

## HEALTH INFORMATION NEEDS OF WOMEN: A SURVEY OF LITERATURE

---

(Conference ID: CFP/230/2017)

Felesia Mulauzi and Akakandelwa

Department of Library and Information Studies,

University of Zambia, P.O. Box 32379, Lusaka, Zambia

### **ABSTRACT**

*Understanding women's health information needs is the foundation for developing women-centered health information systems and services. Yet there is no clear understanding as to what constitutes women's health information needs to inform and shape information provision among them. The main objective of this study was to identify the health information needs of women. Specifically, the study looked at how health information needs are articulated in literature, identified the health information needs of women at global, African and Zambian levels and gaps in literature on health information needs of women. The study considered literature published from 2000 to 2017. To retrieve literature relevant to the aims of the review, both print and electronic materials were consulted. The findings revealed varying ways in which health information needs are conceptualized. The findings also show varied and unique women's health information needs ranging from disease specific to reproductive health. Major gaps in literature regarding health information needs have also been established including the fact that most of the studies on health information have been done in developed nations, hence there is little understanding on health information needs of women in underdeveloped countries. The paper ends by recommending that researchers should conduct more studies on health information needs of women especially in developing countries and that system designers should develop information systems and services that can address women's health information needs adequately.*

**Keywords:** *health information needs, health information seeking, health problems, women's health.*

## 1.1 INTRODUCTION

Sustainable development goal number three is to ‘ensure healthy lives and promote well-being for all at all ages’ (United Nations, 2015). While significant strides have been observed in increasing life expectancy, reducing some of the common killers associated with child and maternal mortality, increasing access to clean water and sanitation, reducing malaria, tuberculosis, polio and the spread of HIV/AIDS, more effort is required to fully eliminate a wide range of diseases and address many different persistent and emerging health issues. Governments, the private sector, civil society and individuals need to play a part to attain this goal. Access to reliable, relevant and useable health information is one of the key determinants for attaining the health sustainable development goal. Randel (2013) believes that the post-2015 settlement must harness the power of information to empower citizens with choice and control over the decisions that impact their lives. As noted by Raj et al (2014) people quite often suffer unnecessary ill health or die due to lack of information to make decisions. According to Raj et al, lack of information also leads to wrong decisions. Decision making heavily depends on availability of health care-related information. The only way of dealing with information gaps is by providing reliable, relevant, complete and useable information to consumers. The 58<sup>th</sup> Session of the World Health Assembly (2005) issued a resolution urging member states to make health information available, accessible and relevant to people’s health needs. Thus, understanding the health information needs of individuals is critical in order to provide access to relevant and appropriate health information specifically targeted at different groups of people in society. The EU Health Policy Forum (2005) affirms this by stating that it is universally true that to be useful, information must be relevant, appropriate, timely, up-to-date, understandable and factually accurate. It must also be tailored to the needs and abilities of specific target groups, and be accessible (easy to understand and to use/act upon.)

For health information to effectively facilitate and reinforce performances of a desired health behavior, it should be tailored to the interests, literacy, language, cultural background, emotional state and desire (Ek, 2013) as well as *needs* of its intended audience. In other words, Ek submits that the quality and authority of the health-related information must suit and synchronize with the individual’s expectations, preferences and needs under given circumstances. Ek (2013) claim that public health communication programmes and interventions have traditionally been based on the somewhat oversimplified assumption that health promoting knowledge and corresponding behavior are automatically created as people are subject to a rich flow of relevant health-promoting information. However, in reality, the case is largely that those individuals whom health promoters’ information most are trying to target are hard to reach due to various forms of miscommunication; they do not, for instance, share the same presumptions and pre-understandings as those who administrate, design and operationalize the health promotion programmes (Ek, 2013).

Affirming the importance of understanding women’s HIN, WHO (2009) submits that women and girls have particular health needs and that health systems are failing them. These unmet health needs include conditions that only women experience and that have negative health impacts that only women suffer.

Some of these conditions, such as pregnancy and childbirth, are not in themselves diseases, but normal physiological and social processes that carry health risks and require health care. WHO (2009) further explains that some health challenges affect both women and men but, because they have a greater or different impact on women, they require responses that are tailored specifically to women's needs. Other conditions affect men and women more or less equally, but women face greater difficulties in getting the health care they need. Furthermore, gender-based inequalities – as in education, income and employment – limit the ability of women to protect their health and achieve optimal health status. This is why understanding women's health information needs is crucial in improving the health of global citizens. Thus, the need-based approach is essential where information is based on research, informed by evidence and enabled by technology to take care of the needs of various stakeholders (Raj et al, 2014).

## 1.1 Statement of the problem

Women constitute an important segment of population in development. They are not only the majority in many nations but also have great potentials to improve their health and that of society. As an old adage goes 'a healthy nation is a wealthy nation' as healthy people are more productive. Women can effectively ensure a health nation if they are exposed to appropriate, timely, reliable and adequate health information. However, very little is known about women's health information needs in Zambia, Africa and the world at large. The lack of awareness of information needs and the inability to recognize and adequately express information needs are serious barriers to fulfilling information needs of women. Information need is espoused as the foundation from which to develop individual-centred services (Ormandy, 2010). Hence, it is important to study women's health information needs to develop women-oriented information systems in order to serve them better. By highlighting the health information needs of women, awareness for the need to pay stronger attention to dormant information needs and information needs that are ignored can be raised to all stakeholders. WHO (2009) argues that some health challenges affect both women and men but, because they have a greater or different impact on women, they require responses that are tailored specifically to women's needs.

## 1.2 Rationale for the review

It has been widely acknowledged that to be useful, information must be tailored to the needs and preferences of specific target groups. Information need is the foundation from which to develop tailored services. According to Goossens et al (2016) individuals like tailored interventions; and read, remember and discuss the content of tailored interventions more often than standardized interventions. Thus, tailored interventions can be more effective and efficient than standardized interventions in promoting good health among women. Information providers might use the findings to provide health information that support women's needs and preferences adequately. Higgins et al (2011) also affirms that summaries of existing knowledge can provide a powerful resource for practitioners to provide tailored preventive, curative, promotional or rehabilitative health care services and can assist policymakers to design appropriate policies and programs or make decisions that can effectively meet the health information needs of women. Such reviews also may also enable researchers to focus their attention on identified gaps in knowledge in

the area of health information needs of women. Alzougool et al (2008) observed that comprehensive understanding of the information needs of consumers is a basic step before developing effective Health Information Systems (HIS) that target those consumers and that attempt to engage them. It also helps in the evaluation of how well these needs are fulfilled as well as understand other dimensions such as consumers' information behaviors and sources. Alzougool et al thus, argue that a careful identification, analysis and classification of information needs is an important foundation for the designing and functioning of health information systems. Otherwise, continuing to develop delivery mechanisms for health information, according to Wathen and Harris (2006), without first understanding the needs of various types of users as part of the delivery system, only exacerbates the problem.

### 1.3 Objectives of the review

This literature review provides an overview of the health information needs of women at global, African and Zambian levels. Specifically, the study investigated:

- i) how health information needs are conceptualised in literature
- ii) health information needs of women at global, African and Zambian levels and
- iii) major gaps in literature regarding health information needs of women

## 2.0 METHODOLOGY

Literature was reviewed from as variety of sources including Sage journals, ScienceDirect, BMJ journals, BioMed Central Medical Education Journal, Library Philosophy and Practice (e-journal) and Journal of Medical Internet Research. Additionally, Google was used to search for grey literature on the topic. Only sources published in English were consulted from 2000 to 2017. Various search terms were used to search the sources including health information needs of women, women's health, information needs, health information seeking behavior and consumer health information needs.

