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Health Information Literacy and Maternal Anxiety of Rural Childbearing Women in Nigeria: An Exploratory Study

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Abstract: *This paper examines the concept of health information literacy, defined as the degree to which childbearing women have the motivation and ability to gain access, obtain, process, understand and use basic health information to control their maternal anxiety. Specifically, it investigates the viability of using the concept of health information literacy to control parenting role, coping capacity, behavior, emotion, intrusion and less active engagement among childbearing women. The paper reports on the results of previous studies conducted among childbearing women and new mothers to obtain different perspectives on the issues surrounding health literacy and maternal anxiety. The results give us a realistic look at what childbearing women are learning from existing health information literacy and how it affects their maternal anxiety. Comparing the results from the existing literatures, the study found that maternal anxiety is influenced by the level of health information literacy. Finding showed that anxious childbearing women are more intrusive, have less warmth and less active management. The study therefore recommended that working towards the development of health information literacy among childbearing will bring women the confidence and emotional insight which they no longer gain from their antenatal and postnatal experience and from the other women. Childbearing women should be equipped with skills and confidence, so that when the labour process is over, the reality of parenthood becomes a positive and healthy experience.*

Keywords*: Health information literacy, Maternal anxiety, Rural childbearing women*

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I. Introduction

Childbearing is among the most important lifecycle transitions in the life of women. This transition is accompanied not only by remarkable changes in almost every organ system in the body, but also by changes in relationships with partners, parents, coworkers and friends. While our common expectation in the life of women is that childbirth be a time of joy and comfort, but for a large number of women, this life stage is linked with considerable misery and distress. Maternal psychological health has become an area of rising concern for researchers, clinicians and public policy-makers since facts have been accrued that the results of maternal psychological illness are not restricted to the agony of the affected women, but expand to marital superiority, the mother–infant relationship and the developing child. As the contemporary health model expands, psychological health has been progressively given more attention. Earlier studies have revealed a high occurrence of psychiatric ill-health among childbearing women (Niloufer, Iqbal, Badar, Ghurnata & Sana, 2012; Meades & Ayers, 2011), not only in the developed countries, but also in developing countries such as Nigeria (Adeponle, Groleau, Kola, Kirmayar & Gureje, 2017). In addition, a huge number of studies exist on the undesirable outcomes of maternal psychological ill health (Fatma, Semiha & Zehra, 2014; Edwar & Barbara, 2009), most notably, anxiety among childbearing women.

The word 'anxiety' may cover a broad range of constructs ranging from clinical diagnosis to self-report measures of symptoms to more general measures of stress (Zelkowitz & Papageorgiou, 2012). Maternal anxiety is a common physiological symptom of maternal stress. It is a reflection of stress response which occurs when women feel a sense of something bad to happen to baby or feel anxious about the baby or disconnected from herself and/or the baby. The narrow facts on childbearing women who meet diagnostic criteria for maternal anxiety indicate prevalence rates ranging from approximately 1–4% (panic disorder and obsessive compulsive disorder) to 8.5% (generalized anxiety disorder) (Ross & Mclean, 2006)

More recently, maternal anxiety has become the subject of extensive investigation. Studies have shown that maternal anxiety disorder gives rise to changes in parenting in the form of reduced productive engagement

and more withdrawn or disengaged behavior (Woodruff, Morrow, Bourland & Cambron 2002), altered emotional climate (Turner, Beidel, Roberson-Nay & Tervo, 2003), and reduced warmth and granting of autonomy and increased catastrophizing (Whaley, Pinto & Sigman, 1999). In an expansion of the Moore et al (2004) study, these parenting variables were found to be associated with both the anxiety status of the child and that of the mother. Evidence is accumulating that maternal anxiety, both prenatally and postpartum, has a significant impact on fetal development, obstetrical outcomes, the mother–infant relationship and infant development (Austin, Tully & Parker 2007).

Given that maternal anxiety is common amongst women of child bearing age (Nicol-Harper, Harvey & Stein 2007), it is surprising that little research has focused on the potential impact of health information literacy on maternal anxiety of rural childbearing women.

