HEALTH INFORMATION USE AMONG EXPECTANT MOTHERS AT MULAGO WOMEN AND NEONATAL HOSPITAL

LILLIAN NAKUYA

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DECLARATION

I Nakuya Lillian do declare that this dissertation is my original work and has never been submitted to any university for any academic award.

Signature: Date: 22nd March 2025

Nakuya Lillian.

APPROVAL

I hereby confirm that this dissertation was done under my supervision and is now ready for submission.

Signature:  Date: March 22nd 2025

Mr. Francis Ssekitto

DEDICATION

This piece of work is dedicated with great pleasure to my parents and spouse, for the support that they rendered to me. I thank them for the guidance they showed.

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ACRONYMS

CVI	Content Validity Index
HIV	Human Immune Virus
ICTs	Information Communications Technology
MoH	Ministry of Health
SAQ	Self-Administered Questionnaire
WHO	World Health Organisation

ABSTRACT

Health information utilisation for pregnant women at Mulago Specialised Women and Neonatal Hospital in Uganda was the focus of this research study. The research examined (1) maternal health information requirements and (2) information sources used by pregnant women and (3) health information benefits and (4) utilisation challenges during pregnancy. Research questions matched the study objectives while researchers underwent an extensive review of published literature to understand the variables. This study relied on a cross-sectional survey that involved choosing 210 expectant mothers from a total population of 480 based on the sample sise table published by Morgan and Krejcie in 1970. The study incorporated descriptive statistics to analyse quantitative data and thematic organisation approaches to process qualitative data to achieve methodological triangulation.

The research discovered that expectant mothers use various information sources which include healthcare providers and internet platforms to obtain trusted healthcare content. Expectant mothers required guidance about nutrition as well as medication usage and sexual relations along with suitable physical activities and emergency medical care throughout pregnancy. Expectant mothers who used health information gained better health knowledge and better scheduled their health activities and followed medical instructions. The process of utilising health information faced obstacles since individuals displayed unfavourable health perspectives while they struggled to make educated decisions about their well-being along with their household responsibilities and childcare responsibilities.

The research analysis advocates for pregnant women to obtain their health information from professional medical providers since various internet sources are accessible. Healthcare organisations need to establish systems that provide expectant mothers with complete educational materials about nutrition and medication and sexual health as well as physical activity and emergency care services. Expectant mothers must reserve time for health-promoting activities they should pay attention to their health status while following medical instructions. The population's health information usage requires solutions for health attitude issues as well as decision-making obstacles and domestic duty problems.

CHAPTER ONE: INTRODUCTION TO THE STUDY

1.1 Background to the study

The utilization of health information serves as a crucial foundation for the well-being of pregnant women throughout the stages of pregnancy, childbirth, and the postpartum period. It presents a chance to recognize prevailing health threats in both expectant mothers and their infants (Mulauzi & Daka, 2018). Health information use is critically important for the good provision of health care services to expectant mothers. Thus, accurate, reliable and timely information use is considered vital to the needs, demands, output and outcome of healthcare service provision among expectant mothers. Information use is required at various levels of health services, for example, information use may be required to assess the extent to which health services meet the needs and demands of expectant mothers (Kaduruwane, 2018). Health information use among expectant mothers means any personal information on the physical or mental health of expectant mothers collected to provide health care services (Ministry of Health, 2015).

World over health information use among expectant mothers is of great concern towards the provision of their health services (Zhu *et al,* 2019). For example, in Australia, expectant mothers who possess smart phones use pregnancy and parenting apps to obtain and use health information such as pregnancy tests and ultrasound pranks, monitor the fetus and pregnant body, monitor weight and waist measurements, dietary habits, water intake, symptoms, emotional states, medication use, cravings, energy levels, and appetite. Additionally, keep tabs on nutrition, exercise during pregnancy, and identify substances and behaviors that expectant mothers should avoid for the well-being of their health and the fetus's development. However, pregnant women from lower socioeconomic backgrounds were less inclined to seek out such health information (Lupton & Pedersen, 2016).

In China, expectant mothers are increasingly favoring the Internet as a primary source of health information compared to alternative channels (Gaoet *et al,* 2013), for example, according to Javanmardi *et al* (2017), 88.7% of the expectant mothers in China use internet to acquire health information, in Italy and Sweden 95% of expectant mothers use internet to acquire health information and 93.5% of the expectant mothers in Canada use internet to acquire health information. In India according to Das and Sarkar (2014), only 20 per cent of rural Indian expectant mothers use health information acquired from health care providers about prolonged labour as a sign of pregnancy complications, 15 per cent acquire and use health information about convulsion and 16 per cent acquire and use health information about vaginal bleeding as signs of pregnancy complication. This is attributed to challenges such as lack of access to information health information sources, inability to act on given health care information, longer distances to health services, delayed decision-making by expectant mothers to use health information, embarrassment and shame in using health information regarding gynaecological and reproductive health information as such is regarded as taboos and highly discouraged making expectant mothers use health information from unqualified individuals such as their husbands and mothers-in-law. The study (Chadoka-Mutanda & Odimegwu, 2016) in Brazil revealed poor, delayed seeking and used health information for a sick child accounted for 70% of child deaths.

In Africa, pregnant women actively pursue and utilize health information to safeguard the well-being of their developing fetus. Common sources include popular media, the internet, family and friends, with health workers remaining the primary outlet. Nevertheless, the accessibility of health information for expectant mothers in Africa is uneven, with variations in opportunities and availability observed between low- and high-income settings (Noncungu & Chipps, 2020). In Nigeria, as reported by Anasi and Allison (2018), pregnant women acquire health-related knowledge through a combination of official and informal avenues. Official channels encompass resources such as books, journals, the internet, friends, family, colleagues, and professional counselors. Nevertheless, expectant mothers in Nigeria predominantly rely on doctors and nurses as the most accessible and frequently consulted sources for health

information. Health information obtained and used by expectant mothers in Nigeria is on nutrition, the areas covered during pregnancy encompass fetal growth, medication usage, the schedule for prenatal tests, and care during the antenatal period. Additionally, expectant mothers in Nigeria commonly seek health insights from informal channels such as experienced mothers, mothers-in-law, community women with pregnancy experience, local vendors of herbs, sellers of traditional remedies, and local drug providers.

Nevertheless, in Nigeria, the utilization of health information by expectant mothers is impeded by factors such as the exorbitant expense of information resources, negative perceptions of healthcare professionals, language obstacles, limited educational levels, distance to health facilities, and the influential role of husbands (Anasi & Allisonj, 2018). Meanwhile, in Zimbabwe, Mudonh *et al* (2021) report that expectant mother's resort to health information provided by traditional healers for purposes like spiritual purification, safeguarding against malevolent forces, seeking male offspring, and seeking assistance during childbirth. This has been caused by expectant mothers' beliefs in traditional healers, lower costs of acquiring health information from traditional healers and the accessibility of the traditional healers triggers expectant mothers to have trust in such health information sources. Additionally, pregnant women opt for acquiring healthcare details from outlets that comprehend their spiritual heritage, finding solace in engaging in cultural practices perceived to transcend human capabilities. In Zimbabwe, 59% of Zimbabwean women actively pursue and utilize health information for their offspring, whereas in Malawi, only 30.1% engage in seeking and utilizing health information for their children.

In East Africa, there is an abundant source of health information from which expectant mothers obtain and use health information (Owino *et al,* 2014). In Kenya, expectant mothers with no formal or primary education use health information from herbalists more than expectant mothers with high education and the health information acquired is the development of the fetus, facilitation of child labour, and prevention of miscarriages (Nergard *et al,* 2015). A study by Arika and Osuga (2017) revealed that

17% of pregnant women in Turkana in Kenya receive and use health information through antenatal clinics as compared to 71% of the women in the major cites of Kenya who can access and use health information. In Tanzania, expectant mothers exhibit positive health behaviors, including compliance and adherence to prescribed regimens, through the utilization of health information. These mothers access information from diverse sources, including the internet, family, friends, popular media like newspapers and television, written materials from professional and commercial entities, as well as discussions with health professionals. The obtained health information encompasses aspects such as nutrition, fetus development, safe childbirth, immunization, and the secure feeding of expectant mothers (Nergard *et al*, 2015). According to Namadi and Msughter (2020) in Tanzania, 60% of pregnant women visit less than four antenatal clinics throughout the whole course of pregnancy and this is attributed to a lack of adequate knowledge on health information use. Further, in Tanzania, there is low usage of the internet (24.3%) to search and use online HIV information (Lwoga *et al,* 2017). According to Lwoga (2019), 11% of Tanzanians access and use health information online and 19.6% seek HIV online information yet access and use of online information can improve the availability of health information.

In Uganda, pregnant women receive health-related information informally from their relatives, family, and friends, while formal sources of health information are accessed through both printed and non-printed media by expectant mothers. Further, the health professional is preferred particular when medical information is required (Ogunmodede *et al,* 2013). According to the study by Atukunda *et al,* (2020) most expectant mothers in Uganda do not visit health facilities for health information but instead use health information from local herbalists to obtain information on spiritual influence and pregnancy, child health, child cleansing, child blessing while the mother is still pregnant and this is attributed to inaccessibility of health facilities and services, lack of adequate information on pregnancy and childbirth, cost of movement to health facility and level of education of expectant mothers.

The research conducted by Kasuule *et al* (2013) demonstrated that factors such as maternal education, spousal education, marital status, household income, women's employment, and exposure to media play a role in shaping health information utilization in Uganda. Additionally, expectant mothers' engagement with health information is influenced by cultural beliefs and perceptions related to pregnancy. Atuhaire and Mugisha (2020) indicate that less than 50% of pregnant women in Uganda receive health information in the form of counselling on dangerous signs of complications and only 16% utilise health information from antenatal clinics. In 2013, Kyaddondo *et al* (2017) discovered that delayed seeking and utilization of maternal healthcare information were significant, contributing to 56% of maternal deaths, as revealed in maternal and prenatal death review reports. Additionally, Musiimenta *et al* (2021) highlighted the limited utilization of mobile technologies among pregnant women in Uganda, despite the potential of mobile tools to facilitate access to crucial pregnancy-related health information.

Recently, Mat-Health app has been developed for expectant mothers with the audio/ video function compromising 5immunization maternal health information in local languages sent monthly to expectant mothers with content developed by obstetricians, gynecologists and nutritionists following guidelines approved by the Ministry of Health and the World Health Organization (WHO) collaborate to provide health information for expectant mothers through Mat-Health. This platform covers various topics such as nutrition, breastfeeding, HIV testing, spouse involvement, family planning, recognizing danger signs, preparing for childbirth, pregnancy care, delivery care, postnatal care, appointment reminders, and communication functions with healthcare specialists. However, the utilization of mobile technologies for accessing health information excludes a considerable portion of expectant mothers, given that 41.2% of women in Uganda have only completed some primary-level education.

