

Nursing Clinical Practice and challenges nurses face in accessing research information: a study at the University Teaching Hospital in Zambia (Conference ID: CFP/492/2017)

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Abstract—Nurses require evidence based information in their nursing clinical practice. This was a case study, which utilised both qualitative and quantitative methods of data collection with the objective of establishing the challenges that nurses' face in accessing research information. The study was conducted in four admission units/wards: Maternity Admission Ward, Medical Admission Ward, Paediatric Admission Ward and Surgical Admission Ward at the University Teaching Hospital. The main instrument used to collect data was the questionnaire.

Quantitative data was analysed using SPSS version 20 and qualitative data was analysed using themes of a purposive sample of 60 practicing nurses, in which 57 questionnaires were returned giving a response rate of 95%. The results indicate that the greatest challenges nurses faced regarding access to research information in their clinical practice were lack of access to information resources, poor information and communication technology infrastructure, lack of support from the University Teaching Hospital administration, lack of time to read, lack of awareness of available information resources and a poor information sharing culture.

Keywords—Clinical Practice; Nurses; Ressearch Information; Zambia

I. INTRODUCTION

Nursing clinical practice requires access to evidence based health information. However, several studies report lack of access to evidence-based resources to full-text journals, bibliographic databases as a barrier to information seeking and use (Blair, 2006; Pravikoff et al. 2005). Electronic resources are perceived as being less accessible than colleagues (Cogdill, 2003; Thompson et al., 2001). Mi Mhaolrunaigh and O'Leary(2007) acknowledge in their study on evaluation of nurses use of research based evidence in decision making that, some nurses found that even if they had access to the internet at work or at home, they felt that they did not have access to research or bibliographic databases.

However, sometimes nursing staff may also be unaware of information resources available to them that are potentially of value, despite diligent marketing efforts on the part of health information specialists (Dee and Stanley, 2005; Jones et al., 2011). They may even lack an awareness of the importance of research evidence for their

practice (Pravikoff et al., 2005). In particular, they may also lack confidence in their ability to evaluate material retrieved from the Internet and ensure its credibility and trustworthiness (Scott et al., 2008). This acknowledges that research is not simply 'disseminated' into practice, but requires a complex relationship of awareness, initiation, problem solving, team work, leadership, and resources (Wilkinson et al 2011). Consequently there is a mismatch in nursing duties, with an expectation that nurses work with current evidence (Australian Nursing and Midwifery Council 2005), but with limited ability to access or integrate research during clinical practice. In a study conducted by Baro and Ebhomeya (2013), to investigate information needs and seeking behavior of nurses, it was discovered that nurses were hampered by their inability to access foreign nursing journals as well as a lack of awareness of how to use medical databases. This could be due to a lack of funding to subscribe to local and foreign journals, and a lack of education and training in the skills of using medical databases respectively.

On the other hand the National Health Services (NHS)(2015) argue that, the nurses' problem is not simply access to evidence or information but there is too much information for health professionals to contend with, especially when using internet to address common clinical challenges. The challenge, therefore is one of information overload and access fragmentation. The volume of evidence available is immense and unmanageable by any one individual. Bastian et al, (2010) noted that 75 trials and 11 systematic reviews of trials in health care are published every day, making it impossible for clinicians to keep up with published research. The number of clinical

guidelines is almost unmanageable and immeasurable.

However best evidence is increasingly aggregated in high quality repositories presented by different publishers and some nurses therefore may struggle to navigate excess products from different sources. This explains the reason for lack of awareness of research findings as noted by a great deal of evidence which indicates that nurses are unaware of many research findings (Institute of Medicine, 2008). Funk et al (1991) sent a survey concerning barriers to research utilisation to 5,000 nurses in the United States. In their findings, the third most important barrier to access to research information found by the survey was that the 'nurse is unaware of research findings'. The solution could be the use of evidence summaries and synthesis as they use rigorous well defined methodologies to summarize information that has been integrated and critically appraised from multiple primary research articles (Masic, Miokovic, and Muhamedagic, 2008; Gopalakrishnan and Ganeshkumar, 2013; and Oh, 2016). These summaries and synthesis help busy clinicians to access the best evidence without having to source and read large amounts of original journal articles. Therefore, nurses can use evidence summaries to inform everyday patient care as well as production of protocols and guidelines (Titler, 2008; and Gopalakrishnan and Ganeshkumar, 2013).

