

CHAPTER FIFTEEN

INFORMATION ACCESSIBILITY FOR IMPROVED MATERNAL HEALTH IN NIGERIA: THE LIBRARIANS STRATEGIES

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ABSTRACT

Maternal health information is the bedrock of women's health during pregnancy, childbirth and the postpartum period. Despite numerous global, national concerns and interest in maternal and child health care, the rate of maternal mortality and morbidity in Nigeria has continued to be alarming due to some unmet maternal information needs of women. Women tend to be given inadequate information, education and communication and as a result, the number of women dying during childbirth is still unacceptable. This paper was aimed to explore the strategies the librarian will applied to connect women with health information needed for improved maternal health care. The paper identified the information needed during the three stages of maternal health namely, pregnancy, childbirth and postpartum, these information includes; information on regular checkups, antenatal, place of delivery, miscarriage, nutrition, malaria in pregnancy, medicines in pregnancy, complications or danger signs, infant care, child immunization, infant feeding, low birth weight, infections, umbilical cord care, diarrhea and others. The paper looked at some challenges that prevent accessibility of health information which includes; illiteracy, poverty, distance, language barriers, inadequate services, lack of information, inadequate human resources, poor attitudes of health workers toward women and cultural practices. The paper concludes and recommends that despite the challenges of connecting women with maternal health information, the librarian can explore the following strategies to ensure women access information lectures, workshops and seminars, partnership with women groups and CBOs, displays and exhibitions, repackaging of maternal health information and enlightenment campaign among others.

KEYWORDS: Preventive care, maternal health, maternal. Mortality, child mortality, women's health, information needs and library

INTRODUCTION

Maternal health is critical for women in any given society. Women are the foundation of many communities. Research has shown that improving women's health and increasing their income and education, is the best way to positively impact a community. Any such program directed towards women will fall short if there is inadequate health care. Maternal health refers to the health of women during pregnancy, childbirth, and the postpartum period. Maternal health prevents death, complications or disabilities. Prevention is better and more cost effective than cure, it is taking into consideration the incalculable costs to families, communities and service providers such as break ups, lack of education for children, marginalization, loss of income, and even loss of life (Christian Blind Mission, 2012). Good maternal health is an economic investment. A healthy mother can be highly productive and contribute to the well-being of her family and community. Poverty increases at the family level when a woman is sick and cannot work. Consequently, less money is available for health care and education of the children, which in turn may have an impact on the greater society. Increasing access to maternal health services will help ensure that women remain vital participants in the economic well-being of their country.

Maternal mortality, which is deaths due to complications from pregnancy or childbirth (UNICEF, 2015), is another health problem facing women worldwide. Maternal deaths are the second biggest killer of women of reproductive age (WHO, 2013). Almost all (99%) of the approximate 287,000 maternal deaths every year occur in developing countries (WHO, 2013). These deaths could be avoided if preventive measures were taken such as access to health information particularly during pregnancy, childbirth and postpartum period. Up to date, maternal mortality rates are one of the major health concerns worldwide. According to Africa Progress Panel (2010), approximately 536,000 girls and women globally die every year from pregnancy-related causes one girl or woman dies every minute in childbirth around the globe. Closely 50 per cent of all maternal deaths in the world happen in Africa, which has only 15 per cent of the world's population. Almost half of these deaths occur in Sub-Saharan Africa. The four major killers are: severe bleeding (mostly bleeding postpartum), infections (also mostly soon after delivery), hypertensive disorders in pregnancy (eclampsia) and obstructed labour. Complications after unsafe abortion cause 13 per cent of maternal deaths. Globally, about 80 per cent of maternal deaths are due to these direct causes. Among the indirect causes of maternal death (20 per cent) are diseases that complicate or are aggravated by pregnancy, such as malaria, anaemia and HIV. Women also die because of poor health at conception and a lack of adequate care needed for the healthy outcome of the pregnancy for themselves and their babies (Africa Progress Panel, 2010).