## 3.0 RESULTS

### 3.1 The concept of health information needs (HIN)

*Need*, according to Alzougool et al (2008) is something that is essential to do or to resolve something else depending on the context. Shenton and Dixon (2004) and Adekanye (2014) noted the difficulty that investigators face in defining the nature of information needs in such a way that they can be researched. This is because the needs of individuals usually vary from time to time due to several factors. Hence, "there is no clear definition as to what the term means or how people's information needs inform and shape information provision and patient care" (Ormandy, 2010). Many theorists in the field of information science and health have attempted to provide an understanding of the concept of information need. In the field of information science, information needs are thought to arise from basic human needs that have cognitive, physiological and psychological/emotional qualities (Choo, 2000; Nicholas, 2000). At times, this takes the form of a perceived discrepancy between the current position and a more informed state to which the person aspires to complete a task (Shenton and Dixon, 2004). Other scholars define the concept of information need as a deficiency in a person's knowledge – gap (Choo, 2000; Irvall and Nielsen, 2005)

in life's experience, or a state of uncertainty defined and recognized by the individual, motivating them to seek answers and form questions to find a solution for a particular problem (Wilson, 2006; Kebede, 2002; Case, 2002); a recognition that your knowledge is inadequate to satisfy a goal that you have (Case, 2007), lack of appropriate information on which to base choice that could lead to benefits or services that may improve people's well-being (Lambert and Loislle, 2007). Despite the fact that definitions vary widely, these theorists agree that information needs arise because of an underlying dissatisfaction with their existing situation.

Likewise, researchers have investigated information needs from the health perspective (Ormandy, 2010; Pang et al, 2014; Alzougool et al, 2008; 2013). These scholars agree that information need in health is also perceived to represent a gap or knowledge deficit that could be rectified by information and / or education. According to these studies, a person may not know clearly about a particular health problem, that represents a knowledge gap of the disease, so there is a need to look up detailed information on this problem. Xiao et al (2014) noted that health information needs include both cognitive needs, which include information for disease prevention and treatment, and affective needs, which include information for coping with illness emotionally. Alzougool et al (2008; 2013) derived an abstract model (figure 1) for understanding the information needs, particularly in the health information seeking context.

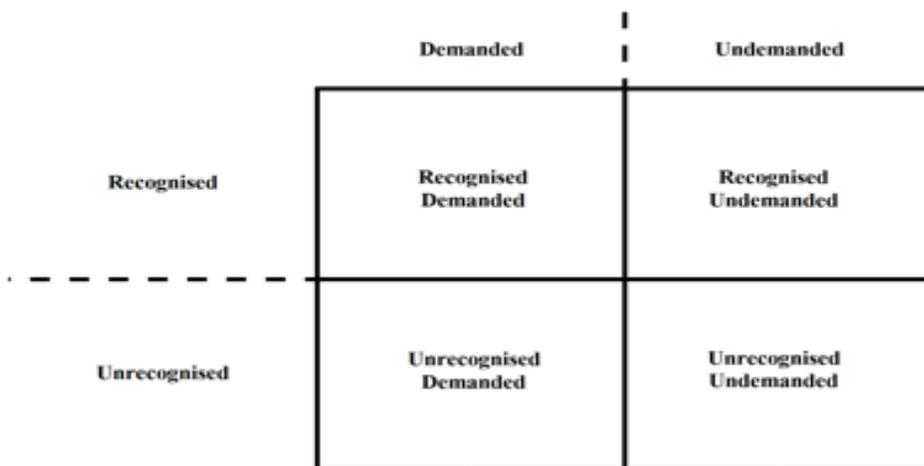


Figure 1: A framework of states of information needs

Source: Alzougool et al (2013)

Alzougool et al (2008) argue that there are two broad categories of information needs (figure 1): recognized and unrecognized information needs. Recognized information needs is when a person is aware that information is needed. It is either articulated by health practitioner or can be inferred by an observer. It may result in a search for new information or it may not. While unrecognized information needs occur when a person is not aware of the information he/she needs or his/her knowledge is insufficient to fulfil the needs (knowledge deficit). Alzougool et al. (2013) argue that the seeker in this category has not clearly identified, but somehow he/she realizes certain existing but unknown information is important for the current scenario (for example concerns when taking care for a diabetes patient). Information needs

triggered by passive reception (like hearing something interested) are considered in this category. Consequently, the seeker will likely explore for all relevant information to clarify exactly what information is further required.

Alzougool et al (2008) further posits that both recognized and unrecognized can either be demanded or undemanded. A person looking for detailed information about certain symptoms falls into the recognized demanded category. Conversely, people may choose to refuse or avoid information that relates to them, which can be seen as undemanded needs. For example, patients with a severe disease such as cancer may choose to deny information, possibly to avoid a negative psychological effect on the ongoing treatments. Most researches have focused only on one type of need: recognized information needs that individuals choose to demand (i.e. lack of information) which is visible and not those information needs not always easily visible. This is because according to Pang et al (2014) they associate with actual information seeking behaviors and thus easier to observe. Other types of information needs are often neglected. The information needs not always visible include information needs that individuals already satisfy, or that they recognize and choose not to demand, or that they have not recognized yet. These parts or dimensions according to Alzougool et al, represent the huge size of the iceberg or information needs that are hidden from view. They argue that information needs are more comprehensive and most researchers focus on lack of information and the iceberg analogy is a useful way that helps to clarify the comprehensiveness of information needs. The idea of iceberg analogy (figure 2) has been used to represent various things or situations that are not visible without paying special attention.

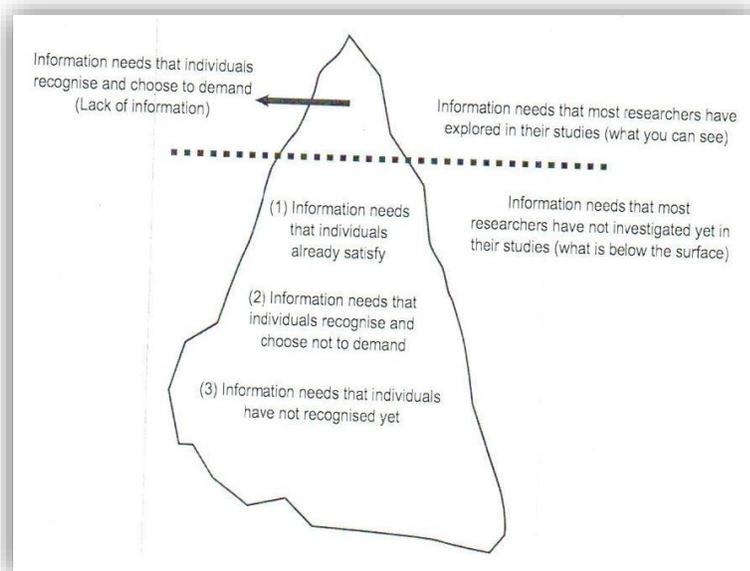


Figure 2: The information needs iceberg

Source: Alzougool et al (2008)

Additionally, Ormandy (2010) extensively explored literature in an effort to provide a working definition for the term information need that is both applicable and useful within the health- and social-care arena. He came to a conclusion that a definition of information need should encompass and fully recognize the interplay of four key dimensions: context, situation and time alongside purpose/ goals. Ormandy (2010) argued that the pivotal role of the health-care practitioner is to help the patient articulate and refine their information needs, then provide the relevant information to satisfy the need or gap in knowledge. Therefore, a comprehensive and crucial understanding of what, why and when information needs arise for the individual patient, can only be achieved by exploring the four key dimensions. Thus, to Ormandy, “information need is a recognition that your knowledge is inadequate to satisfy a goal that you have, within the context/ situation that you find yourself at a specific point in the time.”