In 2003, the Medical Library Association through its Health Information Literacy (HIL) Task Force defined health information literacy as the set of abilities needed to recognize a health information need, identify likely information sources and use them to retrieve relevant information, assess the quality of the information and its applicability to a specific situation, and analyze, understand, and use the information to make good health decisions (Rambo, 2004). The Institute of Medical Report (2004) also describes health information literacy as the degree to which individuals have the capacity to obtain, process and understand basic health information and services needed to make appropriate health decisions. Women with adequate health information literacy can read, understand and act on healthcare information (Aramide, 2012). Health information literacy requires a skill set that allows one to: recognize a need for health information, identify sources for the information and be able to retrieve the relevant information, assess the quality and applicability to the specific situation, and analyze, understand and use the information to make good health decisions (Health Information Literacy Task Force Report, 2005 cited in Aramide 2012). As far as this study is aware, there are no published reports examining the nature of the relationship between health information literacy and anxious rural childbearing mothers. This study is important to know if the level of health information literacy of rural childbearing women affects their maternal anxiety.

II. Literature Review And Theoretical Model

Maternal anxiety is one of the widespread health problems especially during pregnancy. Rural women are at increased risk for maternal anxiety disorder (Pigott, 2003). Childbearing women who has maternal anxiety may experience specific and intensive fears such as fear of incompetence and concerns about pain and loss of control during delivery, fear of their own life, and life of their baby and worries about changes in their personal life due to pregnancy and childbirth (Dunkel & Schetter, 1998; Sjogran, 1997). In addition, women may experience fear of childbirth, fear of bearing a physically or mentally handicapped child, fear of changes in the relationship with the partner and fear of changes in the mother's personal life. There are several studies that show an association between maternal anxiety in pregnancy and increased uterine artery resistance index. Various descriptive and explorative studies suggest that maternal anxiety can have adverse effects on the foetus development. Mild to moderate anxiety disorders among women can be prevented and/or treated through the provision of good communication and health information literacy.

The concept of health information literacy was introduced in early 2000's 'to increase health literacy by fostering an understanding of the role that health information literacy plays in empowering people to read, understand, and act' (Medical Library Association 2003). According to the working definition of the Medical Library Association Task Force on Health Information Literacy, health information literacy includes the abilities to 'recognize a health information need; identify likely information sources and use them to retrieve relevant information; assess the quality of the information and its applicability to a specific situation; and analyze, understand and use the information to make good health decisions' (Medical Library Association 2003). The definition was framed within two related concepts: health literacy and information literacy.

Information literacy can be defined as a set of abilities enabling individuals to 'recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information' (American Library Association 1989). Information literacy is understood to form the basis of lifelong learning (Lau 2006) and is considered to be the key to empowerment and 'survival' in the information age (Yates *et al*. 2012). The concept of information literacy has mainly been applied in educational settings, but more recently the focus has expanded to everyday life context as well. However, this field of study has been identified as a significant gap in research (Lloyd & Williamson 2008, Partridge *et al*. 2008).

Health literacy can be defined as 'the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions' (U.S. Department of Health and Human Services 2000). Health literacy is often understood as the basic reading and numerical skills that are needed to be able to function in the health care environment (Baker 2006). More recently the focus of health literacy research has shifted to a wider variety of social, personal and cognitive capabilities, such as critical thinking, problem-solving, information seeking and communication (Chinn &

McCarthy 2013, Mancuso 2009). However, most studies still investigate health literacy as a set of basic reading and numeracy skills (Jordan *et al*. 2011, Mancuso 2009). The way in which health literacy has been operationalised in these studies directs investigation to detecting individuals with limited basic literacy.

Other related concepts for health information literacy include health numeracy and eHealth literacy. Health numeracy refers to the ability to use and understand quantitative health information (Ancker & Kaufman 2007), and eHealth literacy to the ability to seek, find, understand, and appraise health information from electronic sources and apply the knowledge gained to addressing or solving a health problem' (Norman & Skinner 2006).

