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KWASU Journal of Information, Communication and Technology (KJICT.) is a quality bi-annual and double blind peer-reviewed Journal of the Faculty of Information and Communication Technology, Kwara State University, Malete. It is an Open-access publication that encourages the exchange of original and latest original, grant-based research, literature surveys, and practical happenings protected by copyrights in all areas in the fields of Mass Communication, Computer Science & Engineering, Information Science, Library Science, Statistics, and Telecommunication Science. KJICT. is published in one volume consisting of two (2) issues per year and occasionally, special issues when the need arises.

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PREFACE/INTRODUCTION

The *KWASU Journal of Information, Communication and Technology* (KJICT.) is published by the Faculty of Information and Communication Technology of Kwara State University, Malete. It is a high-quality, bi-annual double-blind peer-reviewed journal for scholars and researchers. KJICT. is an open-access publication that promotes the exchange of original and up-to-date, grant-based research, literature reviews, and practical developments covered by copyright in all areas of mass communication, computer science, engineering, information science, library science, statistics, and telecommunication science.

Although it is essentially a publication of the Faculty of Information and Communication Technology, Kwara State University, the journal accepts contributions from across the world as its goal is deepening knowledge and promoting scholarship within its sphere of focus. To this end, KJICT. is designed as an international journal that aims at bringing together quality, cutting-edge and up-to-date research in its subject areas and related disciplines. KJICT. is published in June and December each year.

KJICT. offers a unique, well-defined platform for research through empirical and cutting-edge methodologies. It publishes works that are theoretically motivated, as is evident in this first issue, and that employ the most rigorous empirical procedures, qualitative, quantitative, or mixed approaches.

The journey to floating the KJICT. began in late 2021 but the spadework could not start until early 2022. Issues surrounding formulating the philosophy, subject focus, and editorial spread, among others, went through a round of debates at the faculty management level. The unique nature of the faculty and the combination of disciplines under it provided the prism for deciding on the eventual focus and research direction of the journal.

I must thank members of the faculty management team, comprising the Sub-Dean, Dr. Kennedy Arebamen Eiriemiokhale; Acting Head of Department of Library and Information Science, Dr. Moses Oladele Ibeun; Acting Head of Department of Computer Science, Dr. (Mrs.) Ronke Seyi Babatunde and Acting Head of the Department of Mass Communication, Dr. Semiu Musa Bello; the Director CIITR, Dr. Rafiu Mope Isiaka, and Dr. Nathaniel Babatunde who were all part of the brainstorming team that put the journal into the desired perspective. I must thank Professor Kazeem Alagbe Gbolagade for giving us leadership and encouragement as the immediate past Dean of the faculty and Professor (Mrs.) Adetoun Idowu then on sabbatical from the University of Ilorin also supported us in a great way.

As the journal began to take shape and articles began to come in for the maiden issue, we found the support of Professor Abdulwahab Olanrewaju Issa and Professor Abdulsalam Abiodun Salman very encouraging. Both professors, in addition to our cream of reviewers, including Dr. Rasah Mohammed Adisa, Dr. Patrick Udende, among others, made the job less cumbersome for us. The tireless effort of the entire editorial team is responsible for the eventual successful outing of the journal. I must also thank all eminent members of our editorial board from across the world whose pedigrees are undoubtedly referenced in the global academia.

I am, therefore, highly honoured to present this first edition of our new journal, *KWASU Journal of Information, Communication and Technology*, to the knowledge community, and to the glory of scholarship in computer science, librarianship, and communication. The contents in this issue of the journal are diverse, from the most rigorous empirical angles, using qualitative, quantitative, or hybrid methods. Finally, I want to reaffirm our dedication to excellence and standards in this Journal. I also want to reassure you that any piece of work you submit to us for publication will be subjected to a prompt, thorough, and logical review procedure. We cannot avoid being constant in our quality, standard, and frequency because we want the Journal to be indexed very soon.

Thank you.

