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# Adopting Health Belief Model as an Intervention to Low Health Information Literacy

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**Abstract**: This paper aim to present a theoretical frame work that can be use to enquire low health information literacy. The objective of the paper is to enable health information provider to design health information program that will increase health information literacy and improve healthy living. To achieve this aim, the paper discusses Health Ontology, Health Epistemology, and Health Information Literacy. Health Belief Model was use as a theoretical frame work for this paper. The paper also examining the constructs of Health Belief Model which includes Perceived Susceptibility, Perceived Severity, Perceived Benefit, Perceived Barrier, Cues to Action and Self Efficacy. This constructs were examined to show how the model can be applied to health knowledge, health information literacy and healthy living.

**Key Words**: Health Information Literacy, Healthy Living, Health Ontology, Health Epistemology

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## I. INTRODUCTION

Low health Information literacy is linked to high risk of death and more emergency room visits and hospitalizations (National Network of Libraries of Medicine, 2017). Low health information literacy is also known as poor knowledge about health, (Shipman, 2012). People with limited health literacy often lack knowledge or have misinformation about the body as well as the nature and causes of disease. Without this knowledge, they may not understand the relationship between lifestyle factors such as diet and exercise (World Health Organization, 2014). Poor knowledge about health increase hospitalizations, poor health outcomes, increase healthcare cost, under-utilization of medical services and increase in medication errors (Shipman, 2012).

To reduce the risk of low health information literacy, scholars have called for creation and provision of information and services that people can understand and use most effectively with the skill they have (Vernon, Trujillo, Rosenbaum, Debuono, 2007). While this perspective help people to become more familiar with health information and services. However, health information literacy level is still very low (Fleisher, Shah, Fitts and Dahodwala 2015). In order to improve health information literacy there is need to explore the problem of low health information literacy from how people understand health information in a socio cultural context. Understanding cultural settings affects how people communicate, understand, and respond to health information. In order word, cultural and linguistic competency of health professionals can contribute to health information literacy (NNLM, 2017). This paper imply that to improve health information literacy level and encourage healthy living, there must be a proper understanding of context and situation of people especially health ontology and health epistemology.

## II. HEALTH ONTOLOGY AND HEALTH EPISTEMOLOGY

Ontology is the study of the nature of being or becoming existence and their differences and similarities. In order words, ontology tries to pin point things around us that actually exist, while epistemology is more concerned with the natural sources, scope and limits of knowledge. In essence, epistemology aims at discovering the true meaning of knowledge (Naigaonkar 2016). Health Ontology and Health Epistemology refer to health workers and non health workers knowledge, attitudes and associated behaviours which pertain to health related topics such as diseases, their prevention, and treatment (Encyclopedia of Medical Concept, 2012).

Solving problems and making optimal decisions in healthcare is heavily dependent on health ontology and health epistemology (Haughom 2018). Similarly, Bryant (2002) states that health ontology and health epistemology illustrates the role that various forms of knowledge can play in influencing policy development in public health and health promotion. In addition, Guess (2015) also state that one of the goals of health ontology

and health epistemology is to achieve a common and shared health knowledge that can be transmitted between people and between application systems. Closely related to health epistemology and health ontology is the notion of health information literacy. This is discussed below

## III. HEALTH INFORMATION LITERACY

Information literacy is a crucial skill in the pursuit of knowledge (Association of College and Research libraries, 2015). "knowledge of one's information concerns and needs, and the ability to identify, locate, evaluate, organize and effectively create, use and communicate information to address issues or problems at hand; it is a prerequisite for participating effectively in the Information Society," Prague, (as cited in UNESCO, 2014). Similarly, chartered Institute of library information professional (2014) states that "Information literate people will demonstrate an awareness of how they gather, use, manage, synthesize and create information and data in an ethical manner and will have the information skills to do so effectively."

Health information literacy is "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" Institute of Medicine (as cited in Douglas, 2013). Shipman (2012) states that health literacy is dependent on individual and system factors, Communication skills, Information and knowledge (Lay and professional knowledge of health topics). Similarly, Kanj andMitic (2012) states that "Health literacy represents the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health".