The information society is where everybody can create, access, utilize and share information and knowledge, enabling individuals, communities and peoples to achieve their full potential in promoting their sustainable development and improving their quality of life (Olorunda, 2004 cited in Hossain & Islam, 2012). The main objective of information society is to empower all the people through access to and use of information, but there is concern that some people, including women, are more distant than others from the opportunities presented by the changes being created by information communication technologies (Hossain & Islam, 2012).

Recently, health information literacy has become one of the main pillars of delivering good healthcare. Many organizations and institutions have recognized the critical role health information literacy plays in facilitating and improving patient-centered outcomes. For instance, the U.S. Department of Health and Human Services released a National Action Plan to improve health literacy, with a primary goal of providing patients with ease access to accurate health information (Office of Disease and Prevention and Health Promotion, 2010).

Women's knowledge and education have been important economic and social issues in the developing countries like Nigeria. In Nigeria, women are now participating in family decision making as well as in national and global socio-economic development. Irrespective of location, women need information on health, food and nutrition, family planning and child education. But, the women who live in rural areas have lack of access to information resources and inability to have access to information and communication technology. It is no exaggeration that most rural childbearing women in Nigeria have difficulties with health information literacy (Aramide, 2004). Poor health information literacy among rural childbearing women is a social barrier to effectively access healthcare services and treatment.

In a very recent study of Northern Nigerian rural community, Adam (2009) presented a picture about the information needs of rural women. The study showed that health information constituted 20 percent of the information needs of rural women, and the paramount health information required were antenatal and postnatal care; immunizations especially on the six childhood killer diseases; how to prevent and manage Vascular Virginal Fistula; and how to secure safe child delivery. The rural women in this study also reported that they needed information on how to prevent and control epidemics especially cholera and meningitis which were rampant in the area. The study showed further that the rural women used five main sources of information: government and its agents, elite groups, relatives and friends, market women, and non-governmental organizations (NGOs), with an indication that the major sources are informal.

Health information literacy may be approached from several theoretical perspectives (Limberg *et al*. 2012, Yates 2013). According to Yates (2013), there are three distinct theoretical perspectives to (health) information literacy: behavioural, relational, and socio-cultural. From the relational perspective, focus is placed in information literacy as individuals themselves experience it. Yates (2013) has studied older adults' health information literacy from this perspective in an everyday context. From a socio-cultural viewpoint, the focus is placed on the social settings, in which health information literacy is developed (Lloyd *et al*. 2013, Tuominen *et al*. 2005). Studies by Lloyd (2005) for example, draw from this perspective. In this study the Medical Library Association's (2003) definition of health information literacy is adopted and health information literacy is understood from a behavioural perspective (Yates 2013); as skills or competencies of a person. This does not mean, however, that health information literacy would be seen as disconnected from socio-cultural aspects. Literacy is not seen only as an 'individual achievement' but also as a socio-cultural advantage (Budd & Lloyd 2014).

Naturally, health challenges compel the rural women who are confronted with maternal anxiety or with major decisions about their health and child. The level of health information literacy of women may influence the anxious action the women exhibit during pregnancy or childbirth. The women with high level of health information literacy then explore all the information carriers around them in order to meet their health need and child development. Furthermore, this also focuses on the different actions by which individual childbearing women obtain health information. This is conceptualised according to McKenzie's (2003) model of health information practices in everyday life information seeking.