Dr. Isiaka Zubair Aliagan
Managing Editor

Online Health Information Seeking Behaviour among Antenatal Pregnant Women in Osun State University Teaching Hospital, Nigeria

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Abstract

Sources of and access to health information among pregnant women are critical for the development of their health interventions. This study relied on qualitative data gathered from in-depth interviews with 12 pregnant women in Osun State University Teaching Hospital, Osogbo. Using thematic analysis for data analysis and presentation, the study found that online sources of health information were social media, search engines, and health websites. It was also revealed that pregnant women in Osogbo accessed online health information through their phones, personal computers and the cyber cafe. The study concluded that Nigerian women were not been left out in the adoption of online health information to improve their health status during pregnancy and recommended that stakeholders in health information should utilise online resources in reaching pregnant women with vital information.

Keywords: Health Information, Information Access, Information Sources, Online, Pregnancy

1. Introduction

Pregnancy is not only a period of physical changes but also a period in a woman's life when health-related decisions which could affect the life of a mother and her unborn fetus are taken. For pregnant women to adequately live a healthy life and ensure the safe delivery of their babies, they need to search for and acquire information necessary for healthy living. In the opinion of Lu et al. (2021), pregnancy often imposes risks on women's health. Information users are

increasingly turning to online resources (online health communities) to look for pregnancy-related information for better care management.

The twenty-first century has witnessed a remarkable evolution in information flow as evidenced by a considerable increase in Information Communication Technology usage. Agyeiku and Odei (2022) note that an individual interacts with information in the form of a newspaper or a library while seeking for facts. Information can, therefore, be derived from a variety

of sources, including books, journals, the Internet, friends/relatives, persons at the workplace or professional advisors. With numerous sources of information available, pregnant women that seek information will not lack it in the 21st century. However, despite the abundance of information sources, the well-being of pregnant women remains a major concern in the world (Mortazavi et al., 2021). It is, therefore, not surprising that the 147 heads of state met in September 2000 and collectively endorsed the Millennium Development Goals (MDGs), part of which is to reduce the child mortality rate by 2/3 and maternal mortality ratio by 3/4 between 1990 and 2015 (UNICEF, 2009).

Several studies conducted on health information-seeking behaviour among pregnant women in Nigeria (Onuoha & Amuda, 2013; Obajimi, 2019) did not emphasise the online health information-seeking behaviour of pregnant women, while past studies on online information-seeking behaviour mainly used the quantitative method (Almoajel & Almarqabi, 2016; Chen et al., 2016; Lee, 2016). As such, this study relied on qualitative data to examine pregnant women's online information seeking behaviour. To this end, the study has the objective of exploring the sources and accessibility of online health information among pregnant women in Osun State University Teaching Hospital, Nigeria. Thus, the study's objectives were to: (i) explore the sources of online health information among pregnant women in Osun State University Teaching Hospital, Osogbo and (ii) to investigate the accessibility of pregnant women to online health information.

2. Literature Review

The internet has significantly impacted peoples' daily lives. It is a support medium that lends itself to a variety of uses (Affum, 2022). Diomidous et al. (2016) assert that the internet is constantly evolving from a straightforward information publishing tool to a platform for social engagement and participation. The internet is becoming indispensable in daily life for many people, and it has changed the way people search for informational, entertainment and communication needs (Almoajel & Almarqabi, 2016). Internet-based health information is accessed from a variety of sources, including websites run by organisations, home-

pages owned by individual doctors, blogs authored by health advocates, caregivers or those pursuing self-help (Almoajel & Almarqabi, 2016).

Pregnant women typically have a variety of reasons and objectives for using the internet as a source of information, such as removing obstacles to accessing information, providing comfort or completing traditional information sources, enhancing understanding and knowledge promotion, better managing pregnancy risks, sharing information with others, social networking, and meeting their informational needs (Rezaee et al., 2022). The study by Rezaee et al (2022) establishes the association between a pregnant Iranian woman's internet health information-seeking behaviour and her pregnancy lifestyle. However, Conrad (2022) opines that pregnant women sometimes turn to the internet as a primary means of sourcing pregnancy-related information.