Information needs develop for different reasons: to find answers, to reduce uncertainty or to make sense of a situation, (Loo, 2007; Alzougool et al, 2008) bridging gaps, solving problems and stress and coping (Alzougool et al, 2008). Ormandy (2010) citing Coulter et al presents a broad generic framework for patient information needs in terms of the purposes for which information is used (Table 1).

Table 1: Framework for patient information needs

---

- Understand what is wrong
  - Gain a realistic idea of prognosis
  - Make the most of consultations
  - Understand the processes and likely outcomes of possible tests and treatments
  - Assist in self-care
  - Learn about available services and sources of help
  - Provide reassurance and help to cope
  - Help others understand
  - Legitimize seeking help and their concerns
  - Learn how to prevent further illness
  - Identify further information and self-help groups
  - Identify the best health-care providers
- 

## 3.1 Health Information Needs of Women at Global, African and Zambian Perspectives

### 3.2.1 Global Perspective

At the most specific or micro level, according to Marton (2010), health information needs could be classified by health topic, as is commonly done in the largely atheoretical field of consumer health information studies. According to Marton, even reports on the use of consumer health information centres

(CHIC) classify health information needs according to health topic. And one of the findings in this study is that health information needs of women have been investigated in relation to the health topic. Marton (2010) studied how women seek health information on the Web in Canada. Marton's study looked at women's health information needs from the broader point of view. It was found out in Marton's study however, that depression, cancer, arthritis, respiratory tract infection and cancer were the frequently cited areas of information need for participants. Marton also notes from other studies that women also need information on lifestyle factors, such as diet, nutrition, and exercise as well as specific symptoms, drugs or medications and alternative therapies.

Many other research studies covering specific health conditions have been conducted in various parts of the world. Those that looked at the information needs of women pertaining to maternal (e.g. pregnancy) include studies by Das and Sarkar (2014), Larsson, (2009) and Gao, Larsson and Luo (2013). The results of these studies demonstrates that women require information on *nutrition for safe delivery and child health* as well as during postpartum period, *pregnancy complications, sexual and family relations, fetal development, childbirth* (e.g. mode of delivery, stages of childbirth, pain and pain relief, stories about giving birth, hospital choices), *the expected child* (e.g. products for mother and baby, breast feeding), chat forum; and parental benefit, *antenatal care*, exercises during pregnancy, *infant care and infant feeding*, and maternal recovery. According to WHO (2009), another vital area where information is lacking concerns the relationship between TB and pregnancy. WHO argues that up to 70 per cent of deaths due to TB occur during the childbearing years. The lack of information on diagnosis of TB in pregnant women, on the effects of TB on the health of the mother, fetus and infant, on the complications of treatment, on barriers to treatment, etc. may result in difficulties to diagnosis and manage TB in pregnancy. Commonly held beliefs among women, such as that pregnancy increases intolerance of TB drugs or makes them ineffective, have been linked to women interrupting their TB treatment when they became pregnant. WHO submits that women are entitled to appropriate services in connection with pregnancy, granting free services where necessary, according to the Women's Convention (CEDAW).

It has been observed that with respect to HIV/AIDS there are still large information and knowledge gaps about various HIV/AIDS related issues among women. According to Mulder et al (2000), a number of women still believe HIV/AIDS can be contracted when donating blood, affect prostitutes only and found in cities only. Due to misconceptions, women are likely to be diagnosed in later stages of illness, shortening the duration of treatment but increasing the need for more aggressive medical and mental health interventions. There is also a tendency of strong condemnation at times and traditional moral values, conformity to traditional norms, stigmatization of persons with HIV/AIDS which may make effective HIV prevention nearly impossible among women. Thus women require information and knowledge on HIV/AIDS issues (Mulder et al, 2000). Specifically, the information needs of women with HIV/AIDS also seem to be many. For instance, the Canadian AIDS Society (CAS) (2007) maintains that HIV-positive women need information on general support issues such as various practical, therapeutic and psycho-social supports which are key factors in helping people living with HIV/AIDS cope with their illness and

the resulting issues. Albright (2007) adds that they need information on how to communicate with medical providers in order to access health information and proper medical care. These supports according to CAS can also be a force in slowing disease progression. People living with HIV/AIDS, according to CAS, tend to be healthier when they have a comprehensive network of peer, family, community and medical support. CAS further contend that women need information that can assist them to access health information, referrals, counselling, support groups, buddies, hospice care, complimentary therapies, child care, transportation and food.

CAS also postulates that women living with HIV/AIDS often experience an intense degree of isolation. Due to concerns over disclosure of HIV-positive status, it is often difficult for HIV-positive women to find one another and establish peer support networks. In addition, existing services might not be gender-sensitive, and even if they are, women may not be aware that such services are available. Thus, women need information that can link them to networks so that they do not feel isolated (CAS, 2007). As noted by CAS (2007), isolation can also result from poverty, which can prevent many HIV-positive women from accessing various support and information networks that currently exist. Further, there are a number of issues that arise for HIV-positive women in the context of relationships, sexuality and family. Domestic violence, sexual and alcohol use can create high-risk environments for women, and these issues must be dealt with for women to be safe. And information is crucial in informing women on these issues (CAS, 2007). Information makes women knowledgeable and receive sensitive support to feel confident in and comfortable with engaging in healthy sexual relationships. In fact, CAS claims that too often, society treats women as “vectors” (carriers) of disease and HIV-positive women may feel they have no right to be sexual beings. Thus according to CAS, reproductive decision-making requires increased access to information and support. Having a child is the decision and choice of HIV-positive women, and will require pre- and post-natal information and access to treatment for both mother and child. Women must also have access to legal information about treatment consent issues for their HIV-positive children. State-intervention (removal of HIV-positive children from the home, and court ordered treatment) is of growing concern for many mothers of HIV-positive children (CAS, 2007).

Women are often the primary care-givers in families. Information is needed to help HIV-positive women decide if, when and how to disclose their status to their children, family, friends, and co-workers) and this information women need according to Huber and Cruz (2000) is known as HIV/AIDS disclosure. HIV-positive mothers also need information on how to plan and prepare the end-of-life for the care of their children (CAS, 2007). Additionally, HIV/AIDS health and support services play a critical role in women especially those infected. According to CAS, there are a number of specific services that would facilitate easier access to supports that can assist women in their support needs. Women need information to access affordable, quality childcare and transportation so that they can access supports such as counseling, support groups and complementary therapies. Additionally, HIV-positive women often experience difficulty finding adequate and quality health care. Information and knowledge on HIV research and

treatment available is crucial for doctors to be informed of how HIV and treatments affect women and avoid prejudices about which 'types' of women contract HIV (CAS, 2007).

Violence can be a disturbingly common experience in the lives of HIV-positive women. CAS allude to the fact that women living with HIV face additional fear and threat of rejection or emotional, physical and/or sexual violence from the men who are closest to them, including husbands, lovers, family members and co-workers (CAS, 2007). There is need for women to be informed on available support services when faced with violent acts. In their study on information needs and information seeking behaviors of HIV-positive men and women, Huber and Cruz (2000) revealed additional information needs which include information on religious and spiritual topics, social activities, death and dying.