11.1 Conceptual perspective. The terms employed in this research encompass health information, utilization of health information, the requirements for health information, and sources of information. Health information use describes individual information

about one's health that supports decision-making on health (World Health Organisation (WHO), 2018]. Health information need refers to the gap or knowledge deficit that could be rectified by providing health information and or education (Ormandy, 2011). Health information use refers to the utilisation of health information by clients/patients to improve their health condition (Shiferaw *et al*, 2017). The term expectant mother denotes a woman in a state of pregnancy or one who has delivered a baby in the preceding six months (Delzer *et al*, 2021).

1.1.2. Contextual perspective.

Mulago Specialised Women and Neonatal Hospital, an integral part of Mulago National Referral Hospital, represents the largest healthcare facility in Uganda and serves as the teaching hospital affiliated with Makerere University College of Health Sciences. Functioning as the women's unit within Mulago National Referral Hospital, it encompasses prenatal clinics, delivery wards, surgical theatres, recovery rooms, and postnatal wards. This specialized hospital addresses the needs of obstetric and gynecologic patients, featuring an oncological wing dedicated to individuals with gynecologic cancers such as ovarian, fallopian tube, uterine, endometrial, and cervical cancers. Additionally, Mulago Specialised Women and Neonatal Hospital includes facilities for newborn care, pre-term neonatal wards, a neonatal intensive care unit, and a 60-bed private wing for expectant and recently delivered mothers. With provisions for high-risk prenatal and gynecology cases, the hospital also houses a private gynecology patient unit. Serving as a hub for training, research, and medical advancement, Mulago Specialised Women and Neonatal Hospital plays a vital role in offering world-class maternal and neonatal care, contributing significantly to the reduction of maternal and newborn mortality rates in Uganda. This comprehensive setup makes it an ideal setting for investigating the utilization of health information among expectant mothers.

1.2 Statement of the problem

Health information use among expectant mothers greatly reduces uncertainty in dealing with pregnancy challenges, improves their knowledge, increases their interaction with

medical workers, leads to health care awareness and consequently to the best results of pregnancy (Kamali *et al,* 2017). Additionally, furnishing pregnant women with timely and pertinent health information enables them to make well-informed choices, promoting prompt utilization of maternal healthcare services; thereby significantly influencing their perception of pregnancy and childbirth (Kassim & Katunzi-Mollel, 2017). To achieve the above, Mulago Specialised Women and Neonatal Hospital has trained health workers in 7immunization in maternal and neonatal areas to enable them to provide health information to expectant mothers, promoted a health awareness campaign to increase health awareness among expectant mothers and has held health camp (Kiwanuka *et al,* 2017; Ministry of Finance, Planning & Economic Development, 2020). Despite the above, health information use among expectant mothers at Mulago Specialised Women and Neonatal Hospital is still low. For example, some expectant mothers who visit Mulago Specialised Women and Neonatal Hospital use traditional healers to obtain health information on pregnancy, others use traditional healers to be protected from evil influence, to have a male child while other expectant mothers use them to be assisted in child birth (Babughirana *et al,* 2020). Further, 60% of expectant mothers complete the recommended four antenatal care visits to obtain health information, 29% of expectant mothers have their first visit during the first trimester while some expectant mothers report late at the hospital to obtain health information (Atekyereza & Mubiru, 2014). If this situation continues, there will be high maternal deaths occurring among expectant mothers, and disability for pregnant mothers and unborn children. Thus, this proposed study will seek to investigate health information use among expectant mothers in Mulago National Referral Hospital

1.3 Study Aim

To investigate health information use among expectant mothers at Mulago Specialised Women and Neonatal Hospital, Mulago National Referral Hospital, Uganda, with the aim of identifying their health information needs, evaluating the sources and accessibility of health information, assessing its impact on maternal health outcomes, and addressing the challenges hindering effective health information utilization.

1.4 Objectives of the study

The study was guided by the following study objectives:

i. To establish the health information needs of expectant mothers at Mulago Immunizations Women and Neonatal Hospital,
ii. To find out the health information sources used by expectant mothers at Mulago Specialised Women and Neonatal Hospital,
iii. To establish the benefits of health information use among expectant mothers at Mulago Specialised Women and Neonatal Hospital,
iv. To examine the setbacks facing health information use among expectant mothers at Mulago Specialised Women and Neonatal Hospital.

1.5 Research Questions

i. What are the health information needs of expectant mothers at Mulago Specialised Women and Neonatal Hospital?
ii. What are the sources of health information used by expectant mothers at Mulago Specialised Women and Neonatal Hospital?
iii. What are the benefits of health information use among expectant mothers at Mulago Specialised Women and Neonatal Hospital?
iv. What setback is facing health information use among expectant mothers at Mulago Specialised Women and Neonatal Hospital?

1. 6 Significance of the study

The findings of the study were help to expectant mothers, hospital management doctors and nurses.

1.6.1 To expectant mothers

The study provided information to the expectant mothers on the sources of health information relevant to them and this is expected to reduce the infant mortality rate and maternal death. Further, the study also availed the expectant mothers with the benefit of health information use, the setback of health information use and the possible strategies for overcoming such setbacks.

1.6.2 Hospital Management

The findings of this proposed to help the top management of Mulago Specialised Women and Neonatal Hospital to formulate appropriate health information use by expectant mothers. This will improve the acquisition of and use of heath information by expectant mothers through training of health workers to enable them to provide much-needed health information to expectant mothers.

1.6.3 Doctors and nurses

The findings of the study helped doctors and nurses by providing them with information on the challenges faced by expectant mothers when acquiring health information from Mulago Specialised Women and Neonatal Hospital. Moreover, the study also provided possible strategies for overcoming the challenges faced by expectant mothers when obtaining health information from the above hospital.

1.7 Definition of operational terms

a) **Health Information:** The data or knowledge regarding health functions as health information to support people making decisions about their medical care and wellness.

b) **Expectant mothers:** This term has been used to refer to women who remain with a developing fetus within their bodies. These are considered to have a need for unique health education and medical services.

c) **Health information sources:** This term is used to refer to sources that people use to access health information include healthcare providers along with Internet sources and books and community health workers.

d) **Health information needs**: This term is used to refer to particular details which people require to handle their medical situations along with making thoughtful healthcare choices and handling their health state.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

In this chapter, an exploration of pertinent literature related to the study objectives is presented. As defined by Ramadhan *et al* (2014), a literature review involves an unbiased, comprehensive summary, and critical evaluation of the pertinent existing research and non-research literature related to the subject under investigation. The primary aim of the literature review is to enable the researcher to actively engage in the scholarly discourse by offering context, guiding methodology, recognizing innovation, preventing redundant research, and ensuring adherence to professional standards (Maggio *et al*, 2016). Within this study, the literature was scrutinized with respect to the study objectives, elucidating research gaps identified by previous scholars and researchers.

2.2 Review of the Literature

Wilson's model of information uses advanced by Wilson (1981) informed this study. Wilson's model explains how information needs, sources of information, benefits of information use and setbacks encountered by information user influences information use by expectant mothers. Wilson's model asserts that particular information needs by an expectant mother lead her into information-seeking activities which take various forms. The expectant mother seeking information may use various information sources such as the internet, and mobile applications among other information sources or seek information from people which Wilson termed as information exchange and this can be done through information transfer (a term that implies the communication of information). This research will explore the influence of Wilson's model on the utilization of health information by expectant mothers, examining the interplay between their health information needs, sources, benefits, and setbacks. Wilson's model suggests that encountering valuable information may partially or fully fulfill perceived needs, prompting further information seeking if unsuccessful. The model also highlights how information barriers, including personal, interpersonal, and role-related factors, can impact the information needs of expectant mothers. Additionally,

environmental factors may either facilitate or hinder their information-seeking behaviors. This investigation applies Wilson's model to understand how constructs such as health information sources, needs, benefits, and setbacks contribute to the utilization of health information by expectant mothers at Mulago Specialised Women and Neonatal Hospital.

2.2.1 Health information needs of expectant mothers

Health information needs are defined as an incomplete state of knowledge or an anomalous state of knowledge. Thus, expectant mothers some time find it difficult to express an information need because they do not recognise it as a secondary need (Akanbi & Fourie, 2018). To ensure a safe and healthy delivery, expectant mothers require access to health information (Javanmardi *et al*, 2020). Additionally, such information is essential to address their specific health needs. Therefore, healthcare providers should prioritize providing expectant mothers with comprehensive health information, placing it at the core of their care to enable informed decision-making (Kamali *et al*, 2017). Akindeji *et al* (2020) suggest that throughout pregnancy, expectant mothers necessitate abundant information, as improved pregnancy outcomes hinge on empowering them with the knowledge to navigate challenges associated with pregnancy. Topics such as regular check-ups, delivery location, miscarriage prevention, birth preparedness, nutrition, recognizing danger signs, managing sexual and family relations, fetus development, childbirth expectations, tuberculosis, Human Immune Virus (HIV), malaria in pregnancy, medication during pregnancy, family planning, exercise, rest, the significance of antenatal care, antenatal visits, and the importance of blood examination and immunization need to be covered. Unfortunately, inadequate information and knowledge often contribute to complications during pregnancy and post-delivery. Akindeji *et al* (2020) emphasize the crucial need to ensure the provision of comprehensive health information to pregnant women throughout the stages of pregnancy, childbirth, and the postpartum period.

Several investigations have explored the health information requirements of pregnant women. For example, Kamali *et al* (2018) examined the health information

needs of expectant mothers in Iran, discovering that these mothers sought information on fetal development, post-delivery complications, pregnancy nutrition, and specific tests during pregnancy. Notably, their study, while insightful, identified a conceptual gap, as it focused on Iranian expectant mothers, potentially differing from those at Mulago Referral Hospital in Uganda. Recognizing this gap, the current study was conducted in a Ugandan hospital. Similarly, Javanmardi *et al* (2019) asserted that pregnant women require health information to enhance empowerment, engage in preventive health behaviors, enhance self-care capabilities, and alleviate anxiety related to new health issues or stressful situations.

Conversely, Ghiasi (2021) conducted a systematic review on health information needs, information sources, and barriers to accessing information among pregnant women. The study revealed health professionals, informal sources (family and friends), and the Internet as the most frequent information sources during pregnancy. However, this systematic review focused on the general health information needs of expectant mothers, differing from the current study, which specifically investigated the health information needs of expectant mothers in Uganda. Likewise, Lu *et al* (2022) conducted a systematic review to comprehend information needs and barriers during all stages of pregnancy. Similarly, this study conducted a systematic review on the health information needs of expectant mothers but with a distinct focus on Mulago Referral Hospital in Uganda.

On the contrary, Sharifi *et al* (2020) investigated the health information requirements and influencing factors among pregnant Afghan migrant women in Iran. The results indicated a significant correlation between pregnancy-related information needs and various factors, including age, women's and husband's education levels, duration of residence in Iran, place of residence, insurance status, number of children, place of previous delivery, and adherence to routine prenatal care. This research highlighted a contextual gap, as it was conducted in Iran, where the health information needs of expectant mothers might differ significantly from those in Uganda. Therefore,

there is a compelling need to undertake a similar study among expectant mothers at Mulago National Referral Hospital in Uganda.

