

Understanding Rural Perspectives and Practices of Health in Banggai Laut, Indonesia

M. Sabir^{1,5,6}, Muh. Ardi Munir^{2,5,6}, Tri Setyawati^{3,5,6}, Muhammad Nasir^{4,5,6}, Ary Anggara^{5,6}, Ressa Dwiyanti¹, Rosa Dwi Wahyuni^{6,7}, Haerani Harun^{6,7}, Rahma^{6,11}, Vera Diana Towidjojo^{6,8}, Sarifuddin^{6,9}, Aristo^{5,10}, Mochammad Hatta¹²

¹ Department of Medical Microbiology, Faculty of Medicine, Tadulako University, Palu City, Indonesia, 94148

² Department of Medical Law, Health Humanities and Bioethics, Faculty of Medicine, Tadulako University, Palu City, Indonesia, 94148

³ Department of Biochemistry, Faculty of Medicine, Tadulako University, Palu City, Indonesia, 94148

⁴ Department of Public and Environmental Health, Faculty of Medicine, Tadulako University, Palu City, Indonesia, 94148

⁵ Department of Topical Infection and Traumatology, Faculty of Medicine, Tadulako University, Palu City, Indonesia, 94148

⁶ Center for Research on Health Wellness and Sustainability, Palu City, Indonesia, 94148

⁷ Department of Clinical Patology, Faculty of Medicine, Tadulako University, Palu City, Indonesia, 94148

⁸ Department of Parasitology, Faculty of Medicine, Tadulako University, Palu City, Indonesia, 94148

⁹ Department of Pulmonology, Faculty of Medicine, Tadulako University, Palu City, Indonesia, 94148

¹⁰ Department of Urology Surgery, Faculty of Medicine, Tadulako University, Palu City, Indonesia, 94148

¹¹ Department of Paediatrics, Faculty of Medicine, Tadulako University, Palu City, Indonesia, 94148

¹² Department Medical Microbiology, Laboratory Molecular Biology and Immunology, Faculty of Medicine, Hasanuddin University, Makassar, Indonesia

Article Info

Article history:

Received April 17, 2023

Revised June 11, 2023

Accepted June 26, 2023

Keywords:

Health Perceptions;
Rural Health;
Health Perspectives
Traditional Healing
Health and Culture

ABSTRACT

Health is always an important value for human beings and the most fundamental condition of life. Health is perceived differently influenced by many factors including education, experience, knowledge, culture, and environment. The study aimed to explore community perception of health, including causes of diseases, and choices of help for health problems in rural setting in Central Sulawesi, Indonesia. The study is a qualitative ethnography with several data collection methods including semi structured in-depth interviews, small group discussion, informal conversations, photography, and direct observation. Study location was in Bangkurusung sub-district. The study found that health is perceived as a power, energy, normal physiology of human body, and ability to work normally. Participants understood and believed that health is influenced by many factors including environment, food, lifestyle, social interaction and the rise of megyicism, traditionally prohibited behaviors, religious belief, mind, and workload. Community members commonly used both medical treatment and traditional healing methods.

This is an open access article under the [CC BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



Corresponding Author:

M. Sabir

Department of Medical Microbiology, Faculty of Medicine, Tadulako University, Palu City, Indonesia, 94148

Department of Topical Infection and Traumatology, Faculty of Medicine, Tadulako University, Palu City, Indonesia, 94148

Center for Research on Health Wellness and Sustainability, Palu City, Indonesia, 94148

Email: msabiruntad16@gmail.com

1. INTRODUCTION

Health has always been an important value for human beings and the most fundamental condition of life (1), (2). But! What is health? How do we perceive health? Do we have the same concept of health with others? Of course, people and cultures, groups and societies, and experts construe health conception in divergent ways (2). The definition of health will be various. Health was defined as absence of disease (3), the ability to achieve vital goals (4), as (Meta-)Capability, complete Physical, mental and social well-being (WHO), ability to adapt and self-manage (5)–(7) and a sense of balance between a human being and the environment, and natural source of diseases (8),(9) In other words, James S. Larson divided health into four models; Medical model, WHO model, Wellness model, and Environmental model (10). Living in a rural area will always be marked with the traditional culture that influences all aspect of community life including health. Between rural people and urban society define health differently; rural community perceives that death or diseases are natural while urban community think that people have to fight to live. Additionally, there is a traditional view of health determinants within the rural community which may not be found in other rural settings (11).