II. METHODOLOGY

A case study methodological approach was adopted for the study. The case study utilised both qualitative and quantitative methods of data collection. It was conducted in four admission wards at the University Teaching Hospital. These were namely:

maternity admission, medical admission, paediatric admission and surgical admission wards. The main instrument used to collect data was the questionnaire. Quantitative data was analysed using SPSS version 20 and qualitative data was analysed thematically. A purposive sample of 60 practicing nurses, 57 questionnaires were returned giving a response rate of 95%.

III. RESULTS

The study sought to establish if nurses at the University Teaching Hospital in Lusaka Zambia faced any challenges when accessing and seeking information to use in their nursing clinical practice.

A. *Background characteristics of respondents*

Of the 57 respondents, 13 (22.8 %) were male while 44 (77.2 %) were female. In terms of age distribution of the respondents, out of the total number of respondents 15 (26.3 %) were aged between 20-25 years, while 31 (54.4%) were aged between 26-35 years and 11 (19.3 %) were aged above 35. Nursing experience was, 26 (45.6%) had worked for 2-4 years; 19(33.3%) had worked for 5-9 years while 12 (21.1%) comprised of those respondents who had worked above 9 years. The data further indicated that the majority of nurses had only 2-4 years nursing experience.

The nurses' qualifications were as follows; 2 (3.5%) had nursing degrees while 23 (40.4%) were Registered nurses, 15 (26.3%) were Enrolled nurses and 17 (29.8%) were Midwives. Most of the respondents, 44 (77%) indicated that they took care of at least 20-60 patients per shift of their work. Respondents were also asked to specify the roles they performed apart from nursing. Results indicate that the majority of respondents (40); were doing nursing care,

while (9) nurses were working as nurse supervisors, and the remainder were working as counselors.

The findings also revealed that the majority of the respondents 50 (87.7%) of the nurses encountered challenges when seeking and accessing information to use in their nursing clinical practice. Respondents were further asked to indicate the challenges which prevented them from seeking and using research information in clinical practice at the University Teaching Hospital. The results are presented in Table 1.

B. *Challenges nurses face in accessing and seeking research information*

The results revealed that the majority 35 (70%) of the respondents considered lack of access to information resources as the greatest and number one challenge to their seeking and using of research information in nursing clinical practice. The other challenge to information seeking and use which was considered second by 32 (64.0%) by respondents was poor information, communication, technologies infrastructure.

Lack of support from management and the hospital administration was considered a challenge by 31 (62.0%) of the respondents while 30 (60%) of the nurses indicated lack of time to read as a challenge. Fifty six percent (56%) of the respondents felt that poor information sharing culture among nurses prevented them from seeking and using research information in nursing clinical practice.

Moreover, 27 (54%) of respondents indicated that lack of awareness to available resources was a barrier to information seeking and use while 25 (50%) of the

nurses attributed the high cost of information services as a challenge to information seeking and use in nursing clinical practice.

Only 8 (16%) of the nurses in the study considered the belief that the best information for nursing cannot be

researched as a challenge, and 11(22%) of respondents considered unwillingness to change or try new ideas as a challenge to information seeking and access. Lastly, 15 (30%) of respondents indicated that the burden to search for research information was a challenge.