2.2.2 Sources of Health Information for Pregnant Women

Ensuring the safe and rational application of treatments during pregnancy relies on utilizing trustworthy sources of health information. The growing prevalence of internet and social media usage poses a challenge for the healthcare sector, requiring a careful balance between maximizing benefits and minimizing risks (Hameen-Anttila et al, 2013). Providing expectant mothers with timely and pertinent health information is crucial for informed decision-making, playing a vital role in reducing complications related to pregnancy that may lead to maternal morbidity and mortality. Moreover, ready access to health information motivates expectant mothers to promptly seek and utilize available maternal healthcare services, significantly influencing their perceptions of both pregnancy and childbirth (Kassim & Katunzi-Mollel, 2017).

Research has investigated the outlets from which pregnant women obtain health information. For instance, Vogels-Broeke *et al* (2022) explored the channels through which women acquire health-related knowledge during pregnancy and assessed their perceived quality in the Netherlands. The findings indicated that family members and healthcare professionals were the predominant sources of health information for expectant mothers. Thus, this study also raised a contextual gap because it was conducted in the Netherlands where the sources of health information for expectant mothers may be different from that in Uganda. Therefore, there was a need to conduct a study on sources of health information for expectant mothers in Ugandan national referral hospitals. Moreover, in a systematic review on health information resources among expectant women, Ghiasi (2021) found that the predominant sources utilized during pregnancy included health professionals, informal channels (such as family and friends), and online platforms. However, the study revealed a methodological gap because it conducted a systematic review to investigate health information sources among expectant mothers. This called for the need to have this study to conduct an

empirical investigation on the health information sources of the expectant mothers at Mulago National Referral Hospital in Uganda.

In a research investigation, Grime and colleagues (2014) explored the channels of information accessed by pregnant women in Australia to fulfill their informational requirements. The results indicated that expectant mothers sought health information from health professionals. However, this study also raised a contextual gap because it was done on expectant mothers in Australia where sources of health information for expectant mothers may be different from that in Uganda. Hence, there was a need to carry out a study on expectant mothers in the Ugandan context. Similarly, Rahmawati *et al* (2021) investigated the origins of nutritional guidance sought by pregnant Indonesian women. The results indicated that participants in the study actively sought or received information on food and nutrition from various outlets, including social and healthcare professional interactions as well as media sources. However, a conceptual gap emerged as the study exclusively focused on nutritional information, neglecting the broader spectrum of health information. Therefore, there is a need for research that encompasses a more comprehensive range of health information pertinent to expectant mothers.

In a separate study, Vogels-Broeke *et al* (2022) explored the information sources utilized by pregnant women in the Netherlands and assessed their perceived quality. The study revealed that expectant mothers used professional health workers to obtain health information. Similarly, this study produced a contextual gap because it was done in the Netherlands where those sources of health information for expectant mothers may be far different from those in Uganda. In a systematic review undertaken by Ghiasi (2021) on information sources accessed by pregnant women, it was discovered that the predominant channels relied upon during pregnancy were health professionals, followed by informal sources such as family and friends, and the Internet. However, a notable methodological limitation emerged as this investigation solely constituted a systematic review. Therefore, there was a need for this study to conduct empirical data

on the sources of health information for expectant mothers in Mulago National Referral Hospital in Uganda.

2.2.3 Social media platforms

Social media encompasses a set of web-based applications rooted in the principles and technology of the Internet, allowing users not only to receive but also to generate content. Expectant mothers increasingly turn to social media and mobile apps for health-related information, finding them convenient, easily accessible, and time-saving, thereby becoming valuable tools for learning about health during preconception and pregnancy planning stages. Utilizing social media during pregnancy can address significant unmet needs, providing valuable insights into aspects such as maintaining a healthy lifestyle, childbirth, infant care, and effective motherhood (Adapted from Zhu *et al*, 2019; Alamer & Al-Edreese, 2021; Skouteris & Savaglio, 2021).

Several research endeavors have explored the role of social media in providing health information to expectant mothers. In China, Lee (2018) examined the health information source preferences among mothers of young healthy children and found that mothers actively utilized specific social media platforms. However, the study's contextual gap stemmed from its location in China, where social media usage may differ from that of expectant mothers in Uganda, prompting the need for the present study. Similarly, in South Africa, Barron *et al* (2018) investigated mobile health messaging services for South African mothers, discovering opportunities to enhance real-time health information access. Nonetheless, a conceptual gap arose as the study equated mobile health messaging with social media, warranting this investigation on social media's role in health information for expectant mothers at Mulago National Referral Hospital in Uganda.

Additionally, Zhu *et al* (2019) conducted a qualitative study on pregnancy-related information seeking among expectant mothers in China, revealing a methodological gap due to its exclusive qualitative approach. Consequently, this study adopts both qualitative and quantitative methods to comprehensively explore social

media as a source of health information for expectant mothers in Uganda. Chatwin *et al* (2021) explored pregnant mothers' experiences with a social media-based antenatal support service during the COVID-19 lockdown in the UK. While their findings showcased the efficacy of a social media-based approach, the contextual gap was apparent as the study was conducted in the UK during the COVID-19 pandemic, emphasizing the necessity for a similar investigation in the Ugandan context during this period.

Moreover, Sedan *et al* (2020) examined the impact of social media on pregnant women's experiences in Egypt, highlighting the potential of social media as an educational tool during pregnancy. However, the contextual gap emerged due to the study's focus on expectant mothers in Egypt, prompting the need for an empirical investigation on social media as a health information source for expectant mothers at Mulago National Referral Hospital in Uganda. Lastly, Zhu *et al* (2019) conducted a qualitative study on pregnancy-related information-seeking among expectant mothers, revealing a methodological gap in its qualitative approach. This underscores the importance of employing a mixed-methods approach to comprehensively explore social media as a health information source for expectant mothers at Mulago National Referral Hospital in Uganda.

2.2.4 Internet

The internet has emerged as a convenient gateway for expectant women to access extensive information about pregnancy and childbirth. The utilization of the internet for obtaining health information during pregnancy varies across countries, being more prevalent in developed countries than in developing ones. For instance, in China, approximately 88.7% of pregnant women are reported to use the Internet for health-related information, while 86% of pregnant women in Italian cities are believed to have explored websites for pregnancy-related content (Al-Dahshan *et al*, 2021). A study conducted by Vamos *et al* (2019) delved into women's experiences in accessing, comprehending, evaluating, and applying health information during pregnancy within a major urban training hospital in the South-East region of the United States. The findings

revealed a preference for healthcare providers and online/digital sources as information outlets. Notably, this study was conducted in the developed context of the United States, prompting an exploration into the significance and consequences of the internet as a health information source for expectant mothers in an underdeveloped country like Uganda.

In the realm of developed countries, Jacobs *et al* (2019) examined internet usage among pregnant mothers in the Netherlands. The outcomes of this descriptive cross-sectional study indicated that a majority of expectant mothers in the Netherlands utilized the internet as a primary source of information before or during their pregnancy, with the most sought-after topics including fetal development, lifestyle and pregnancy, as well as birth complications. Similarly, in Switzerland, Jaks *et al* (2019) conducted a cross-sectional study on the use of digital health information by Swiss-German parents, revealing that the internet had become a widely utilized source of information with a generally positive perception of its utility. Furthermore, an investigation into pregnant women's use of information and communication technologies (ICTs) to access pregnancy-related health information in South Australia emphasized the potential of ICTs for health promotion and communication innovation, cautioning against assumptions about their effectiveness despite widespread access (Rodger *et al*, 2013).

Furthermore, in developing nations like Iran, research indicates that accessing health information online has heightened awareness about pregnancy among expectant mothers (Hamzehei *et al,* 2018). Similarly, in China, Wang *et al,* (2019) found that half of the female population utilised pregnancy-related apps. In Nigeria, Obasola and Mabawonku's (2017) findings indicate a steady increase in the use of ICTs among expectant mothers. More equally important, a recent narrative literature review by Conrad (2022) delving into health information-seeking behaviours on the internet among pregnant women, echoes many findings present in contemporary literature by various scholars (Hamzehei *et al,* 2018; Rodger *et al,* 2013; Urrutia *et al,* 2015). However, Conrad's study raised a methodological gap because it only did narrative

literature, which raised a need to employ a holistic mixed research approach in this study.

Contrary to expectations, in Uganda, a developing country, the prevalence of internet use among expectant mothers remains uncertain. This underscores the imperative for conducting an empirical investigation into the utilisation of the internet as a source of health information for expectant mothers at Mulago National Referral Hospital.

2.2.5 Mobile application (Apps)

The burgeoning significance of mobile health in both medical and public health practices involves the utilization of mobile devices, telecommunication, and multimedia to enhance health outcomes. The implementation of applications on smartphones or tablets further amplifies the capabilities of mobile health, offering end-users user-friendly software products that enable tailored device functionalities without necessitating training or informatics expertise (Buchanan *et al*, 2021). Consequently, the evolving landscape of health information technologies facilitates widespread access to diverse mobile applications, empowering individuals to acquire health information and manage their health conditions (Sommer *et al*, 2018).

Studies have been conducted on mobile applications and health information of expectant mothers. As such, Rothschild *et al*, (2021) examined the use of a mobile app to supplement health information among expectant mothers through Kaiser Permanente Washington. The study showed that expectant mothers were willing to use a mobile app to obtain health information. However, this study produced a contextual gap because it was done in Washington where the level of technology is developed compared to that of Uganda. Thus, there was a need to conduct this study in the context of Uganda. On their part, Noncungu and Chipps (2020) investigated the health information used by pregnant women on their first pregnancy in a low-income setting in Western Cape, South Africa. Results of descriptive statistics revealed that Doctors, nurses, family and friends were the most frequently used sources of health information

while watching television or listening to the radio were the least used sources of health information. Far from the above, this study focused on the mobile application and health information use of expectant mothers in the Ugandan context.

Moreover, a research endeavor in Ethiopia led by Kaaya *et al* (2021) elaborated on a secure delivery application employing 5–7-minute animated videos, offering guidance on managing the third stage of labor with a specific focus on life-saving techniques. Additionally, various mobile applications, such as the Baby Centre app and Pregnancy tracker app, originating from websites like what to expect when you're expecting (WTE), Gifted Mom in Cameroon, Jambo mama, and Wazazinipendeni in Tanzania, lack corresponding websites. Nevertheless, their content spans from details about upcoming doctor's visits to interactive three-dimensional (3D) visualizations and descriptions of fetal growth and associated risks across different pregnancy stages.

In a separate investigation, Buchanan *et al* (2021) explored information sources and the utilization of mobile apps for health and parenting information during pregnancy in Australia. The findings indicated that women from culturally diverse backgrounds and lower income brackets demonstrated a lower inclination towards mobile app adoption, despite possessing smart devices. However, it's imperative to note that this study was conducted in Australia, a technologically advanced setting in contrast to Uganda. Hence, a study focusing on mobile applications and health information among expectant mothers in the Ugandan context was deemed necessary.