The diversity of health concepts among bucolic communities becomes a serious challenge in providing health services and health policy. A specific study regarding health concept in a rural setting in a particular area is urgently needed prior to creating a suitable health program for that specific rural area (8) Health conceptualization plays an important role in health-seeking behavior particularly for a rural community that has traditional health belief. The study focuses on exploring the health concept of rural people in the island and coastal area in Central Sulawesi including the definition of health, determinants of health, and health-seeking behaviors.

2. RESEARCH METHODS

2.1 Design and Setting

The study is a baseline study as the first step of a community service program planned for public health development in rural areas by the Faculty of Medicine, Universitas Tadulako. The program aimed to improve the quality of rural public health in Central Sulawesi. We believe that good health program must be based on a good understanding of health condition and cultural condition of a particular community.

The study was a qualitative ethnography in rural community in Bangkurung Island, District of Banggai Laut Central Sulawesi Province, Indonesia (figure 1). Bangkurung covers 116,55 ha which is divided into 12 villages with a population of 8.932. The study location focused on two villages: Lantibung and Kalupapi with a number of considerations including accessibility, the number of population, health and safety of researchers, distance, and geographical condition. The majority of people in the area are Banggai Ethnic group with Banggai Language, and a few of the individuals are from Bajo Ethnic Group with Bajo Language. Both groups also speak the Indonesian Language as the national language. The majority of the community worked as farmer and fishermen.

2.2 Sampling Techniques

The researchers previously managed legal permission in the local authority and village leader. We conducted a small group discussion with local community leaders and health workers to obtain initial information about local culture or behavior. Two local health workers were employed as research assistants. As an introduction of the study to the community, a one-day seminar and health promotion were carried out. In the seminar, with the help of village leaders and health workers, we introduced research activities that will be conducted and asked the attendees who want to voluntarily be a participant for the in-depth interview. The interviews were conducted in some locations including in the seminar venue, private house or garden depending on their comfort. The participants must be adults (over 25 years old) and local people.



Figure 1. Map of Study area

2.3 Data Collection and Data Analysis

The researchers stayed in the location for weeks in the house of local community. Data were collected through semi structured in-depth interviews, small group discussion with community leader and local health workers, and direct observations. The direct observations looked at public gathering, ritual, informal conversation, sport exercise in the afternoon, involving in health programs (Posyandu and midwives and traditional healer commitment forum), involving in healthy village program, and visiting ill persons, post partum, and pregnant women. The data were collected on April 2018.

The data were analyzed thematically with narrative analysis methods. The data were managed using QDR Miner Lite App for data grouping and coding. The data were grouped into three main classifications; definitions of health, determinants of health, and choices for health services. The data obtained from the field were confirmed by community leaders and health worker to ensure that the phenomena, activities and perception are common within the community (data triangulation).

3. RESULTS AND DISCUSSION

What is health?

When asking people in rural community “what is health?”, they seem confused and do not know what should they say, it seems a difficult and un-expectable question particularly when asking to uneducated people. It is not because they don’t have their own perceptions about healthy condition, but they only cannot organize their words formally. The study originally wanted to explore the perceptions of uneducated one; we want to hear their voice about health. The study found two main perspectives of health. Some people state that health is about energy, power, and normal physiology of human body. They deem themselves healthy when they can work, go to school and do their daily activity regardless of they are indicated certain diseases by physician.

Norman Sartorius revealed that there are 3 types of health definition; (a) absence of any diseases or impairment, (b) the state that allows people to cope all demand of their daily life, (c) a state of balance of individual within himself and between himself and his social and physical environment (9).

“When I’m strong, means I’m healthy, if I cannot work, that means I’m unhealthy”

“As an ordinary people (uneducated person), healthy body is when you can breathe freely and normally without considering identifying any diseases in our body. For example, getting cold, cough, headache is still healthy because we are still able to work”

“Healthy person is those who can work and do their daily activities, while unhealthy individual is who cannot work because of certain disease” Rasyid.