The Women's Network of the Royal College of Obstetricians and Gynecologists (RCOG) conducted a study on health information needs of older women in the UK. The focus of the study was on women who were approaching, experiencing or who are post-reproductive age. The study was designed around seven conditions which were identified as being the most relevant to women of post-reproductive age: menopause, osteoporosis, prolapse of the womb, incontinence, depression and mood change, problems with sexual relations and gynecological cancer. It was established by the study that in addition to breast cancer and arthritis, all the seven conditions were important to older women. However, the level of knowledge on the seven conditions was quite low as revealed by the study. This was evident from the low response rate about symptoms of each of the conditions and treatment options. Thus, it was concluded in the study that consistent with the low level of knowledge about symptoms and treatment for the main conditions, there was a high proportion of respondents requesting reliable, up-to-date and consistent information.

Surman and Bath (2013) in their study on assessment of the quality of information on stroke and speech and language difficulty Websites observed that the information needs of patients, carers and families (PCF) experiencing speech and language difficulties (SLD) are substantial and change with time, according to time and period following the stroke. This study has been included as part of the analysis as women tend to be the majority of patients, carers and concerned family members when it comes to any health problem including stroke and speech and language difficulty. In this study, Surman and Bath contend that information on this particular health condition can improve knowledge of the condition, increase levels of life satisfaction and reduce patient depression. They add that it can also improve patient's recovery process and outcome, uncertainty and anxiety levels among carers are reduced as well. Surman and Bath recognize that clinical information forms a large area of information need among PCF who have experienced a stroke. This information helps them to know about the stroke itself, the causes and risk factors, the risks and prevention of stroke occurrence as well as the consequences of the stroke on the body such as the visual field and bladder function, and the management of such effects. The consequences may be emotional and behavioural, for instance, depression or memory loss.

The second type of information according to Surma and Bath is information on medications and treatment including details on the rehabilitation process. In addition, an indication on the diagnosis is often required to gauge potential recovery. Practical information is another health information identified by Surman and Bath. This information may include details on the health care services available. Patients need to know the medical professionals they should approach for help. Coping mechanisms form another area of practical information need especially for returning home, and for care that is available. This may include assistive devices and aids around the house to help with walking, balance, etc. PCF wish to know about leisure activities and exercise following a stroke, including sexual activity. PCF may also need to access information on local community and support groups and clubs, which can provide psycho-emotional support for people. Information is also needed on the experience of others, which offers the re-assurance that they are not alone. Patients may need information on advice and support for their partner and carer. Financial information, including available benefits, help with tax and legal matters, may also be needed. Patients may also wish to return to work, and may need to know about driving. Carers have concerns about the impact of the stroke on their own lives, such as their relationship with the stroke survivor. Surman and Bath conclude by stating that the most important information need for all is that information is accurate, up-to-date and accessible.

The studies that have looked at health information needs of women on cancer include those done by Jenkins, Fallowfield and Saul, 2001; Browall, Carlsson and Horvath, 2004; and Gopal, Beaver, Barnett and Ismail, 2005. These studies revealed that women require information on the *nature of cancer, chances of cure, all possible treatments, and all possible side effects of treatment and how treatment works*. Interestingly, cancer carers expressed the same information needs in the study by Beaver and Witham (2006). In addition to the above cancer health information needs, breast health and breast cancer screening were found to be important needs in a study by Watts et al (2004). Recent studies in this area include that of Gleeson et al (2013). They investigated the information needs of women diagnosed with ovarian cancer regarding treatment-focused genetic testing. The study revealed that women wanted to be informed about treatment-focused genetic testing (TFGT) in the ovarian cancer prior to their surgery focused on the potential benefits of genetic testing on treatment. Again, Spence, Morstyn and Wells (2015) conducted a study on support and information needs of women with secondary breast cancer and this study revealed five (5) major areas of information needs including: (i) *Supportive care needs* (i.e. coping and resilience skills, including adjustment to illness; support from specialist breast care nurses; health care practitioners who can provide emotional and practical support, such as psychologists, counsellors, psychiatrists, and social workers; survivorship needs, etc.); (ii) *financial and employment needs* (i.e. financial consent around all out of pocket treatment expenses, particularly for treatments that are Medicare funded; rights of women diagnosed with secondary breast cancer; support in the workplace for women who require ongoing cancer related treatments); (iii) *multidisciplinary care needs* where women themselves can be allowed to participate in all aspects of the decision making process pertaining to their illness; (iv) information about *clinical trials* that are available to women outside their treating center; and (v) information on *superannuation* especially as it relates to terminal illness provisions.

Cardiovascular (heart) disease is one of the silent killers among men and women worldwide. Women need information that can help them understand the risk factors as both men and women have the same risk factors but some risk factors may affect women differently than men and are often misunderstood. So, women need to know their personal risk factors so that if possible they can be changed, treated, or modified, and that women can as much as possible control as many risk factors as possible through lifestyle changes, medicines, or both in order to reduce their risk of heart disease. As American Heart Association (n.d) puts it:

*“Women need to know what causes heart disease and what can be the right information, education and care as heart disease in women can be treated, prevented and even ended”.*

Women also need information on the signs and symptoms of heart diseases, how diagnosis is done, how it can be treated and prevented.

In as far as violence is concerned, Kaur and Gard (2008) argue that information is necessary for women to free themselves from violence or attain dignity and be economically independent. They submit that economic dependence is a central reason for women’s failure to stay away from abusive acts. Consequently, they need information that can empower them economically such as information on opportunities, benefits, resources and information on financial institutions that provide financial assistance to women. Women also need information on laws on violence against women and where they can report violent acts. Many women do not report violent acts simply because they do not know where to report. Others actually do not know that violence is a human right abuse and violation of this right is punishable. Kaur and Gard (2008) in their study have observed that:

*“Lack of information about alternatives also forces women to suffer silently ... Some women may believe that they deserve the beatings because of some wrong action on their part. Other women refrain from speaking about the abuse because they fear that their partner will further harm them in reprisal for revealing family secrets, or they may be ashamed of their situation”.*

Other areas of women’s information on violence pointed out by Kaur and Gard include information which project a positive image of girl child and women in society so that they can build their strength and self-efficacy. Also information on livelihood skills that would ensure their effective tackling of hunger, poverty, disease and unemployment challenges as well as information that can assist them access social services like education and health.

On mental health, women need information on how they can look after their mental health. Traditionally, according to American Mental Health Association (n.d.), women as guardians of family health, have tended to take on the responsibility of looking after the health of members of their family as well as

themselves. For instance, women often shop for their family and influence what they eat or advise their family when they feel unwell. This role makes it particularly important for women to have information so that they can understand how the choices they make in everyday life can affect their mental health and those of family members. Additionally, because of the role and status that women typically have in society, they need information on social factors as these can increase their risk of poor mental health. Some women find it hard to talk about difficult feelings and 'internalize' them, which can lead to problems such as depression and eating disorders. They may express their emotional pain through self-harm, whereas men are more likely to 'act out' repressed feelings, and to use violence against others. In this regard, women need information on how they can avoid depression, self-harm, anxiety, eating disorders, Post-traumatic stress disorder (PTSD), etc. as these increases their risk of developing mental health problems.