Similarly, Wang *et al* (2019) conducted a comprehensive study on understanding the use of smartphone apps for health information among pregnant Chinese women through a mixed-methods approach. The results revealed that almost half of the women had utilized pregnancy-related apps. Nevertheless, it's crucial to recognize that this study was executed in China, where the technological landscape differs significantly from that of Uganda.

Furthermore, Lupton (2016) delved into the utilization and significance of digital media for information related to pregnancy and early motherhood in Australia. The outcomes highlighted that pregnant women and those with young children highly value the information and support garnered and shared through online sources and applications. However, it's important to note that this study was conducted in developed countries where health information utilization among expectant mothers is advanced, in contrast to developing countries like Uganda.

2.2.3 Benefits of health information among expectant mothers

Kamali *et al* (2018) assert that furnishing expectant mothers with pertinent and sufficient information stands as the primary and most crucial step in enabling them to make informed decisions. Consequently, the significance of offering health information to expectant mothers has garnered attention from government bodies, healthcare professionals, and researchers. Additionally, Kaaya *et al* (2021) agree that delivering health information to expectant mothers can significantly decrease the incidence of cesarean sections and pregnancy complications like iron deficiency anemia. It facilitates the adoption of preventive health behaviors, including increased intake of folic acid and iron during pregnancy, appropriate weight management, and enhanced neonatal birth weight. Consequently, adequate preparation for prenatal care proves effective in mitigating adverse outcomes for both the mother and the fetus. Javanmardi *et al* (2019) found in their study that expectant mothers require health information to enhance their empowerment, practice preventive health behaviors, and bolster self-care capabilities.

Ghiasi *et al* (2019) elaborate on the crucial role of providing health information to expectant mothers in shaping health interventions and delivering high-quality prenatal care. Mbekenga *et al* (2021) conducted a study on health information utilization and perceived outcomes among pregnant women in two districts of Tanzania. The findings revealed that health information use among expectant mothers significantly influenced antenatal visits and gestational age. However, this study was

done in Tanzania where health information use among expectant others could be handled differently from that in Uganda. Furthermore, Sabahelzain *et al,* (2021) conducted a cross-sectional study based in hospitals on information use among expectant mothers in Khartoum state, Sudan. The study findings revealed that a high level of health information use among expectant mothers was associated with a greater likelihood of searching for additional health information. Similarly, this study was also done in Sudan where the health information use among expectant mothers is different from that in Uganda.

2.24 Setbacks of health information use among pregnant expectant mothers

Three key factors distance, high costs, and language differences constitute common barriers faced by pregnant women seeking health information, as emphasized by Kamali *et al* (2018). Hamzehei *et al* (2018) further identify challenges in Iran, encompassing home education and employment, difficulty discerning between accurate and inaccurate information, limited interaction between expectant mothers and healthcare providers, restricted access to diverse information resources, typical pregnancy complaints, and the stress of addressing pregnancy-related issues. Greyson's (2017) Canadian study on young mothers revealed that, although information access was seldom a hurdle, assessing the extensive volume of health-related information posed a significant challenge. Additionally, Javanmardi *et al* (2019) qualitatively explored health information access challenges during pregnancy in Iran, highlighting domestic responsibilities, educational and employment commitments, difficulty distinguishing between accurate and inaccurate information, limited interactions with healthcare providers, restricted access to information resources, common pregnancy complaints, and the stress of confronting pregnancy-related problems. However, their qualitative approach prompted the need for a quantitative investigation into the health information needs of expectant mothers in Uganda. Similarly, Mwangakal's (2021) study on maternal health information accessibility and its impact on preferences in rural Tanzania indicated that the scarcity of healthcare personnel and traditional beliefs affected pregnant women's access to quality maternal health information. Similarly, this study was done on expectant mothers in Tanzania where the health information

access could be far different from that in Uganda. Further, this study was done in rural areas where the health condition is much different from that of Mulago hospital in Uganda. Thus, this prompted the need to have this study conducted.

However, this study was done in the context of a developed country where health information use is far different form that in a Ugandan context. This thus, called for the need to conduct this study.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

In this chapter, the study's methodology is outlined, encompassing aspects such as research design, study population, study area, sample size, selection criteria, sampling techniques, and the approaches employed for data collection and analysis. The chapter concludes with considerations on reliability, validity, ethical aspects, and limitations of the study.

3.2 Research Design

Patel and Patel (2019) explain that research design functions as blueprint which supports a research study. The researchers used a document review method with qualitative approaches for this study to analyse use patterns of health information by expectant mothers at Mulago Women and Neonatal Hospital. The method required a systematic review of present health records together with reports and relevant documents to discover information about maternal health access patterns (Creswell & Clark, 2017). The research collected depth through semi-structured interviews which complemented document analysis to reveal detailed insights about health information distribution and maternal usage challenges at Mulago Women and Neonatal Hospital. The integrated research method produced a complete grasp about health information access conditions and their role in hospital-based healthcare delivery. The research design follows the essential elements of qualitative research according to Jongbo (2014) to develop an organized framework that investigates how health information affects maternal healthcare environments.3.3 Scope of the study

3.3.1 Content Scope

The content of this research matched the objectives and main aims of the study. The study assessed health information use practices of expectant mothers through practical examinations of health information availability and utilization accompanied by an analysis of retention barriers and proposed management solutions for Mulago Women and Neonatal Hospital.

3.3.2 Time Scope

The study covered the period from March 2023 to September 2023. This timeframe was selected as it represents the most recent and relevant period for analyzing trends in health information access and use among expectant mothers at the hospital.

3.3.3 Geographic Scope

The study was conducted in Uganda, specifically at Mulago Women and Neonatal Hospital. Located in Kampala, Uganda's capital city, the hospital is a national referral and teaching facility that provides specialized maternal and neonatal care. The study focused on expectant mothers receiving antenatal and maternity services at the hospital.

3.4 Study population and study sample

The target population for this research consisted of 450 pregnant women who attend Mulago Specialised Women and Neonatal Hospital throughout each month (Ministry of Health, 2021). The admission data from Mulago Specialised Women and Neonatal Hospital served as the basis for this calculation. A purposeful non-statistical sample of 25 expectant mothers participated for this study because it focused on deep qualitative research. The research included five medical staff through purposive sampling for their expert views on hospital health information practices. This smaller sample size corresponded to qualitative study needs since the main goal focused on gaining deeper understanding rather than achieving broad applicability (Bukhari 2020). The study selected expectant mothers who spent more than six months visiting the hospital because they required sufficient experience with the health information practices within the facility.

3.5 Sampling Techniques

The research used purposive sampling in combination with convenience sampling to identify participants for the study. Academic researchers implemented purposive sampling to obtain expectant mothers who utilized maternal health services at the hospital extensively (for more than six months) because their knowledge about health information use was expected to be deep and specific. The facility selected medical workers based on their position as providers of health information to women undergoing pregnancy. The researchers conducted convenience sampling for data collection with

expectant mothers who readily participated during the given period. The research methodology brought necessary practicality to the study alongside preserving the qualitative objectives. Statistical sampling methods could not compare to this selection method because relevance and depth of data became more significant than random participant representation (Taherdoost, 2016).

3.6 Data Collection Methods

Data collection methods refer to the techniques and tools used to gather information for a study (Creswell & Clark, 2017). For this study, data was collected using both primary and secondary sources, as outlined below:

3.6.1 Structured Interviews

Structured interviews involve direct interaction between the interviewer and the interviewee, guided by a predefined set of questions (Sileyew, 2019). This method was employed to collect qualitative data, as it allows for in-depth exploration of participants' experiences and perspectives while maintaining consistency across responses (Patel & Patel, 2019). Given the nature of the research objectives, structured interviews were deemed appropriate. Interviews were conducted with purposively selected healthcare providers and expectant mothers at Mulago Women and Neonatal Hospital, who served as key informants. These participants provided critical insights into health information use among expectant mothers. Interview guides (see Appendices 3 and 4) were used to ensure consistency and relevance during the process.

3.6.2 Document Review

A document review involves the systematic analysis of existing records and materials relevant to the research problem (Creswell, 2014). This method was used to collect secondary qualitative data, including hospital records, health education materials, and reports related to maternal health information. The review focused on identifying patterns and practices in health information dissemination and utilization at Mulago Women and Neonatal Hospital. The findings from the document review were used to

corroborate and complement the interview data. A document review checklist (see Appendix 4) was utilized to ensure a structured and thorough analysis.

3.7 Data Quality Control

Data quality control measures were implemented to enhance the validity and reliability of the study findings, ensuring accurate and meaningful conclusions (Creswell & Clark, 2017). Triangulation was used to validate the findings by cross-verifying data from interviews and document reviews. Validity, which refers to the extent to which data measures what it is intended to measure (Mohajan, 2017), was ensured through expert reviews to assess content validity. Reliability, which concerns the consistency and reproducibility of data (Mohajan, 2017), was maintained by providing clear instructions to participants and following standardized procedures during data collection.

3.8 Data Analysis Procedure

Data analysis involves organizing and interpreting data to draw meaningful conclusions (Patel & Patel, 2019). The qualitative data from this study was analyzed in five steps:

a) **Data Preparation:** Audio recordings from interviews were transcribed, and the data was familiarized through repeated reading and highlighting key impressions.
b) **Coding:** Descriptive labels were assigned to data segments to categorize and identify patterns. Deductive coding, based on the research objectives, was used to develop themes.
c) **Theme Development:** Themes were developed by comparing and reflecting on the coded data.
d) **Interpretation:** Conclusions were drawn by weaving themes together to make sense of the data.
e) **Presentation:** Findings were presented using text, tables, and direct quotes to illustrate key insights.

3.9 Ethical Considerations

Ethical considerations were adhered to throughout the study to ensure responsible and respectful research practices (Creswell & Clark, 2017). Participants were provided with informed consent forms, detailing the study's purpose and their rights, including anonymity and privacy. Confidentiality was maintained, and no personal information was disclosed. Participants were not coerced or exploited, and potential risks were minimized. Transparency was maintained in research methods and findings, with no misrepresentation or fabrication of data. All biases and secondary sources were acknowledged. Ethical approval for the study was obtained from the Directorate of Graduate Training and the Ethical Committee of Uganda Christian University (UCU).

3.10 Limitations of the study and mitigation strategies

1. **Limited sample size:** The research conducted with 25 expectant mothers along with 5 healthcare workers through non-statistical methods failed to represent a comprehensive view of maternal experiences at Mulago Women and Neonatal Hospital. The study used purposeful sampling to find participants with extensive maternal healthcare experience to gain valuable rich data from the fewer number of selected respondents.

2. **Exclusion of hospital managers:** Hospital manager involvement was missing from the study which deprived the research of institutional policy information and resource management insight into health information distribution systems. The research study included health provider interviews which provided secondary information about hospital institutional challenges despite lacking manager participation. Planned future research actively includes collecting insights from healthcare managers.

3. **Geographic limitation:** The findings from this research become less applicable to other healthcare facilities because the study took place solely at Mulago Women and Neonatal Hospital. The research analysed its results through the particular distribution context of Uganda's main national referral hospital to benefit other comparable institutions. The created recommendations provide fundamental structures that healthcare institutions can modify according to their requirements.

