

## Application of evidence-based nursing practice at a tertiary hospital in Pretoria, Gauteng Province, South Africa

*Sam Mndzebele<sup>1</sup> and Sylvia Tshivhase<sup>2</sup>*

### **Abstract**

*The modern world has made some significant moves towards promoting the use of evidence-based nursing practice (EBNP) as a form of rendering quality nursing care in hospitals and clinics. There's still a need for the overhaul of the way health professionals are being educated in both academic and in practice settings to also enhance professional development for health professionals who are already in practice. The aim of the study was to assess nurses' knowledge and skills in the use of tested evidence during their daily nursing practice at the workplace. A descriptive cross-sectional survey, through the use of self-administered questionnaires, was engaged to collect data. The sample-size included 273 professional nurses. Only 36.4% of the participants claimed to have adequate knowledge about EBNP. A total of 63.1% participants claimed to have heard about this model before. Only 22.4% agreed to have attended some workshops related to EBNP. Very few (2.9%) reported excelling in the use of EBNP; while above half (52.4%) reported that they were good at their performance, and 42.7% indicated a very poor performance with regard to EBNP. A low proportion (4.3%) admitted that the hospital did provide them with the necessary material resources to enable them to apply this model (EBNP) at the workplace. On the assessment of the participants' perceptions regarding quality of patient care relating to the use of EBNP, the results demonstrated no association in this regard. About 30.3% of the participants reported to having means of accessing information for professional development regarding EBNP. Only 23.8% preferred the internet; while 27.5% opted for both libraries and internet outlets. The findings suggest that there remains a gap in embracing and applying EBNP within the local nursing fraternity. This emanates from a variety of factors such as insufficient resource information, and lack of management support regarding EBNP. There is a need for more resources and strategies towards improving the scope of nursing colleges to embrace EBNP and profession development for nurses who are already in the field.*

Key words: Tertiary hospital, professional development, nurses, evidence-based practice, quality patient care.

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<sup>1</sup> School of Public Health, Department of Health Systems and Policy, Sefako Makgatho Health Sciences University, Pretoria, South Africa. e-mail: samuel\_mndzebele@embanet.com

<sup>2</sup> School of Public Health, Department of Health Systems and Policy, Sefako Makgatho Health Sciences University, Pretoria, South Africa. e-mail: sntshivhase@vodamail.co.za

## Introduction

Science has made some giant steps in ensuring evidence-based nursing practice (EBNP) during nursing care in hospitals and clinics. It has been proven beyond doubt that the use of available knowledge in nursing care can go a long way in enhancing quality patient care, by merely applying the best and tested evidence and standard practice possible (Craig & Smyth, 2002). Some studies have revealed that the application of EBNP when dealing with patient-care enhance quality in service delivery, leading to both patient and health professionals' satisfaction (Covell and Sidani, 2013; Marshall et al, 2014; Eden et al, 2011; Stevens, 2013; AACCN, 2008). Through the use of EBNP, improving quality in healthcare delivery ranges from clinical care for individual patients to the public services that protect the health of whole populations. In most developing countries there is increasing concern about the quality of nursing care, especially in public hospitals. This arises from a number of issues that include attitudes of nurses, patients' waiting times, the burden of diseases, and poor management of hospitals (Department of Health, 2011).

It is argued that the use of EBNP in healthcare settings has shown great strides in enhancing improvements in patient care. For instance, the combination of knowledge and skills resulting from tested-evidence has shown far-reaching outcomes in quality patient care (Majid, 2011). However, as much as there are successes on EBNP especially in developed countries, there is still so much to be done for this model to be effectively implemented throughout the global community. As in the case of South Africa, there still exist a variety of challenges for clinicians, health educators, and scientists in this regard. These challenges include among others, a wide gap in the EBNP knowledge and skills among health care professionals. Hence, it is of great importance that health professionals should be educated to deliver patient-centred care as members of an interdisciplinary team emphasizing evidence-based practice (Stevens, 2013).

It has been shown that EBNP minimizes some risks on the part of patients/clients such that the benefits outweigh any anticipated harm during delivery of care. This is because through the use of EBNP, the nurse applies the acquired skills directly onto the work-place. By applying the core skill of EBNP into the healthcare system means greater focus towards the use of specialized and tested evidence of health and human sciences into the ground (Youngblut and Brooten, 2001; Cullen and Adams, 2010). However, this remains impossible within an environment which allows limited access to such tested-evidence. Hence, access to contemporary information is crucial in every area of professional development. However, this is one area which is mostly overlooked in the place of work. For instance, in a study on the value of library and information services in nursing and patient care, Marshall et al, (2014) recommended that the need for nurse managers and other experienced nurses to advocate for the accessibility of library resources, staff, and services for practicing nurses. This may mean increased budgetary resources to maintain or expand health library collections, providing internet and intranet access to nurses at the bedside, and investing in continuing education for nurses that will maximize the appropriate use of EBNP information systems (Marshall et al, 2014).