Table 1: Challenges nurses face in accessing and seeking research information

Ranking	Challenges	Freq	%
1	lack of access to information resources	35	70
2	poor information and communication technology infrastructure	32	64
3	lack of support from hospital administration	31	62
4	lack of time to read	30	60
5	poor information sharing culture among nurses	28	56
6	lack of awareness on available research information	27	54
7	high cost of information services	25	50
8	lack of access to journal/reports	23	46
9	limited skills to search for information	21	42
10	lack of authority to change patient care and procedures	18	36
11	too much information to search from	18	36
12	unwillingness of doctors to cooperate with implementation	17	34
13	burden to search for research information	15	30
14	unwillingness to change or try new ideas	11	22
15	belief that the best information for nursing does not need research	8	16

IV. DISCUSSION

This section discusses the findings on challenges nurses face in accessing research information to use in nursing clinical practice as presented in Table 1. From the ranking of findings, the study revealed that the number one and greatest challenge indicated by the nurses was the lack of access to information resources representing (70%) of the nurses. The second challenge that the respondents cited was that of poor information communication infrastructure (64%), the third one was the lack of support from management/hospital administration (62%), followed by lack of time to read (60%), poor information sharing culture among nurses (56%), lack of awareness on available research information (54%), high

cost of information services (50%), lack of access to journals/reports (46%), limited skills to search for information (42%) and lastly, lack of authority to change practice (36%).

C. Lack of access to information resources, journals and reports

A lack access to information resources to use in order to inform nursing practice emerged as a major barrier to UTH nurses as revealed by the study that the majority 70% of the nurses did not have access to information resources. Accessibility of information signifies the easiness to physically and intellectually access and use of information (Thompson et al. 2001).

Nurses at UTH do not have access to information to use at point of care despite having the University of Zambia, School of Medicine Medical Library and the Lusaka School of Nursing library within their premises. Access to these libraries to access research information has been described as not easy. This is confirmed by the fact that even if nurses were aware of the Medical Library and the Lusaka Nursing School library, only a small number of nurses indicated they visited the library frequently. This may be attributed to the fact that nurses are very busy as they take care of so many patients per shift, hence are exhausted most of the time and may have no time to go and search for information. It may also be attributed to the fact that these libraries are more academic libraries and may not have research information that could be used at the point of care for nurses. It has been noted that most nurses prefer to use information that is accessible, convenient, easy to use, applicable, and fast (Dee and Stanley, 2005; Thompson et al., 2001).

However, it is possible that the nurses' workload and lack of time to search for information may just be a scapegoat, the main reason could be the poor reading culture as well as laziness to read by nurses. Hoppenbrower and Kanyengo, (2007) asserts that lack of reading culture' may be caused by lack of access to information resources that are practical, easily accessible and easy to read such as evidence summaries and synthesis. The summaries and synthesis use well defined methodologies to summarize information that has been integrated and critically appraised from multiple primary research articles. These summaries and synthesis help busy nurses to access the best evidence without having to source and read large

amounts of original journal articles. Nurses can use evidence summaries to inform everyday patient care as well as production of protocols and guidelines (NHS, 2015; Gopalakrishnanand Ganeshkumar, 2013; and Webb, 2011).

On the other hand, Pakenham-Walsh et al. (1997) contends that "providing access to reliable information for health care workers in developing countries is potentially the most cost-effective strategy for improving the quality of health care delivery". The same argument is made by the WHO, (2006) who say

"evidence shows that having information does help health workers to do their jobs better, as long as certain provisos are met: the information must be relevant to the job and available when needed, and workers must have a degree of confidence in the information's quality".

These arguments are in line with Wilson's (1996) Model that information behavior may be affected by intervening variables barriers such as: availability, accessibility and credibility of a source can hinder information seeking and use in clinical practice (Wilson, 1981, 1997, 1999 and 2000). Godlee et al (2004) makes a related point: "lack of access to information remains a major barrier to knowledge-based health care in the developing world". In order to address this challenge, the different levels of the health care system and health information services in the ministry of health of Zambia need to each play a distinct role in ensuring access to information, so as to achieve quality health care outcomes.

This also calls for UTH to work together with the UNZA School of Medicine/Medical Library and Lusaka School of Nursing Library and any other health research information providers to come up with ways of synthesizing knowledge which will help nurses to have access to easy, ready to use information which is relevant to meet their information needs in clinical practice. It is very important that this information is evidence based and available for the nurses to use at the point of care.