International organizations and individual governments have recognized the severity of the problem and have made commitments to reduce the number of maternal deaths globally. For instance, good health (Sustainable Development Goal number 3) is at the heart of the 2030 Agenda for Sustainable Development and essential for the success of all other SDGs. According to the United Nations Development Plan, our health affects everything from how much we enjoy life to what work we can perform. Thus the goal is aimed at ensuring healthy lives and promotes well-being for all at all ages.

Though the progress made to reduce maternal death is commendable, the number of women dying of maternal issues is still unacceptably high as no woman should die while giving life. There is need to find alternative solutions to the problem. One of the solutions is to empower healthy women with adequate maternal health information and knowledge. This can only be possible if the maternal health information needs of women have been well understood. Information need is the recognition that one's knowledge is inadequate to satisfy a goal and it is considered to be the foundation of information seeking behavior. Maternal health information refers to information women require during pregnancy, childbirth and postpartum period. It also implies knowledge communicated or received concerning particular circumstances of preventive, curative or palliative health care (Salali & Owino, 2016). The role of information to women and their information needs is innumerable (Mumba, 2015). Globally over 80% of community households have limited access to effective, reliable, efficiency and quality maternal and child health information, especially in Sub Saharan Africa, and depends solely on health professionals and community health workers (Salali & Owino, 2016). For instance, Kasote (2015) argues that women lack information and knowledge on danger signs and complications during pregnancy and after delivery. Additionally, many pregnant women do not deliver with the help of a trained clinical provider simply because they lack knowledge about why doing this is important (CHAMP, 2017).

Maternal health information is a fundamental building block of women's health during pregnancy, childbirth and the postpartum period. It can provide an opportunity to identify existing health risks in women and to prevent future health problems for women and their children. Decisions about how best to meet the information needs and provide timely care and support to maternal issues among women should be of paramount importance to health practitioners. An indispensable step in this process is to understand the maternal information needs of women so as to design appropriate health promotion interventions that would meet their health information needs and build their health literacy so as to improve maternal and child health outcomes.

The world at large has made remarkable progress in improving access to some basic services and formulating health policies and strategies as well as implementing mechanisms. However, these efforts have not been translated to a significant improvement in the maternal health status of women. Far too many women are still dying while giving birth due to unmet maternal information needs of women. This is largely due to a number of unmet information needs among women including proper understanding of pregnancy stages, infant feeding practices, nutrition, labour and birth and postnatal care. Women tend to be given inadequate information, education and communication during and after childbirth (CHAMP, 2017; Kasote, 2015; Tsawe and Susuman, 2014; Africa Progress Panel, 2010). They hardly access the 'right' kind of information as in most cases, the information is inappropriate to meet their needs, either in content (e.g. it does not reflect their reality) or in presentation (is not in their language familiar to them). Thus, the number of women dying during child birth is still unacceptable especially in developing countries. Additionally, to date, most studies on information need focus on one part of maternal health: pregnancy. The complete range of these information needs and the extent to which they are being met are not known (Agency for Healthcare Research and Quality) from pregnancy, childbirth and postpartum. To fill this gap, this study was designed to examine maternal health

information needs of women and how the librarian especially women librarians can make information assessable to women.

This paper will discuss under the following subheading:

- i) Maternal information needs of women
- ii) Factors that affect women's access to maternal health information.
- iii) Strategies the librarian will use to make maternal health information accessible to women.

MATERNAL HEALTH INFORMATION NEEDS

Maternal health refers to the health of women during pregnancy, childbirth and the postpartum period, it encompasses the health care dimensions of family planning, preconception, prenatal, and postnatal care in order to ensure a positive and fulfilling experience (WHO, 2017). Maternal health information could therefore be defined as the data or knowledge that supports an individual's decision in relation to pregnancy, childbirth and the postpartum period. Ensuring good maternal health does not only involve provision of quality health care services, but also stimulating personal health consciousness during pregnancy which can only be achieved by having access to information. According to Ukachi and Anasi (2018) health information is needed to reduce level of uncertainty and enable the people to take the right health decision. Mwangakala (2016) reported in his study on "Pregnant women's access to maternal health information and its impact on healthcare utilization" that limited access to maternal health information caused majority of pregnant women to underestimate the risks of pregnancy related complications and how they responded to pregnancy danger signs and other ill-health conditions that arose during pregnancy. Access to maternal health information is therefore essential for curbing maternal mortality and morbidity as it empowers women to take the right steps with respect to their prenatal and postnatal care.

