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COURSE: Research in Development Information Systems (**LIS 40I4).**

RESEARCH TOPIC: *Health Literacy Among University of Zambia Students: Case Study of Library and Information Science Students.*

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DECLARATION

Hereby, Fashili Kasenge, Maamba Kangukila, Kamanga Robert, Chalwe Mfula and Nyowani Oliver, declare that this report is a result of our own information obtained from the field research at the University of Zambia among library and information science students. Therefore, any other students pursuing a degree at the University of Zambia or any other University have by no means presented it. All the published work or materials from other sources that have been integrated have been precisely acknowledged and referenced therein.

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ABSTRACT

Health literacy is of great concern to everyone as it enables individuals to lead healthy lives. Health literacy enhances one's ability to make informed decisions related to what type of health care they should seek and receive, and how they can go about to effectively use information related to their health. Therefore, this study was designed to find out health literacy levels of students at the University of Zambia, particularly among students of library and information science. Areas of focus of the study were to find out the health seeking behaviors of library information science students, their ability to appraise health information and their ability to use this information. Data was collected from 100 randomly sampled or selected library and information students in their second, third and fourth year for 2017/2018 academic year. A self-administered questionnaire was used to collect this data and gave an opportunity to the students to express their views on health literacy. The results showed that most of the library and information science students at the University of Zambia are health literate. This is evident from the data obtained in the field, which indicated that the students have the ability to evaluate, interpret, understand and use health information for various purposes in their social and health lives to make sound and confident health decisions. In addition, Students evaluated their health information before using it by seeking for professional advice, reading further on health information at hand, seeking for parental guidance and acquiring advice from friends. Further, the results showed that students evaluated health information in order to follow instructions, to know relevant health information, and to timely and accurately access health information. Finally, the study recommended that the central administration at the University of Zambia should collaborate with Library and information science faculty to work towards making University authorities to see the reason to integrate the course 'Health literacy' into the school curriculum.

Key words: Health, Health literacy, Health information, Library and information science, information seeking behaviour.

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LIST OF ABBREVIATIONS AND ACRONYMS

SDGs_____ Sustainable Development Goals

UNZA_____ The University of Zambia

HISB_____ Health Information Seeking Behaviour

RH_____ Reproductive health

TOFHLA_____ Test of Functional Health Literacy in Adults

SPSS_____ Statistical Package for Social Sciences

HIV_____ Human immune virus

AIDS_____ Acquired Immune Deficiency syndrome

LIS_____ library and Information Science

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CHAPTER ONE

1.0 Introduction

Information literacy refers to the ability to know when information is needed, to be able to find and evaluate information and use the information that is found. It is a set of abilities that are used every day in the workplace, home, at University and school everywhere hence, it is the cornerstone of lifelong learning (Botham, 2008). An information-literate person has the ability to determine the extent of information needed; access the needed information effectively and efficiently; evaluate information and its sources critically; incorporate selected information into one's knowledge base; use information effectively to accomplish a specific purpose; and, understand the economic, health, legal and social issues surrounding the use of information, and to access and use information ethically and legally (Ibid, 2008).

Information literacy determines health literacy (Kerka, 2000). Health literacy according to Ratzan and Parker (2000) is the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions. In addition, with health information literacy the emphasis is on an individual's abilities to make decision on health matters, whereas information literacy includes the ability to use the information in a proper way, both ethically and legally. Rudd (2003) admitted that, an individual's health literacy capacity is mediated by education, and its adequacy is affected by culture, language, and the characteristics of health-related settings. Health information can be accessed from universities, the media, hospitals, marketplaces, government agencies, as well as those individuals and materials a person interacts with regarding health, all must be able to provide basic health information in an appropriate manner.

Health literacy is of concern to everyone involved in health promotion and protection, disease prevention and early screening, health care and maintenance, and policymaking. Health literacy skills are important as they are needed for dialogue and discussion, reading health information, interpreting charts, making decisions about participating in research studies, using medical tools for personal or familial health care such as a peak flow meter or thermometer, calculating timing or dosage of medicine, or voting on health or environmental issues (Zarcadoolas, 2005).

A comprehensive understanding of health literacy is essential to understand the full range of needs of the members of the community in order to provide accessible and equitable services to all. In addition, having an understanding of the health literacy needs of individuals and communities provides the opportunity to develop interventions to improve health outcomes and reduces inequalities (Reitz, 2004).

One of the keys to improving health globally is to meet the Sustainable Development Goals (SDGs). The world health organization has positioned health literacy as a key mechanism to meet SDGs mainly on the third goal (3) that emphasizes on health and promotional well-being of all ages. Health literacy is a pivotal determinant of understanding, accessing, and using health information and health services, it is important the health literacy needs of the people be addressed. Sustainable Development Goals (SDGs) number three (3) addresses maternal health, neonatal and child health, AIDS, tuberculosis, malaria, and includes universal access to sexual and reproductive health services including family planning, towards achieving the SDGs 2030 (WHO, 2015).

Health literacy has been linked to health outcomes across population groups around the world and Zambia is not exceptional. Zambia is making a progress towards the third (3) goal of Sustainable Development Goals (SDGs) by the formulation of Zambia National Health Policy. The policy outlines a set of clear directions for the development of the Health Sector in Zambia. This policy is anchored in the Vision 2030 and shall be implemented through successive National Development Plans and National Health Strategic Plans. It sets out policy measures that shall guide strategies and programmes in the health sector. The policy also takes into consideration various Regional and International Instruments, Protocols and Commitments that will ensure that Zambia's health programmes are integrated with the regional and global health system (G.R.Z, 2012). Thus, this research sought to assess the health literacy levels among Library and Information Science students (LIS), a case study of the University of Zambia.

1.2 Background of the study

The University of Zambia (UNZA) is the oldest and the largest university in Zambia (University of Zambia, 1984). An Act of Parliament No. 66 of 1965 established it, and its first intake of students took place on 17th March 1966. The University is currently comprised of the following schools: Agriculture sciences, Education, Engineering, Humanities and social sciences, Law, Medicine, Mines, Natural Sciences, Graduate school of Business and Veterinary Medicine. The

mission of the University of Zambia is Service and Excellence that has guided the development of the University since its inception to be responsive to the real needs of the country and it is an institution, which merits respect and recognition throughout the academic world (Kelly, 1999). It also provides the education and science as part of response to national needs. The key objectives of the university are to teach, undertake appropriate research and to render services to the public. Its activities include giving instructions, research and extension programs.

Furthermore, at the heart of the University of Zambia are three different libraries located in different locations, namely, UNZA main library, School of Veterinary Medicine Library and the School of Medicine Library. The libraries provide the core business of the university through availing their services to the user community; the libraries are committed to supporting the teaching, research and outreach efforts of the university and to serving the community through its collection, preservation efforts and access to information in all of its various formats.

Better still to mention, The University strives to merit respect of the academic world both through the intrinsic excellence of its courses and through the evident quality and subsequent performance of its graduates, the university has over 150 degree and postgraduate programs. Among the programs offered is library and information science, which promotes information literacy across different sectors such as health, education and other aspects of life. Being students of library and information science, it is expected that these students should be health literate or at least better suited to handle health information issues.

1.3 Statement of the problem

Health literacy is of importance to everyone, all need to know how and where to find information about health, how to evaluate and use this information in everyday life to make good health decisions and utilize the health services available. Low health literacy has a negative impact on people's health status and their use of the health care systems. Individuals with low health levels cannot make informed decisions regarding their health choices and health maintenance behaviours. To support the above assertion, Rudd (2003) admitted that, regardless of their background and education, many people find it difficult to navigate healthcare systems and often cannot understand the information provided to them by healthcare providers and organisations. This inability to understand information makes it difficult for them to effectively manage their healthcare needs. This problem further exacerbates when healthcare providers, including medical trainees and

nursing students, lack the knowledge and skills to address the needs of patients with low health literacy. It is suggested that a lack of medical and nursing student training about health literacy contributes to this gap in knowledge and skills, as well as in inability to provide high-quality patient-centered care because of poor communication skills. Rudd observed that, people with low health literacy, typically engage in unhealthy lifestyle behaviours, and often include those who are less educated, poorer, older and ethnically diverse. Consequently, health literacy has become more commonplace in the curriculum of health professionals, in the hope that a better understanding of health literacy will enhance doctor-patient communications and help to improve health outcomes.

It is for this reason that, Library and Information Science students (LIS) have a component of information literacy in their curriculum, because the knowledge and skill acquired through their training should help them obtain process and evaluate information in general to solve individual and societal problems. Therefore, LIS students are better expected to be able to seek, access, evaluate and utilize health information to solve their different health problems. However, it is not clear how LIS students deal with health or how health literate they may be. It is therefore, for this reason this research sought to find out health literacy among LIS students.

1.4 Research objectives

GENERAL OBJECTIVE

To investigate health literacy among library and information science students.

SPECIFIC OBJECTIVES

To find out the health information seeking behaviour of LIS students.

To determine students ability to appraise the health information

To determine students ability to use health information

1.5 Research questions

What is the health information seeking behavior of LIS students?

Are students able to appraise health information that they access?

How do students use health information?

1.6 Significance of the study

Economic productivity is a function of a healthy citizenry that has been the determination of the Government to transform Zambia into a nation of healthy and productive people as part of Zambia's Vision 2030. However, that will only be achieved by strengthening public health programmes such as health education promotion and school health promotion that will lead to enhanced health literacy levels among citizens. Therefore, health literacy is crucial to the prevention of epidemics, improving women's and children's health and controlling major infectious diseases thereby significantly speaking into the national policy (Ministry of National Development Planning, 2017).

It is observed that, Goal number three (3) in the Sustainable Development Goals (SDGS) similarly places emphasis on good health that would part of Zambia vision 2030. The goal is to ensure healthy lives and promoting well-being for all at all ages. It further states the end of the epidemics of AIDS, Tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases. This includes ensuring universal access to sexual and reproductive health care services including family planning, information, education, and integration of reproductive health into national strategies and programmes (United Nations, 2015).

To achieve the above, the research findings were anticipated to contribute to education and information literacy, which are the major determinants of health and development. In that case, education and information literacy would equip students and ordinary people with knowledge and skills for problem solving, ability to access and understand information on health and that will help to provide a sense of control over life circumstances. It has been observed that, education increases opportunities for job and income security and ultimately household wealth status all of which have direct impact on the health and well-being of individuals. Low education and literacy levels is linked with poor health, more stress, low income and lower self-confidence.