Health information literacy is fundamental to individual engagement (Kanj andMitic , 2012), They further explains, that, in order to manage chronic or long-term conditions on a day-to-day basis, individuals must be able to understand and assess health information, which often includes a complex medical regimen, plan and make lifestyle adjustments, make informed decisions, and understand how to access health care when necessary

Furthermore, health literacy requires knowledge from many topic areas, including the body, healthy behaviours, and the workings of the health system (US Department of Health and Human Services, 2010). They added that health literacy is influenced by the language we speak; our ability to communicate clearly and listen carefully; and our age, socioeconomic status, cultural background, past experiences, cognitive abilities, and mental health. Each of these factors affects how we communicate, understand, and respond to health information in context and situation.

Context and situation competence is the ability of health organizations and practitioners to recognize the cultural beliefs, values, attitudes, traditions, language preferences, and health practices of diverse populations and to apply that knowledge to produce a positive health outcome (NNLM, 2017). Hence this paper calls for using Health belief model to investigate low health information literacy within cultural settings in order to improve healthy living.

## IV. Health Belief Model

The Health Belief Model was one of the earliest behaviour change models to explain human health decision-making and subsequent behaviour (WHO, 2012). It was originally developed in the 1950s, and updated in the 1980s by social psychologists Godfrey Hochbaum, Irwin Rosenstock, and Stephen Kegels working in the U.S. Public Health Services (Boskey and Olen 2016). The model was developed as a way to explain why medical screening programs offered by the US public health service, particularly for tuberculosis, were not very successful (Hochbaum, 1958). He further explains that the underline concept of Health Belief Model is that health behaviour is determined by personal belief or perception about a disease and the strategies available to decrease the occurrence. The model is based on the theory that a person's willingness to change their health behaviours is primarily due to the following Constructs.

**Perceived Susceptibility**: This refers to a person's subjective perception of the risk of acquiring an illness or disease (Lamorte, 2016). Jones and Bartlett (nd) further explain that, when people believe they are at risk of a disease, they will be more likely to do something to prevent it from happening. On the other hand, when people believe they are not at risk or have a low risk of susceptibility, unhealthy behaviour tends to result.

**Perceived Severity:** This refers to a person's feelings on the seriousness of contracting an illness or disease (Lamorte, 2016). The construct of perceived severity speak to an individual's believe about the seriousness of a disease. While the perception of severity is often based on medical information of knowledge, it may also come from beliefs a person has about the difficulties a disease would create or the effect it will have on his or her life in general (Mc Cornick 1999 as cited in Jones and Bartlett, nd )

**Perceived Benefit**: This refers to a person's perception of the effectiveness of various actions available to reduce the threat of illness or disease (LaMorte, 2016). Similarly, Jone and Batlett (nd) asserts that the construct of perceived benefit is a person's opinion of the value and usefulness of a new behaviour in decreasing the risk of developing a disease. People tend to adopt healthier behaviour when they believe the new behaviour will

decrease the chances of developing a disease. Moreover, Rural Health Information Hub (2018) explains that, in order for a new behaviour to be adopted, a person needs to believe the benefit of a new behaviour outweigh the consequences of continue the old behaviour.

**Perceived Barrier:** This refers to a person's feelings on the obstacles to performing a recommended health action (LaMorte, 2016). Boskey and Olender (2016) elucidates that One of the major reasons people do not change their health behaviours is that they think that doing so is going to be hard. Sometimes it is not just a matter of physical difficulty, but social difficulty as well. Changing your health behaviors can cost effort, money, and time.

**Cues to Action:** This is the stimulus needed to trigger the decision-making process to accept a recommended health action, this stimulus are external or internal events that prompt a desire to make a health change (LaMorte, 2016. Boskey and Olender, 2016). Also (Ali 2002 and Graham 2002) states that Cues to Action are events, people or things that move people to change their behaviours, example includes illness of a family member, media report, mass media campaigns, advice from others, reminder postcards from health care provider or health warning label on a product.

**Self Efficacy:** This refers to the level of a person's confidence in his or her ability to successfully perform a behaviuor. This construct looks at a person's belief in his/her ability to make a health related change. It may seem trivial, but faith in your ability to do something has an enormous impact on your actual ability to do it (LaMorte, 2016, Boskey and Olender, 2016, Bandura, 1977). Jones and Bartlett (nd) further elucidates, that people generally do not try to do something unless they think they can do it. If someone believes a new behavior is useful, but does not think he or she is capable of doing it, chances are that it will not be tried.