4. **Self-reporting bias:** The information obtained from expectant mothers during interviews and self-reporting assessments could suffer from recall bias and social desirability bias that leads participants to report expected suitable responses. The research implemented data triangulation by linking interview findings with official hospital documents to validate and complement sources from individuals while minimising self-reporting dependence.

5. Time constraints: The study took place within a controlled timeframe that limited researchers from doing thorough data collection and analysis of long-term health information usage patterns. Recent healthcare experiences from the last six months received priority because researcher sought relevant information while reducing memory errors triggered by temporal factors.

6. **Resource limitations:** The researcher experienced resource limitations when obtaining access to particular hospital records combined with certain materials that restricted the depth of the document review process. The researcher selected available documents from relevant sources which accurately represented the study targets. Health education materials along with hospital reports received highest priority for review and selection.

7. **Language and literacy barriers**: Despite efforts the study may not have enough evaluation of language and literacy barriers that inhibit expectant mothers from obtaining and comprehending health information. The study provided healthcare providers with necessary translation services through Luganda language interviews and support for complicated health material explanations to mothers with limited literacy skills.

8. **Focus on qualitative data:** The detailed information obtained from qualitative research methods did not overcome the deficiency of quantitative data that bars findings from generalisation along with establishing specific issue prevalence. The research added descriptive statistical information that included demographic reports to expand understanding of the study findings.

9. **Potential for researcher bias:** The analysts' personal perspectives and assumptions regarding qualitative research data influence the interpretation process even though they remain steadfast in maintaining objective analysis. Reflexivity became a

continuous practice in the research process through which researchers engaged in periodic assessments of their personal biases and assumptions. The researchers employed peer debriefing to confirm their analysis findings.

3.11 Conclusion

The research approach along with data collection methods and analysis procedures and sampling methods and research design appear in this chapter. Research at Mulago Women and Neonatal Hospital focused on healthcare information usage behaviours of expectant mothers using qualitative methods that included document evaluations and formal interviewing procedures. The research team used purposive sampling together with convenience sampling to pick participants who had valuable experiences related to the study theme. Data quality stayed high through the combiner use of expert reviews and standardised procedures and triangulation techniques in addition to implementing strict ethical protocols aimed at protecting research participants.

The research included various strengthening approaches to boost both validity and reliability even though hospital administrators were lacking from the study and a non-statistical sampling technique was chosen. The developed methodological framework established an effective way to analyse complex maternal healthcare information practices which produced essential knowledge about the health needs and obstacles and advantages of pregnant women.

Research findings from this study enhance knowledge about health information operations in high-volume referral medical hospitals which will guide upcoming interventions. The study provides foundations for extensive research on maternal health information systems which aims to enhance healthcare results for pregnant women and their new-borns.

CHAPTER FOUR: PRESENTATION AND DISCUSSION OF FINDINGS

4.0 Introduction

This chapter presents the findings of a study on health information use among expectant mothers at Mulago Specialised Women and Neonatal Hospital, Mulago National Referral Hospital, Uganda. It also analyses and interprets the findings. Descriptive statistics and analysis of qualitative data were mainly included in the findings.

4.1 Response Rate

The initial sample determined to provide data for this study were 25 expectant mothers at Mulago Specialised Women and Neonatal Hospital, Mulago National Referral Hospital in Uganda using a questionnaire survey. Those who provided the data were 25 expentant mothers and 5 health workers.

Table 4.1: Respondents' Background Characteristics (Expectant mothers)

Item	Categories	Frequency	Percentage
Sex of Respondents	Male	-	-
	Female	25	100.0
	Total	25	100.0
Marital status	Married	10	40
	Single	5	20
	Cohabiting	10	40
	Total	25	100.0
Employment Status	Unemployed	7	28
	Self-employed	18	72
	Others	25	
	Total	25	100.0

Time taken when visiting Mulago women and neonatal hospital	Less than 1Month	8	32
	2-4 Months	3	12
	4-5 Months	3	12
	5-7 Months	8	32
	8-9 Months	3	12
	Total	25	100.0

Source (Primary data, 2023)

This was because the unit of analysis was only female. As far as marital status was concerned, 40% (10) of the study participants were married, 104 (40%) were single and 5 (206%) were cohabiting. This implies that the majority of respondents were not officially married but staying together. However, much as the married and single had a smaller percentage of 22.2% each, this number was big enough to have equal representative of the two categories in the study. For the employment status of the participants, 72% (18) were self-employed and 18% (7) were either unemployed or felt other categories. Thus, this implies that the majority of the expectant mothers who participated in the study were self-employed.

4.2 Empirical Findings

4.2.1: Sources of Health information for expectant mother

The findings in this section are in response to objective one of this study which reads; to establish the sources of health information for expectant mothers at Mulago Specialised Women and Neonatal Hospital and the research question one which reads; what are sources of health information for expectant mothers at Mulago Specialised Women and Neonatal Hospital? Based on this research question eight items were used and the responses were classified as strongly disagree, disagree, not sure, strongly disagree and disagree. The results are presented in Table 4.2 below.

Table 4.2: Sources of Health Information for Expectant Mothers

Sources of Health Information	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Means
I use diverse sources of health information e.g internet helps me understand my health problem	-	-	6 (24%)	13 (52%)	6 (24%)	4.22
Due to the various sources of health information, I can take care of myself without consulting a doctor unless in severe illness	-	8 (32%)	5 (25%)	7 (28%)	5 (25%)	3.33
Asking a doctor is always better than finding medication by my self	-	5 (20%)	-	10 (40%)	10 (40%)	4.22
I can substitute a prescription from the doctor if I find a better one by looking on the internet or by a friend or a relative	4 (16%)	4 (16%)	10 (40%)	7 (28%)	-	2.22
I get health information from my family and friends that makes me doubtful about the doctors' information	10 (40%)	10 (40%)	-	2 (8%)	3 (12%)	2.33
I get a medical diagnosis from a doctor on social media	12(48%)	5 (20%)	5 (20%)	-	3 (12%)	2.00

When I have a health-related problem, I search the internet about it before visiting the doctor	1 (4%)	2 (8%)	-	11 (44%)	11 (44%)	3.78
If I search about my health issue before visiting a doctor and find satisfying health Information, I will no longer visit the doctor	5 (20%)	6 (24%)		7 (28%)	7 (28%)	2.78

Source (Primary data, 2023)

Results in Table 4.2 indicate that the bigger proportions (53%) agreed that they use diverse sources of health information e.g., the internet helps them understand their health problem while only a small proportion was not sure. This implies that the majority of respondents agreed that they use diverse sources of health information e.g., the Internet help them understand their health problems. On whether due to the various sources of health information, expectant mothers can take care of themselves without consulting a doctor unless severe illness revealed that a large proportion agreed, disagreed and were not sure. This therefore meant that due to the various sources of health information, expectant mothers can take care of themselves without consulting a doctor unless in severe illness.

Regarding whether asking a doctor is always better than expectant mothers finding medication them indicated that the bigger percentage agreed, and disagreed while no respondents were sure. This means that the majority of respondents agreed that asking a doctor is always better than expecting them to find medication. On whether expectant mothers can substitute a prescription by the doctor if they find a better one through looking on the internet or by a friend or a relative revealed that the bigger proportion disagreed, 22.2% were in agreement . This implied that most expectant mothers disagreed that they cannot substitute a prescription by the doctor if they find a better one by looking on the internet or by a friend or a relative. Regarding whether

expectant mothers get health information from their family and friends that make them doubtful about the doctors' information indicated that a larger proportion disagreed, while agreed and none were sure. This meant that expectant mothers get health information from their family and friends which makes them doubtful about the doctors' information.

On whether expectant mothers get medical diagnosis from a doctor on social media indicated that the majority of respondents disagreed, a minority were not sure. Thus, this implied that expectant mothers did not get a medical diagnosis from a doctor on social media. Regarding whether expectant mothers have a health-related problem, they searched the internet about it before visiting the doctor revealing that the bigger proportion agreed, while a minority disagreed and none was unsure. This means that when expectant mothers have a health-related problem, they search the internet about it before visiting the doctor. Further, regarding whether expectant mothers search about their health issues before visiting a doctor and when they find satisfying health information, don't visit the doctor indicated that a larger percentage. This means that expectant mothers disagree that, they search about their health issues before visiting a doctor and when they find satisfying health information, don't visit the doctor.

Table 4.3:Summary Results for sources of health information

	Descriptive		Statistic	Std. Error
Sources of Health Information	Mean		3.11	0.03
	95% Confidence Interval for Mean	Lower Bound	3.05	
		Upper Bound	3.17	
	5% Trimmed Mean		3.09	
	Median		3.00	
	Variance		0.22	
	Std. Deviation		0.47	

Minimum	2.50	
Maximum	4.13	
Range	1.63	
Interquartile Range	0.38	
Skewness	0.81	0.17
Kurtosis	0.06	0.35

The results in Table 4.3 show a mean = 3.11 close to the median of 3.00 but with a positive skew (skew = 0.81). The average implies that expectant mothers used various sources to obtain health information.

One of the participants interviewed said;

"……we get health information from various sources even before visiting the clinic and we get this information from our friends, our husbands, our mothers or elder people in the community…."

Another one said;
".....time I use YouTube or internet to get health information.....but even still, you find that u need to see a doctor for further information....."

One doctor remarked, *"Expectant mothers often ask about nutrition and safe medications during pregnancy. While we provide this information, a standardized approach across all departments would ensure consistency."*

Objective Two: Health information Needs of expectant mothers at Mulago Specialised Women and Neonatal Hospital

The findings in this section are in response to objective two of this study which reads; find out the health information needs of expectant mothers at Mulago Specialised Women and Neonatal Hospital and research question two which reads; what are health

information needs of expectant mothers at Mulago Specialised Women and Neonatal Hospital? Based on this research question six items were used and the responses were classified as strongly disagree, disagree, not sure, strongly disagree and disagree. The results are presented in Table 4.4

Table 4.4: Health Information Needs of Expectant Mothers

Health Information Needs of Expectant Mothers	SD	D	NS	A	SA	Means
I need information on nutrition/diet during pregnancy	-	1 (4%)		86 (32%)	16 (64%)	4.33
I need information on medication during pregnancy		3 (12%)	3 (12%)	86 (32%)	11 (44%)	4.11
I need information on sexual relationships during pregnancy	-	-	6 (24%)	14 (56%)	5 (20%)	4.00
I need information on how much work (house chores/physical labour) is to be done during pregnancy	-	3 (12%)	3 (12%)	11 (44%)	8 (32%)	4.00
I need information on how to have a healthy child	-	3 (12%)	-	3 (12%)	19 (76%)	4.55
I need information on where to go if there is a complication	5 (20%)	3 (12%)	-	17 (68%)	-	4.55

Source: (Primary Data, 2023)

The results in Table 4.4 on whether expectant mothers need information on nutrition/diet during pregnancy revealed that the majority of respondents (88%) agreed, 12% disagreed and none of the respondents were not sure. Thus, this implied that expectant mothers needed information on nutrition/diet during pregnancy.