On the other hand, people perception and condition can be formed by socio-economic pressure. Some people will pretend to be healthy and keep working although they are diagnosed with certain diseases. According to WHO definition, keeping working in such condition does not mean they are truly healthy, they are basically unhealthy, they work not because they are really fine, but they are responsible for their family life, they need money, food, and clothes for their family. From the rural community point of view, they literally disagree with the WHO definition of health that health is a state of complete physical, mental and social well-being and not merely absence of disease of infirmity”. The definition must be appreciated for its big vision to creating a high level of public health status equally for all. However, the word of “complete” will leave most of community unhealthy all the time particularly for people live in rural area (5) which is characterized with poverty, poor hygiene, lack of health infrastructures, economic infrastructures, agricultural work and lack of education (12). The WHO definition has been argued by many experts across the globe particularly the experts perceive the health as an ability to adapt and self-manage. The experts showed many cases across the world where some people are diagnosed with certain chronic diseases while they are still able to fulfil their lives and feel well-being (96), (9).

“In my perception from my husband’s experience, he was basically unhealthy as he was diagnosed by doctor with a certain disease, but he kept working and never complained, it’s not because he was truly well, but he knew that our family need to eat and he is responsible for that”

“They are working because they are in the pressure situation (economy), they have to work to survive”.

What causes people get sick?

Broadly speaking, health is affected by various factors including environment, food and lifestyle, stress, occupational and social status. However, those factors do not necessarily play their role at the same time.

The study found that every single person has different personal perceptions about what factors affected their health.

Environment

Although they live in a very isolated area with difficult access, the local community does understand and realize that the environment plays an important role in their health. They understand that weather, unhealthy environment, vectors, waste, and odour can harass their body. This concept has been broadly known and proved by many researches in prior. 23% of global death and 22% of global disability were attributed to environmental risk in 2012 (13).

“Of course, if the environment is dirty, many grass, and bad construction of septic tank, there would be mosquito. Waste and its odor also can cause disease”.

In local perception, the changing direction of the wind, for instance from the north to the south, and the change of season from dry to rainy season brings some diseases. Scientifically, this concept seems like an odd and difficult to be proved, however in some countries such as India and China, it is believed to influence human health. In India, this concept is a basic principal of Ayurveda (traditional medicine in India). In Ayurveda, one of principle terms of madness is “vatula” literally meaning “inflated with the wind”. Additionally, traditional Chinese medicine believes wind as one of six “pernicious influence” and as a major cause of illness (14), (15) and some studies linked between weather and suicide (16).

“The season changes such as wind blows from the north to the south, or from the south to the north, usually comes up with certain diseases such as influenza, runny nose, cold”.

Food

Food is always addressed both its availability (sufficiency) and quality as food is a vital aspect of human life. Food is evident in the struggle between a certain class of society, ethnic groups and nations (10), (17), (18) Food is linked with place the (rural and urban) where healthy food access in a rural area is more difficult than in an urban area as a direct impact of limited economic resources, transportation difficulties, and food groceries (19)–(24) The majority of respondents of the study were the low-income community. When we asked them about healthy food, the main answer that we heard from them was healthy food is any food on your dining-table without considering types of food, food nutrition, how we serve and cook them, and the existing of a healthy label from health department. According to them, the best cooking practice is based on their taste and

what they see from their ancestor. The most important thing was you did not die because of being starving and you eat food that you like. Likewise, Nordenfelt specified vital goals of human eating patterns into a person's need and person's want. A basic need is one who fulfil their necessary either for survival and maintaining health (25).

"It's not important to put healthy label from health department to say the food is healthy, even the food from the land. The important thing is the cooking method and procedures like how our ancestor cooked their food. It depends on our taste, cooked, half-cooked or over-cooked food and even some people like to fry their fish until scorched. And you have to wash it before cooking".