Therefore, in nutshell, the information brought out in this study would be useful by both the University Administration and the National Governance body especially Ministry of Health and Education, and other concerned stakeholders in addressing problems of health literacy among students, thereby curtailing the adverse effects of low health literacy with minimum effort and less

expense. The research would be the source of reference for other researchers who intend to study health literacy among students at the University of Zambia and elsewhere in a related field.

1.7 Ethical issues/considerations

When a research of this nature was being carried out, there were ethical issues that were taken into consideration. Higham (1980) noted that, ethical issues are moral values and beliefs of which society upheld in life to ensure right from wrong. Therefore, researchers adhered to the ethical principles. Researchers informed participants in advance on what the research would be all about and what it involved so that they would decide whether to consider participation in the research or not. In addition, the information collected from the people was purely used for research purposes and that anonymity was created to guarantee confidentiality. Furthermore, researchers ensured that research methodology adopted caused no harm to the participants in any way such as invasion of privacy, harassment, anxiety and discomfort.

1.7 Definitions of key terms

Literacy: The quality or the state of being literate especially, the ability to read and write (stein, 1966)

Health literacy: Wide range of skills and competencies that people develop to seek out, comprehend, evaluate, and use health information and concepts to make informed choices, reduce health risks, and increase quality of life (Zarcadoolas, 2005).

Information: Encapsulated knowledge that takes different formats packaging, transfer media, and varied methods of delivery (Rudd, 2003).

Health information: Information that is related to a person's medical history, including symptoms, treatment, diagnoses, procedures and outcomes (Bruce, 2003).

Library and information science: An interdisciplinary or multidisciplinary devoted to applying theory and technology to the creation, selection, organisation, management, presentation, dissemination, and utilization of collections of information in all formats (Reitz, 2004).

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Overview

This chapter presented the literature reviewed for the study. The aim of conducting a literature review was to get background information related to the topic under discussion and gain knowledge on how researchers conducted similar studies in the past. Literature enabled the researchers to gain knowledge in the field of user studies using citation analysis. Citation analysis implies the examination or studies that contain vocabulary, theories, key variables and methodologies applied by the experts prior to research (Lampe, 2008). Therefore, the literature reviewed was guided by the following themes, health information seeking behaviour of students, student's ability to appraise health information and student's ability to use health information.

2.2 Health Information Seeking Behavior.

Information Seeking

Ikoja-Odongo and Ocholla (2004) described information seeking as a process that requires an information seeker or what might be called personal information structures such as a person's cognitive abilities, his or her knowledge, skills in relation to the problem or task domain, knowledge and skills specific to a system, and knowledge and skills regarding information seeking. Wright and Guy (1997) specified that Information should be taken to identify a message that satisfies a perceived need. This activity may be actively or passively done when taking steps to satisfy a felt need.

Similarly, Andersen (2000) noted that, information-seeking strategies could be examined in terms of Sources and Methods. Sources refer to the locations such as in the library, which keep information in different formats such as paper based, and other electronic based and hospitals such as electronic medical records and reports, while Method refers to the manner of the information is being sought such as the use of catalogues. Furthermore, Andersen observed that, information might be recalled from the seeker's own memory, gathered informally from friends or colleagues, or from personal formal sources of information such as books, journals and files. The seeker may also conduct a planned investigation to identify the sought information in libraries, via electronic networks or by using a variety of information services.

Information seeking behaviour

According to Mellon (1986), information-seeking behaviour includes those activities a person may engage in when "identifying their own needs for information, searching for such information in any way, and using or transferring that information". To carry out their day-to-day activities, humans need information to enable them make decisions regarding their lives, business/career, family, health, and the generality of life's actions. This means that humans must get information in one way or the other. Since people are different, they seek for information in diverse ways and this is what has prompted researchers over the years to carry out researches on the different ways individuals and groups exhibit information seeking behaviours.

Many researchers have also defined information-seeking behaviour in different ways. Faire-Wessels (1990), defined information-seeking behaviour as any activity of an individual that is undertaken to "identify a message that satisfies a perceived need". To Lampe (2008), information-seeking behaviour is the way in which users conduct themselves when searching for information. The emphasis has shifted from user studies to evaluate library collection to studies of the information-seeking behaviour of individuals or groups that would lead to the design of appropriate information systems and services (Ibid, 2008).

A number of studies have been conducted on information seeking behaviour among various groups of people of which some include the following. Ajigboye and Tella (2007) investigated the information-seeking behaviour of undergraduates at Ladoke Akintola University of Technology (LAUTECH) Ogbomoso, Nigeria discovered that 64.1% of students sought information for academic development while the least number 9.3% sought information to secure employment, 12% of the students sought information for personal development while 11.25% claimed that they sought information on health issues.

Conclusion and recommendations were made that information should be made available in libraries and other sources in all formats such as electronic, print media and audio-visual so as to increase and improve its stock to meet the demands of the students ranging from social, economic and other health related issues. In addition, to provide working internet connectivity to enhance ease of electronic search, databases, and train its staff in interpersonal relations to improve staff-user relations.

Similarly, Ajay (2013) investigated the Information-Seeking behaviour of students of Ajayi Crowther University, a private university in South Western Nigeria. The survey research method was used and questionnaire administered to five hundred (500) students randomly selected from the three (3) faculties in the university. The data gathered from the questionnaire was analysed using the frequency count and simple percentage. It was discovered that majority of the students (66%) sought information for academic purposes and the library (62.8%) was their preferred place of searching and using information resources. Also, that their course of study (47.6) influenced the format (55.4%) they want information in. Majority of the respondents (53.2%) also expressed satisfaction with the library for being able to meet their information needs.

The study concluded that information-seeking behaviour of students may be influenced by a wide variety of needs which may be personal, professional, academic, leisure and/or recreational. This study also showed that the importance of information to educational advancement could not be overemphasized. Also, that the successful operation of a library depends to a large extent on the choice of library collections, availability of modern ICT facilities and possession of good interpersonal communication skills by the staff of the library.

Health information seeking

In considering the practice of health information seeking, scholar's document nuances of the search process itself. Health information seeking is more than merely engagement in a search for information, but involves complexities such as characteristics of the information seeker, the environment, context, current events, and the search process (Lampe, 2008). Health information seeking is a directed purposeful activity that is different from health information retrieval, because retrieval implies that the information has previously been stored, and Searching is the behavioral manifestation of health information seeking. Zarcadoolas noted that, health information Seeking behaviours consider factors such as channels utilized for an information search for example a physician, searching the internet for health information, content of information sought, credibility of information of obtained, self-efficacy, to engage in the search process, or characteristics of the search process for instance, time spent searching for information and the number of sources consulted.

Furthermore, Health Information Seeking Behaviour (HISB) is broadly viewed as the way by which individuals obtain information about health, illness, health promotion and risks to health (Lambert and Loiselle, 2007). Health information seeking behaviour is becoming increasingly central to how individuals cope with health threatening situations. Clark (2005) noticed that health Information seeking behaviour is suggested to enhance coping with health threatening conditions by helping individuals understand the health threat and the associated challenges that it brings. When the right health information is found by those seeking it, it is typically referred to as a problem coping strategy and implies that individuals will be more informed and focus their attention on the threatening health situation.

In addition, it is observed that, health information seeking behaviours are influenced by the fact that when the right health information is found, it plays an emotional function, in that the health information reduces, negative reactions linked to uncertainty for example anxiety and provides reassurance. Overall, information-seeking efforts serve to manage or alter the relationship between an individual and the source of stress, potentially contributing to positive health outcomes and psychosocial adjustment (Shiloh, 1999). Molen (1999) admitted that peoples' information seeking behaviours are largely influenced by the fact that health information plays a significant factor in the extent to which individuals decide to engage in healthy lifestyles and/or preventive behaviours.

To this effect, Loiselle and Delvigine-Jean (1998) observed that, although information alone does not guarantee healthy behaviours, acquiring adequate information might motivate individuals to make positive changes in their health practices. Individuals' specific health seeking behaviour's might influence the scope and nature of the information on which judgements, beliefs, and attitudes toward the health behaviour are based, the number of alternative courses of action known to individuals, and knowledge about the pros and cons of different actions (risk perception) and resources available to carry out the different behaviours.

Therefore, individuals seeking behaviours are largely influenced by health preferences that involve medical decision-making, this range from wanting to be able to understand health care professionals' decisions about care, to wanting the individual's views to be heard and considered when making the final health decision. Health information seeking behaviour is conceptualized as a means of obtaining the type and amount of information needed to participate in medical decision-making (Ibid, 1998).

A number of user studies have been conducted on the global in relation to health information seeking behaviour and the following were identified. A study by Brown (1999) investigated the health information-seeking behaviour of medical students at Ladoke Akintola University of Technology Ogbomoso, Nigeria and discovered that students who prefer an active or collaborative role when making decisions with health professionals are also more active in their search for health-related information. Therefore, Brown conclude that, seeking health information contributes to participation in medical decision making by helping students identify possible options, weigh and evaluate the different options, reduce uncertainty and doubt about alternatives, and decide whether a particular option is appropriate for them or not.

Similarly, a study by Rains (2007) in the USA on health information seeking behaviour alluded that even though 86% of the US population are connected online, studies have found that there are still many people who prefer to use traditional media such as library, books, brochure, magazines or healthcare professionals as their primary source of health information. Trust, confidence in information source, and access are some of the main factors highlighted as motivators for preferring one source of information to the other. The Study further indicated that many of those who used the other health information sources such as traditional media and health care professional also turn to the internet as an alternative information source in order to gain a perspective different from what they read or heard from a traditional media source, from what they heard from a healthcare practitioner, or from an unsatisfactory doctor-patient interaction. The Internet was the number one choice for finding health information other than the library.

Therefore, the author concluded that although people use libraries to find information, they use the internet more, as libraries were at least third on the list of places users looked for most of the information they required about their health. The main advantages and attractions for health information seeking online were found to include access, anonymity, potential for interactivity, and social support. The author added that internet is a practical and cost efficient too for health information source and by the virtue of its ubiquity, it provided individuals, families, and caregivers access to information that otherwise might be inaccessible.

Furthermore, Bakar (2011) surveyed health information seeking behaviours of rural women in Malaysia. A sample of 80 housewives was selected and each was given questionnaires to fill in. Housewives in this study were all married. The purpose of this study was to identify the women's

health information needs, determine the information sources used by rural women in a village of the District of Gombak, in the State of Selangor, to determine their information seeking behaviours and identify any access barriers to those sources of information. Barkar observed that, accessing relevant and comprehensive information is difficult because of the complexity in searching literature from various information resources especially from digital resources. New challenges surface for the library users in understanding, evaluating and retrieving information from various information resources.