## V. HEALTH BELIEF MODEL AND LOW HEALTH INFORMATION LITERACY

The Health Belief Model (HBM) is a psychological model that attempts to explain and predict health behaviors. This is done by focusing on the attitudes and beliefs of individuals (University of Twente, 2017). According to Mackert and Guadagno (2013) asserts that continue development of the role of health literacy in the Health Belief Model will advance theoretical understanding of both health literacy and the Health Belief Model, as well as improve use of the Health Belief Model in the design of patient education interventions for individuals of all levels of health literacy. The constructs of the model can be use to investigate low health information literacy and also help health information programmer in designing health information program that will improve health literacy rate and healthy living within a context. The elements of health belief model and how each is used to explain low health information literacy are discussed below.

The first concept of the Health Belief Model is perceived susceptibility. This defines an individual's beliefs about the chances of contracting a health condition. A person's perception that a health problem is personally vulnerable will contribute to taking the required action to prevent the health problem (Tarkang and Zotor, 2015). This might involve seeking for more information about health conditions and become more health information literate. In order to come up with activities that increase the individual's perception of one's vulnerability to the health condition and improve health information literacy of individual's for healthy living, health information programmer need to apply this construct to ask the following questions: What are the perception of individual's within a context about health conditions and their complications? What are the socio-cultural beliefs that guide knowledge of health conditions among individual's in a society.

The second concept of the HBM is perceived severity. This refers to one's beliefs of how serious a condition and its consequences are (Tarkang and Zotor, 2015). When one recognizes one's susceptibility to a certain problem or condition, it does not necessarily motivate one to take the necessary preventive actions unless one realizes that getting the condition would have serious physical and social implications. It is when one realizes the magnitude of the negative consequences of a health condition that one could seek for health knowledge in order to be health literate and avoid these negative consequences. Hence, health information designer applying the construct of perceived severity can ask the following question: How do people in a particular setting understand consequences of health conditions? What are the socio-cultural belief guiding consequences of health conditions?

Perceived benefits refer to one's beliefs in the efficacy of the advised action to reduce the risk or seriousness of impact (Tarkang and Zotor, 2015). The person needs to believe that by becoming health information literate, it will help one to avoid or prevent a problem from occurring. It is this belief that gives a person confidence to seek for health information because of the expected outcome of healthy living. Lee et'al (2012) asserted that when person's had experience of health information, they had more knowledge, higher perceived susceptibility of complication, perceived severity, and perceived benefit of treatment, compare to people without health information. Scholars who are interested in why low health information literacy can apply this construct to ask the following question. How do individuals in an area make sense of information about benefit of health information literacy? What are the cultural belief regarding benefit of health information literacy?

Another factor in promoting heath information literacy is Perceive Barrier. Perceived Barriers refer to one's belief in the tangible and psychological costs of the advised behaviours (Tarkang and Zotor, 2015). The belief that benefit of acquiring health information or being heath literate must outweigh challenges of acquiring health knowledge before change of behaviour can occur. Scholars who are interested in improving healthy living and why health information literacy low can apply this construct to ask the following question. What challenges do people in a particular context encounter while seeking health information? What challenges do people in a particular culture experience using health information? How do people in a particular setting overcome the challenges they experience in their attempt to acquire and use health information?

The Health Belief Model Cues to Action are events or experiences, personal (physical symptoms of a health condition), interpersonal or environmental (media publicity) that motivate a person to take health action (Tarkang and Zotor, 2015). To promote and ensure consistent health information literacy Cues to Action such as symptoms, print material, reminder letter, or pill calendar, text messages, television, radio, social media can be use to instigate effort in acquiring health knowledge. Health Information Programmer applying construct of Cues to Action can ask the following question. What are the internal and external factors that make people in a certain setting to act promptly on acquiring health knowledge and improve healthy living?

The sixth concept of the HBM is self-efficacy. This is the strength of an individual's belief in one's own ability to respond to difficult situations and to deal with any associated obstacles or setbacks. Self-efficacy is one's ability to successfully take health action (Tarkang and Zotor, 2015). One should feel that one is capable of seeking and acquiring health knowledge correctly because it is that confidence that would motivate one to initiate and sustain the action in order to achieve healthy living. This concept will help us find answers to question like: what are the factors that shape people within a setting self confidence to seek and acquire health information?

## VI. CONCLUSION

This paper asserts that Health Beliefs Model is necessary guides for investigating low health information literacy. All the constructs such as Perceived Susceptibility, Perceived Severity, Perceived Benefit, Perceived Barrier, Cues to Action and Self Efficacy are important factors for examining low health information literacy. The paper also raises some questions which health information programmers can ask in order to design health information programs that will improve health information literacy and healthy living**.**

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