According to Statistics Indonesia, clean water coverage in Central Sulawesi in 2017 was 67.10% (26). In the area of study, clean water resources were still limited. The study found that there was a perception which has been embedded in their mindset about drinking water. They drank uncooked water. They have been doing it from a long time ago. They said that uncooked water was much fresher and simpler than cooked water and uncooked water did not cause any diseases. Similarly, a quantitative study in Medellin, Spain found that 83% of respondents drink or use water without boiling it prior because they cannot differentiate between clean and potable water visually. 73% of the respondent of the same study reported to experience water-borne diseases or symptom but they did not associate it with their behaviour of drinking uncooked water (27).

"oooo I think, since tens of years, there was no negative effect of drinking draw water, I drink water without cooking. When we were in Elementary School, once we reached the top of the hill, we directly put our mouth to the edge of the water pipe, we felt so nice and so happy".

Lifestyle

A smoking habit has been being a great challenge of public health around the globe. While some people believe that smoking damages human health, some others disagree.

"I was a real smoker, but I had been leaving it for 20 years and I felt so good and stronger. I used to vomiting with blood, so I stopped smoking and I now felt much better and well".

"The cigarette definitely influenced our health, health researchers had showed many facts. Until now, I wanted to look for appropriate ways to stop smoking. I could feel the negative effects of smoking; decreased stamina, but when I did not smoke, my brain like stuck, I had no spirit and energy, and difficult to focus on my work".

Social Interaction and the rise of megyicism

Social interaction in a rural area is always better than in the big city. Community works together, care for each other, help each other and keeps on eyes each other. Thousands of studies revealed the positive effect of a social tie on human health particularly mental health, physical health, immune, endocrine, and cardiovascular functions and reduce allostatic load (28)–(30). However, this interaction did not always run smoothly like what they want. Social jealousy and social conflicts sometimes happened among the member of society. This unwanted condition sometimes drove certain people to use magical things to hurt their opponents. It is well known by local community with "Guna-Guna" or in the Indonesian language we call it "Pelet". Burgoon and Hall in his article defined it as a myth because it is a claim without collaborating evidence from medical professionals. A myth is commonly attributed to deities, devils, or demons (31). Local community defined it as a non-medical disease which cannot be treated by medical doctors or health professionals.

"we are very different with community living in the city, in the village mysticism is very important, because the number of population in the village is very low, jealousy often happened among member of community, when it happened, some people always used "Guna-Guna" to hurt or kill other people". "Non-medical illness must be treated by healers, for instance guna-guna".

As a religious and civilized community, guna-guna is a social shame and sinful action that potentially can raise social conflict within community members. People using guna-guna will be alienated by community members because it is very troubling. Psychologically speaking, the alienated person can suffer from other health problem such as depressed and other mental health. This can lead to health inequality (32) "for sure, it is contemptible in front of the God and other human. It's very sinful action that is hated by God".

Traditionally prohibited behaviours related to the health

The community also told us some traditionally prohibited behaviours than can cause an adverse effect to human health when we practice it. Those behaviours are especially prohibited to pregnant women because it can disturb their pregnancy or affect their born-baby. Additionally, living in traditional culture, we must respect the local culture. Breaking cultural role can affect the human health as culture is highly linked to the supernatural thing which is believed directly influence community health. Similarly, a study in a rural area in North-Eastern Ethiopia found that supernatural thing was mentioned by the local community as a major aetiology of illness (33)–(35).

"Pregnant women should not put tower on their neck because it can cause umbilical cord to her baby. Don't eat leftover food of your husband because it can cause the mother can produce feces while delivering

process. Don't go out from your house at the dusk because you will be disturbed by supernatural things" "breaking the cultural role for example respect the supernatural right like we respect human right. We can get problem on our health which well known 'Keterguran' or headache".

Religious Belief and diseases

Religion influences its followers in many ways. Spirituality occurs as a multidimensional construct which is a deeper dimension to human life as well as physical universe (36). As a religious community, the majority of religious members believed that any condition comes from their God including health (fate). Although they believed that diseases could be from God, they are so much encouraged to seeking adequate treatment as a real effort to be healthy. When someone has tried various efforts for treating his/her disease and the disease does not stop, then it is the time to say that this is God's decree. Aflakseir & Mahdiyar stated that religious people believe that life is controlled and influenced by a higher power (God). (33), (37) Religion plays an important role in health coping, several studies revealed that religious coping significantly correlated with mental and physical outcomes (36)–(39) A systematic literature review of 17 papers revealed that religious followers were highly linked with decreased anxiety (40), (41).