Pregnancy

Pregnancy is a special time when the need for information is great (Hämeen-Anttila et al, 2013). According to Slomian et al (2017), pregnancy and childbirth are two critical stages in a woman's life. Complications associated with pregnancy and child bearing are the leading causes of death among teenagers (WHO, 2014). Many studies have looked at the information needs of women pertaining to maternal health at global level (Das and Sarkar, 2014; Larsson, 2009 and Gao, Larsson and Luo, 2013), Africa (Adam and Lasisi, 2011; Nwagwu and Ajama, 2011; Ogunmodede, Ebijuwa and Oyetola, 2013; Anya, Hydera and Jaiteh, 2008; and Zambia level (Mumba, 2015; Banda, 2010; and University Teaching Hospital, 2010). 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 was lacking concerned the relationship between TB and pregnancy. WHO argued that up to 70 per cent of deaths due to TB occurred 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, among others, may result in difficulties to diagnosis and manage TB in pregnancy. Commonly held beliefs among women, such as that pregnancy increased intolerance of TB drugs or made them ineffective, have been linked to women interrupting their TB treatment when they became pregnant. WHO submitted that women were entitled to appropriate information and services in connection with pregnancy and granting free services where necessary.

Onuoha and Ikonne (2013) found that women faced major problems during pregnancy including vomiting, lack of appetite, headaches, fear of labor, miscarriages, complication, and hemorrhage. The study concluded that women should be adequately informed on these challenges in order to avoid adverse birth outcomes. Owusu-Addo, Owusu-Addo, and Morhe (2016) in their study on Health information-seeking behaviours among pregnant teenagers found four dominant information needs: identification and disclosure of pregnancy, nutrition, labour and childbirth and safety of the unborn child. In terms of pregnancy identification and disclosure, participants in their study indicated that they were not aware of being pregnant. Pregnancy identification had to take another person and upon knowing their pregnancy status, the next dilemma had to do with how to disclose it and the possible outcome thereafter. Advice on proper nutrition was a central subject that the participants indicated in the study. All the participants indicated that they had never asked a question on what to eat or what not to eat during pregnancy. Participants acknowledged that a healthy diet was essential for their health but were unsure of the kinds of foods that they should eat. Largely missing in their accounts on nutrition was the effect of what they eat on the unborn child, and information on infant feeding practices.

Information on labour and childbirth was said to be very essential to pregnant teenagers. Across the focus groups and individual interviews, participants noted that they were not adequately informed about pregnancy related issues and expressed the desire to know more about pregnancy and its complications. Among participants who complained of pains which they suspected had something to do with pregnancy, there was a felt need for information on normal and abnormal symptoms of pregnancy. Information on pain associated with labour was also a priority for the participants. Generally, participants felt unprepared both physically and psychologically for labour. One participant noted that though she had been informed by the midwife regarding the items required for childbirth, she would like to know more about what to expect during labour. Focus group participants consistently expressed a desire for practical tips and strategies to assist them, adequately prepare for labour and childbirth.

How to take care of the unborn baby was a primary concern of the pregnant teenagers. Most of the participants indicated that they did not want anything untoward to happen to their babies so they were particular about their sleeping postures/positions and their personal safety. All the participants indicated that they had limited knowledge about how to keep themselves and the infant safe during pregnancy and expressed the desire to know more on this subject.

Studies done in Nigeria by Ogunmodede, Ebijuwa and Oyetola (2013), Saleb and Lasisi (2011) and Momodu, (2002) revealed that women require information on ante natal and post-natal care, immunizations especially on the six killer diseases, how to prevent and manage Vascular Virginal Fistula VVF, and how to safely deliver pregnancy. Hämeen-Anttila et al. (2013) conducted a study on medicines information needs during pregnancy of women at multinational level. It was concluded in this study that women need information about medicines during their pregnancy. Further, studies reveal that environment cleanliness, family planning and emotional support (Onuoha & Amuda, 2013) are also important information needs of women during pregnancy.