The author concluded that, the women depend mostly on mass media such as newspapers, magazines, television and radio for information on health. It is most likely that they choose the popular magazines, which have some sections on health information. At least 10 percent recorded the use of Internet for accessing health information and most of the housewives use the relevant websites or homepages to get the needed information.

Above all, a study conducted in Iran by Wilson (2000) assessed the process of seeking health information on women's health information needs, the search strategies they employed for filling the information need, and the use of the health information found, and their awareness of specific health and medical information resources. A convenience sample was taken of 300 women. 53% of the surveys were distributed in person and 47% by mail in the following. Public libraries, senior centers, churches. Survey results indicated that women are indeed active seekers and respondents generally did make use of the information they located to improve their health behaviours. The fact that the respondents were highly educated and that most visit a public library on a regular basis adds concern to the finding that a high percentage uses a general search engine for their health information. However, their study demonstrated the high use of family and friends as a health information seeking method.

The author concluded that, seeking behaviours consider factors such as channels utilized for an information search such as internet, friends, content of information sought, credibility of information obtained, self-efficacy to engage in the search process, or characteristics of the search process hence, when right health information is found, it plays an emotional function; in that the health information reduces, negative reactions linked to uncertainty for example anxiety and provides reassurance.

However, Balasubramanian etal (2014) alluded that, the students preferred internet for accessing information. The investigator noted that the post graduate students had less awareness of the electronic information resources available in the library. Chandrakumar (2009) observed that the search strategies like Boolean operators or phrase searching were rarely used by the researchers. Conversely, Kaur and Verma (2008) observed that the researchers who were aware about the electronic information resources made the best use of them and utilized for their seminars and project work.

Therefore, in relation to the challenges of information seeking behaviour, Nwobasi et al (2013) identified several challenges such as poor internet facilities, inadequate of the materials, lack of current and relevant materials and unfriendly attitude of the library staff. These posed great challenges to information seeking behaviour of the students of the two universities. Therefore, Tiefel (1995) recommended that, students needed to become independent learners and to achieve this, user education had to play a major role. The study suggested that "users should receive guidance on which resources are best for their needs, and basic instruction on search technique, and should feel assured that the system is not difficult and is evolving toward a more efficient, effective, and easy-to-use system. Similarly, Natarajan (2010) pointed out that, in any networked environment, access to relevant and reliable information is always a challenge resulting into low usage of e-resources due to slow downloading, and lack of time or the lack of awareness of users. This study also recommended publicity and training for accessing e-resources for better utilization

2.3 Students Ability to Appraise Health Information

Appraising information has become a major aspect of information literacy (Herbst, 2012). To appraise means to assess, evaluate, gauge and determine if information is feasible for use. It is about determining the source of information and weighing how the provided guidelines are dependent upon. Information should be chosen suitably using appropriate criteria as well as assessing the credibility, accuracy, relevance of the data gathered through critical readability processes. The readability process or strategy determines greater comprehension, authenticity, validity, and reliability of health information for students, home based individuals and all Medical practitioners to make health decisions.

Readability formulas offer one indication of the accessibility of informed-consent documents however, as Mariner and McArdle (1985) noted that, such measurements do not tell us about patient comprehension, familiarity with medical terms, or previous experience with similar forms. Sutton-Smith, and March (1980) examined comprehension and recall of informed-consent documents and report that one day after signing a consent form, only 60 percent of cancer patients understood the purpose of the consent process and only 55 percent could correctly name one major risk of the procedure. The authors attributed the limited recall to three major factor namely, educational attainment, medical status, and the degree of care patients said that they took while reading the form. Clearly, consent documents and the consenting process must be more closely examined.

To support the above assertion, Powers (1988) reported that, both readability and comprehension assessments of these documents, most of them deemed inappropriate. Williams and colleagues (1996) analyzed the readability of emergency department discharge instructions with the Flesch and determined that about 45 percent of patients would not be able to comprehend the instructions. Jolly and colleagues (1993) found that a significant proportion of emergency room patients were not able to answer questions about their discharge instructions, which were scored between reading levels of grades 6 to 13. A follow-up study noted that patients' ability to answer comprehension questions improved when the discharge instructions were simplified (Jolly, Scott and Sanford, 1995).

A number of similar research studies on the ability to appraise or assess health information globally have conducted and some are highlighted below. A study by Weiss, Hart, McGee, and D'Estelle (1992) on the assessment of the relationship between literacy and health status in a randomly selected sample of English-speaking adults enrolled in a publicly funded literacy-training program in Arizona. They found that the physical health of subjects with extremely low reading levels was poor compared with that of subjects with higher reading levels (reading levels were assessed through tests of adult basic education). Even after adjusting for confounding sociodemographic characteristics, the relationship between reading level and physical health remained. The study also found a relationship between reading level and its measure of psychosocial health, indicating that low literacy is also associated with poorer psychosocial health.

Based on their findings, the authors concluded that patients with inadequate functional health literacy had an increased risk of hospital admission.

In addition, a study by Davis and colleagues (1996) similarly assessed relationship between health literacy levels and knowledge of and attitudes toward screening mammography with a convenience sample of low-income women from two outpatient clinics in Louisiana. Low-income women are less likely to make use of screening mammography and more likely to be diagnosed with breast cancer at later stages of the disease. Since low-income women also have disproportionately lower literacy skills than women with higher incomes, it is possible that in this case health literacy level was linked to knowledge of mammography (which would include knowledge of why women are given mammograms) and the decision to undergo breast cancer screening. The study administered the REALM to 445 women forty years of age or older who had not had a mammography in the past year.

The results indicated lower reading ability was significantly correlated with less mammography knowledge. Hence, women were at high risk to breast cancer, as they could not have adequate understanding to early detection of tumors, especially cancerous ones. Therefore, the authors conclude that limited literacy skills and lack of knowledge about screening mammography may have contributed considerably to the underutilization of mammography by low-income women.

Furthermore, Wallerstein (1992) conducted another study on 131 African American patients with non-insulin-dependent diabetes in Georgia that was designed to assess actual and self-reported functional health literacy (Nurss et al., 1997). The functional health literacy level was scored as adequate in 47 percent of new patients at one hospital diabetes clinic and in 25 percent of established patients at three other clinics (a general medicine clinic and two satellite medical clinics). Of those with inadequate health literacy, 43 percent denied having any difficulty in reading. More than half (53.8 percent) of those with inadequate functional health literacy said they did not usually ask anyone to help them read medical forms, and only 29 percent reported asking someone to help them read the written materials given to them by the hospital.

The authors concluded that patients with low health information are least likely to ask their physician for help, confirming reports from earlier studies indicating that low-literacy patients are unlikely to identify themselves as such. Cooley and colleagues (1995) similarly, concluded that

the reading levels of 27 percent of cancer outpatients in one study were well below that of any of the thirty cancer patients analyzed and this affected their ability to appraise health information.

2.4 Students Ability to Use Health Information

Health information is the information that is related to a person's medical history, including symptoms, treatment, diagnoses, procedures and outcomes. The health outcomes determine how information is accessed and utilized either at individual, societal or national level for it to achieve its intended and specific purpose (Bruce, 2003). Blunch (2004) admits, "The ability to access, evaluate and organize health information is important at individual level but the ability to use health information is very crucial, in order to learn to solve a problem and make decisions in both formal and informal learning contexts, at work, at home and in educational settings." The emphasis of health information always lies in the usage of information from a variety of sources and the library has a rich collection of print as well as electronic information resources comprising print books, current print journals, back volumes of journals, CDs and DVDs, theses, online journals, e-books, online and Electronic Base Management (EBM) resources of various publishers and aggregators.

The effectiveness of information use represents the capability of using information optimally in problem solving and/or critical thinking, while the ethical use of information entails using information in a way that does not affect other people's rights. The 'ability to create and communicate knowledge' is the ultimate product of health information since it enables knowledge creation. Eisenberg and Berkowitz (1990) in the Big6 step process provides support in the activities required to solve information-based problems. The big6 process is a process model of how people of all ages solve an information problem by following the suggested 6 steps namely, information problem definition, information seeking strategies, location and access, the use of information, synthesis and last step is evaluation of information problem. The notable two steps of location and access and use of information comprised of traditional bibliographic skills that help individual students to find resources such as books, magazines, reference materials, and Web sites, but also find the information within each source using tables of contents, indexes, and other resource-specific tools. The idea is for students to make a decision, create a product, or formulate an answer. Therefore, students are expected to answer the specific question they created when initially engaging in the problem-solving process (Eisenberg, 1990).

Information problem solving is a concept that combines the skills needed to access and use information, and those needed to apply and solve an information problem (American Association of School Librarians 1998; Eisenberg and Berkowitz 1990). In other words, whenever a student encounters a problem that requires information in order to be solved, he/she is encountering an information-based problem, also termed an information problem. Several researchers have examined behaviours and skills associated with information use (Perzylo and Oliver 1992). Dyson (1978) argued that students need to learn how to use health information effectively and independently. First, Students need to acquire skills, fundamental ideas and concepts, and a broad range of knowledge through the searching process of health information and this determine how they use that information. Students need training to become critical thinkers, seekers and users of health information in order to make sound health choices. Wallerstein (1992) agrees that generally, health decisions are critical as they involve seeking medical care and treatment, adopting healthy or unhealthy lifestyles, and managing one's overall state of health and physical wellbeing. The use of Health information is cardinal in our daily lives, it determines the efficiency in which the public seek care and receive treatment. Barriers to healthcare can be attributed to poor communication, inadequate information, and instructions that are not understandable.

A number of numerous studies have been conducted in the world that bear witness to the above assumption in relation to the ability of students use of health information. The study carried out in Zambia by Makonni (2009) at the University of Zambia Clinic to investigate the effectiveness of information provision on the reproductive health (RH) for Third (3) year LIS students. The interest in the research arose because challenges in accessibility, availability and usability of information of RH, and awareness of RH services as well as disseminating of the RH information to students for preventive care is not effective and adequate. The result revealed that majority of the students knew that UNZA clinic offered RH information services and the consequences of not acquiring this information. It is likely that students who had access to reproductive health information were able to make heath decisions related to their sexual metabolism, abortions and relationships.

The research concluded that, students with limited usage of reproductive health information had high chances of attracting STIs and it was assumed that, this affected their attendance of classes and education process. The accessibility and usage of RH information would improve thereby

rectifying the problem of poorly spacing of children, abortions and the spread of STIs that can affect the student populace.