"Yes, it's like that, we visited medical doctors to get cured then we are still sick, it's God's decree and God tests our patience, so what we can do is to surrender and pray to the God. The main point is there are types of diseases can be treated by medical doctors and some cannot". "In my mind, all diseases has a treatment and there is way out, for example, death is a way out of diseases. That's all as integral part of God's scenario".

Workload, mind and diseases

Overload work can increase the stress and burden of their mind. The overburden of the human mind can cause certain diseases and reduce human immunity. Local community called it "Hukum Perasaan" (literally can be translated to the nature of emotion). Several studies have confirmed the strong correlation between workload and health complaints including mental health and physical health (42).

"I really believe that overloaded work can cause diseases. Bajo tribe, for instance, live on the water, they built their home on the sea. They dived very deeply for fishing, it's abnormal", "we can go back to the nature of emotion, if we are happy then we will always stay healthy regardless of our financial condition. Although, we are rich but our feeling is unhappy, then all kinds of diseases can easily attack our body".

3.1 Choices of where to get help of health

In this study, we explore how the local community decides whether to visit medical doctors or traditional healers when getting health problems. The study found that there were three patterns of the local community in seeking health service. Firstly, the majority of participant preferred to initially visit medical doctors. Secondly, if they do not get well after visiting medical doctors, they will visit traditional healers. Lastly, some people preferred to visit traditional healers (traditional treatments) before visiting medical doctors. Residents, in the first group, are those who believed medical doctors as the best choice for getting help.

"Usually we have been treated by medical professional but we did not get well, so we visited traditional healer. And also medicine from the doctor only worked for short time effect". Tahiruddin "I preferred to seek help from medical professionals because it's their job, they have been trained for it, but sometimes I visited traditional healer for certain diseases for example 'Balula'". Sofyan the local community believed that there are two types of diseases, medical diseases and non-medical diseases. It is believed that non-medical diseases must be treated with traditional health method. Therefore, both medical and traditional healing is accepted by the community. If they considered that they are suffering from medical diseases then they will visit medical doctors. Reversely, they will visit a traditional healer. On the other hand, if they do not get well after visiting one of the choices, then they will visit another choice. Uniquely, a part of the community believed that the medical treatment process will be defeated by supernatural if they do not get the pell from older or healers before medical treatment.

"I have to see the type of illness, medical illness or non medical illness. For example "Balula", I will visit traditional healer, but mostly I will visit medical doctor".

This pattern of health care choices is called "medical pluralism" or another word "Complementary and Alternative Medicine (CAM)" (43). Although traditional healing practice is still debatable in many countries across the globe particularly in the western world, it is considered as unscientific (44). Medical pluralism has been widely applied worldwide particularly in Asian and African Countries (43),(45)–(47) Estimation of 80% of Black Africans in sub-Saharan African Nations frequently traditional healers from primary care to emergency condition (46) They visited the traditional healers before, during or after medical treatment or even did not visit medical professionals (46),(48). WHO and other institutions started to acknowledge the potential positive effects of traditional healing approaches as primary health care. The effectiveness of traditional healing has been identified in a fight against some sexually transmitted diseases such as AIDS and other communicable diseases (45),(46),(49). Therefore, nowadays there are many health programs involving traditional healer into primary health service (44).

“I prioritized to visit medical professional, but if I do not get well then I will ask for help to traditional healer. And also depends on our financial condition”.

On the other hand, some people reported that they visit a medical professional if they do not get well after visiting a traditional healer. Moreover, there were some families only allowed their family members to visit medical professional after given a spell by an older family member of the healer. They opined that the medical process will be disturbed by supernatural beings if they are not protected by a spell. This is a big challenge for universal health care coverage and causes delay in medical treatment. Correspondently, a multi-qualitative research revealed that this medical pluralism contributed to the delay of HIV treatment and the disruption of HIV patients care. It is also potentially caused tension between traditional healers and medical professionals and the occur of mistrust between health care providers (47), (50).