### 3.2.2 AFRICA

From Africa, some of the notable studies on health information needs of women include that of Adam and Lasisi (2011) who looked at health information needs of women from a general point of view. The study established that the most paramount information required by rural women is ante-natal and post-natal care, immunizations especially on the six childhood killer diseases, how to prevent and manage Vascular Virginal Fistula (VVF), how to safely deliver pregnancy. Additionally, the study established that rural women require information on hygiene, good food, family planning and clean environment. The study further identified barriers to information needs high illiteracy rates, inability to access formal channels of information due to poverty, lack of adequate and efficient information delivery mechanism, ignorance of governments responsibilities to its citizens, skepticism of the rural woman towards government and its information agencies, attitude of extension workers towards effective rural information service and inaccessibility of the rural areas by NGOs.

Another similar study with a focus on health information needs and information sources of pregnant women was conducted by Ogunmodede, Ebijuwa and Oyetola (2013) who obtained similar results as those mentioned above; that pregnant women need information on maternity, delivery, breast feeding, pregnancy period, ante natal, post-natal, immunization for their children and themselves, family planning and miscarriage. Women require family planning information to lower fertility rates, reduce early pregnancies, and decrease infant and maternal mortality. Investigating further on ante-natal information needs of women, Anya, Hydera and Jaiteh (2008) conducted a cross sectional survey of 457 pregnant women attending six urban and six rural antenatal clinics in The Gambia. The women were interviewed using modified antenatal client exit interview and antenatal record review questionnaires from the WHO Safe Motherhood Needs Assessment kit. In their study, Anya, Hydera and Jaiteh established that women needed information on diet and nutrition, care of the baby, family planning, place of birth, STIs and HIV/AIDS. Additionally, women needs information related to danger and response to pregnancy-related problems, danger signs for the unborn child.

Nwagwu and Ajama (2011) studied the health information needs and sources of women living in a rural palm plantation community in Nigeria. The study revealed that women needed information in concerning sixteen topics: diabetes mellitus, HIV/AIDS, STD, typhoid fever, cholera, malaria, pox (small, chicken, cow), tuberculosis, infertility, hypertension, body pain, immunization, cough and cold, skin diseases, family planning and pregnancy. Kituyi-Kwake and Adigun (2008) analyzed ICT use and access amongst rural women in Kenya. With regard to health information needs, they ranged from family planning/gynecology to tropical diseases e.g. malaria, HIV/AIDS, respiratory illnesses/coughs, cancer, Sexually Transmitted Infections, snake bites, waterborne diseases, diet/nutrition, diabetes, dentistry and fits.

### 3.2.3 ZAMBIA

According to the Online Editor (2015), sexual and reproductive health is a human right, essential to human development and to achieve the Millennium Development Goals. Poor people, especially women and young people, face huge social and economic barriers to sexual and reproductive health. He further notes that achieving universal access to reproductive health and reproductive rights, including family planning is critical for maintaining and achieving good health outcomes. He also states that access to reproductive health and reproductive rights is also critical for reducing maternal and child mortality. It also positively influences population dynamics including the demographic dividend. To achieve sustainable development, there has to be emphasis on sexual and reproductive health as they are central to achieving sustainable development. Sexual and reproductive health is important to everyone's stage in life. Yet far too many people are denied their right to sexual and reproductive health. The vast majority are poor women, men and young people in developing countries. Millions of women and men lack access to contraception and to the sexual and reproductive health information and services they need to choose their family size and improve their own and their children's life chances. Millions more people are living with HIV and sexually transmitted infections that could have been prevented or treated. Every minute a woman dies from a complication of pregnancy or childbirth. Some 80 million women each year have unintended or unwanted pregnancies. Women especially need more choice and control over their sexual and reproductive lives. This important aspect of development was also brought out by Vice-President Inonge Wina during her recent visit to New York where she delivered a key note address at a high-level event focusing on pivotal role of reproductive health and rights in sustainable development. This was during the side-lines of the 59th session of the Commission on the status of women at the UN headquarters. Like Mrs Wina said, many women have continued losing their lives while giving birth and that under-five mortality rate remains unacceptably high.

Ngosa (2014) posits that many youths are confused by different safe sex messages the media and various organizations give out in regards to Sexual Reproductive Health (SRH). Ngosa noted that limited and lack of information on SRH as well as limited access to youth friendly health services in many communities has negatively impacted on reproductive health. He further states that statistics of teenage pregnancies were alarming and needed urgent solution and calls for a need to address the barriers that young people

face in accessing sexual and reproductive health information and services. He argues that no woman should have to risk her life or health because she lacks safe reproductive health choices.

A recent study was conducted by Mumba (2015). Mumba explored the information needs of women attending antenatal clinic in Zambia's Makululu compound, Kabwe district. This study revealed that women information on nutrition, mother – to – child transmission of HIV/AIDS and immunization against tetanus toxoid (TT) and safe delivery were the major information needs of women. This study was conducted on only in one district of Zambia out of the 123 districts. Not only that, the study only focused of maternal health information seeking. There is need to understand health information seeking from the general perspective.

Simaubi (2013) assessed cervical cancer awareness and uptake of Pap smear among women above 18 years in Maramba Compound of Livingstone in Zambia. The study indicated that half of the women interviewed were not aware of cervical cancer and no one had ever done a Pap smear and that those who were aware of cancer of the cervix had no adequate knowledge on the disease. There is need to for the Health care professionals to intensify Information, Education and Communication (IEC) on cancer of the cervix and its prevention. Meanwhile, Lungu (2011) undertook a study to determine the knowledge levels on breast cancer, risk factors, symptoms and screening methods among first degree female relatives of breast cancer patients at cancer disease hospital in Lusaka, Zambia. The study revealed that relatives of breast cancer patients had average knowledge on breast cancer risk factors, symptoms and screening methods. The study recommended for increase in dissemination on information in these aspects.

Chowa et al (2011) looked at the prevalence of hypertension among women of child- bearing age in Chibombo, Zambia. The study established that many of the participating women were at risk for cardiovascular diseases. Those attending the clinic were unaware of their blood pressure problems resulting in missed opportunities for treatment to maintain their health whether pregnant or not. The study recommended for cost-effective methods for the timely diagnosis and management of hypertension. According to Chowa, increasing opportunities for diagnosis and low-cost life-saving interventions will result in hypertension prevention and control in primary and secondary care settings in Zambia. Low cost hypertension control and treatment strategies include engaging patients in moderate physical activity; encouraging maintenance of normal body weight, limiting alcohol consumption, reducing sodium intake, maintaining adequate intake of potassium, fruits, vegetables, and low-fat dairy products and foods reduced in saturated and total fat<sup>13</sup>.

Banda (2010) investigated the knowledge and attitude of antenatal mothers towards danger signs in pregnancy in selected Lusaka Urban clinics. The study revealed varied health education topics that pregnant women are taught at antenatal clinics including prevention of mother to child (PMTCT), birth preparedness, nutrition in pregnancy, signs of labor, cancer of the cervix, care of the baby, danger signs in pregnancy, importance of antenatal, family planning and prevention of malaria, syphilis and tetanus. However, the study established that the level of knowledge on danger signs in pregnancy that include

bleeding, swelling of the body, high fever, pallor, severe headache, draining, fitting and dizziness was inadequate among pregnant women. This was evident from the low ranking as number four among the topics given during antenatal care. The study concluded by recommending for increased dissemination of information to sensitize women on dangers signs in pregnancy. Another important recommendation was on mode of presentation of this information in a way that it can be best understood by pregnant women.

Recognizing the importance of expanding the number of family planning options available to women as a critical part of increasing contraception coverage, decreasing unintended pregnancies and reducing maternal morbidity and mortality, a study was undertaken by the University Teaching Hospital (2010) on knowledge, practice and attitude towards Emergency Contraception (EC) among women with abortion at the UTH, Lusaka, Zambia. The findings of the study were that knowledge about Emergency Contraception (EC) among women with abortions admitted to UTH was low. Awareness and knowledge of EC should be increased.