Postpartum

Postpartum period is the 6 to 8week time period beginning an hour following the birth of the fetus and expulsion of the placenta and reflects the approximate time required for uterine involution and return of most maternal body systems to a non - pregnant state (Fahey and Shenassa, 2013). The postnatal period is associated with many new needs for mothers, and several studies have demonstrated a great need for information after childbirth (Slomian et al, 2017). This is a time of significant transition for women because in addition to the physiologic changes associated with the postpartum period, a woman undergoes marked psychosocial changes as she transitions into a motherhood role, reestablishes relationships, and works to meet the physical and emotional needs of her infant and other family members. It is a time when women are vulnerable to health problems directly related to childbirth and to compromised self-care, which can manifest in the development or reestablishment of unhealthy behaviors such as smoking and a sedentary lifestyle (Fahey & Shenassa, 2013).

According to Slomian et al (2017a), in their literature survey noted that a number of women during postpartum look for reliable and realistic information and want to be better prepared for the realities of motherhood (especially women having their first baby). Some have anxieties and fears around early parenting and their changing roles. Women also need information about the safety of their new baby, and they lack self-confidence as new mothers arid in their own ability to care for their baby. They also need information that can emotionally support them in this transition to parenthood. However, Slomian et al (2017b) study revealed four categories of mothers information needs after childbirth: need of information, need of psychological support, need to share experience, and need of practical and material support. They contend that women do not feel sufficiently informed about this difficult period of life and do not feel sufficiently supported, not only from a psychological point of view but also from a more practical point of view, for example with household chores. They need to share their experience of life, they need to be reassured and they need to feel understood.

Ohlendorf, Weiss and Ryan (2012) did a study on weight-management information needs of postpartum women. The study revealed that women seek weight loss information. According to the study, majority of the participants indicated that they received no information from healthcare providers by 4 months postpartum. The most frequently reported desired information topics fell under the category of specific strategies to lose weight. Provision of high-quality information can provide the foundation for successful weight-management support for prevention of gestational weight retention and long-term maintenance of a healthy weight.

Other studies found that women required information and education on common postpartum health problems including abdominal pain, backache, headache, fever, dizziness, vaginal discharge, fatigue, dysuria, constipation, heart palpitations, abnormal vaginal bleeding, breast problems, oedema, incontinence and faecal incontinence (Lagro et al, 2003).

FACTORS THAT AFFECT WOMEN'S ACCESS TO MATERNAL HEALTH INFORMATION

Information on challenges is particularly important in understanding and addressing the barriers women face in accessing maternal health information. From the literature reviewed, there are a number of challenges women face to access maternal health information. One of the challenges is low levels of literacy (Parker, Ratzan and Lurie, 2003; Mulauzi and Albright, 2009; Gazali, Muktar and Gana, 2012; Mumba, 2015; and Salali and Owino, 2016). These studies revealed that illiteracy levels for women world-wide were disturbing. Education, either for degree or training for knowledge and skills enhancement affects the information needs and seeking behavior of individuals. Thus, women with education are more likely than the illiterate to access maternal health information.

The studies above also affirmed that language barrier was a big challenge for women to effectively access and use maternal health information. Most information is presented in languages unfamiliar to women. For instance, Glenton (2000) found that the use of medical terminologies by the information source or provider which might not be understood by the information seeker was a barrier to information access. Further, the primary language in which most information was presented as a barrier to women's access to maternal health information. Most information from Television, radio, birth plans and books is presented in English, thereby concluding those who do not understand English. Many women in developing countries do not know how to read, write or speak English (Mulauzi and Albright, 2009). The study by Mumba (2015) also revealed that some nurses could not explain certain issues in the local language in order to help the women to understand the issues better.