4. CONCLUSION

This qualitative study revealed that the rural community in Bangkuring Sub-District (Bangkuring Island) believed health as energy, power, and ability to work. It was found that there were eight causes influencing human health including environment, food, lifestyle, social interaction and the rise of megyicism, traditionally prohibited behaviours, religious belief, mind, and workload. Members of the community used both medical and traditional healing methods to solve their health problems.

5. COMPETING INTERESTS

The Authors declare that they have no competing interests

6. REFERENCES

- (1) M. Huber, towards a new, dynamic concept of health: Its operationalisation and use in public health and healthcare and in evaluating health effects of food. 2014.
- (2) H. Keleher and C. MacDougall, “Concept of Health,” Oxford University Press.
- (3) C. Boorse, “On the Distinction between Disease and Illness,” *Philos. Public Aff.*, vol. 5, no. 1, pp. 49–68, 1975.
- (4) L. NORDENFELT, “Health and disease: two philosophical perspectives,” *J. Epidemiol. Community Health*, vol. 41, pp. 281–284, 1986.
- (5) M. Huber et al., “How should we define health?,” *BMJ*, vol. 343, no. jul26 2, pp. d4163–d4163, Jul. 2011.
- (6) B. Haverkamp, B. Bovenkerk, and M. F. Verweij, “A Practice-Oriented Review of Health Concepts,” *J. Med. Philos. Forum Bioeth. Philos. Med.*, vol. 43, no. 4, pp. 381–401, Jul. 2018.
- (7) M. Huber et al., “Towards a ‘patient-centred’ operationalisation of the new dynamic concept of health: a mixed methods study,” *BMJ Open*, vol. 6, no. 1, p. e010091, Jan. 2016.
- (8) A. L. Svalastog, D. Donev, N. Jahren Kristoffersen, and S. Gajović, “Concepts and definitions of health and health-related values in the knowledge landscapes of the digital society,” *Croat. Med. J.*, vol. 58, no. 6, pp. 431–435, Dec. 2017.
- (9) N. Sartorius, “The Meanings of Health and its Promotion,” *Croat Med J.*, vol. 47, 2006.
- (10) J. S. Larson, “The Conceptualization of Health,” *Med. Care Res. Rev.*, vol. 52, no. 2, pp. 123–136, 1999.
- (11) C. Gessert, S. Waring, L. Bailey-Davis, P. Conway, M. Roberts, and J. VanWormer, “Rural definition of health: a systematic literature review,” *BMC Public Health*, vol. 15, no. 1, Dec. 2015.
- (12) R. T. Goins, K. A. Williams, M. W. Carter, S. M. Spencer, and T. Solovieva, “Perceived Barriers to Health Care Access Among Rural Older Adults: A Qualitative Study,” *J. Rural Health*, vol. 21, no. 3, pp. 206–213, 2005.
- (13) A. Prüss-Ustün, J. Wolf, C. Corvalán, T. Neville, R. Bos, and M. Neira, “Diseases due to unhealthy environments: an updated estimate of the global burden of disease attributable to environmental determinants of health,” *J. Public Health*, Sep. 2016.
- (14) E. H. Bos, R. Hoenders, and P. de Jonge, “Wind direction and mental health: a time-series analysis of weather influences in a patient with anxiety disorder,” *Case Rep.*, vol. 2012, no. jun07 1, pp. bcr2012006300–bcr2012006300, Jun. 2012.
- (15) M. Winder, “Tiben Buddish medicine and psychiatry. The diamond healing,” *Camb. J. Medici Hist.*, vol. 29, no. 2, 1985.
- (16) J. Fernández-Niño, V. Flórez-García, C. Astudillo-García, and L. Rodríguez-Villamizar, “Weather and Suicide: A Decade Analysis in the Five Largest Capital Cities of Colombia,” *Int. J. Environ. Res. Public Health*, vol. 15, no. 7, p. 1313, Jun. 2018.
- (17) K. Nordström, C. Coff, H. Jönsson, L. Nordenfelt, and U. Görman, “Food and health: individual, cultural, or scientific matters?,” *Genes Nutr.*, vol. 8, no. 4, pp. 357–363, Jul. 2013.
- (18) P. Love et al., “Healthy Diets in Rural Victoria—Cheaper than Unhealthy Alternatives, Yet Unaffordable,” *Int. J. Environ. Res. Public Health*, vol. 15, no. 11, p. 2469, Nov. 2018.