Lagro et al (2003) conducted a hospital-based study on postpartum health problems in rural Zambian women. The study population consisted of women who attended the hospital within three months after delivery of a live or stillborn baby with a gestational age of more than 22 weeks or weighing more than 500 grams. The study established that health problems are very common among women as participants reported at least one health problem. The problems reported by participants included abdominal pain, backache, headache, fever, dizziness, vaginal discharge, fatigue, dysuria, constipation, heart palpitations, abnormal vaginal bleeding, breast problems, oedema, incontinence and faecal incontinence. The study recommends that women should be educated on specific conditions that require medical care. More information is also needed on the prevalence of sexually transmitted infections in antenatal and postpartum women including the feasibility of mass screening and treatment in this group of women.

### **3.3 Major gaps in literature regarding health information needs**

It is clear from this review that although a fair amount of evidence is available on health information needs, it is scattered and uneven in terms of both geographic and thematic coverage. Much of the evidence comes from studies in developed worlds. There is a dearth of literature from developing countries, particularly on the African continent. One key observation from literature is that gender specific studies on health information needs are scanty. This lack of information is a major gap in designing programmes that provide women-centred health information services. In addition, studies exploring the health information needs of women have tended, by and large, to focus on specific periods of women's lives (the reproductive ages, for instance) or specific health challenges (WHO, 2009) such as pregnancy-related health information needs, cancer, and other disease specific conditions. In fact, the major health topics on which information needs of women have been investigated include cancer (especially breast cancer) and maternal or reproductive health. Thus, major gaps clearly remain. The review highlights the need for more research on health information needs of women pertaining to other specific health conditions like mental health, stroke, malnutrition, heart diseases, tuberculosis, violence, injuries, female cancer (especially

cervical and ovarian), STIs and disability. For instance, commenting on the need for studies on mental health and injuries, Cooke (2009) submits that, mental health and vehicular deaths are among many neglected public health challenges yet have major impacts on mortality rates and productivity. It has been predicted that by 2020, road traffic injuries will rank third among causes of disability-adjusted life years in Africa. Few studies on the impact of mental illness on mortality, disability and productivity have been conducted, and mental illness is highly stigmatized and vastly underreported (Cooke, 200).

## 4.0 DISCUSSION

As observed by Shenton and Dixon (2004), this current study established that there is no universally accepted definition of information need. Different scholars conceptualizes information needs differently. “The lack of a common understanding of the term information need is a recurrent theme in library and information science writing. The definitions that have been offered typically address one or more of the following dimensions: the manner in which needs emerge, how needs may lead to information-seeking action, types of need that may exist, the nature of the information that may be required, or how a *need* differs from a *want*” (Shenton and Dixon, 2004). This makes it difficult for researchers to conduct researches on information needs. In spite of the variations in definitions, scholars agree that information needs result from more basic human needs that may be cognitive, physiological, or psychological/affective in nature and that needs arise from an individual recognizing some dissatisfaction with their existing situation which may take the form of detecting a discrepancy between the current position and a more informed state to which the person aspires to accomplish a task (Nicholas, 2000; Choo, 2000; Shenton and Dixon, 2004; Ormandy, 2010; and Case, 2007).

It is clear from literature that women’s health information needs are varied and peculiar (Mabawonku, 2006; Marton, 2010; WHO, 2009; Johnstone, Brown and Beaumont (2001). They range from disease specific to reproductive health. Their varied health information needs is a reflection of the unique roles and responsibilities women play as well as their biological make-up. Specifically, studies have revealed that women require varied information on maternal or reproductive (including post-reproductive age) health, HIV/AIDS, stroke and speech and language difficulty, cancer, heart diseases, violence and mental health. In as far as maternal or reproductive (including post-reproductive age) health is concerned, the major health information needs of women include diet and nutrition in pregnancy as well as during postpartum period, pregnancy complications, danger signs in pregnancy, sexual and family relations, fetal development, childbirth, birth preparedness, importance of antenatal, exercises during pregnancy, infant care and infant feeding, and maternal recovery. They also need information on STIs and HIV/AIDS, malaria, tuberculosis in pregnancy, hygiene, family planning and clean environment. Women of post-reproductive age have unique health information needs as revealed by the study. These information needs include menopause, osteoporosis, prolapse of the womb, incontinence, depression and mood change, sexual relations, gynecological cancer as well as breast cancer and arthritis.

The review also shows that women require information on HIV/AIDS that include, transmission, prevention, and stigmatization of persons with HIV/AIDS. Women infected with HIV/AIDS need information on general support issues, medical providers (or gender specific) medical care, network of peer, family, community and medical support to avoid isolation. information that can assist them to access other vital health information, referrals, counselling, support groups, buddies, hospice care, complimentary therapies, child care, transportation and food. They also need information on relationships, sexuality and family, violence, alcohol use, reproductive decision-making, legal information about treatment consent issues, disclosure of their status, HIV/AIDS health and support services such as counseling, support groups and complementary therapies, available support services when faced with violent acts, information on religious and spiritual topics, social activities, death and dying. On stroke and speech and language difficulty, the required information needs include clinical information, medications and treatment including details on the rehabilitation process, diagnosis, (practical information (i.e. available healthcare services, medical professionals, coping mechanisms, leisure activities and exercise following a stroke, including sexual activity, information on local community and support groups/ clubs and experience of others.

Women's health information needs on cancer include information on the nature of cancer, chances of cure, all possible treatments, and all possible side effects of treatment and how treatment works, breast health and breast cancer screening, supportive care needs, financial and employment needs, multidisciplinary care needs, information about clinical trials, and information on superannuation especially as it relates to terminal illness provisions. On cardiovascular (heart) disease, women need information on the risk factors, signs and symptoms, diagnosis, treatment and prevention. In as far as violence is concerned, women need information that can empower them economically such as information on opportunities, benefits, resources and information on financial institutions that provide financial assistance to women. Women also need information on laws on violence against women and where they can report violent acts. Other areas of women's information on violence include information which project a positive image of girl child and women in society and also information on livelihood skills that would ensure their effective tackling of hunger, poverty, disease and unemployment challenges as well as information that can assist them access social services like education and health. On mental health, women need information on how they can look after their mental health. Such information include information on social factors and that which can help avoid depression, self-harm, anxiety, eating disorders, post-traumatic stress disorder (PTSD), etc. as these increases their risk of developing mental health problems.

Major gaps in literature have been revealed including limited studies on health information needs of women especially in developing countries. Much of the evidence comes from studies in developed worlds. This could be due to the difficulty in researching this area as noted from the definitions of information need. Researchers seem not to clearly understand what to research on. Also, gender specific studies on health information needs are scanty making it difficult for information providers to design women-centred health information services. More attention in literature is on studying information needs of women in

pregnancy and cancer diseases (especially breast cancer). Fewer studies exist on other health conditions women experience like mental health, stroke, malnutrition, heart diseases, tuberculosis, violence, injuries, female cancer (especially cervical and ovarian), STIs and disability.