As indicated in the study that only 9.3% of the nurses frequently use journals as an information source in clinical practice. This could suggest that nurses probably lack access to journals as confirmed by 46% of the nurses who indicated that lack of access to journals/reports hampered them from seeking and accessing research information to use in clinical practice. This agrees with several studies where lack of access to evidence-based resources such as full-text journals, are reported as a barrier to information seeking and use (Blair, 2006, Pravikoff et al. (2005) and Baro and Ebhomeya, (2013).

D. Poor information communication technologies

The study established that poor information communication technology infrastructure was the second greatest barrier to information seeking and use of research information, with 64% of the nurses acknowledging it as a hindrance to information seeking and use. The fact that there are no computers in the wards where the study was conducted, no internet connection was available, nurses had no access to existing internet facilities at work, or access to the internet was located somewhere else

such as the Medical Library were only one of the nurses indicated accessed internet from may be some of the barriers to information seeking and use of research information by the nurses. Most of the nurses had no internet access at work despite the level of responsibility they carried for the care of individual patients, and the role they played in educating patients about their health. Although almost half of the participants reported that they had access to the internet and this was accessed from home using personal laptops and phones as there were funds from UTH to purchase computers for the hospital and connect to internet/intranet. However, this may be a result of less of funding from government to UTH or alternatively UTH just neglecting the purchase of computers for use by nurses as indicating that UTH management may not consider information provision to nurse as a priority in their constrained budget and priorities. Therefore, more work is still needed to create the necessary information and communication technology infrastructure to benefit all health workers at the University Teaching Hospital. Inadequate infrastructure is still one of the biggest problems hindering access to information as one of the nurses pointed out:

“we have no access to computers and Wi-Fi, computers are only found in the offices at the administration, no access to online journals- the hospital should provide computers and internet access in all the wards for easy access to information”.

It is clear from this statement that information communication infrastructure at UTH to enable access to information is very poor.

Information Communication Technology infrastructure as a barrier to information has been discussed by several authors. More fundamentally, in their analysis, Nkosi et al 2011; Nicholas et al 2005 and McKenna et al 2004 all contend that the primary barriers to nurses accessing current research are organisational support for computer use, including access to computers; information technology (IT) and librarian support. In their analysis of Nigeria, Watts and Ibegbulam (2006) conclude that “adequate ICT infrastructure appears to be the principal reason hindering access to online health information resources, and is clearly a more pressing problem than a lack of available information”.

For nurses and other health professionals to obtain maximum benefit from modern information technologies, there is need for the total commitment from management and policy makers to provide the much-needed ICT infrastructure for the staff. Moreover, health staff also require training in electronic information retrieval and basic computer skills. Only then will nurses benefit from various creativities intended at improving health information access for health professionals in Africa and the world over such as the WHO’s Health Inter Network Access to Research Initiative (HINARI); Cumulative Index to Nursing and Allied Health Literature (CINAHL), Medline/PubMed, Cochrane Library and a lot of thousands of electronic databases containing medical information which can be accessed online. Currently, at UTH some of these databases can only be accessed from the Medical Library and other Libraries, while on the other hand UTH nurses rarely visit the libraries and the majority are not even aware such databases

exist were they can have access to millions of research information.

E. Lack of support from hospital administration

The study established that 62% of the nurses were constrained by the lack of organisational support to seek and use research information in clinical practice. The reasons for the organisation not supporting nurses to seek and use research information in clinical practice maybe because management do not appreciate the importance of using research information in clinical practice for them to put it as a health care priority. There is need therefore for providers of information to start by educating hospital administrators on the benefits of using research information in nursing clinical practice through marketing and promotion of information. If management does not comprehend the importance of research utilisation in clinical practice, then they would not encourage its use by health professionals in their institutions. Worldwide studies indicate that support from management in particular, is an important influencing factor on research use. Bryar et al (2003) and McCaughan (2002 and 2005) in their studies found that nurses felt management who were committed to research were facilitators in them accessing and using research information in their clinical practice. They further felt, that managers had an influence in ensuring that staffing levels in the organisations they were providing oversight of were adequate by encouraging attendance at training sessions to ensure continuous uptake of new knowledge. This has the effect of not only encouraging learning but also the use of evidence based knowledge in

clinical practice as nurses are acquiring new skills all the time.