- (19) Z. Valdez, A. S. Ramírez, E. Estrada, K. Grassi, and S. Nathan, "Community Perspectives on Access to and Availability of Healthy Food in Rural, Low-Resource, Latino Communities," *Prev. Chronic Dis.*, vol. 13, Dec. 2016.
- (20) C. Burns, R. Bentley, L. Thornton, and A. Kavanagh, "Reduced food access due to a lack of money, inability to lift and lack of access to a car for food shopping: a multilevel study in Melbourne, Victoria," *Public Health Nutr.*, vol. 14, no. 06, pp. 1017–1023, Jun. 2011.
- (21) N. L. Camp, "Food insecurity and food deserts:," *Nurse Pract.*, vol. 40, no. 8, pp. 32–36, Aug. 2015.
- (22) R. E. Walker, C. R. Keane, and J. G. Burke, "Disparities and access to healthy food in the United States: A review of food deserts literature," *Health Place*, vol. 16, no. 5, pp. 876–884, Sep. 2010.
- (23) G. Mercille et al., "The food environment and diet quality of urban-dwelling older women and men: Assessing the moderating role of diet knowledge," *Can. J. Public Health.*, vol. 107, no. S1, pp. eS34–eS41, Jan. 2016.
- (24) J. Shim, S. Kim, K. Kim, and J.-Y. Hwang, "Spatial Disparity in Food Environment and Household Economic Resources Related to Food Insecurity in Rural Korean Households with Older Adults," *Nutrients*, vol. 10, no. 10, p. 1514, Oct. 2018.
- (25) G. Khushf, *Handbook of bioethics taking stock of the field from a philosophical perspective*. Dordrecht: Kluwer Academic, 2006.
- (26) BPS, "Percentage of Households by province and source of improved drinking water 1993-2017," 2017.
- (27) L. F. R. Rojas and A. Megerle, "Perception of Water Quality and Health Risks in the Rural Area of Medellín," *Am. J. Rural Dev.*, vol. 1, no. 5, pp. 106–115, 2013.
- (28) D. Umberson and J. Karas Montez, "Social Relationships and Health: A Flashpoint for Health Policy," *J. Health Soc. Behav.*, vol. 51, no. 1_suppl, pp. S54–S66, Mar. 2010.
- (29) G. Keidser and M. Seeto, "The Influence of Social Interaction and Physical Health on the Association Between Hearing and Depression With Age and Gender," *Trends Hear.*, vol. 21, p. 233121651770639, Jan. 2017.
- (30) J. Klessig, "The Effect of Values and Culture on Life-Support Decisions," *West. J. Med.*, vol. 157, no. 3, pp. 317–322, 1992.
- (31) M. Burgoon and J. R. Hall, "Myths as Health Belief Systems: The Language of Salves, Sorcery, and Science," *Health Commun.*, vol. 6, no. 2, pp. 97–115, Apr. 1994.
- (32) I. Crinson and C. Yuill, "What Can Alienation Theory Contribute to an Understanding of Social Inequalities in Health?," *Int. J. Health Serv.*, vol. 38, no. 3, pp. 455–470, Jul. 2008.
- (33) M. H. Kahissay, T. G. Fenta, and H. Boon, "Beliefs and perception of ill-health causation: a socio-cultural qualitative study in rural North-Eastern Ethiopia," *BMC Public Health*, vol. 17, no. 1, p. 124, Dec. 2017.
- (34) T. B. Azongo, *Some supernatural beliefs and practices in ill-health and therapy The role of divination in health-seeking practices in the Talensi and Nabdam districts in Northern Ghana*. Saarbrücken: Scholars' Press, 2014.
- (35) J. J. Kyei, A. Dueck, M. J. Indart, and N. Y. Nyarko, "Supernatural belief systems, mental health and perceptions of mental disorders in Ghana," *Int. J. Cult. Ment. Health*, vol. 7, no. 2, pp. 137–151, Apr. 2014.
- (36) A. J. Rumun, "INFLUENCE OF RELIGIOUS BELIEFS ON HEALTHCARE PRACTICE," *Int. J. Educ. Res.*, vol. 2, no. 4, pp. 37–48, Apr. 2014.
- (37) A. Aflakseir and M. Mahdiyar, "The Role of Religious Coping Strategies in Predicting Depression among a Sample of Women with Fertility Problems in Shiraz," *J. Reprod. Infertil.*, vol. 17, no. 2, pp. 117–122, Jun. 2016.
- (38) R. R. da N. Alves, H. da N. Alves, R. R. D. Barboza, and W. de M. S. Souto, "The influence of religiosity on health," *Ciênc. Saúde Coletiva*, vol. 15, no. 4, pp. 2105–2111, Jul. 2010.
- (39) K. M. Loewenthal, "Religious Beliefs About Illness," *Int. J. Psychol. Relig.*, vol. 7, no. 3, pp. 173–178, Jul. 1997.
- (40) A. K. Shreve-Neiger and B. A. Edelstein, "Religion and anxiety: A critical review of the literature," *Clin. Psychol. Rev.*, vol. 24, no. 4, pp. 379–397, Aug. 2004.
- (41) D. R. Williams and M. J. Sternthal, "Spirituality, religion and health: evidence and research directions," *Spiritual. Ad Health*, vol. 186, no. 10, pp. S47–S50, 2007.
- (42) T. Kawada and M. Ooya, "Workload and Health Complaints in Overtime Workers: A Survey," *Arch. Med. Res.*, vol. 36, no. 5, pp. 594–597, Sep. 2005.
- (43) C.-C. Shih, Y.-C. Su, C.-C. Liao, and J.-G. Lin, "Patterns of medical pluralism among adults: results from the 2001 National Health Interview Survey in Taiwan," *BMC Health Serv. Res.*, vol. 10, no. 1, p. 191, Dec. 2010.
- (44) M. G. Mokgobi, "Health care practitioners' opinions about traditional healing," *Afr. J. Phys. Health Educ. Recreat. Dance*, vol. 20, no. Suppl 2, pp. 14–23, Sep. 2014.