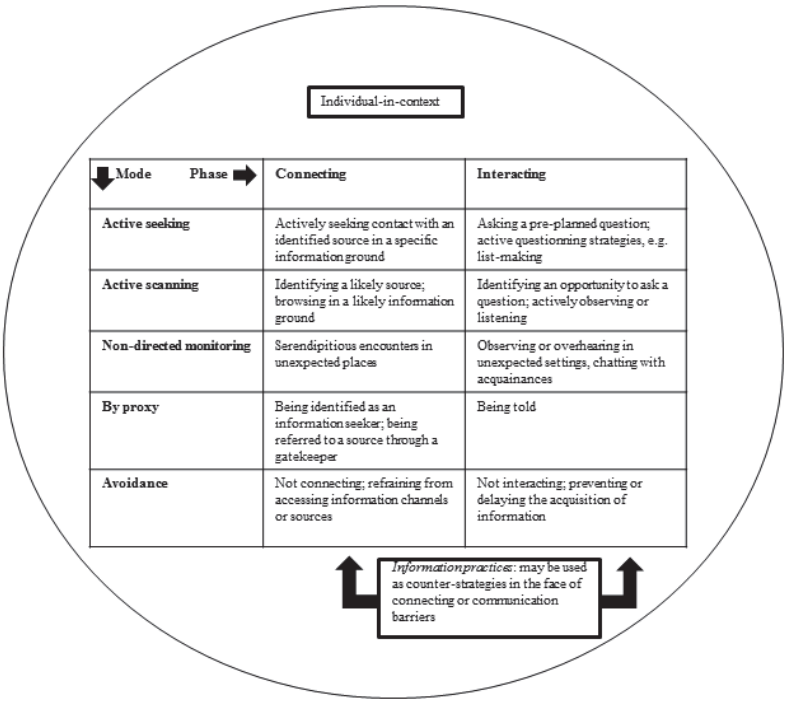

Fig. 1: Modes of health information seeking and avoidance by Rural Childbearing Women
Source: Adapted from McKenzie (2003) and Niemelä (2006).

Furthermore, following Niemelä's (2006) framework, individual childbearing women attempts to consciously avoid or ignore information were included to this framework. However, for the purposes of this study the concept of avoidance instead of abstinence was regarded more suitable for its wider definition and usage in the field of information studies (see Figure 1).

Implication of Health Information Literacy on Maternal Anxiety

There is an intuitive connection between childbearing women's abilities to access and use information (information literacy) and the maternal anxiety. However, the relationship between maternal anxiety and health information literacy has not been thoroughly investigated. In comparison to studies on health information and literacy, relatively little research has been conducted with the focus on what individuals do with the health information and knowledge they have acquired, and what are the effects, consequences, impacts or outcomes of information (Case & O'Connor 2015, Albright 2010). According to Dewalt and Hink (2009), women with low health information literacy had less health knowledge and had behaviours that were less advantageous for their children's health compared with parents with higher health information literacy. Children whose women had low health information literacy often had worse health outcome (Dewalt & Hink, 2009). A women's health information literacy may not only impact her health care outcomes but her children's or unborn child's health as well. Leyva, Shanif & Ozuah (2005) found that mothers with better literacy skills are more likely to demonstrate administering the correct amount of medication. Shieh & Halstead (2009) found that low health literacy negatively affects a woman's health knowledge, preventive behavior, ability to navigate the health care system and ability to care for her children. The study found that maternal anxiety is influenced by the level of health information literacy. Finding showed that, anxious childbearing women are more intrusive, have less warmth and less active management.

III. Conclusion And Recommendations

What has emerged in this study is strong evidence that childbearing women in Nigeria have poor health information literacy to steer their health choices and to control maternal anxiety. What they know about their pregnancy and childbirth challenges are merely fairly historical and sometimes heuristic; psychological ill health and their causes are therefore interpreted rigidly and monotonously either through previous experiences of other people or through the advice of traditional or quack modern drug traders who dominate the rural community. These women recycle their local knowledge about mental anxiety disorders and rely on the therapies they have devised over the years based on traditional and cultural ethos without any consciousness about health information literacy. This situation is complicated by the high cost of seeking adequate health information

knowledge. In addition, the rural childbearing women have no sufficient access to modern information and communication technologies which they have used. Although the most used and available health information source (i.e. the radio) does not even communicate health information to them in the language they understand.The study therefore recommended that working towards the development of health information literacy among childbearing will bring women the confidence and emotional insight which they no longer gain from their antenatal and postnatal experience and from the other women . Childbearing women should be equipped with skills and confidence, so that when the labour process is over, the reality of parenthood is a positive, healthy experience.Another way out is mass literacy and education and awareness programmes which should be directed at the women in the rural communities. Finally, there is also need for targeted awareness programmes to the managers and operators of those sources from which women get health information.

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