Organisational support also has a pivotal role to play in nurse's information seeking and use in practice. Firstly, to facilitate nurses to gather and analyse research information from direct sources and change practice accordingly. To do this they need time, resources, and management support. Secondly, to provide nurses research information from diverse sources such as journals, protocols, guidelines. This can be through policies and guidelines based on the latest research evidence, study and training sessions. Workshops should be inclusive as one nurse said, '*we don't go for workshops only the same people go*'. Additionally, obtaining research information is merely a first step as organisational culture has an impact also on changing practice based on the information received (Mi Mhaolrunaigh and O'Leary, 2007). Organisational culture is important because if the environment is not conducive then information cannot be shared in clinical practice. Therefore, the culture of the organisation must support ongoing learning and knowledge sharing; and motivate and reward people for creating, sharing and using knowledge. Moreover, the organisation must create an enabling environment where there is a culture of openness and mutual respect and support (NHS, 2005).

F. Lack of time to read

The study also established that lack of time is the fourth challenge to research utilisation and information seeking in clinical practice that UTH nurses identified. This is because the large number of patients that nurses take care of per shift is quite high if good quality care is to be administered. In this context,

Parahoo (2000) contends that lack of time can imply poor staffing levels which can directly affect whether nurses have the time to access the evidence they need and make changes in their clinical practice. The results however differ from other studies that were lack of time to search for information while at work was reported as the foremost major barrier to nurses' and midwives' information seeking and use (Dee and Stanley, 2005; Gerrish et al., 2006; Gilmour et al., 2011; Jones et al., 2011; Bertulis, 2008; Upton and Upton, 2005; Pravikoff et al 2005). The reason could be due to lack of information resources to read, poor information infrastructure and poor reading culture, nurses perhaps do not even realise they need time to research or read. It would be interesting if nurses at UTH were to be provided with the necessary information materials to read, then find out if lack of time will still not be the greatest challenge. However, if information is provided in a way that makes it easy to use and relevant in clinical practice such as clinical calculators, handbooks for drug reference and clinical practice, care bundles, pathways and algorithms, disease and diagnosis aids, decision aids setting out options, risks and benefits of a course of treatment, prompts and reminders and evidence summaries and guideline recommendations as coined by NHS (2015) that it could be the solution to the busy schedule encountered by health professionals.

G. Lack of an information sharing culture

Lack of an information sharing culture was the fifth challenge that nurses indicated hindered them from accessing and using research information in clinical practice. However, would have expected that there is a good information sharing culture among

nurses at UTH even though this came out as a challenge to nurse's access use of research information in clinical practice. It was established then, that though nurses rely on fellow professionals as information sources; they are still get satisfied with the information they receive from colleagues. This confirms Wilson's Model (1996) which stipulates that information-seeking behaviour arises because of a need perceived by an information user; who, in order to satisfy that need, makes demands upon formal or informal information sources that may be used to obtain information which is current. If successful, the user may make use of the information. Otherwise, the user may be fully or partially satisfied, or may fail to fulfil the perceived need, and repeat the search process. The model also shows that part of the information seeking behaviour may involve other people through information exchange; and that information perceived as useful may be passed to other people, as well as being used (or instead of being used) by the person himself or herself (Wilson, 1999).

On the other hand, although nurses use fellow professionals as information sources they may not be confident on the information shared by their colleagues as Case et al. (2005) points out that self-efficacy may be important because, if people do not feel confident that they can find or use information to help them improve their situation, they may be reluctant to seek or use it. This therefore calls for management to create an enabling environment where nurses can feel free and be confident to share information with their colleagues. None of the studies from the reviewed literature established that lack of information sharing culture among nurses was a challenge to research utilisation.