- (45) M. Moshabela et al., "Traditional healers, faith healers and medical practitioners: the contribution of medical pluralism to bottlenecks along the cascade of care for HIV/AIDS in Eastern and Southern Africa," *Sex. Transm. Infect.*, vol. 93, no. Suppl 3, p. e052974, Jul. 2017.
- (46) J. M. Shuster, C. E. Sterk, P. M. Frew, and C. del Rio, "The Cultural and Community-Level Acceptance of Antiretroviral Therapy (ART) Among Traditional Healers in Eastern Cape, South Africa," *J. Community Health*, vol. 34, no. 1, pp. 16–22, Feb. 2009.
- (47) T. Zuma, D. Wight, T. Rochat, and M. Moshabela, "Navigating Multiple Sources of Healing in the Context of HIV/AIDS and Wide Availability of Antiretroviral Treatment: A Qualitative Study of Community Participants' Perceptions and Experiences in Rural South Africa," *Front. Public Health*, vol. 6, p. 73, Mar. 2018.
- (48) J. Wreford, "Missing Each Other: Problems and Potential for Collaborative Efforts between Biomedicine and Traditional Healers in South Africa in the Time of AIDS," *Soc. Dyn.*, vol. 31, no. 2, pp. 55–89, Dec. 2005.
- (49) E. Mills, C. Cooper, and I. Kanfer, "Traditional African medicine in the treatment of HIV," *Lancet Infect. Dis.*, vol. 5, no. 8, pp. 465–467, Aug. 2005.
- (50) A. Wringe, J. Renju, J. Seeley, M. Moshabela, and M. Skovdal, "Bottlenecks to HIV care and treatment in sub-Saharan Africa: a multi-country qualitative study," *Sex. Transm. Infect.*, vol. 93, no. Suppl 3, p. e053172, Jul. 2017.