEGRATED ANTENATAL CARE SERVICE IN PATI, CENTRAL JAVA

Siti Marfu'ah, Irfana Tri Wijayanti, Ana Rofika

School of Health Sciences Bakti Utama, Pati, Central Java

## ABSTRACT

**Background:** In 2017, nearly 295,000 women died during and after pregnancy and childbirth. In low-resource situations, the vast majority of maternal death (94%) occurred, and most could have been avoided. This study aimed to analyze the factors associated with the performance of midwives in integrated antenatal care service in Pati, Central Java.

**Subjects and Method:** This was a cross-sectional study carried out at 26 integrated health posts (posbindu) in Pati, Central Java. A sample of 130 midwives randomly was selected for this study. The dependent variable was work performance of midwives. The independent variables at level 1 were age, employment status, workload, working time, leadership perception, and healthcare facility. The independent variable at level 2 was posbindu. The data were collected using questionnaire. The data were analyzed by a multilevel linear regression.

**Results:** Work performance of midwives increased with working time (OR= 0.19; 95% CI= 0.04 to 0.33; p= 0.012) and healthcare facility (OR= 0.26; 95% CI= -0.77 to 1.31; p = 0.610). Work performance of midwives decreased with age (b= -0.07; 95% CI= -0.05 to 0.13; p= 0.100), employment status (b= -0.87; 95% CI= -1.89 to 0.15; p= 0.096), workload (b= -0.22; 95% CI= -0.45 to 0.01; p= 0.058), leadership perception (b= -0.002; 95% CI= -0.08 to 0.07; p= 0.949). Posbindu had strong contextual effect on work performance of midwives with ICC= 8.60%.

**Conclusion:** Work performance of midwives increases with working time and decreases with employment status and workload. The work performance associated with age, healthcare facility, and leadership perception, but it is statistically non-significant. Posbindu has strong contextual effect on integrated antenatal care (ANC) performance of midwives.

**Keywords:** performance of midwives, contextual effect, antenatal care

### Correspondence:

Siti Marfu'ah. School of Health Sciences Bakti Utama, Pati, Central Java.  
Email: marfuah@stikesbup.ac.id. Mobile: +6285729885380.