H. Lack of awareness of available research information

Fifty four per cent (54%) of the nurses indicated they were not aware of available information resources. This could be due to poor marketing and promotion of information services available by providers of health information services within the institution as well from the UNZA Medical library and the Lusaka School of Nursing. If nurses are not aware of available information services they cannot have access to them and therefore cannot use them. Dee and Stanley (2005) and Jones et al (2011) maintain that nursing staff may also be unaware of information resources available to them that are potentially of value, despite diligent marketing efforts on the part of health information specialists. This acknowledges that research is not simply 'disseminated' into practice, but requires a complex relationship of awareness, initiation, problem solving, team work, leadership, and resources (Wilkinson et al 2011). The information resources may be available but may not be used because nurses are not aware that such information exists. Since the nurses acknowledge that they are not aware of information resources available, it is up to the hospital administration to work hand in hand with the relevant information providers and services to put up effective measures that would ensure that information resources are promoted and made available to nurses for that information to be fully appreciated. This would therefore result in the use of evidence based information, updated information and consequently, enhance high quality patient care and better patient outcomes at the University Teaching Hospital.

I. Limited skills to search for information

On information searching skills training it was established that the majority (61.4%) of nurses were not trained on how to search for information. Nurses were further asked to rate themselves on how good their computer skills and information searching skills were, the results revealed that the majority of nurses rated themselves as being good 30 (52.6%) while 47% indicated they were poor. This mean that almost half of the nurses had good computer and information searching skill while the other half did not have. It is an indication that lack of computer and information searching skills was also one of the top 10 challenges nurses faced. However even if they indicated they had better computer and information skills, they still had no computers at hand were they could access the information needed. These results agree with those of Phokhwang (2008), in which they concluded that the majority of nurses had better computer skills and searching skills hence they only needed information from journal databases, Internet and hospital information systems. However, others disagree and say their findings were that the majority of nurses studied lacked computer skills as well as information searching skills (Funk et al, 1991); Parahoo and McCaughan, 2001; Nicholas et al, 2005; Hutchinson and Johnston, 2004; Veermah, 2004; Upton and Upton, 2005 and McKenna et al, 2004).

In order to appreciate the vast information which is available out there, there is need for nurses to have necessary information searching skills as well as computer skills. This can only happen when nurses are trained on how to search for information for them to access information; and the information searching skills training should start from the respective schools of nursing

when they are doing their training in nursing. Information searching and use should also be a component in the nursing curriculum in order to achieve Evidence Based Practice for nurses. The results also disagree with that of Dee and Stanley (2005), were the lack of computer skills and data base searching emerged in a small scale study of nurses and nursing students from the Unites States of America were nurses' database searching skills were compared, and it was found that the majority of nurses there, had no computer skills and recommended they needed more computer and database searching training as well. However, nurses at UTH had earlier intimated that they were not aware of the databases they were asked and yet they indicated that they had computer skills. This could only mean that the skills they had was just basic knowledge as the mostly relied on personal laptops. Therefore, there is need for UTH nurses to undergo information search skills training as well as computer skills which should be stressed during nursing school training by incorporated in the nursing curriculum.

J. Overcoming the challenges of accessing research information

The results indicate that the majority of nurses feel that, there was need for management to improve the information and communication infrastructure at the hospital by making available wireless internet access around the hospital premises and provide computers in the wards as well. Other nurses suggested that UTH management should train them in information searching and its importance so as to improve the information searching skills. Furthermore participants felt that there was need for librarians to promote their services to nurses and also to

package information in a way that allows for quick access; so that information can be used for quick reference. Other nurses felt that if management could alleviate the shortage of staff by increasing the number of staff in the wards, it could help the nurses to find time to search for information as the workload could be minimised. Other respondents suggested that hospital administration should support information use by increasing information availability and accessibility to all staff. Respondents also suggested that management should help enhance communication skills of nurses and encourage information sharing among nurses through different platforms such as workshops and meetings where they can be updated of new procedures and other relevant research information for nursing clinical practice.

IV. CONCLUSION

Accessing research information and use of that information in nursing clinical practice has its own challenges. These are the challenges that have been highlighted in this paper. However, what is of paramount importance is that these challenges are addressed so as to enable nurse's access research information to be used in their nursing clinical practice. It is hoped that by the use of research information in nursing clinical practice can improve the health outcomes of the patients that nurses are looking after.

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