In addition, Baker and associates' (1998) prospective cohort study of 958 English-speaking patients presenting for nonurgent care at an Atlanta emergency care center and walk-in clinic examined the literacy level of patients (using the TOFHLA) and its relationship to hospital admissions. The results of the literacy testing itself are noteworthy, 35 percent of the sample population had inadequate literacy, and an additional 13 percent had marginal functional health literacy as measured by the TOFHLA. Almost half of the population studied were unable or had limited abilities to interpret appointment slips, directions for medication, or hospital documents. Baker and colleagues found that patients with inadequate literacy were twice as likely as were patients with adequate literacy to be hospitalized during 1994–1995. After adjusting for age, gender, race, self-reported health, socioeconomic status, and health insurance status, the researchers found that the relationship between low literacy level and higher rates of admission remained at a level reaching statistical significance.

 Based on their findings, the authors concluded that patients with inadequate functional health literacy had an increased risk of hospital admission. The findings also confirmed that, 13% patients were able to demonstrate heath information competence and the ability to use it for many purposes," including the demonstration of competent, ethical, and responsible use of information at personal and society level and were able to identify, access, retrieve, and apply relevant content while 35% had a challenge in reading and interpreting health instructions given.

Above all, Fidzani (1998) conducted another survey to investigate the capabilities of graduate students to effectively use health resources and services available to them at university of Botswana health centre. It was observed that, most students who were good at the use of the library and health centre were able to care for themselves at home and at the university against STDs and other related health diseases. To support the above assertion, Schillinger (2009) reinforced that, students who adequately access and use health resources and services available to them increases the ability to effectively retain and utilize the information given to them about their condition or health maintenance that contributes to the ability to care for oneself at home and prevent complications and subsequent hospital admissions.

Therefore, the author concluded that, though the study established the ability of the graduate students to use health information in order to take care of themselves in the society, the study did not attempt to find out whether or not there was any relationship between students' ability to use health information and their health literacy levels.

Zond (1992) similarly confirmed that students with a limited use of health information were more likely to have problems following verbal or written medical advice and medication instructions or understanding health-related materials. In addition, it was observed that students were able to acquire health insurance and become more knowledgeable of specific health issues and health services in their communities, and health professionals were able to become more culturally and linguistically attuned to the needs of patients.

2.5 Summary

To conclude on literature review, there was not a lot of refereed published material on the subject of health literacy among library and information science students. Research studies on health literacy among students in general is still scanty as little research known has been undertaken to investigate health literacy among students in institutions of higher learning. This study therefore bridged the gap by investigating health literacy skills among university of Zambia students, specifically those perusing library and information science. This study therefore investigated how students accessed, appraised, analyzed and used health information to satisfy their health needs. The ability to access, evaluate and organize health information is important at individual level and the ability to use health information is very essential in order learn, solve a problem and make decisions in both formal and informal learning contexts, at work, at home and in educational settings.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Overview

This chapter covered the following areas, research design, population of the study, sampling methods and procedures, administration of the questionnaires, research instruments and data collection and data analysis.

3.2 Research Design

A research design was used to structure the research, and show how all of the major parts of the research project worked together to address the central research questions. Burns and Grove (2003:195) define a research design as "a blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings." The study design for this research is a case study and will be exploratory in nature. A case study method selects a small geographical area or a very limited number of individuals as the subjects of study, therefore this approach was appropriate for this research as it was enable the researchers to explore and investigate contemporary real-life phenomenon through detailed contextual analysis of both qualitative and quantitative information within a specific context.

Furthermore, Zainal (2007) observed that, research design is also exploratory in nature, explorative studies are undertaken when a new area is being investigated or when little is known about an area of interest, it is used where the researcher has an idea or has observed something and seeks to understand more about it, exploratory research also attempts to lay the ground work that will lead to future studies. Therefore, this approach was ideal for this research where not much was known about the phenomenon under investigation, it was thus chosen in order to bring to the fore information about health literacy among University of Zambia students of library and information science owing to the fact these students are perusing an informational program and hence were expected to be information literate. In this way, findings from the research would laid a groundwork for subsequent researches in this field.

In addition, the study will also employ both quantitative and qualitative research approaches. Burns and Grove (2003:19) describe a qualitative approach as "a systematic subjective approach used to

describe life experiences and situations to give them meaning, hence this approach is used by researchers to explore the behaviour, perspectives, experiences and feelings of people and emphasizes the understanding of these elements. The rationale for using a qualitative approach in this research was to explore and describe the views of library and information students on their health literacy. Hence, a qualitative approach was appropriate to capture their views on health literacy and this was make it possible to draw conclusions based on the respondents' perspectives and understanding.

On the other hand, Quantitative method involved numerical measurements. Weiss (1998) adds that the quantitative approach has the benefit of allowing the researcher to make conclusions with a known level of confidence, it permits making of exact statements. Therefore, the quantitative aspect of this study was to give an exposition of statistically meaningful data of how library information science searched, appraised and used health information.

Thus, the rationale for combining both qualitative and quantitative approaches was based on the researcher's recognition of the fact that when either of the approaches were used in exclusion of the other, it would have grave limitations and biases, hence combination of both approaches was to give access to not only the numerical information, for instance what sort of strategies were used to seek health information, but also the reason for the use of those strategies.

3.3 Study Population

A population is the total number of units from which data can be collected, such as individuals, artefacts, events or organizations. Burns and Grove (2003:213) describe a population as all the elements that meet the criteria for inclusion in a study. This means those who are to make up the total population have to be eligible and meet some form of characteristics to be part of the target population.

The total population for this research was 420 students of library and information science, and criteria for inclusion in this study was be:

- Registered library and information science students at the University of Zambia.
- Only second, third and fourth year students of library and information science will participate in the study.

3.4 Sample Size and Sampling Procedure

A sample is a set of people selected from a larger population for the purpose of a study (Kombo and Tromp 2006). A sample size of 100 library and information science students in their second, third and fourth year was drawn out of the total population of 420 in the department of library and information science, School of education at the University of Zambia, Great East Road campus for the 2017/2018 academic year. This figure-was large enough and representative of the whole library and information science students.

For this study, researchers used the both purposive and simple random techniques in sampling the students. Purposive sampling technique is the type of sampling that allows researcher choose participants considered knowledgeable about the study topic based on the judgement of the researcher due to characteristics they possess. Therefore, researchers knowing that LIS students have specific characteristics that make them fit in the research topic because they are assumed to have adequate knowledge and understanding about the research topic chose purposive sampling. In addition, Simple random sampling, which is a probability sampling method, was be used to draw up participants for this study. In this technique, each member of the population has an equal chance of being selected as a subject. The researchers were assured that, with purposive and simple random technique, the findings would be representative and reasonable to generalize the results obtained from the sample to the entire population.

Therefore, 2nd, 3rd and 4th year LIS students were visited in their various classes on scheduled times by the help of class timetables obtained from their class representatives. 1st year students were not included on the sample based on the researchers' assumption that they had little knowledge about the research topic. Therefore, researchers followed a criterion of being logic and systematic. They first randomly sampled 30 2nd year LIS students during Class. In the similar manner, 19 3rd LIS students were randomly sampled, it was noted that, 3rd year students were a few. Lastly, 51 4th year LIS students were sampled or selected. The variations in sampling were based on the researchers, assuming that, 2nd and 3rd year students had basic understanding about the research topic while 4th year students had greater understanding about the research topic.

3.5 Research instruments and Data collection

Data collection is a process of gathering and measuring information on targeted variables in an established systematic fashion that then enables one to answer relevant questions and evaluate the outcome (Creswell 2003). Primary data was collected by the use of self-administered questionnaire, while secondary data was collected from print and online documents. A self-administered questionnaire is a technique of data collection in which each person is asked to answer the same set of questions in a predetermined manner (Okki and Asiru, 2011). Self-administered questionnaires were used to collect primary data such as opinions, attitudes and perceptions of LIS students as a means of assessing Health literacy among them. The questionnaire contained both close and open-ended questions designed.

The researchers found the self-administered questionnaire as a suitable instrument of data collection for this study for the following reasons. Close-ended questions, whereby a respondent is asked and required to answer by choosing between numbers of alternatives, are easy to complete and to analyze. They provide a range of answers and thus reduce the chances of the respondents overlooking vital information and they reduce the possibility of obtaining ambiguous answers. Furthermore, close-ended questions help obtain straightforward, uncomplicated information. They also provide anonymity. Since the questions are presented in a consistent format and style, there is little scope for bias to be introduced. The self-administered questionnaire is also impersonal and avoids problems of the respondent being influenced by the presence of the researcher. The questions are completed at the respondent's own time and pace. Moreover, the method is relatively cheap and it facilitates easy access to data. Above all, questionnaires are flexible and can be used to gather information from a large number of people in the shortest possible time (Creswell 2003).

On the other hand, an open-ended question was given at the end of each questionnaire to allow respondents to formulate and record answers in their own words (Ibid, 2003). This also allowed respondents to include any vital information that might have been overlooked in the close-ended questions. Therefore, the self-administered questionnaire was used because the targeted population comprise of University of Zambia Library and Information Science students were considered literate; therefore, they were capable of understanding and completing questions on their own.

3.6 Data Analysis

Data analysis involves unlocking the information hidden in the raw data and transferring it into something useful and meaningful (Monette, 2011). The process of data analysis provides an opportunity to the researcher to make sense of the data after collecting it from the respondents and to learn whether the researcher's ideas are confirmed or refuted from empirical evidence. Data may be analysed qualitatively or quantitatively to embrace both qualitative and quantitative data categories (Creswell 2003).

Quantitative data analysis uses deductive reasoning which entails a general set of propositions that can be used to deduce concrete relationships between the elements of the theory (Monette, 2011). The collected data was entered into a computer and analysed using Statistical Package for Social Sciences (SPSS) and Microsoft excel software. This software's therefore, were selected because there were easy to use and generate statistical tables as well as pose the most suitable instrument for analysis of quantitative data. Therefore, SPSS was useful in summarizing data in a manner that gave answers to research questions.

On the other hand, Qualitative data analysis employed inductive reasoning. Qualitative data from open-ended questions was analysed by the content or thematic analysis. Thematic analysis is process of analyzing qualitative data. This is done by identifying, scrutinizing and reporting patterns or themes within data (Hatch, 2002). The identified theme captures common or similar data collected in relation to the research question (Weiss, 1998). Therefore, the captured themes allowed researchers to develop explanations and make interpretation, and their intellectual capacity helped them make sense of qualitative data.

3.6 Summary

This chapter gave a general overview of the methods used in the study. The relevant methodological issues such as research design, total population, sample size and sampling procedure have been discussed in detail. The chapter also described the process of data collections and analytical methods used.