Regarding whether expectant mothers need information on medication during pregnancy revealed that the majority of respondents. This meant that expectant mothers needed information on medication during pregnancy. Regarding whether expectant mothers need information on sexual relationships during pregnancy indicated that a bigger percentage of the respondents agreed. Thus, this meant that expectant mothers needed information on sexual relationships during pregnancy.

Regarding whether expectant mothers need information on how much work (house chores/physical labour) is to be done during pregnancy indicated that the majority of respondents (76%) agreed, 12% agreed and the same percentage were not sure. This implied that expectant mothers needed information on how much work (house chores/physical labour) was to be done during pregnancy. On whether expectant mothers need health information on how to have a healthy child indicated that the biggest percentage (88%) of the study participants agreed, 12% disagreed and none was sure. This, therefore, implied that expectant mothers needed health information on how to have a healthy. Further, on whether expectant mothers need information on where to go if there is a complication indicated that a larger percentage (68%) agreed, 32% disagreed and none was sure. Thus, this meant that expectant mothers needed information on where to go if there was a complication.

Table 4.5: Summary Table for Health Information Needs

		Descriptive		Statistic	Std. Error
Health Information Needs		Mean		4.26	0.05
		95% Confidence Interval for Mean	Lower Bound	4.17	
			Upper Bound	4.35	
		5% Trimmed Mean		4.28	
		Median		4.50	

Variance	0.42	
Std. Deviation	0.65	
Minimum	3.17	
Maximum	5.00	
Range	1.83	
Interquartile Range	1.33	
Skewness	-0.54	0.17
Kurtosis	-1.35	0.34

Source: (Primary data, 2023)

The results in Table 4.5 show a mean =4.26 close to the median of 4.50 but with a negative skew (skew = -0.54). The high mean implies that the health information needs of expectant mothers were high.

One of the expectant mothers interviewed said;

"…….we need a lot of information on expectancy and the hospital tries to give it to us although some time is not enough……."

Another one said; *"……..much as the hospital gives us information when we come here for the antenatal visit, because of time such information is not enough, I see we still need further information……."*

One health worker, a nurse, remarked, "*Many mothers use the internet, but they often come to us to verify what they find online. Having reliable, hospital-approved resources online could reduce misinformation."*

Objective Three: Benefits of health information use among expectant mothers at Mulago Specialised Women and Neonatal Hospital

The findings in this section are in response to objective three of this study which reads; to establish benefits of health information use among expectant mothers at Mulago Specialised Women and Neonatal Hospital and research question three which reads; What are the benefits of health information use among expectant mothers at Mulago Specialised Women and Neonatal Hospital? Based on this research question ten items

were used and the responses were classified as strongly disagree, disagree, not sure, strongly disagree and disagree. The results are presented in Table 4.6

Table 4.6: Benefits of Health Information Use among Expectant Mothers

Benefits of Health Information Use among Expectant Mothers	SD	D	NS	A	SA	Means
I make time for things that are good for my health	-	-	5 (20%)	14 (56%)	6 (24%)	4.00
I pay attention to my health needs	-	-	6 (24%)	8 (32%)	11 (44%)	4.22
I read health information e.g. leaflets given to me by a health worker	-	-	4 (20%)	17 (68%)	3 (12 %)	3.89
I asked someone to go with me on a medical appointment	-	8 (32%)	3 (12%)	6 (24%)	8 (32%)	3.55
I know where a doctor can be contacted	-	6 (24%)	-	11 (44%)	8 (32%)	3.88
I know how to get a doctor's appointment	-	-	6 (24%)	8 (32%)	11 (44%)	4.22
I change to a different doctor to get better care	-	6 (24%)	-	17 (68%)	3 (12%)	3.55
I use health information from a doctor to decide on my health	-	3 (12%)	3 (12%)	3 (12%)	16 (64%)	4.33
I follow instructions that a doctor gives me	-	-	3 (12%)	17 (68%)	5 (20%)	4.11

I ask a doctor question to help me understand health information	3 (12%)	3 (12%)	-	16 (64%)	3 (12%)	4.00

Source: (Primary data, 2023)

The results in Table 4.6 show that expectant mothers make time for things that are good for their health revealed by the biggest percentage (80%) agreed, 20% were not sure and none of the respondents disagreed. Thus, this meant that expectant mothers made time for things that were good for their health. On whether expectant mothers pay attention to their health needs revealed that a bigger percentage (80%) of the respondents agreed while 20% were not sure and none of the respondents disagreed. This implied that expectant mothers paid attention to their health needs. Regarding whether expectant mothers read health information e.g., leaflets given to me by a health worker indicated that the majority of respondents (64%) agreed, and 24% were not sure none of the respondents disagreed. This meant that expectant mothers read health information e.g., leaflets given to them by the health workers.

Regarding whether expectant mothers ask someone to go with them to a medical appointment indicated that the biggest percentage (68%) of the respondents agreed, 32% disagreed and 12% were not sure. Therefore, this meant that the expectant mother asked someone to go with them to a medical appointment. On whether expectant mothers know where a doctor can be contacted revealed that the majority of respondents (80%) agreed, while 22.2% were not sure and none disagreed. This implied that expectant mothers knew where a doctor could be contacted. Regarding whether expectant mothers know how to get a doctor's appointment revealed that the majority of respondents (80%) agreed, 20% were not sure and none disagreed. This showed that expectant mothers knew how to get a doctor's appointment. On whether expectant mothers change to a different doctor to get better care indicated that a larger proportion (76%) agreed, while 24% disagreed and no one was not sure. This indicated that expectant mothers changed to a different doctor to get better care.

On whether expectant mothers use health information from a doctor to decide on their health the majority of participants (64%) agreed while 36% disagreed. This indicated that expectant mothers used health information from a doctor to decide on their health. Regarding whether expectant mothers follow instructions that a doctor gives them the majority of respondents (88%) agreed, while 12% of the respondents were not sure. This meant that expectant mothers followed instructions that a doctor gave them. On whether expectant mothers ask doctors questions to help them understand health information indicated that the majority of respondents (80%) agreed, while 20% disagreed and none of the participants was sure.

Table 4.7: Summary of the Benefits of Health Information for Expectant Mothers

Descriptives			Statistic	Std. Error
Benefits of Health Information	Mean		3.98	0.03
	95% Confidence Interval for Mean	Lower Bound	3.91	
		Upper Bound	4.04	
	5% Trimmed Mean		3.98	
	Median		4.10	
	Variance		0.22	
	Std. Deviation		0.47	
	Minimum		3.20	
	Maximum		4.70	
	Range		1.50	
	Interquartile Range		0.80	
	Skewness		-0.12	0.17
	Kurtosis		-1.23	0.34

Source: (Primary data, 2023)

The results in Table 4.7 show a mean =3.98 close to the median of 4.10 but with a negative skew (skew = -0.12). The high mean implies that the benefits of health information among expectant mothers were high.

One of the expectant mothers interviewed said;
".....when we get the health information required, we can be able to make the right decision because sometimes you get sick at home when alone and you take any medicine available to cool down the situation or pain....."
Another one said;
"*..... I seek health information from my friend in case I get sick before visiting the hospital....."*

A health worker, a doctor remarked, "*When mothers follow the health information we provide, we see better outcomes. However, we need more resources to ensure every mother receives this information clearly and consistently."*

Objective Four: Setback for Health Information Use among Expectant Mothers at Mulago Specialised Women and Neonatal Hospital

The findings in this section are in response to objective four of this study which reads; to examine the setbacks facing health information use among expectant mothers at Mulago Specialised Women and Neonatal Hospital and research question four which reads; What are the benefits of health information use among expectant mothers at Mulago Specialised Women and Neonatal Hospital? Based on this research question fourteen items were used and the responses were classified as strongly disagree, disagree, not sure, strongly disagree and disagree. The results are presented in Table 4.8

Table 8: Setback to Health Information Use among Expectant Mothers

Setback to Health Information Use among Expectant Mothers	SD	D	NS	A	SA	Means
I feel shy asking for health information	3 (12%)	5 (20%)	5 (20%)	3 (12%)	9 (36%)	3.33
I am scared of asking for health information	3 (12%)	5 (20%)	5 (20%)	3 (12%)	9 (36%)	3.33
I already know everything, so I see no need to know	5 (20%)	14 (56%)	-	3 (12%)	3 (12%)	2.33
I have family/household needs to take care of	-		5 (20%)	14 (56%)	6 (24%)	4.00
I have childcare needs to take care of	3 (12%)	-	3 (12%)	11 (44%)	8 (32%)	4.00
I have no one to accompany me to the clinic/ healthy facility	8 (32%)	11 (44%)	6 (24%)	-	-	1.88
I see my partner is not involved in health information use	8 (32%)	5 (20%)	5 (20%)	3 (12%)	3 (12%)	2.44
I see mother-in-law/ relatives present during discussion with healthcare professionals		12 (48%)	5 (20%)	5 (20%)	3 (12%)	3.00
I have no one to discuss my pregnancy with	-	19 (76%)	-	3 (12%)	3 (12%)	2.88
I see my elders think their advice is enough		3 (12%)	14 (56%)	5 (20%)	4 (20%)	2.44

I see it is too far for me to get to clinic/ healthy facility	11 (44%)	8 (32%)	3 (12%)	3 (12%)	-	1.88
I have to wait a lot to see the doctor or any health professional	5 (20%)	8 (32%)	3 (12%)	5 (20%)	3 (12%)	2.66
My health staff attitude is not good	5 (20%)	5 (20%)	5 (20%)	5 (20%)	5 (20%)	3.00
I miss proper discussion of my pregnancy with health professional	3 (12%)	5 (20%)	-	8 (32%)	9 (36%)	3.88

Source: (Primary data, 2023)

The results in Table 4.8 on whether expectant mothers feel shy asking for health information revealed that a bigger percentage (44%) agreed, 32% disagreed and 20% were not sure. This meant that expectant mothers fell shy of asking for health information. On whether expectant mothers were scared of asking for health information indicated that a larger percentage (44%) of the participants agreed, 32% disagreed, and 20% were not sure. This meant that expectant mothers were scared of asking for health information. Regarding whether expectant mothers already know everything about health information for expectant mothers, I see no need for knowing revealed that the majority of respondents (80%) disagreed, 20% agreed and no one was sure. This meant that expectant mothers did not already know everything about health information for expectant mothers, so I saw there was a need to know. On whether expectant mothers have family/household needs to take care of revealed that the majority of respondents (80%) agreed, while 20% were not sure and none agreed. This meant that expectant mothers had family/household needs to take care of.