Ikems (2020) affirms that health communication is the dissemination of information with a focus on health using a variety of communication channels. It involves identifying and raising awareness of issues that have an impact on people's healthy behaviour. All health-related communications are distributed with the goal of informing the public and persuading them to make the necessary adjustments based on reliable information (Oxman et al., 2022). Health communication draws from development communication theories and practices, with increased emphasis on social marketing principles and behaviour analysis. It is a fundamentally purposeful effort designed to facilitate intended changes in health-related practices (Tengland, 2016).

Theoretical Framework: Attribution Theory

According to Weiner (1985), attribution theory describes how people perceive the success or failure of their own behaviour or the behaviour of others. The theory was propounded by Heider who suggests that when human beings communicate, they do so to attribute certain cause to an event, character or behaviour. Attribution is made when the action or behaviour is not predictable. This theory looks at attribution from success or failure perspective that human beings attribute for everything that happens to them. The rele-

vance of this theory to the study is that the attributions that people hold can influence their health in one of two main ways. First, by affecting their behaviour, such as attendance at a screening programme; the food they eat; whether they take prescribed medication; and secondly, more directly by affecting a physiological system, such as the immune systems. A pregnant woman's health may also be influenced by the beliefs and attribution of information sourced and accessed online. This may affect the patient's outcomes in one of two ways: first, by affecting the pregnant women's decisions about which medical procedures or treatments to use, and secondly by influencing patients' cognitions.

3. Materials and Method

An in-depth interview method was adopted to gather

data on the subject matter of this study. This is because the interview method enables the researcher to get a detailed explanation of the issue under interrogation. Thus, 12 expectant mothers that attended antenatal clinic at Osun State University Teaching Hospital, Osogbo and who were within the age range of 25 - 34 years were interviewed one-on-one for the study. Seven of these women had their first pregnancy while the remaining five were on their second pregnancy. Eleven of the 12 pregnant women were literate while only one had no formal education. The interviews were transcribed and thematic analysis was adopted in data analysis and presentation.

4. Result and Discussion

Bio data of The Interviewees

S/No	Informants	Education Background/Occupation	Age (Yrs)	No of Pregnancy
1	INFORMANT 1	HND	32	First
2	INFORMANT 2	Teacher	25	First
3	INFORMANT 3	PGD/ Teacher	28	First
4	INFORMANT 4	B.Sc/ Self Employed	29	First
5	INFORMANT 5	Degree Holder/ Teacher	34	Second
6	INFORMANT 6	Graduate/ Health Practitioner	29	Second
7	INFORMANT 7	B.Sc/ Public servant	30	Second
8	INFORMANT 8	B.Tech/ Teacher	28	First
9	INFORMANT 9	M.Sc/ Bio-Chemist	30	Second
10	INFORMANT 10	B.Sc/ Teacher	25	First
11	INFORMANT 11	B.Sc/ Self Employed	34	Second
12	INFORMANT 12	Fashion Designer	28	First

Theme 1:

Sources Of Online Health Information Among Pregnant Women in Osun State University Teaching Hospital, Osogbo

This section provides information on how the pregnant women that attended antenatal clinic in Osun State University Teaching Hospital Osogbo sourced online health information. Data from the interviews revealed that most pregnant women made use of

Facebook, Twitter, YouTube, WhatsApp, Blog, LinkedIn to source online health information. Informants 4, 7, 8 and 11 explained that they received information regarding baby development through the WhatsApp group they belonged to. Informant 4, for instance, disclosed, "I source information from Facebook and other sites channels. Also, there is a group chat I belong to. It is a group on Facebook called ASK THE GYNAECOLOGIST by Doctor Chuddy. I have not seen him but he is doing a lot for

us online. I ask him different questions concerning the state of my health and he provides adequate answers to them all". Similarly, Informant 8 explained that she was also introduced to a WhatsApp group dedicated to pregnant women and the platform gave her adequate information about her health and pregnancy.

Another social media site visited by pregnant women was YouTube. The medium is used to download videos on pregnancy-related information. Informant 1 noted, "I get much vital information from YouTube which includes best sleeping position I can adopt as my fetal develops." In addition, Informant 5 confirmed that posts on YouTube were a plus to her as she accesses much information through it. "This is my second pregnancy and I began to put on weight which did not happen during my first pregnancy. From YouTube, I got to know what caused it and how to manage the situation". Informant 9 explained that, "I got the information needed on any challenge I am passing through during my pregnancy which includes fetal growth, sexual activity during pregnancy and others."