CHAPTER FOUR

4.0 PRESENTATION OF FINDINGS

4.1 Overview

This chapter presents the findings of the study on Health Literacy among University of Zambia Students: case study of Library and Information Science Students. In order to answer the above research objectives, researchers asked LIS students the following research questions and researchers received their responses from the data which was collected through closed and open-ended questionnaires. Therefore, it is worth to mention that, a total of 100 questionnaires that were distributed to 2nd, 3rd and 4th year LIS students, researchers were pleased to receive 100% response rate.

The outcomes are explained based on the responses of 100 LIS students thus, 2nd, 3rd and 4th years. Hence, the findings of this research are presented in line with the three objectives, which are Students health information seeking behaviour, Students ability to appraise health information and Students ability to use health information. The study results are presented in tables, pie charts, bar graphs and themes.

4.2 Characteristics of Respondents

Out of the total sample size of 100 library and information science students in their second, third and fourth year, the majority of the respondents were females represented by 52% while the males who were the minority represented by 48%. Regarding the age, 2% of respondents were within the range of 15-19 years of age, 82% between 20 -24 and 16 % were between 25-29. Hence, most of the respondents were within the range of 20-24 years of age. In terms of year of study, 51% of respondents were in fourth year, 30% in second year and 19% in third year. Therefore, from the data obtained most of the respondents were in fourth year.
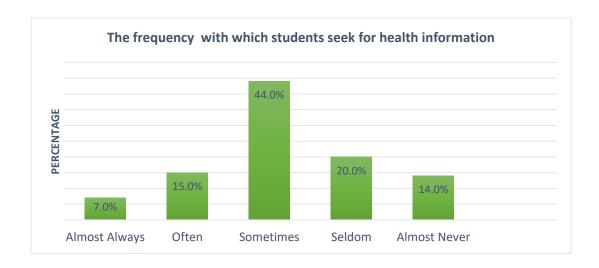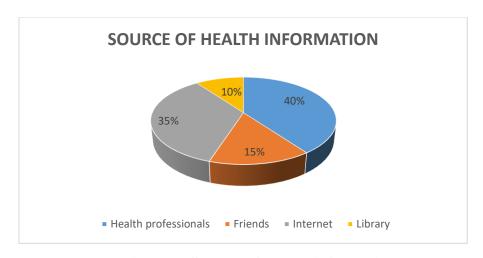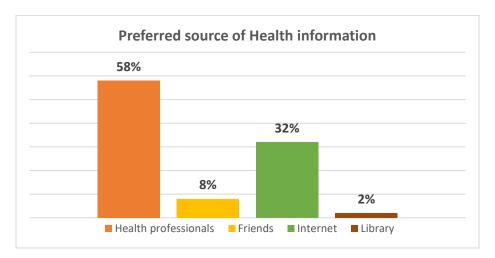
4.3 Students Health Information Seeking Behaviour

Figure 1. The Frequency with which Student Seek for Health Information

As illustrated in figure 1, Students were asked about how often they seek for health information. The research study showed various results regarding how often students seek for health information. Therefore, data obtained showed that 7 % of respondents seek health information usually, 15 % often, 44 % sometimes, 20 % seldom and 14 % almost never seek for health information. Consequently, the frequency with which student seek for health information varied among students. The combination of students, who seek for health information sometimes and seldom, shows that 64% of students rarely seek for health information.

Figure 2: Sources of Health information

Students were asked to indicate their sources of health information and as shown in figure 2 above, the sources of health information varied among students. 35% of students sourced their health information on the internet, 40% from health professionals, 15% of the students sourced for health information from friends and 10% of them from the library.

Figure 3: Preferred Source of Health Information

To find out the sources that students preferred as source of health information. Respondents were asked to indicate their preferred sources. Figure 3 above summarizes the preferred source of health information by students. According to the data obtained 58% of students preferred health professionals, 8% preferred friends, 32% preferred the internet and 2% the library.

SOURCE	PERCENTAGE
Health professionals	69%
Internet	28%
Library	2%
Others	1%

Table 1: Effective Sources of Health Information

Students were asked to identify which source of health information they thought was the effective source out of the sources they have used before and table 1 above, shows the effective sources of health information for students. Therefore, 69% represented students who indicated health professionals as their effective source of health information, 28% indicated the internet, 2% of them the library and 1% indicated students who sourced other sources like text through phone as

the most effective.

GENDER	ACCIDENTALLY	SEARCH FOR IT	TOTAL
MALE	13%	35%	48%
FEMALE	9%	43%	52%
TOTAL	22%	78%	**100%**

Table 2: Ways in which Students Receive health Information

In order to determine ways in which students receive health information, students were asked to indicate whether they intentionally search for health information or accidentally receive it. It was revealed that the majority of students represented by 78% do search for information of which 22% indicated that they accidentally received it. Further, a cross tabulation analysis to determine the gender that receives more health information and ways in which it is received was conducted, and the results showed that, 48% were Males and 52% were Females. Out of 48%, 13% Males, accidentally received health information and 35% of them searched for it. In addition, out of 52%, 9% were females who accidentally received heath information and 43% of them searched for it. Consequently, the findings showed that more females searched for health information rather than receiving it accidentally.

Figure 4: Preferred Format of Health Information

The students were asked to identify the preferred formats of health information and Figure 4 above shows the format students preferred for their health information. From the data obtained, 74 % of

students preferred their health information in electronic format such as e-journals, e-serials, e-books. In addition, 11% of the students preferred health information in print media, which is information on paper records such as books in the library, periodicals, journals, newspapers, articles and other printed documents on paper. Lastly, 15% of the students were in favour of non-print media also known as non-book materials, which included audio-visual materials. The majority of the students preferred their health information in electronic format because it was easily accessible, easy to locate, retrieve and use. Further, the students said that electronic records contained updated health information with more ideas and knowledge that can easily be used to solve the problem at hand compared to the other formats.
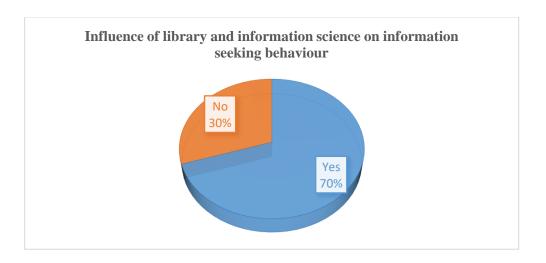

Figure 5: Influence of Library and Information Science on Information Seeking Behaviour

Students were asked to indicate whether being students of Library and Information Science has an influence on information seeking behaviour and as shown in figure 5 above, the results indicated that, 70% of students who are the majority agreed that being students of library and information science influences information seeking behaviour among students. This is because students are taught and equipped with the skills on how to analyse and evaluate health information before they can use it while 30% of the minority students disagreed.

In relation to the above question, students were further asked to give reasons for their answers and results showed that out of 70% of the students who said YES, 69% said that library and information science influenced their information literacy skills while 1% said that it helped them to evaluate their health information. On the contrary, out of 30% of the students that said NO, 15% of them

opined that the program lacks information-seeking strategies whereas the other 15% said that they preferred direct access to health professionals than the program itself.
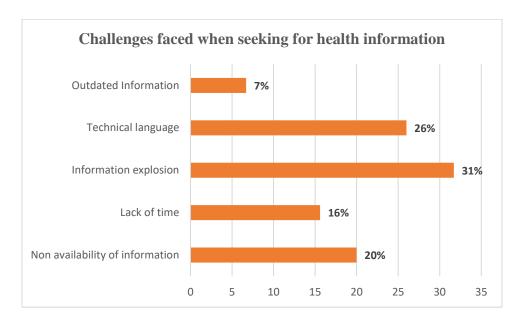

Figure 6: Challenges Faced when Seeking for Health Information

Students were asked to identify challenges faced when seeking for health information and figure 6 above indicates the challenges students face when seeking for health information. Therefore, out of 100 students selected, 7% students stated that there is outdated information which makes difficult for them to make correct health decisions, 26% students believed that the language is technical for them to understand and access accurate information, 31% students identified information explosion as problematic because they could not easily identify right and reliable health information from varied sources, 16% students indicated that, they lack time to visit various sources of health information and 20% students said that there is non-availability of information specifically in the library and internet hence ,preferred visiting health professional.

Additionally, students were further asked to suggest possible solution to the above challenges identified in figure 6 and it was observed that students had varied solutions. As shown above, 29.8 % of students stated that health information should be readily available in various formats and sources to make required health decisions, 12.5% suggested that health professionals should give clear guidelines, procedures or manuals to be followed to make health and sound decisions and

57.7 % said that the language should be simple for them to easily understand and follow processes recommended by health professionals.

4.4 Students Ability to Appraise Health Information

YEAR OF STUDY	YES	NO	TOTAL
Second	22%	8%	30%
Third	16%	3%	19%
Fourth	34%	17%	51%
TOTAL	72%	28%	**100%**

Table 3: Students Evaluation of Health Information

To find out students ability to evaluate health information, students were asked whether they evaluated health information that they gathered or received. From the research findings, it was observed that 22% of students in second year, 16% in third year and 34% of them in fourth year making 72% of students said yes that they evaluated health information. On the other hand, 8% of students in second year, 3% in their third year and 17% in fourth year said no. Therefore, from the results above, it was discovered that most of the library and information science students evaluated their health information and out of the majority 72% students who evaluated health information, most of them were in fourth year.

Ways of evaluating health information	Number of students
Reading further on health information at hand	32
Seeking professional advice	22
Parental Guidance	8
Advice from Friends	10
Total	**72**

Table 4: Ways of Evaluating Health Information

In order to find out how students evaluated health information, students were asked to indicate ways that they used to evaluate health information. As depicted in table 4 above,32 students indicated that they evaluated health information by reading further on health information at hand,

22 by seeking professional advice, 8 by seeking for parental guidance and 10 of them acquired advice from friends. From the results, it can be stated that most of the library and information science students evaluated health information by reading further on health information at hand.
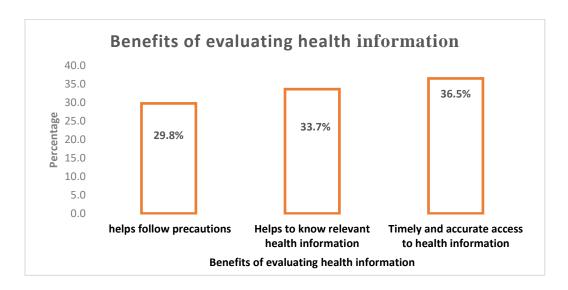

Figure 7: Benefits of Evaluating Health Information

To determine the benefits of evaluating health information, students were asked what they thought were the benefits of evaluating health information. As depicted by figure 7 above, 29.8% of student opined that the evaluation of health information helped them to follow precautions, 33.7% stated that it helped them to know relevant health information and 36.5 % of students alluded that the evaluation helped them to timely and accurately access health information.