Regarding whether expectant mothers have childcare needs to take care of indicated that a larger percentage (80%) of the respondents agreed, 12% disagreed, and no one was not sure. This implied that expectant mothers had childcare needs to take

care of. On whether expectant mothers have no one to accompany them to the clinic/health facility indicated that a bigger percentage (80%) disagreed, while 20% were not sure and none of the respondents agreed. This meant that most expectant mothers had no one to accompany them to the clinic/health facility. Regarding whether expectant mothers see their partner not involved in health information use revealed that the majority of respondents (56%) disagreed, 20% agreed, and 20% were not sure. This meant that expectant mothers saw their partners as not involved in health information use. On whether expectant mothers see mother-in-law/ relatives present during discussions with healthcare professionals indicated that a larger percentage (44%) disagreed, 20% agreed, and 20% were not sure. This means that to a larger extent, the expectant mothers saw their mother-in-law/ relatives present during discussions with healthcare professionals.

On whether expectant mothers have no one to discuss their pregnancy with revealed that a bigger percentage (68%) disagreed, and 20% agreed, while no one was sure. This meant that expectant mothers had no one to discuss their pregnancy with. Regarding whether expectant mothers see their elders think their advice is enough revealed that the majority of respondents (56%) were not sure, 36% agreed, while 12% disagreed. This implied that expectant mothers were not sure whether their elders thought their advice was enough. Regarding whether participants see it is too far for them to get to the clinic/health facility revealed that a bigger percentage (76%) disagreed, 12% agreed, and 12 were not sure. This meant that expectant mothers saw it was not too far for them to get to the clinic/health facility.

On whether expectant mothers have to wait a lot to see the doctor or any health professional indicated that a larger percentage (56%) disagreed, 40% agreed, and 12% were not sure. Thus, this implied that expectant mothers had to wait a lot to see the doctor or any health professional. Regarding whether expectant mothers' health staff attitude is not good revealed that, 40% of the participants agreed and the same percentage disagreed, while 12% were not sure. This implied that expectant mothers' health staff attitude was averagely good. On whether expectant mothers miss the

proper discussion of their pregnancy with health professionals revealed that the majority of respondents agreed (68%), 2220% were not sure, and 12% disagreed. This meant that expectant mothers missed proper discussion of their pregnancy with health professionals.

Table 9: Setback for Health Information Use among Expectant Mothers

Descriptives			Statistic	Std. Error
Setback of Health Information	Mean		2.94	0.04
	95% Confidence Interval for Mean	Lower Bound	2.86	
		Upper Bound	3.02	
	5% Trimmed Mean		2.93	
	Median		2.93	
	Variance		0.33	
	Std. Deviation		.570	
	Minimum		2.14	
	Maximum		3.86	
	Range		1.71	
	Interquartile Range		0.86	
	Skewness		0.23	0.17
	Kurtosis		-1.26	0.34

Source: (Primary Data, 2023)

The results in Table 4.9 show a mean = 2.94 close to the median of 2.93 but with a positive skew (skew = 0.23). The low mean implies that the setbacks for health information among expectant mothers were low.

One of the expectant mothers interviewed said that; *"…There is also the issue of costs because we are required to sometimes pay before we see a doctor most especially when you have complications and when you don't have money, you don't the doctor"*

Another one added that;
"The availability of health workers at the facility poses a great challenge because they reach late or some time does not appear yet you have travelled a considerable distance to hear (Mulago)"

4.3 Discussion of Study Findings

Objective One: Sources of Health information for expectant mother

This section of the research discusses the findings on health information utilization among expectant mothers at Mulago Specialised Women and Neonatal Hospital, Mulago National Referral Hospital, Uganda. The discourse commences by exploring the descriptive outcomes for objective one, which sought to identify the sources of health information for expectant mothers. The descriptive results revealed the diverse array of information sources utilized by expectant mothers, aligning with the findings of Vogels-Broeke *et al* (2022), who, in their examination of health information sources during pregnancy in the Netherlands, noted that family and professional health workers were the primary sources for expectant mothers.

Additionally, Ghiasi (2021), in a systematic review on health information sources among pregnant women, identified health professionals, informal sources (family and friends), and the Internet as the most common sources. Grime *et al* (2014) investigated information sources for Australian pregnant women, revealing a reliance on health professionals. Similarly, Rahmawati *et al* (2021) explored nutrition information sources for Indonesian pregnant women, finding information sought from various sources, including social and health professional contacts, and media.

Consistent with the findings of Vogels-Broeke *et al* (2022) in the Netherlands and Ghiasi's (2021) systematic review, the present study concludes that expectant mothers at Mulago National and Women's Specialised Hospitals utilize a diverse range of health information sources, including professional health workers, aligning with widely observed patterns in the literature.

Objective Two: Health Information Needs of expectant mothers at Mulago Specialised Women and Neonatal Hospital

Objective two of the research aimed to identify the health information requirements of expectant mothers at Mulago Specialised Women and Neonatal Hospital. Descriptive findings and qualitative outcomes indicated a substantial demand for health information among expectant mothers, aligning with Kamali *et al*'s (2018) research in Iran. Their study highlighted the necessity for information on fetal care, developmental aspects, post-delivery complications, pregnancy nutrition, specific tests, and guidance during illnesses or complications. Javanmardi *et al* (2019) emphasized that pregnant women seek health information for empowerment, preventive health practices, self-care capabilities, and managing anxiety in the face of new health issues.

In a systematic review, Ghiasi (2021) found that pregnant women commonly rely on health professionals, informal sources (family and friends), and the Internet for information. Lu *et al* (2022) conducted a systematic review on information needs and barriers across pregnancy stages, while Sharifi *et al* (2020) explored health information needs in Afghan pregnant migrant women. The latter study identified significant associations between information needs and various factors such as age, education levels, duration of residence, insurance status, and prenatal care. The convergence of these findings with the current study suggests a consistent high demand for health information among expectant mothers.

Objective Three: Benefits of health information use among expectant mothers at Mulago Specialised Women and Neonatal Hospital

Objective three of the study sought to establish the benefits of health information use among expectant mothers at Mulago Specialised Women and Neonatal Hospital, Uganda. Results of descriptive and qualitative findings revealed that the benefits of health information use for expectant mothers were high. The findings were consistent with scholars such as Ghiasi *et al,* 2019) who expounded that providing health information to expectant mothers is crucial for the development of health intervention and the provision of high-quality prenatal care for them. Mbekenga *et al,* (2021) carried study on health information use and perceived outcomes among pregnant women in two Districts of Tanzania. The findings revealed that health information use among expectant mothers significantly influenced antenatal visits and gestational age. The study by Sabahelzain *et al,* (2021) carried out a cross-sectional study based on hospital information use among expectant mothers in Khartoum state, Sudan. The study findings revealed that a high level of health information use among expectant mothers was associated with a greater likelihood of searching for additional health information. Since the findings were consistent with the majority of scholars. It can be concluded that the benefits of health information use among expectant mothers were high.

Objective Four: Setback for Health Information Use among Expectant Mothers at Mulago Specialised Women and Neonatal Hospital

The fourth objective explored the challenges encountered by expectant mothers at Mulago Specialised Women and Neonatal Hospital, Uganda, in utilizing health information. Descriptive and qualitative findings revealed multiple impediments, aligning with the insights of prominent scholars. A study conducted by Hamzehei *et al* (2018) in Iran addressed obstacles to accessing health information during pregnancy, highlighting issues such as women's extensive domestic and educational responsibilities, difficulty discerning accurate information, limited interaction with healthcare providers, restricted access to diverse information sources, common pregnancy-related complaints, and the stress of facing challenges during pregnancy. Similarly, Greyson's (2017) investigation into the health information practices of young mothers in Canada

found that, although information access was seldom a hindrance, the substantial volume of health-related information posed a significant challenge for expectant mothers.

Furthermore, Javanmardi *et al* (2019) conducted a qualitative study on the challenges of accessing health information during pregnancy in Iran, reiterating concerns such as women's domestic and professional obligations, the inability to distinguish between accurate and inaccurate information, limited interactions with healthcare providers, difficulties in accessing various information sources, common pregnancy-related complaints, and the stress and anxiety associated with confronting pregnancy-related issues. Additionally, Mwangakal's (2021) examination of the accessibility of maternal health information and its impact on maternal health preferences in rural Tanzania underscored the scarcity of healthcare personnel and the influence of traditional beliefs as factors affecting pregnant women's access to quality maternal health information. The consistency of these findings with those of other scholars leads to the conclusion that there are numerous obstacles to the effective use of health information among expectant mothers.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a comprehensive synthesis of findings, drawing conclusions on expectant mothers' health information needs, sources, benefits, and setbacks at Mulago Specialised Women and Neonatal Hospital. The chapter concludes with thoughtful recommendations for enhanced maternal health information provision.

5.2 Summary of Findings

5.2.1 Health information needs of expectant mothers at Mulago Specialised Women and Neonatal Hospital

The study explored the health information needs of expectant mothers at Mulago Specialised Women and Neonatal Hospital, focusing on sources of health information. The findings revealed that a significant majority (72%) utilize diverse sources, such as the Internet, to understand their health problems. Additionally, a large proportion agreed that due to various sources of health information, expectant mothers can take care of themselves without consulting a doctor unless in severe illness. However, a substantial majority affirmed that asking a doctor is always preferable to self-diagnosis. The study also unveiled that expectant mothers often search the internet about their health problems before visiting a doctor , challenging the notion that satisfying online information would deter them from consulting a doctor . Overall, the mean of 3.11 suggests that expectant mothers use various sources for health information, as corroborated by participant statements emphasizing the role of family, friends, and digital platforms in accessing health information.

5.2.2 Health information sources used by expectant mothers at Mulago Specialised Women and Neonatal Hospital,

The findings indicated that expectant mothers expressed substantial information needs across various areas. Notably, there was a consensus among participants on the need

for information regarding nutrition and diet during pregnancy, medication during pregnancy, sexual relationships during pregnancy, the appropriate level of work or physical labor during pregnancy, and guidance on ensuring the health of their child. Additionally, a significant portion of participants recognized the importance of information on where to seek help in case of complications. These findings, reflected in the mean of 4.26, suggest a high demand for comprehensive health information among expectant mothers at Mulago Specialised Women and Neonatal Hospital. Statements from participants emphasized the perceived insufficiency of information provided during antenatal visits, highlighting a desire for more comprehensive guidance.

5.2.3 Benefits of health information use among expectant mothers at Mulago Specialised Women and Neonatal Hospital,

The investigation into the benefits of health information use among expectant mothers at Mulago Specialised Women and Neonatal Hospital revealed insightful patterns. Examining responses to ten key aspects, ranging from making time for health-related activities to seeking medical attention, uncovered a positive inclination among participants. Notably, a significant percentage acknowledged making time for health-related practices, while an equally substantial portion expressed a heightened awareness of their health needs. Reading health information, particularly leaflets provided by health workers, was prevalent among participants.. Furthermore, a majority demonstrated an ability to navigate the healthcare system effectively, knowing how to get in touch with a doctor and secure appointments. Participants exhibited a proactive approach, with a bigger proportionwilling to change to a different doctor for enhanced care. Additionally, expectant mothers valued using information from doctors and adhering to instructions , showcasing the pivotal role health information plays in shaping their decisions and actions. Overall, the high mean of 3.98 indicates a substantial perceived benefit of health information among expectant mothers in the study, reinforcing the importance of comprehensive health education in

maternal care. Quotes from participants emphasized the empowering effect of health information on decision-making and seeking timely medical assistance.