Both Informant 8 and 12 noted that Twitter was their best source of online health information. Informant 8, in particular, stated that "from the American College of Obstetricians and Gynecologists, I got health information concerning my pregnancy." Similarly, Informant 12 explained that "through Pregnancy Pause on Twitter, I source for pregnancy-related information like the effect of taking alcohol". Moreover, some respondents confirmed that they used some pregnancy blogs to source health information. Informant 1 specified that "she got information from Alpha Mom Blogs which is a platform that provides a weekly guide on pregnancy and how to monitor the baby." Informant 7 stressed that "through evidence Based Birth Blogs, I receive up-to-date information about my expected date of delivery and other necessary things".

Most of the pregnant women attending antenatal clinic in Osun State University Teaching Hospital, Osogbo usually visit these online platforms for health information as the study has found. Informant 8 ex-

plained that she loved using the Google application. "I will just go online and also, I have this particular application on my phone that I used and it is called "MY PREGNANCY AND I". It gives me immediate attention I need". Informant 9 hinted that there is a group called "Baby Centre" to which she belonged. The information sourcing behaviour of the pregnant women as found in this study corroborates the finding by Hu and Sunder's (2010) study in the United States of America which discovered that the majority of health information seekers go online through search engines such as Google or Yahoo and used health-related websites to start the search. Earlier studies like Larsson (2009) confirmed that women are increasingly relying on the internet as a source of pregnancy-related information. Pregnant women get information online through mobile and PC apps. Other studies that confirmed that pregnant women used online sources to seek for health information were those by Declercq et al. (2008) and Lee (2016).

Though the internet is vastly being utilised by pregnant women as a source of information, it is not the entire informants that preferred the internet the most. This study found that Informant 1 and Informant 6 preferred the internet the most, Informant 10 and Informant 11 preferred medical practitioners and Informant 3 and 4 utilised both optimally. On a general note, pregnant women used online health information to complement health practitioners' advice. Informant 9 captured the above views succinctly, thus:

There are times that some doctors in charge of pregnancy have different information he or she dishes out as against that of a resident doctor. There are some things a resident doctor might not know compared to a consultant. He might not be able to answer some questions. Most times when I go online like that, I ask some questions because there are times these doctors could be harsh. Some of them are kind of very harsh but online, you are free to ask any question compared to doctors that have a fixed work time to spend with each pregnant woman.

Theme 2:**Access to Online Health Information**

This section presents data on how pregnant women attending antenatal in Osun State University Teaching Hospital Osogbo accessed online health information. All the informants interviewed agreed to the fact that they had access to online health related information. Online skill is the ability to surf the internet to access health information by pregnant women. Most of the responses indicated that pregnant women that utilised online health information had good skills in internet usage. Respondents agreed that they were good at using the internet. That is, they know about surfing the internet for information seeking and interaction. Having a good knowledge of how to surf the net can add to the drive of the women who utilise the internet for health information. Informant 2, for instance, explained that browsing was her hobby. "I know how to access any information I need online without any hitch," she remarked. Similarly, Informant 12 disclosed that since she knew what she was looking for online, she had no problem at all seeking health information about pregnancy. Also, according to Informant 5, "online skill is not a barrier to me at all, as the internet is my first and last resort for health information". In addition, Informant 9 submitted that browsing for health information had become her daily routine because she is very good at using the internet and loves it. Therefore, we can infer that the literacy level of pregnant women in the study area enabled them to know how to access the internet for pregnancy-related information.

This finding confirms those of studies like Declercq et al. (2007) which established that pregnant women in the United States utilise online health information. Therefore, pregnant women in the study area are only being compliant with the practice in other parts of the world. In today's digital and information society, technological devices such as mobile smartphones, personal computers and cyber cafes are available for women to access health information. Through these devices, pregnant women access online health information from search engines and social media platforms such

as Facebook, Twitter, WhatsApp, YouTube, MySpace, and LinkedIn. Most of the informants interviewed attested to the fact that they used their mobile phones to access online health information. Informant 4 explained that, "I use my mobile phone to source health information about my pregnancy in most cases". To Informant 8, "mostly, my phone is my best friend when surfing the internet for health information about pregnancy. According to Informant 9, there were times she made use of her personal computer to seek health-related information. Also, Facebook, Twitter and WhatsApp are gaining more acceptance and user friendly; as such, attracting new members daily. Pregnant women are not left behind as they are also part of the online social networking community. Finding in this study is in consonance to the study by Omar et al. (2022) in Saudi Arabia which found that about 69% of pregnant women have internet access at home and 75.9% have internet access on their mobile phones.