CONSEQUENCES OF NOT ASSESSING HEALTH INFORMATION	FREQUENCY	PERCENTAGE
Inaccurate and Incomplete Health Information	31	33.6%
No Proper use of Medical Instructions	47	45.2%
Use of Outdated Health Information	22	21.2%
TOTAL	**100**	**100%**

Table 5: The Consequences of not Assessing Health Information

Students were asked about what they thought would be the consequences of not assessing health information and Table 5 above exemplifies the student views on the consequences incurred if

health information is not assessed. From the data obtained in the field, 31 respondents represented by 33.6% specified that a person who do not assess health information becomes inaccurate and incomplete in Health information, 47 represented by 45.2% stated that a person will not make proper use of medical instructions and 22 respondents represented by 21.2% stated that a person will be just using outdated health information.

4.5 Students Ability to Use Health Information

Figure 8: Ratings of Student's Ability to Use Health Information

To find out about student's ability to use health information, students were asked to rate their ability to use health information on a scale of 5-1, with 5 being the highest scale and 1 the lowest. As indicated in figure 8 above, 16% of the student indicated 5, which is the highest rating, 31%, indicated 4, which is the second highest rating on the scale, 41% of students indicated 3, 7% of them indicated 2 and 5% of student indicated 1 which was the least on the scale. Therefore, on the scale of 5-1, most of the student indicated 4 as a rating of their ability to use health information

Purposes for which Students Use Health Information

Category	Number of students
Nutrition	45
Non-communicable diseases	14
Communicable diseases	31
Family Planning	4
Maternal Health	6

Number of students

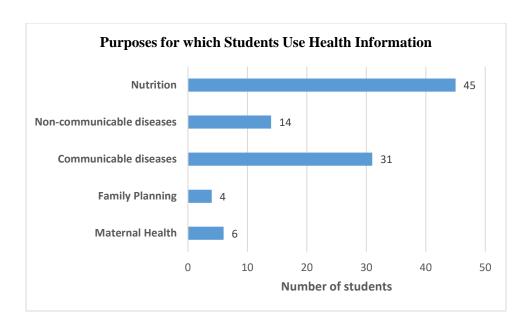**Figure 9**: **Purposes for which Students Use Health Information**

When asked about the purposes students used health information for, it was discovered that 45 respondents were used it for nutrition, 14 for non-communicable diseases, 31 for communicable diseases, 4 for family planning and 6 for maternal health as illustrated in figure 9 above.

CHAPTER FIVE

5.0 DISCUSSION OF FINDINGS

5.1 Overview

Having received 100% response rate from 100 questionnaires both open and closed ended questions from LIS students therefore, it was worth to mention that, the findings of the research objectives were discussed in relation to other research studies conducted on the similar or related topic.

5.1 Information seeking behaviour of LIS Students

5.1.1 The frequency with which students seek for health information

In order to find out the frequency with which students seek for health information, students were asked about how often they seek for health information from various sources such as health professional, friends, internet based materials as e-books, e-journals, e-articles and other electronic published documents and printed media such as newspapers, traditional books and other publications and mass media documents consisting television, and other audio-visual materials. The results interestingly revealed that 7% of the students seek health information usually, 15% often, 14% almost never search for health information from any source and 64% only search sometimes and seldom for health information.

The above findings are similar to Lampe (2008) who showed varying responses on how respondents search for health information particularly on internet, and OPAC. Out of 150 respondents, 48.1% indicated that they sometimes search for heath information on the internet and OPAC and 14% indicated that they often or very often seek or used the internet or the library catalog for health information. While 37% indicated that they seldom searched the information on the internet and its collaborative tools such as the wikis and blogs and 50.9% of the respondents indicated that they had never searched health information on the internet nor library catalog.

Still interestingly, Wallerstein (1992) reported that, due to inadequate functional health literacy, more than half 53.8% said they did not usually ask anyone to help with health information apart

from their physician, and only 29% reported asking friends to help them read the written materials given to them by the hospital. This study is not much different from the current study that alluded that the least 7% of the students seek health information usually; this included seeking information from various sources such as health professional and friends, even if the study could not obtain actual data about how many students specifically could search for health information from friends and physicians.

5.1.2 Sources of Health information

In order to establish students' sources of health information, students were further asked to indicate sources of their health information, and the study revealed an interesting finding that, 44% of students indicated the internet as source of health information that included e-books, e-journals, e-articles and other digital resources, 43% identified health professionals and 13% of the students sourced their health information from friends.

Similarly, Rains (2007) revealed that 86% of the US population are sourcing health information online, but still many others sourced health information from a friends and health professionals with 10%. However, still others sourced health information from traditional library that included books, brochure and magazines representing 4%. This implies that a large number of people are aware of health information online and this was accompanied by its popularity and readability to be accessed and used.

However, the findings of the current study are contrary to Lampe (2008) who observed that, 50.9% of the people had never searched for health information on the internet nor the library. This was because they were not motivated to search for health information on the internet and the library hence, they sourced for information from health professionals, printed materials readily available to them at that particular time of need that included newspapers and periodicals and other non-media documents such as television and radio**.**

5.1.3 Preferred Source of Health Information

In order to establish preferred sources of health information, students were asked to indicate their preferred sources and still an interesting finding was established that 58% of students preferred health professionals, 8% of the students preferred friends, 32% preferred the internet such as e-books, e-journals, e-articles and other available published online documents and the rest 2% of the

students preferred the library. From the research findings, it can be established that many students preferred health professionals as their source of health information.

However, the findings of the current study are different from the findings by Rain (2007) who observed that 86% of the US population stressed that the internet was the number one choice for finding health information other than health care professional because health professional also turn to the internet as an alternative source of information in order to gain a perspective different from what they read from a traditional media source or library or what they heard from an unsatisfactory doctor-patient interaction.

5.1.4 Effective Sources of Health Information

In order to elicit the effective sources of health information from various sources such as the health professionals, friends, library, internet that consisted of e-books, e-journals and e-articles, printed media such as traditional books, newspapers and other publications, and mass media documents such as television and radio. Students were asked to identify which source of health information they thought was the effective source out of the sources they had used before. The findings showed that 69% of the students indicated health professionals as their effective source of health information, 28% indicated the internet, 2% of them the library and 1% indicated students who sourced other sources like text through phone as the most effective.

However, findings of the current study are contrary to the findings by Bakar (2011) who showed that 90% of women in a village of the District of Gombak, in the State of Selangor depended mostly on mass media such as newspapers, magazines, television and radio for their effective source of health information. At least 10% recorded the use of Internet as the active source of health information and most of the housewives use the relevant websites or homepages to get the needed information. Furthermore, Balasubramanian (2014) presents different findings from the current study that identifies the internet as the number one source of health information for students over the library and health care-professionals.

5.1.5 Ways in which Students Receive Information

In order to determine ways in which students receive health information, students were asked to indicate whether they intentionally search for information or accidentally receive the information. The findings established that, 78% of the students search for information of which 22% indicated they accidentally received it. The findings further established that, out of 100 respondents, 48%

were Males and 52% were females. Out of 48%, 13 were Males who accidentally received health information and 35 of them searched for it. In addition, out of 52%, 9 were females who accidentally received it and 43 of them searched for it. The findings showed more female received health information than males by searching for it.

The above findings are Similar to Natarajan (2010) who found that, in a networked environment, library users were motivated searching library's catalogue, browsing electronic journals and accessing subject guide or database without visiting the library premises to acquire information. similarly, Brown (1999) showed that, individuals who prefer an active or collaborative role when making decisions with health professionals are also more active in their search for health-related information from the internet, friend and occasionally from the library. This is similar to the current findings that showed that 78% of the students searched for health information from various sources such as internet, library catalog and friends.

5.1.6 Preferred Format of Health Information

In order to establish preferred formats of health information, students were asked to identify the preferred formats of health information. It was discovered that, 74% indicated electronic media such as e-journals, e-serials, e-books and e-articles and other electronically published including CD-ROMs. 11% were in favour of the printed media that included traditional books, periodical, newspaper and other printed documents on paper and 15% preferred non-print media such as television and radio which included audio-visual materials.

The findings of the current study are similar to the findings by Wallerstein (1992) who showed that 47% of the respondents preferred e-journals and articles as the most popular kinds of electronic resources, 50% respondents preferred books and magazine, 3% respondents preferred television and radio. Similarly, Rains (2007) observed that, library users always preferred to use online-journals, e-articles, e-books, online and electronic databases due to their vastness to accommodate ideas and knowledge that can easily be compared to other documents online at once.

However, Lampe (2008) observed that, 50.9% of the people had never preferred electronic resources for health information because they were not motivated searching for health information on them hence, their number one choice was non-print media such as television and radio and other printed materials that included newspapers and periodicals readily available to the user at that particular time of need. This is contrary to the current study that found that 74% of students

preferred electronic media that included e-journals, e-books, e-articles and many other formats in the electronic media.

5.1.7 Influence of library and information science on information seeking behaviour

Library and Information Science has an influence on information seeking behaviour of students, the research findings indicated that most of the students (70%) agreed that the programme enhanced their information seeking behaviour. This could be because it enhanced their information literacy skills and helped them to evaluate their health information accurately. On the other hand, some students said that the program has no influence on their information seeking behaviour for the reason that, the program lacked information-seeking strategies thereby, preferred direct access to health professionals for their health information than the program itself.

However, it was observed that, there was no supporting literature specifically on how Library and information science influences health information seeking behaviour among university students in the world as no research known has been undertaken.

5.1.8 Challenges faced when for seeking health information

In addition, Students were asked to identify the challenges they faced when seeking for health information. The research findings specified that the health information found was outdated and this made it difficult for students to make correct health decisions, some believed that the health language was too technical for them to understand and access accurate information. Better still to mention, students identified information explosion as a challenge because they could not easily identify right and reliable health information from varied sources. In addition, students indicated that they lacked time to visit various sources of health information and that there was non-availability of information specifically in the library, thus students' preferred visiting health professional. From the research findings, students stated that the major challenge that they faced when seeking for health information was the availability of outdated information in the library and information explosion on the internet which made it difficult for them to make correct health decisions.

The research findings are different to Barkar (2011) who reported that, accessing relevant and comprehensive information is difficult because of the complexity in searching literature from various information resources especially from library and digital resources. The scholar further

reported that users had challenges in understanding, evaluating and retrieving information from various information resources because of the technical language used.