Poverty has been widely recognized as a barrier especially among women globally to access information. According to Health Poverty Action (2015), poverty and poor health worldwide are inextricably linked. Poverty affected more women than men. Primo (2003) ranked poverty as a number one problem facing women worldwide. Globally, the causes of poor health for millions of women globally are rooted in poverty which is both a cause and a consequence of poor health. Poverty increases the chances of poor health among women. Because of poverty, women are mostly deprived of the information, money or access to health services that might help them prevent and treat disease. Many women lack disposable income (Yiran & Teye, 2015; Mulauzi and Albright, 2009) to pay for information access because they give more attention and higher priority on household needs such as food, health, education and clothing other than information (Mulauzi and Albright, 2009). They can also hardly afford to pay the cost of doctors' fees, a course of drugs and transport to reach a health centre because they earn little or no income.

Furthermore, since access to most information and communication facilities is far away, and because of the multiple roles and heavy domestic responsibilities, mobility, distance and time tend to be some of the barriers for women to access and use information sources and channels. Time is a significant context in information seeking

as in most cases, it is a scarce resource for information seekers. Ignorance or lack of information and knowledge on many maternal issues is wide spread among many women. For instance, they not only lack information on sources and channels of obtaining relevant information but also on existing abortion laws including their rights and obligations to access information. This in itself is a barrier for women to seek information.

Inadequate services and human resources were found to deter women from seeking maternal health information by Mumba (2015) and Yiran and Teye (2015). Additionally, pregnant women in Mumba's (2015) study complained of poor attitudes of health workers towards them. According to Banda (2010), attitude of staff may influence knowledge of pregnant women. Members of staff may not be willing to explain danger signs in pregnancy in simple terms and clients may not assimilate the Information education and Communication (IEC) given to them.

Lack of access to maternal information among women is also exacerbated by cultural practices women are mostly subjected to as this can mean they use health information services less, with serious consequences for their health. Similarly, effective and innovative use of information requires information literacy skills. Information literacy implies the ability to recognize the need for information, and the skills to locate, evaluate, access, communicate and use information in varied contexts. Women often lack this skill (Mulauzi and Albright, 2009). In addition to the above findings, Yiran and Teye (2015) asserted that long queues and waiting times at health facilities and the perception that traditional medicines were adequate for protecting pregnant women and their babies were some of the factors that affected women's accessibility to maternal health information services.

STRATEGIES THE LIBRARIAN WILL USE TO MAKE MATERNAL HEALTH INFORMATION ACCESSIBLE TO WOMEN

Apart from the traditional functions of selection, acquisition, organization, storage and retrieval of information to satisfy the information needs of the communities. Other methods that the libraries could use to make health information accessible to the people to improve maternal health are stated below:

Displays and Exhibitions. To display is to put something in a place where people can see it easily. To exhibit means to show something in a public place for people to enjoy and giving them information. Library displays are usually done within the library premises especially around the readers' department. An organized display of information materials such as films, videos, books, magazines, tapes etc. on health issues will attract the attention of library users to their existence, and some may even be borrowed by clientele for home reading. The library can as well organize an exhibition of health information materials in the community. Public places like town halls, village squares health centre, etc. can be used as venues. This type of exhibition is usually done in collaboration with authors, health workers and book vendors. Leaflets and handbills can be freely distributed and thus, great awareness is generated.

Public Enlightenment/Awareness. The library can collaborate with the State Ministry of Health or Directorate of Public Health and mount an awareness/enlightenment campaign in the community to eradicate and enlighten the people on prevailing health issues, especially those that are common in the community. Audio visuals like films,

video, posters, etc. concerning the health problem can be shown to the audience to make them have a vicarious experience of the subject matter. A medical doctor or a competent health worker can be brought in to deliver talks and give some explanations during the campaign. Well designed and colourful posters with catchy messages written in both English and local languages are a very good vehicle for public enlightenment and awareness campaign.

Use of Oral Media: This is the use of traditional associations and institutions like the town criers, age grades, cultural groups, market associations, traditional rulers and religious organizations to disseminate information to the people in the community. Public owned associations or groups as mentioned above command the attention and loyalty of their members and therefore are good media for information dissemination especially in rural communities.