5.2.4 Setbacks facing health information use among expectant mothers at Mulago Specialised Women and Neonatal Hospital.

The investigation into setbacks faced by expectant mothers at Mulago Specialised Women and Neonatal Hospital revealed multifaceted challenges. Participants, responding to fourteen key factors, highlighted prevalent issues. These included feelings of shyness and fear in seeking health information, balancing family and household needs , and childcare responsibilities. Lack of companionship for clinic visits , perceived lack of partner involvement , and the presence of relatives during healthcare discussions were notable challenges. Accessibility concerns , waiting times for medical appointments , and a neutral sentiment toward health staff attitudes were evident. The mean setback score of 2.94 suggests a moderate level of setbacks, with financial constraints and delayed healthcare worker arrivals emerging as significant hurdles.

5.3 Conclusion

The comprehensive exploration of health information dynamics among expectant mothers at Mulago Specialised Women and Neonatal Hospital indicates vital insights.

5.3.1 Health information needs of expectant mothers at Mulago Specialised Women and Neonatal Hospital,

The study underscored the substantial health information needs among expectant mothers, spanning nutrition, medication, sexual health, physical activities during pregnancy, guidance for a healthy child, and knowledge about handling complications. The resonating sentiment emphasizes an unmet thirst for information, despite efforts by the hospital.

5.3.2 Health information sources used by expectant mothers at Mulago Specialised Women and Neonatal Hospital,

Expectant mothers predominantly rely on healthcare professionals for information, with limited use of alternative sources. While the hospital remains a primary source, supplementing this with diverse channels could enhance the comprehensiveness of information dissemination.

5.3.3 Benefits of health information use among expectant mothers at Mulago Specialised Women and Neonatal Hospital,

The benefits of health information utilization are evident in expectant mothers' proactive health behaviors. These include prioritizing health, paying attention to personal health needs, seeking health information from diverse sources, and actively engaging with healthcare professionals. The positive outcomes emphasize the empowering effect of accessible health information.

5.3.4 Setbacks facing health information use among expectant mothers at Mulago Specialised Women and Neonatal Hospital.

Despite the perceived benefits, expectant mothers face notable setbacks. Issues such as shyness, fear, familial responsibilities, lack of companionship, and concerns about partner involvement pose challenges. Accessibility obstacles, waiting times, and a neutral sentiment toward health staff attitudes further compound the setbacks. Addressing these hurdles is crucial for optimizing the impact of health information

5.4 Recommendations

1. Designed suitable Information Dissemination Strategies:

Through developing and implementing tailored information dissemination strategies that align with the specific health information needs identified among expectant mothers. These strategies should encompass multiple formats, including written materials, digital resources, and interactive sessions, ensuring accessibility for diverse preferences and literacy levels.

2. Diversification of information sources:

Encouraging a diverse range of health information sources for expectant mothers. While healthcare professionals remain central, integrating community-based resources, peer support networks, and technology-driven platforms can offer complementary perspectives and foster a more comprehensive understanding of maternal health.

3. Strengthening partner involvement:

Addressing the observed reluctance and uncertainty regarding partner involvement in health information use. Develop targeted interventions to engage partners in the prenatal journey, emphasising their role in supporting maternal well-being. Educational programs and outreach initiatives can be designed to enhance partner understanding and active participation.

4. Overcoming Setbacks:

Implementing measures to overcome identified setbacks, such as shyness, fear, and concerns about familial responsibilities. Introducing initiatives that create a supportive and non-judgmental environment within healthcare facilities, encouraging open communication. Additionally, addressing logistical challenges like waiting times and enhancing staff attitudes are pivotal for a positive health-seeking experience.

5. Integration of technology:

Leveraging technology to augment health information dissemination. Developing user-friendly mobile applications, SMS services, and online platforms such as social media that provide easily accessible and timely information. This approach aligns with the contemporary preferences of expectant mothers and enhances the reach of health information.

6. Community engagement programs:

Initiating community-based engagement programs that foster discussions on maternal health. These programs can include workshops, forums, and peer-led initiatives that

facilitate knowledge sharing and support networks. Active community participation enhances the dissemination of information and addresses the perceived lack of companionship.

7. Continuous monitoring and evaluation:

Establishing a robust system for continuous monitoring and evaluation of health information programs. Regular assessments will enable the identification of evolving needs, the effectiveness of interventions, and areas requiring adjustment. This iterative process can ensure the sustainability and relevance of health information initiatives.

8. Collaboration with stakeholders:

Forging partnerships with relevant stakeholders, including community leaders, non-governmental organizations, and governmental bodies. Collaborative efforts amplify the impact of health information programs, leveraging collective resources and expertise to create a holistic support system for expectant mothers.

By systematically addressing these recommendations, stakeholders can contribute to an enriched and supportive environment for expectant mothers at Mulago Specialised Women and Neonatal Hospital, ultimately fostering improved maternal health outcomes.

5.5 Suggestions for Further Studies/ Areas of Future Research

1. Exploring Cultural Influences on Health Information Seeking:

Investigate the cultural factors influencing the health information-seeking behaviors of expectant mothers. A comprehensive study delving into the cultural nuances, beliefs, and practices surrounding pregnancy and maternal health could provide valuable insights for tailoring information programs to specific cultural contexts.

2. Evaluating Long-Term Impact of Information Interventions:

Conduct longitudinal studies to assess the long-term impact of health information interventions on expectant mothers. Tracking outcomes beyond the immediate post-intervention period will provide a deeper understanding of sustained knowledge retention, behavioral changes, and the enduring effects on maternal and neonatal health.

3. Technology Adoption and Adherence:

Explore the adoption and adherence patterns related to technology-driven health information platforms among expectant mothers. This research could assess the effectiveness of mobile applications, SMS services, and online resources in the context of maternal health, identifying potential barriers and facilitators to technology integration in prenatal care.

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APPENDICES

Appendix One: Questionnaire Survey for Expectant Mothers:

Dear respondent,

I am Nakuya Lillian a student of Uganda Christian University pursuing a Master in Library and Information Science. I am collecting data on the topic entitled "Health information use among expectant mothers at Mulago Specialised Women and Neonatal Hospital, Mulago National Referral Hospital, Uganda. This questionnaire is for expectant mothers only and all the information provided shall be treated with utmost confidentiality. I appreciate your time spent on completing it. Kindly read all the questions carefully and provide answers to the best of your knowledge.

Section A: Background Variables: Classification of Academic Staff.

Please classify yourself according to the instructions by kindly ticking the correct response.

A_1 Sex of respondents: 1. Male 2. Female

A_2 Marital status: 1. Married 2. Single 3. Cohabiting

A_3 Profession…….……

A_4 For how long have you been visiting Mulago Women and Neonatal Hospital?

1. Less than 1 month 2. 2-4 months 3. 4-5 months 4. 5-7 months 5. 8-9 months

A_5 Highest academic qualification attained

1. P7 2. O'' Level 3. A' Level 4. Diploma 5. Degree

Section B: Sources of health information for expectant mothers.

This section presents sources of health information for expectant mothers, you are kindly requested to indicate the extent to which expectant mothers obtain health information using the scale where 1= Strongly Disagree (SD) 2= Disagree (D) 3=Not Sure (NS) 4= Agree(A) 5= Strongly (SA) Agree

NO	Sources of health information	SD	D	NS	A	SA
		1	2	3	4	5
SHI1	I use diverse sources of health information e.g. internet helps me understand my health problem					
SHI2.	Due to the various sources of health information, I can take care of myself without consulting a doctor unless in severe illness					
SHI3	Asking a doctor is always better than finding medication information myself					
SHI4	I can substitute a prescription from the doctor if I find a better one by looking on the internet or by asking a friend or a relative					
SHI5	I get health information from my family and friends that makes me doubtful about the doctor's information					
SHI6	I get a medical diagnosis from a doctor on social media					
SHI7	When I have a health-related problem, I search the internet about it before visiting the doctor					
SHI8	If I search about my health issue before visiting a doctor and find satisfying information, I will no longer visit the doctor					

SECTION C: Health information needs

This section presents items on health information needs, you are kindly requested to indicate the extent to which expectant mothers need health information using the scale where 1= Strongly Disagree (SD) 2= Disagree (D) 3=Not Sure (NS) 4= Agree(A) 5= Strongly (SA) Agree

NO	Health information needs	SD	D	NS	A	SA
		1	2	3	4	5

HIN1	I need information on nutrition/ diet during pregnancy					
HIN2	I need information on medications during pregnancy					
HIN3	I need information on sexual relationships during pregnancy					
HIN4	I need information on how much work (household chores/physical labour) is to be done during pregnancy					
HIN5	I need information on how to have a healthy child					
HIN6	I need information on where to go if there is a complication					

SECTION D: Benefits of health information use among expectant mothers

This section presents a section on the benefit of health information use among expectant mothers, you are kindly requested to indicate the extent to which expectant mothers benefit from health information using the scale where 1= Strongly Disagree (SD) 2= Disagree (D) 3=Not Sure (NS) 4= Agree(A) 5= Strongly (SA) Agree

NO	**Benefits of health information use among expectant mothers**	**SD**	**D**	**NS**	**A**	**SD**
		1	**2**	**3**	**4**	**5**
BHI1	I make time for things that are good for my health					
BHI2	I pay attention to my health needs					
BH13	I read health information e.g. leaflets given to me by a health worker					
BHI4	I asked someone to go with me on a medical appointment					
BHI5	I know where a doctor can be contacted					
BHI6	I know how to get a doctor's appointment					
BHI7	I ask a doctor questions to help me understand health information					
BHI8	I change to a different doctor to get better care					
BHI9	I use health information from a doctor to decide on my health					
BHI10	I follow instructions that a doctor gives me					

SECTION E: Setbacks of health information needs

This section presents setbacks of health information needs among expectant mothers, you are kindly requested to indicate the extent to which expectant mothers experience setbacks in using health information using the scale where 1= Strongly Disagree (SD) 2= Disagree (D) 3=Not Sure (NS) 4= Agree(A) 5= Strongly (SA) Agree

NO	**Setbacks of health information use**	**SD**	**D**	**NS**	**A**	**SA**
		1	**2**	**3**	**4**	**5**
SBI1	I feel shy asking for health information					
SBI2	I am scared of asking for health information					
SBI3	I already know everything, so I see no need to know anything					
SBI4	I have family/ household needs to take care of					
SBI5	I have childcare needs to take care of					
SBI6	I have no one to accompany me to the clinic/health facility					
SBI7	I see my partner is not involved in health information use					
SBI8	I see mother-in-law/ relatives present during discussions with healthcare professionals					
SBI9	I have no one to discuss my pregnancy with					
SBI10	I see my elders think their advice is enough					
SBI11	I see it is too far to get to the clinic/health facility					
SBI12	I have to wait a lot to see the doctor or health professional					
SBI13	My health staff attitude is not good					
SBI14	I miss proper discussions with a health professional					