## 5.0 CONCLUSION

Arising from the above, it is clear that women's health information needs are varied and unique because of their biological make-up and the roles and responsibilities they play in society. This is supported by Mabawonku (2006) who observed that most studies that have been carried out in different parts of the world on women have shown that women have their peculiar information needs. Agreeing with Mabawonku (2006), Johnstone, Brown and Beaumont (2001) argue that though ignored by Policy on the national health priority areas, there is evidence about differences between men and women and the need for services that cater for their differing needs. They maintain that women are different from men, they experience different things while growing up as adults; biological factors can influence health and well-being outcomes; factors related to gender can affect treatment choices; health (and ill-health) can affect women's role in society (and women's role can affect their health); and women are the majority of carers for people who are both healthy and not so healthy. Therefore, women's health information needs must be properly understood in order to resolve many issues such as, male dominated health services and gender-blind service delivery, medicalization of health, women being viewed as wombs (i.e. viewing women's health as reproductive health), lack of access to information and gender-blind research and policy (Johnstone, Brown and Beaumont, 2001). In other words, the differences between men and women are such that the health of women deserves particular attention (World Health Organization, 2009).

## 6.0 RECOMMENDATIONS

Based on the findings above, the following is recommended:

- (i) There is need for researchers to conduct more studies on health information needs of women in developing countries
- (ii) Information system designers and information providers should develop information systems and services respectively that can address the varying health information needs of women
- (iii) Information providers should make information available to women tailored to their needs

## REFERENCES

- [1] Adam, G.S. and Lasisi, F. I. (2011). Information Needs and Information Seeking Behavior of Rural Women in Borno State, Nigeria. *Library Philosophy and Practice (e-journal)*. Available at: <http://www.webpages.uidaho.edu/~mbolin/saleh-lasisi2.htm> (Accessed 5<sup>th</sup> January, 2015).
- [2] Adekanye, A.E. (2014). Information Needs, Utilization and Socioeconomic Empowerment of Textile Market Women in Southern Nigeria. *Library Philosophy and Practice (e-journal)*. Paper 1093. <http://digitalcommons.unl.edu/libphilprac/1093>.
- [3] Albright, K. (2007). HIV/AIDS Information Seeking and Healthcare Communications in Sub-Saharan Africa. A paper presented at the World Library and Information Congress: 73rd IFLA General Conference and Council, 19-23 August 2007, Durban, South Africa. Available at: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.150.6830&rep=rep1&type=pdf> (Accessed on 19<sup>th</sup> September, 2015).
- [4] Alzougool, B., Chang, S. and Gray, K. (2008). Towards a comprehensive understanding of health information needs. *Electronic Journal of Health Informatics*, 3(2): e15. Available at: <http://www.ejhi.net/ojs/index.php/ejhi/article/view/57/44> (Accessed on 26<sup>th</sup> February, 2016).
- [5] American Heart Association (n.d.). Causes and prevention of heart disease. Available at: [https://www.goredforwomen.org/about-heart-disease/facts\\_about\\_heart\\_disease\\_in\\_women-sub-category/causes-prevention/](https://www.goredforwomen.org/about-heart-disease/facts_about_heart_disease_in_women-sub-category/causes-prevention/) (Accessed on 11<sup>th</sup> January, 2016).
- [6] American Mental Health Association (n.d.). Women and mental health. <http://www.mentalhealth.org.uk/help-information/mental-health-a-z/W/women/> (Accessed on 11<sup>th</sup> January, 2016).
- [7] Anya, S.E., Hydera, A. and Jaiteh, L.E.S. (2008). Antenatal care in The Gambia: Missed opportunity for information, education and communication. *BMC Pregnancy and Childbirth*, 8:9. Available at: <http://www.biomedcentral.com/content/pdf/1471-2393-8-9.pdf> (Accessed on 16<sup>th</sup> September, 2015).
- [8] Banda, G.N. (2010). Knowledge and attitude of antenatal mothers towards danger signs in pregnancy in selected Lusaka Urban clinics. (Undergraduate dissertation, University of Zambia). Available at: <http://dspace.unza.zm:8080/xmlui/bitstream/handle/123456789/2071/JeaneNgala0001.PDF?sequence=1> (Accessed on 11<sup>th</sup> February, 2016).
- [9] Beaver, K. and Witham, G. (2006). Information needs of the informal carers of women treated for breast cancer. *European Journal of oncology Nursing*, 11(1):pp. 16-25.

- [10] Browall, M. Carlsson, M. and Horvath, G.G. (2004). Information needs of women with recently diagnosed ovarian cancer--a longitudinal study. *European Journal of oncology Nursing*, 8(3), pp. 200-207.
- [11] Canadian AIDS Society (2007). Women and HIV/AIDS: Support Issues. Available at: <http://www.cdnaids.ca/womenandhivaidssupportissues> (Accessed on 17<sup>th</sup> September, 2015).
- [12] Case, D.O. (2007). Looking for information: a survey of research on information seeking, needs, and behavior. 2nd ed. edn, Amsterdam; Boston: Elsevier/Academic Press.
- [13] Choo, C. W. (2000). Closing the cognitive gaps: How people process information. In Marchand, D. A., Davenport, T. H. and Dickson, T. (eds.), *Financial times: Mastering information management*, pp. 245–253. London: Financial Times/Prentice Hall.
- [14] Chowa, P.E., Lin, C., Goma, F. and South-Paul, J. (2011). Prevalence of hypertension among women of child- bearing age in Zambia. *Medical Journal of Zambia*, 38(3). Available at: <http://www.mjz.co.zm/content/prevalence-hypertension-among-women-child-bearing-age-zambia> (Accessed on 11th February, 2016).
- [15] Cooke, J.G. (2009). Public health in Africa: a report of the Center for Strategic and International Studies (CSIS) Global Health Policy Center. Available at: [http://csis.org/files/media/csis/pubs/090420\\_cooke\\_pubhealthafrica\\_web.pdf](http://csis.org/files/media/csis/pubs/090420_cooke_pubhealthafrica_web.pdf) (Accessed on 15<sup>th</sup> February, 2016).
- [16] Das, A. and Sarkar. M. (2014). Pregnancy-Related Health Information-Seeking Behaviors among Rural Pregnant Women in India: Validating the Wilson Model in the Indian Context. *Yale Journal of Biology and Medicine*, 87(3), pp. 251–262.
- [17] EU Health Policy Forum (2005). Recommendations on health information. Available at: [http://ec.europa.eu/health/ph\\_overview/health\\_forum/docs/Recom\\_health\\_information.pdf](http://ec.europa.eu/health/ph_overview/health_forum/docs/Recom_health_information.pdf) (Accessed on 11th February, 2016).
- [18] Dervin, B. (1983). "Information as a user construct: The relevance of perceived information needs to synthesis and interpretation" in *Knowledge structure and use: implications for synthesis and interpretation*, eds. S.A. Ward & L.J. Reed, Temple University Press, Philadelphia, pp. 153-184.
- [19] Feldman-Stewart, D., Madarnas, Y., Mates, M., Tong, C., Grunfeld, E., Verma, S., Carolan, H., and Brundage, M. (2013). Information needs of post-menopausal women with hormone receptor positive

early-stage breast cancer considering adjuvant endocrine therapy. *Patient Education and Counseling*, 93, 114 – 121.