Information Packing: This refers to the ways of adopting information to suit the desired information need of any user (Uhegbu, 2007). Information users in any community differ in their academic backgrounds and qualifications, cultural and religious beliefs, occupational and professional inclinations as well as their psychological and socio-economic backgrounds. These differences affect their perception and understanding of the information at their different background. In information packing, the librarian rearranges or repackages the contents of the information in such a way that it would satisfy the information need of the user, given his or her background. Packaging and repackaging of information can be done in the following ways: Content Repacking, Medium Repackaging, Language Repackaging and Time Schedule.

SUMMARY

In conclusion, it is clear that maternal health information has significant influence on the health of the mother and the newborn child. The prevention, detection, and management of medical complications of the maternal health care, and should continue to be, key components of maternal health. It is important to ensure that women's maternal health information needs are adequately met during pregnancy, childbirth and postpartum periods. During pregnancy, the study has revealed that women need information on importance of regular checkups, place of delivery, birth preparedness, pregnancy period, nutrition, miscarriage, pregnancy complications/danger signs, sexual and family relations, fetus development, expected child, TB, HTV and malaria in pregnancy, medicines in pregnancy, family planning, and exercise. While at childbirth, women require information on infant care, child immunization, infant feeding, maternal recovery, hygiene, premature birth, low birth weight, infections, umbilical cord care and diarrhea. Information on self-care (hygiene, nutrition, weight loss); sexual relationship; daily care of infant, house and family; emotional support, physical rest and sleep is important during postpartum period. A number of challenges have been revealed in the study that women face a number of challenges to access the required information. These challenges include illiteracy, poverty, distance, language barrier, inadequate services, lack of information, inadequate human resources, poor attitudes of health workers towards women and cultural practices. The librarian especially women librarian should inspire, engage and connect women with information on maternal health through organizing lectures, seminar, workshops, repackaging of maternal health information, public enlightenment campaign.

RECOMMENDATIONS

The paper recommends as follows:

1. Librarians should intensify efforts to meet the maternal information needs of women using various means including posters in local languages, community meetings, Internet and mobile phones. This can also remove the much ignorance in women on most maternal issues.
2. Librarians need to provide more maternal information in languages familiar to women who cannot read and write.
3. In this era of Information and Communication Technologies (ICTs), there is need for librarians to exploit their full potential to collect and disseminate maternal health information to overcome distance or mobility challenges women face.
4. Pregnant teenagers should not be mixed with old or experienced mothers during antenatal talks so that they can freely ask questions and adequately prepared for birth and motherhood.
5. Librarians should encourage health personnel attending to pregnant women on positive attitude towards them as this transition in most cases frustrates women and once they have a bad encounter with one, it demotivates them from seeking out information.
6. The Government to provide more human resources as well as maternal services for women.
7. Librarians need to tackle issues of cultural practices and myths surrounding pregnancy and childbirth at length to ensure that women are well informed and detach themselves from such practices and beliefs.