Additionally, students were further asked to suggest possible solutions to the challenges faced when seeking for health information. Students stated that health information should be readily available in various formats and sources to enable them make required health decisions. Students further postulated that health professional should give clear guidelines, procedures or manuals to be followed to make health and sound decisions and that the language should be simple for them to easily understand and follow processes recommended by health professionals. However, the research results are different from those found by Okki and Asiru (2011) who reported that challenges faced when searching for health information can be removed by improving internet connectivity in schools to enable students access the information easily and conducting information literacy program to improve the search skills of students.

5.2 Students Ability to Appraise Health Information

To find out students ability to evaluate health information, a scale of 5-1, was used to assess students to ability to appraise health information, 5 being the highest scale and 1 being the lowest. The research established that 72 students said that they evaluated health information and 28 students said never evaluated health information.

The current study is contrary to Jolly, Scott et at (1995) who observed the discharge of instructions with the Flesch to determine readability skills among patients and results showed that 45 percent of patients were not be able to comprehend the instructions. A follow-up study noted that patients' ability to answer comprehension questions improved when the discharge instructions were used as an assessment tool. This is also contrary to Wallerstein (1992) who used a self-reported functional health literacy to assessed 131 African American patients with non-insulin-dependent diabetes in Georgia. The results showed that in 47% were able to read and interpret health instruction given to them and 25% showed had challenges and difficulties hence, resorted to consulting friends and families.

However, beyond the scale of 5-1, the current study established that students also were seeking professional advice, reading further on health information at hand, seeking for parental guidance and acquiring advice from friends. Furthermore, it was observed that most of the library and

information science students evaluated health information by reading further on health information at hand. Similarly, Nurss et al., (1997) reported that more than half (53.8 %) of the patients with inadequate functional health, literacy in one diabetes clinic in America did not usually ask anyone to help them read medical forms. Despite the inadequate health literacy skills, the patients were able to read the written materials given to them by the hospital.

Better still to mention, another interesting finding was that the benefits of evaluating health information, varied among students. According to the data obtained in the field it was discovered that the evaluation of health information helped them to follow precautions, to know relevant health information and to timely and accurately access health information. The study findings were a bit similar to the study by Jolly, Scott and Sanford (1995) who stipulated that it was important to assess health information because it increased adherence to guidelines, medical prescriptions, and decreased medical errors.

5.3 Students Ability to Use Health Information

In order to determine students' ability to use health information, students were rated on how they used health information using the scale of 5-1, 5 being the highest scale and 1 being the lowest. The findings showed that most of the students rated 3 on the scale were the majority who used health information and the lowest rating was 1 showing the minority students who used health information.

The ratings above can be explained as follows, three (3) implied that majority of the students had the ability to interpret, understand and use health information for various purposes in their social and health lives to make sound and confident decisions. A study by Baker, (1998) confirmed that, 13% patients were able to demonstrate heath information competence and the ability to use it for many purposes," including the demonstration of competent, ethical, and responsible use of information at personal and society level and were able to identify, access, retrieve, and apply relevant content while 35% had a challenge in reading and interpreting health instructions given. In addition, it was observed that students were able to acquire health insurance and become more knowledgeable of specific health issues and health services in their communities, and health professionals were able to become more culturally and linguistically attuned to the needs of patients. Social and health life.

Furthermore, findings established that, students rating one (1) said that they had difficulties or hardly searched and applied health information properly in their social or health lives. These findings are similar to Zond (1992) who confirmed that students with a limited use of health information were more likely to have problems following verbal or written medical advice and medication instructions or understanding health-related materials.

The research further found that most of the respondents used health information for nutrition. Some of the students used health information for preventing themselves against both communicable diseases such coughs and flu and non-communicable diseases malaria, dysentery and among others, while others stipulated that they used it for family planning as well as for maternal health. These findings are contrary to Fidzani (1998) who reported that most students were good at the use of the health Centre and were able to care for themselves at home and at the university against Sexual Transmitted Diseases and other related health diseases only. The difference could be because of the students' low levels to use health information and lack of awareness about health information.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

Health literacy demands that an individual should be able to evaluate, analyse, interpret and understand health information at hand before using it. Therefore, In relation to the research findings, most of the library and information science students at the University of Zambia specifically in second, third and fourth year are health literate. This is evident from the data obtained in the field, which indicated that the students have the ability to evaluate, interpret, understand and use health information for various purposes in their social and health lives to make sound and confident health decisions. In addition, according to the research findings, students evaluated their health information before using it by seeking for professional advice, reading further on health information at hand, seeking for parental guidance and acquiring advice from friends. Further, students evaluated health information in order to follow instructions, to know relevant health information, to timely and accurately access health information. Furthermore, students used various sources to access health information and these included the internet, health professionals, friends and the library in order to have full understanding of the health information to solve the problem at hand. lastly, because of being health literate the students of library and information science were able to outline the consequences of not assessing health information, among the few included were poor use of medical instructions, use of inaccurate and incomplete health information for example using expired medicines due to lack of health literacy skills and the use of outdated health information.

6.2 Recommendations

This section provides recommendations for improving health literacy among library and information science students at the University of Zambia and the nation at large. Based on the findings of the study, the following measures are recommended for efficient and effective health literacy at the University of Zambia. The following recommendations are made:

➢ First and foremost, the study recommends that the central administration at the University of Zambia should collaborate with Library and information science faculty to work towards

making University authorities to see the reason to integrate the course 'Health literacy' into the school curriculum.

➢ Considering the results of the current study, there is a clear indication that it is essential to enhance student's skills in using, appraising and seeking health information for their well-being. Therefore, there is need for students to be properly initiated and guided by faculty into being good information resource users so that they do not depend mainly on lecture notes to accomplish their knowledge goals.

➢ The researchers also recommend that health professionals should give clear guidelines since the terminologies used in medical professional are too technical for the respondents to easily understand and follow processes recommended by health professionals.

➢ Further research is needed to investigate how lecturers' influence student's information literacy specifically health literacy in higher learning institutions.

REFERENCES

Ajiboye, J.O. Tella, A (2007). University undergraduate students' Information-Seeking Behaviour: Implications for Quality in Higher Education in Africa. The Turkish Online Journal of Education Technology 6(1). p. 40-52, 2007.

Akakandelwa, A. (2000). An Assessment of User Education in Academic Libraries: A case of The University of Zambia. Masters Dissertation, University of Botswana.

Baker, D. Parker, R. and Clark, S. (1998). Health literacy and the risk of hospital admission. Journal of General Internal Medicine, 13(12), 791–798.

Blunch, N.H. (2004). Mothers' Skills and Schooling and Child Health in Ghana. Seminar paper. George Washington University. Pp.1-4 1.

Bothman, S. (2008). Information Literacy as a Liberal Art: Enlightenment proposals for a new curriculum: World Institute for Development Economics Research. Harvard University, UK.

Brown, C.M. (1999). Information-seeking behaviour of scientists in the electronic information age: astronomers, chemists, mathematicians, and physicists. Journal of the American Society for Entrepreneurs: The Uganda Experience. *Library 5*4, pp. 54-66.

Bruce, C. (2003). Seven Faces of Information Literacy: Towards Inviting Students into New Experiences: Capital Group Limited. New York: Knopf.

Burns, N. and Grove, K. (2003). Understanding Nursing Research. 3rd ed. Philadelphia: Saunders Company.

Catts, R. and Lau, J. (2008). Towards Information Literacy Indicators. Paris: UNESCO.

Clark, J. (2005). Constructing expertise: Inequality and the consequences of information seeking by breast cancer patients. Illness, Crisis and Loss, 13(2), 169-185.

Cooley, M. Moriarty, H. Berger, M. Coyle, B. and Short, T. (1995). Patient literacy and the readability of written cancer education materials. Oncology Nursing Forum, 22(9), 1345–1351.

Creswell, W. (2003). International Data on Educational Attainment: Updates and Implications. Working Paper. Center for International Development: University Press.

Davis, T. Arnold, C. Berkel, H. Nandy, T. (1996). Knowledge and attitude on screening mammography among low-literate, low-income women. Cancer, 78(9), 1912– 1920.

Eshet-Alkalai, Y. (2004). Digital literacy: a conceptual framework for survival skills in the digital era. Journal of Educational Multimedia and Hypermedia, 13(91), pp. 93-106.

Fister, B. (1992). The research process of undergraduate students. Journal of Academic librarianship, 18 (3), pp 163-169.

Hatch, J. A. (2002). Doing qualitative research in education settings. Albany: SUNY Press.

Herbst, K. (2012). An evaluation of the district health information system in rural South Africa. South African Medical Journal, 98(7):541–552.

Higham N. (1980). The library in the University. Observations on a service. London Andre Deuts.

Ikoja-Odogo, R. and Ocholla, D.N. (2004). Information-seeking behaviour of the informal sector. Information Science 50 (10), 925-943.

Jolly, B. Scott, J. and Sanford, S. (1995). Simplification of emergency department discharge instructions improve patient comprehension. Annals of Emergency Medicine, 26(4), 443–446.

Jolly, B. Scott, J. Fried, C. and Sanford, S. (1993). Functional illiteracy among emergency department patients: A preliminary study. Annals of Emergency Medicine, 22(3), 573–578

Kakai, M. and Ikoja-Odongo, R. Emack, T. and (2004). A study of the information seeking behaviour of undergraduate students of Makerere University, Uganda. *World Libraries, 14(1), 544-564.*

Kerka, S. (2000). Health and Adult Literacy. Practice Application Brief No. 7. Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education.

Kombo, D. and Tromp, D. A. (2006). Proposal and Thesis Writing: An Introduction. Nairobi: Paulines Publications Africa.

Lambert, S. and Loiselle, G. (2007). Health information–seeking behaviour. Qualitative Health Research, 17(8), 1006-1019.

Lampe, C. (2008). The benefits of Facebook "friends:" Social Capital and college students' use of online social network sites. Journal of Computer-Mediated Communication, 12(4), 1143–1168.

Loiselle C. and Delvigne-Jean, Y. (1998). Reviewing Health education programs. Canadian Nurse, 94(3), 42-46.

Makoni, B. (2009). Investigating the effectiveness of information provision on the reproductive health by the University of Zambia to Ba. Lis third (3) year students. University of Zambia, University press (UNZA Press).

Mariner, W. and McArdle, P. (1985). Consent forms, readability, and comprehension: The need for new assessment tools. Law, Medicine, and Health Care, 68–74.

Mellon, C.A. (1986). Library anxiety: A grounded theory and its development. 2nd edition. London: Sage.

Ministry of National planning (2017). Seventh National Development Plan 2017-2021. Lusaka. Government printers.