- [20] Gao, L., Larsson, M. and Luo, S. (2013). Internet use by Chinese women seeking pregnancy-related information. *Midwifery*, 29 (7), pp. 730-735. Available at: <http://www.sciencedirect.com/science/article/pii/S026661381200126X> (Accessed on 26<sup>th</sup> March, 2015).
- [21] Gleeson, M., Meiser, B., Barlow-Stewart, K., Trainer, A.H., Tucker, K., Watts, K.J., Friedlander, M. and Kasparian, N. (2013). Communication and information needs of women diagnosed with ovarian cancer regarding treatment-focused genetic testing. *Oncology Nursing Forum*, 40 (3): pp. 275-283.
- [22] Gopal, Beaver, Barnett and Ismail (2005). A comparison of the information needs of women newly diagnosed with breast cancer in Malaysia and the United Kingdom. *Cancer Nursing*, 28(2):pp. 132-140.
- [23] Huber, J.T. and Cruz, J.M. (2000). Information needs and information seeking behaviors of HIV-positive men and women. *Medical Reference Services Quarterly*, 19 (3), pp. 39 – 48.
- [24] Huntington, P., Nicholas, D. and Williams, P. (2003). Characterizing and profiling health web user and site types: going beyond “hits.” (2003). <http://www.emeraldinsight.com/doi/pdfplus/10.1108/00012530310498851> (Accessed on 24<sup>th</sup> September, 2015).
- [25] Jenkins, V. Fallowfield, L and Saul, J. (2001). Information needs of patients with cancer: results from a large study in UK cancer centres. *British Journal of Cancer*, 84(1), pp. 48–51.
- [26] Kapadia-Kundu, N., Sullivan, T.M., Safi, B., Trivedi, G. and Velu, S. (2012). Understanding Health Information Needs and Gaps in the Health Care System in Uttar Pradesh, India. *Journal of Health Communication: International Perspectives*, 17 suppl. 2, 30-45. DOI: 10.1080/10810730.2012.666625.
- [27] Kaur, R. and Gard, S. (2008). Addressing Domestic Violence against Women: An Unfinished Agenda. *Indian Journal of Community Medicine*, 33(2): 73–76. Available at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2784629/> (Accessed on 12<sup>th</sup> January, 2016).
- [28] Kebede, G. (2002). The changing information needs of users in electronic information environments. *The Electronic Library*, 20(1):14-21.

- [29] Kituyi-Kwake, A. and Adigun, M.O. (2008). Analyzing ICT use and access amongst rural women in Kenya. *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, 4(4), pp. 127-147.
- [30] Lagro, M., Liche, A., Mumba, T., Ntebeka, R. and Roosmalen, J. (2003). Postpartum Health among Rural Zambian Women. *African Journal of Reproductive Health*, 7(3): pp. 41–48
- [31] Lambert, S. D. and Lioselle, C.G. (2007). Health information-seeking behavior: A concept analysis. *Journal of the American Society for Information Science*. 42 (5): 361 -71.
- [32] Larsson, M. (2009). A descriptive study of the use of the Internet by women seeking pregnancy-related information. *Midwifery*, 25, pp. 14-20.
- [33] Loo, J. (2007). What is health information behavior? Available at: <http://www.jeffloo.com/stuff/dissertation/infbe071208.doc>. Accessed on 16<sup>th</sup> June, 2016).
- [34] Lungu, G. (2011). Knowledge of breast cancer, risk factors, symptoms and screening methods among first degree female relatives of breast cancer patients at cancer disease hospital, Lusaka. Thesis.
- [35] Marton, C.F. (2010). Understanding how women seek health information on the web. (PhD thesis, Faculty of Information, University of Toronto).
- [36] Mulder, P.L., Kenkel, M.B., Shellenberger, S., Constantine, M.G., Streiegel, R., Sears, S. F., Jumper-Thurman, P., Kalodner, M., Danda, C.E. and Hager, A. (2000). The behavioural health care needs of rural women. Available at: <http://www.apa.org/pubs/info/reports/rural-women.pdf> (Accessed on 29<sup>th</sup> December, 2011).
- [37] Mumba, C. (2015). Information seeking behavior of women attending antenatal clinic: a case study of women in Makululu, Kabwe, Zambia. (MLIS dissertation, University of Zambia). Available at: <http://dspace.unza.zm:8080/xmlui/bitstream/handle/123456789/4180/Main%20Document.pdf?sequence=2> (Accessed on 20<sup>th</sup> January, 2016).
- [38] Ngosa, S. (2014). Zambians need more information on reproductive health. *Times of Zambia*, July 8. Available at: <http://www.times.co.zm/?p=26491> (Accessed on 5<sup>th</sup> February, 2016).
- [39] Nicholas, D. (2000). Assessing information needs: Tools, techniques and concepts for the Internet age. *Aslib Know How Guides Series* (2<sup>nd</sup> Ed.).

- [40] Ogunmodede, T.A., Ebijuwa, A. S. and Oyetola, S. O. (2013). "Health information need and information sources of pregnant women in Ogbomosho Metropolis, Oyo state, Nigeria. *Library Philosophy and Practice (e-journal)*. Paper 981. Available at: <http://digitalcommons.unl.edu/libphilprac/981> (Accessed on 15<sup>th</sup> April, 2014).
- [41] Online Editor (2015). Sexual reproductive health a human right. *Zambia Daily Mail*, March 22. Available at: <https://www.daily-mail.co.zm/?p=24018> (Accessed on 4<sup>th</sup> February, 2016).
- [42] Ormandy, P. (2010). Defining information need in health - assimilating complex theories derived from information science. DOI: 10.1111/j.1369-7625.2010.00598.x
- [43] Pang, P.C., Chang, S., Pearce, J. and Verspoor, K. (2014). Online health information seeking behavior: understanding different search approaches. Available at: <http://www.pacis-net.org/file/2014/2037.pdf> (Accessed on 24<sup>th</sup> February, 2016).
- [44] Royal College of Obstetricians and Gynecologists (2015).  
The Health Information Needs of Older Women in the UK:  
Report of a survey undertaken by the Women's Network of the Royal College of Obstetricians and Gynecologists. Available at:  
<https://www.rcog.org.uk/globalassets/documents/patients/womens-network/health-information-needs-of-older-women-final-report.pdf> (Accessed on 9<sup>th</sup> February, 2016).
- [45] Shenton, A.K. and Dixon, P. (2004). The nature of information needs and strategies for their investigation in youngsters. *Library & Information Science Research*, 26: 296 - 310.
- [46] Simaubi, M.H. (2013). Cervical cancer awareness and uptake of pap-smear services among women above 18 years of age. *Medical Journal of Zambia*, 40(1), pp. 19-23.
- [47] Spence, D., Morstyn, L., & Wells, K. (2015). The support and information needs of women with secondary breast cancer (Breast Cancer Network Australia). Available at: <https://www.bcna.org.au/media/2936/bcn1166-sbc-report-2015.pdf> (Accessed on 10<sup>th</sup> February, 2016).
- [48] Stekelenburg, E., Jager, B.E., Kolk, P.R., Westen, E.H.M.N., Kwaak, A. and Wolffers, I.N. (2005). Health care seeking behavior and utilisation of traditional healers in Kalabo, Zambia. *Health Policy*, 71, pp. 67–81
- [49] Surman, R. and Bath, P.A. (2013). An assessment of the quality of information on stroke and speech and language difficulty web sites. *Journal of Information Science*, 39 (1), pp. 113-125.

- [50] Watts, T., Merrell, J., Murphy, F. and Williams, A. (2004). Breast health information needs of women from minority ethnic groups. *Journal of Advanced Nursing*, 47(5):526-535.
- [51] Wilson, T.D. (2006). Revisiting user studies and information needs. *Journal of Documentation*, 62(6), 680 - 684.
- [52] World Health Organization (2009). Women and health: today's evidence, tomorrow's agenda. Available at: [http://www.who.int/gender/women\\_health\\_report/full\\_report\\_20091104\\_en.pdf](http://www.who.int/gender/women_health_report/full_report_20091104_en.pdf) (Accessed on 14<sup>th</sup> September, 2015).