REFERENCES

- Adam, O. S. & Lasisi, F. I. (2011). "Information needs and information seeking behavior of rural women in Borno State, Nigeria. *Library Philosophy and Practice (e-journal)*. <http://www/webpages.uidaho.edu/~mbolin/saleh-lasisi2.htm>
- Agency for Healthcare Research and Quality (ND). *Personal Health Information Needs and Practices for Maternal Fetal Care* (Tennessee). Retrieved from: <https://healthit.ahrq.gov/ahrq-funded-projects/personal-health-information-needs-and-practices-maternal-fetal-care>
- Banda, G. N. (2010). *Knowledge and attitude of antenatal mothers towards danger signs in pregnancy in selected Lusaka Urban clinics. Undergraduate Thesis*. Retrieved from: <http://dspace.unza.zm:8080/xmlui/bitstream/handle/123456789/2071/JeanNgala001.PDF?sequence=1>
- Barth-Nengia, J.A & Edeh, E.I (2018). Libraries and information accessibility for sustainable primary health care services in Nigeria's rural area. *JOHASAM: Journal of Health, Applied Sciences and Management*, (2), 13-21.
- Champ (2012). *Maternal Child health*. Available at: <http://www.champzambia.org/>
- Christian Blind Mission (2012). *Importance of maternal health*. Available at: <https://blog.cbmcanada.org/general/the-importance-of-maternal-health/>
- Gazali, W. A., Muktar, F. and Gana, M.M.C. (2012). "Barriers to utilization and maternal health care facilities among women pregnant and non-pregnant women of child bearing age in Maidugun Metropolitan Council (MMC) and Jereb Igas of Bruno state." *Cntinenta1 Journal of Tropical medicine*, 6(1): 12 - 22.
- Glenton, C. (2002). Developing patient - centered information for back pain sufferers. *Health Expectations*, 5(4): 319 — 329.
- Global Citizen (2012). *Introduction to the Challenges for Maternal Health*. Retrieved from: <https://www.globalcitizen.org/en/content/introduction-to-the-challenges-for-maternal-health/>
- Hämeen-Anttila, K., Jyrkka J., Enlund, H., Nordeng, H., Lupattelli, A. & Kokki, E. (2013). Medicines information needs during pregnancy: A multinational comparison. *BMJ Open*, 3: e002594.
- Health Poverty Action (2015). *Key facts: poverty and poor health*. Retrieved from: <http://www.healthpovertyaction.org/info-and-resources/the-cycle-of-poverty-and-poor-health/key-facts>
- Kasote, D. (2015). *UNFPA, state committed to ensuring safe motherhood*. Zambia Daily Mail. Available at: <https://www/daily-mail.co.zm/unfpa-state-committed-ensuring-safe-motherhood/>
- Momodu, M.A. (2002). Delinquent readership in selected urban libraries in Nigeria. *Library Review*, 51(9): 469-473.

- Mulauzi, F. & Aibright, K. (2009). "Information and communication technologies (ICTS) and development information for professional women in Zambia". *The International Journal of Technology Management (IJTM)*, 45 (1/2): 177-195.
- Ngwagwu, W. E. & Ajama, M. (2011). "Women's health information needs and information sources: A study of a rural oil palm business community in South - Western Nigeria." *Annals of Library and Information Studies*, 58: 270-281.
- Ogunmodede, T. A., Ebijuwa, A. S. & Oyetola, S. O. (2013). "Health information need and information sources of pregnant women in Ogbomoso Metropolis, Oyo State, Nigeria." *Library Philosophy and Practice (e-journal)*. Paper 981.
- Onuoha, U. D. & Amuda, A. A. (2013). "Information seeking behaviour of pregnant women in selected hospitals of Ibadan Metropolis." *Journal of Information and Knowledge Management*, 4(1).
- Onuoha, U. D. & Ikonne, C. N. (2013). "Health Information Needs of Pregnant Women at Babcock University Teaching Hospital, Nigeria." *Journal of International Academic Research for Multidisciplinary*, 1(10).
- Parker, R.M., Ratzan, S. C. & Lurie, N. (2003). "Health literacy: A policy challenge for advancing high quality health care. *Health Affairs*, 232(4): 147 153.
- Primo, N. (2003). *Gender issues in the information society*. Paris: UNESCO. http://portal.unesco.org/ci/en/files/12847/10704640205gender_issues.pdf/gender_issues.pdf
- Salali, M. & Owino, D. (2016). "Factors influencing accessibility of maternal & child health information on reproductive health practices among rural women in Kenya." *Family Medicine and Medical Science Research*, 5:1.
- Saleh, A. G. and Lasisi, F. I. (2011). *Information needs and information seeking behavior of rural women in Bornu State, Nigeria*. Retrieved from: https://www.researchgate.net/publication/235758533_Inforamtion_Needs_and_Information_Seeking_Behaviour_of_Rural_Women_in_Borno_State_Nigera
- Siwawa, S. (2014). *Child death, maternal health challenges*. Retrieved from: <https://www.daily-mail.co.zm/child-deat-maternal-health-challenges/>
- Tsawe, M. & Susuman, A. S. (2014). "Determinants of access to and use of maternal health care services in the eastern cape, South Africa: A quantitative and qualitative investigation." *BMC Research Notes*, 7:723.