The study discovered that pregnant women go online to source information when the need arose. That is, the internet serves as the source of information as they monitored the progress of their pregnancy. They also go online for clarification on any important decision they are to take. Therefore, during pregnancy, women frequently visit the internet. For instance, Informant 10 stated that "almost every week I check online for health information about my pregnancy. I don't always have the time to check information daily due to the nature of my job." Informant 11 also corroborated, stating that she goes through a webpage on pregnancy on weekly basis. Informant 8 explained that she goes online to source pregnancy related information anytime she is less busy. Similarly, Informant 1 elucidated, "I check for health information online every day. Before I visit a doctor, I would have got prior knowledge about what the doctor will say".

This finding conforms to the discovery by Almoajel et al. (2016) in their study of Asian pregnant women's online health information-seeking behaviour which found that the internet is being utilised by women daily. Though the internet has been adjudged to be a potent instrument for health information among pregnant women (Larsson & Luo, 2013), access to the internet

is an issue, most especially in developing countries like Nigeria. Therefore, access to online health information is not limited to Western and Asian women as this study confirmed that African women have equally joined the league. This means the potency of online health information is being recognised globally. The liberalisation of internet accessibility and that of computer devices around the globe enable online health information to reach pregnant women.

In summary, the study found that the online sources of health information are social media (You Tube, Facebook, Twitter, WhatsApp, Blog etc), search engines (Google, Yahoo etc) and health websites (hospital websites, government websites, NGO's websites, doctor's websites). These online sources are being utilised for health information. Most of the informants disclosed that they made use of social media, search engines and health websites to acquire health-related information during antenatal and postnatal. Few of the informants revealed that there were few health websites which included government websites, NGO websites and doctor's websites through which they sourced information in addition to social media and search engines. A similar finding was recorded by Larsson (2009), Hu and Sunder (2010), Declercq et al. (2008) and Lee (2016) in the United States of America, Europe and Asia, respectively, that the majority of health information seekers go online through search engines like Google or Yahoo and using health-related websites to start the search. The findings of this work also corroborate the findings of Almoajel and Almarqabi (2016) who found that more than half of respondents were using Google and other research tools to find pregnancy-related health information.

Most of the pregnant women interviewed explained that they knew how to access any information needed online because browsing was increasingly becoming their hobby. The finding disclosed that the internet has become the first and last resort for health information

among pregnant women due to its easy accessibility. The responses indicated that pregnant women that utilised online health information had good skills in internet usage. Declercq et al. (2007) earlier discovered that pregnant women in the United States utilised online health information. All the pregnant women interviewed attested to the fact that they had access to online health information as supported by Larsson and Luo (2013) who stated that the majority of Chinese pregnant women have access to the internet on one or more occasions.

5. Conclusion and Recommendation

The continuous penetration of online media into public life is making health facilitators adopt online technology such as the internet, social media and mobile applications, which have proved to be effective in information spreading, in their health communication campaign (Abdaoui et al., 2015). Nigerian women have not been left out of the adoption of online health information to improve their health during pregnancy. That is, women source pregnancy-related information apart from the information they get from health practitioners online.

Based on the findings of this study, the following recommendations are made: Methodologically, few studies have been initiated using a qualitative approach. It is therefore, recommended that more studies should be initiated using this same method and covering a larger population for more qualitative results. Theoretically, explicating attribution theory in a qualitative study and on online health information-seeking behaviour among pregnant women gives the theory a new perspective. It is, therefore, recommended that more studies should be done to test the attribution theory usage of a qualitative approach. This will ensure the wide application of the theory in explaining social phenomena.

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