Molen, B. (1999). Relating information needs to the cancer experience: one—Information as a key coping strategy. European Journal of Clinical Nutrition, 8, 238-244.

Monette, D. R. (2011). Applied social research: A tool for the human services. South African Medical Journal, 98(7):541–552.

Mwiinga, T.M. (2013). Investigating the use of Web 2.0 tools for educational purposes among undergraduate students at the University of Zambia. (Masters Dissertation), University of Zambia.

Natarajan, K. (2010). Use and user perception of electronic resources in Animalia University: A Case Study. Annals of library and information studies.Vol. 57, no.1: 59-64.

Nurss, J. R. el-Kebbi, I. M. and Philips, L. S. (1997). Diabetes in urban African Americans: Functional health literacy of municipal hospital outpatients with diabetes. Diabetes Educator, 23(5), 563–568.

Nwobasi, R. N. and O. Ossaionah, V. (2013). Information Needs and Seeking Behaviour of Students in Two Universities in Imo State, Nigeria. Library Philosophy and Practice. UWO publisher, Nigeria.

Olowu, K. (2004). Access to information: Myths and reality. Journal of the Nigerian Library Association, 28(1).

Powers, R. (1988). Emergency department patient literacy and the readability of patient-directed materials. Annals of Emergency Medicine, 17(2), 124–126.

Ratzan, M. and Parker, K. (2000). The causal pathways linking health literacy to health outcomes. Health Behave 2000, 31(Sup 1): S19-S26.

Reitz, B. (2004). The most widely used model of information literacy in K-20 education, available at http://www.big6.com.accessed on 16 May 2018.

Rudd, R. (2003). Improvement of health literacy: Communicating Health: Priorities and Strategies for Progress. Washington, DC: Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Service.

Shiloh, S. Sinai R. B.and Keinan, G. (1999). Effects of controllability, predictability, and information-seeking style on interest in predictive genetic testing. *PSPB*, *25*(10), 1187-1195.

Stein, A. (1966*).* Literacy: Profiles of America's Young Adults. Princeton, NJ: Educational Testing Service. New York: Oxford University Press.

 Stephen, A. (2007). Perceptions of Traditional Information Sources and Use of the National Trends Survey. Journal of Health Communication, 12:667–680.

Sutton K. and March, V. (1980). Informed consent: Why are its goals imperfectly realized? New England Journal of Medicine, 302, 896–900.

Taylor, D.C. (1990). Undergraduates' use of periodicals: Implication for libraries reference work. Reference Librarian, 27/28, pp 51-65.

United Nations (2015). Sustainable Development Goals: 17 Goals to transform our world. Social and Political Indicators of Human Well-being. UN: UNDP.

Wallerstein, N. (1992). Health and safety education for workers with low-literacy or Limited-English skills. American Journal of Industrial Medicine, 22(5), 751–765.

Weiss, B. (1998). Practical assessment of adult literacy in health care. Health Education and Behaviour, 25(5), 613–624.

Weiss, B. Hart, G. McGee, D. and D'Estelle, S. (1992). Health status of illiterate adults: Relation between literacy and health status among persons with low literacy skills. Journal of the American Board of Family Practice, 5(3), 257–264.

Williams, D. M. Counselman, F. and Caggiano, C. (1996). Emergency department discharge instructions and patient literacy: A problem of disparity. American Journal of Emergency Medicine, 14(1), 19–22.

Wilson, T. (2000). Human information behaviour. Informing Science. Handbook of reading research (Vol. 2, pp. 230–245). New York: Longman New.

World Health Organization (2015). Success Factors in Community-Based Nutrition-Oriented Programmes and Projects in South Africa. UNICEF Regional Office for South Asia Publication No. 5, Nov. 2013.

Wright, M. and Guy, L. (1997). Where do I find it and what do I do with it: Practical problem solving in the data library? Retrieved from http://dphs.dacc.wisc.edu/types/data reference accessed on 20 May 2018.

Zainal, Z. (2007). Case study as a research method. Malaysia: Technology University. University Press, Malaysia.

Zarcadoolas, C. (2005). Elaborating a definition of health literacy: A commentary. Journal of Health Communication 2005; 8:119-120.

Zond, S (1992). Socioeconomic status and health: How education, income, and occupation contribute to risk factors for cardiovascular disease. American Journal of Public Health, 82(6), 816–820.

APPENDCIES

APPENDIX 1

WORK PLAN

ACTIVITY	DESCRIPTION	DURATION
Literature Review	Reviewing of documents and other secondary materials relevant to the research topic(Health literacy)	**2 days** **2nd 2018 to 4th May 2018**
Proposal writing: *Chapter one*	Writing of chapter one begins	**12 days** **5th May 2018 to 17th May 2018**
Submission of chapter one	Submission of research proposal chapter one for marking and making corrections	**1 day** **18th may 2018**
Proposal writing *Chapter two*	Writing of chapter two (literature review) begins	**18 days** **20th may to 7th June 2018**
Submission of chapter two	Submission of research proposal chapter two for marking and making corrections	**1 day** **8th June 2018**
Proposal writing *Chapter three*	Writing of chapter two (Methodology) begins	**7 days** **10th June 2018 to 17th 2018**

Preparation of data collection tool	Preparation of the questionnaire to be used in the process of data collection	**2 days** **19th June to 21st June 2018**
Submission of chapter three and data collection tool	Submission of chapter three and data collection too for marking and making corrections	**1 day** **22nd June 2018**
Submission of the full research proposal	Final submission of the full research proposal	**1 day** **13th July 2018**
Data Collection	Going into the field and getting data from the students by administering questionnaires	**5 day** **31st August 2018 to 5th September 2018**
SPSS data entry	Entering of data collected from the field into SPSS software	**5 days** **7th September 2018 to 12th September 2018**
Data Analysis	Analysis of the data collected from the field using various data analysis tools	**1 weeks** **14th September 2018 to 21st September 2018**
Report Writing *Chapter four*	Presenting and writing the findings from the field in the report	**2 weeks** **10th September to 24th September 2018**

Submission of chapter four	Submission of chapter four for marking and corrections	1 day 25th September 2018
Report writing chapter five and six	Writing of the discussion of findings, and conclusion and recommendation	20 days 1st October 2018 to 21st October 2018
Submission of chapter five and six	Submission of chapter five for marking and making corrections	1 day 27th October 2018
Submission of the Report	Final Submission of full research report	1 day 14th December 2018

APPENDIX 2

BUDGET

ACTIVITY	DESCRIPTION	QUANTITY	AMOUNT	TOTAL IN KWACHA
Printing of Questionnaire	Printing of questionnaires	100 copies	K4 per copy	K400
Printing and Binding of final proposal	Printing of the research final proposal and binding before submission	1 copy	K23.00	K 23.00
Printing and Binding of final report	Printing and binding of the final report before its submission	1 copies	K67.00	K 67.00
Sub-total				**K 490.00**

THE UNIVERSITY OF ZAMBIA

SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

DEPARTMENT OF POLITICAL & ADMINISATRATIVE STUDEIS

LIS 4014 Questionnaire

RESEARCH TOPIC: *The effectiveness of the University of Zambia main Library in providing relevant services to its users.*

Dear Respondent,

We are fourth year students at the University of Zambia (UNZA), conducting a research on the research topic mentioned above.

You have been randomly selected to help in the investigation by completing this questionnaire. This research is purely academic and the information obtained will be treated or handled with maximum confidentiality and anonymity.

Instructions:

- Do not indicate your name on the questionnaire
- Please tick the appropriate provided box to express your view e.g. √
- Write briefly, but precisely where appropriate e.g…………..
- Please **Answer All** Questions.

PART A: BACKGROUND INFORMATION

Q1. What is your gender?
1. Male
2. Female

Q2. How old are you?
1. 15 – 19
2. 20 – 24
3. 25 – 29
4. 30 – 34
5. 35 – 39
6. 40 – 44
7. 45 and above

Q3. What is your year of study?

1. Second

2. Third

3. Fourth

PART B: STUDENTS HEALTH INFORMATION SEEKING BEHAVIOUR

Q6. In your opinion, what is health information?

…………………………………………………………....

……………………………………………………………

Q7. How do you seek health information?

1. Health professionals

2. Friends

3. Internet

4. Library

5. Others specify…………………

Q8. Has Library and information science enhanced your health information seeking behaviour

1. Yes ☐

2. No ☐

Q9. Give reason/s for your answer in question 8?

………………………………………………………………………………

………………………………………………………………………………

☐

PART C: STUDNTS ABILITY TO APPRAISE HEALTH INFORMATION

Q11. Do you evaluate health information?

1. Yes ☐

2. No ☐

☐

Q12. If yes to question 11, how do you evaluate health information?

1. Reading further on health information at hand ☐

2. Seeking professional advice ☐

3. Others specify…………………….....................................

☐

Q13. In your opinion, what are the benefit (s) of assessing health information?

………………………………………………………………………….

…………………………………………………………………………..

☐

Q14). What is the consequence (s) of not assessing health information?

…………………………………………………………………………..

………………………………………………………………………………

☐

PART D: STUDENTS ABILITY TO USE HEALTH INFORMATION

Q15). Have you ever used Health information services at the University of Zambia?

1. Yes ☐

2. No ☐
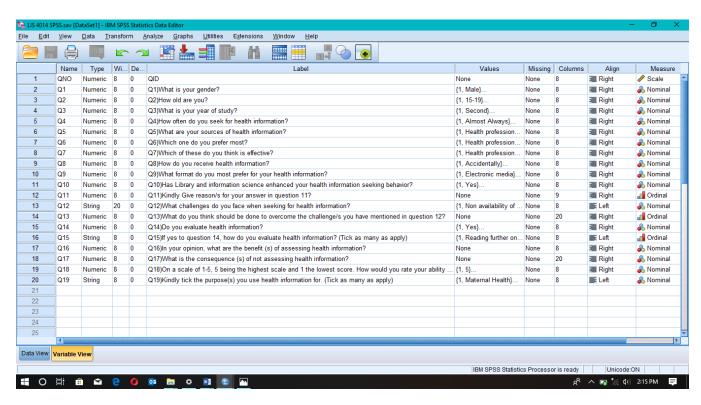
☐

Q16). If **yes** to the above question for what purpose(s)?

…………………………………………………………………………………..

…………………………………………………………………………………..

………………………………………………………………………………….

Q17. In what ways has Library and Information Science as a program helped you to become a health literate person?

…………………………………………………………………………………………..

…………………………………………………………………………………………..

…………………………………………………………………………………………..

Thanks for your co-operation

APPENDIX 4

SPSS-Variable View

SPSS-Data View