Literature indicates that while some health professionals including nurses have shown positive attitudes toward EBNP; they are still faced with significant challenges and barriers in implementing tested-evidence during their day to day working environment (Wallis, 2012). The most frequently cited barriers to EBNP are that of insufficient time to implement these within the work environment, and the culture within each organization which may not provide efficient supporting systems for nurses to enable them to implement new and tested skills. Also, what always stands in the way of EBNP activists is the old mentality of resisting change or failure to embrace new developments by a certain crop of nurses. Literature has demonstrated that while nurses, in general, do have some positive attitudes toward the use of EBNP, they are faced with barriers in their workplaces in an attempt to effectively implement EBNP. Hence this study also attempted to investigate some of these barriers (Wallis, 2012: Milner, 2009). The aim of the study was to investigate the nurses' experiences and barriers associated with the evidence-based nursing practice.

## **Methodology**

### **Design**

A quantitative, descriptive design was used to conduct a survey among professional nurses at the Steve Biko Academic Hospital, Gauteng Province, South Africa. The study population consisted of all professional nurses, from junior nurses to the operational managers in the wards and specialized units. A convenience sample was used to select nurses during the regular hospital meetings. Participation was open to all nurses in terms of their ages, race, and gender. However, only the nurses who were in their day-shift during the period of data collection were included in the study. The population frame covered a total of 765 professional nurses at the time of data collection. The Raosoft sample calculator was then used to determine our population sample size (Raosoft, 2004), from which a sample size of 256 was derived with a margin of error of 5%, confidence level of 95% and a distribution of 50%.

### **Data collection**

A semi-structured questionnaire consisting of both closed and open-ended questions was used for data collection. The questionnaire comprised three sections; the socio-demographic characteristics of the participants, their work experiences, and their knowledge on the use of EBNP. The questionnaire was pretested with ten professional nurses at the clinical department within the same hospital. This department was excluded during the actual data collection. Based on some minor issues raised following the pre-test, the tool was modified accordingly and adjusted. The research team had a meeting with the staff development manager at the hospital to obtain information about regular meeting dates for the nurses. On the days of data collection, a description of the study was given to all the nurses who were present. Those who were willing to participate were requested to remain behind for more details about the study. After signing a consent form which also comprised detailed information about the study, the participants were given the questionnaires which also included additional instructions on how to respond to the questions. The researchers gave the

participants roughly 30 minutes to complete and return the questionnaires during each session of data collection. Where there was a need, the researchers was available all the time to assist them in the completion of the questionnaires.

### **Data analysis**

When all responses had been assembled, these were individually checked to ensure completeness. Data was entered into an Excel spreadsheet and then imported into STATA 10.0 software for analysis. Univariate analysis of numerical data was computed using summary measures expressed as means and medians. All statistical tests were performed using two-tailed tests at the 0.05 level of significance. The categories of socio-demographic characteristics, knowledge, and practices were analyzed and displayed in tables and figures. Barriers to use of EBNP by nurses was analyzed descriptively and presented in tables.

### **Validity and Reliability**

To increase both the reliability and validity, the questionnaire was pretested. In addition, the questionnaire was sent to experts in the field of Public health to check for content validity. Peer review of the tool through inputs from nursing cadres regarding the content of EBNP was also sourced during the pre-testing stage. Amendments were made to the tool in response to comments received.

### **Ethical considerations**

The Medunsa Research Ethics Committee (MREC) at the University of Limpopo gave ethical approval to conduct this study. Permissions were sought from both the hospital management at Steve Biko Academic Hospital and the University of Pretoria. The participants were given sufficient information about the study, were reassured of anonymity, and informed that they could withdraw from the study at any time they wished to do so.

## **Results**

### **Sample characteristics**

A total of 300 questionnaires were distributed, and 276 were returned giving a response rate of 91.6%. Over two-thirds (61%) of the participants had a basic nursing diploma, 32% had a university degree, 4% had an honors' degree, and only 1% had a master's degree. The mean age of the participants was 38.8 years.

### **Knowledge and use of EBNP in the workplace**

Only 36.4% of the 63.1% who reported to have heard about EBNP had adequate knowledge about EBNP and what it entails during the delivery of nursing care in a hospital setting. On whether participants had ever attended any workshop related to EBNP in the past, only 22.4% had, which also explain why only a small number (36.1%) had sufficient knowledge about EBNP. Regarding rating themselves, very few (2.9%) felt they were excellent in performing their duties using EBNP daily, above half (52.4%) felt that they were good at their performance regarding EBNP, and 42.7% felt that they were performing very poor in EBNP. The results showed that only 4.27% of the participants indicated that the hospital provided

them with the necessary material resources to enable them to apply EBNP to perform their daily duties.

**Table 1: Perceptions of nurses on the use of EBNP in relation to quality patient care**

		Quality in Patient Care				
		EBNP	%	General Care	%	
		Freq.		Freq.		Total
<b>Use of EBNP</b>	No	61	26.9	3	1.3	64
	Not-sure	56	24.6	1	0.4	57
	Yes	104	45.8	2	0.8	106
Pearson Chi <sup>2</sup> (2) = 1.4501 <i>P-value</i> = 0.484						

**Access and barriers to the use of EBNP**

With regard to specific barriers hindering the full application of EBNP, it was found that 30.3% of the participants had means of accessing information for professional development. While 23.8% indicated using the internet as their source for professional developmental purposes and about 27.5% indicated that they used the local libraries and the internet to develop themselves. With regard to the main challenge in using EBNP, about 53.8% indicated that the hospital does not support and does not encourage the staff in matters of professional development. The

**Discussion**

In this study, over two-thirds (63.1%) of the nurses were relatively aware of the EBNP model, but less than half (46%) indicated to have undertaken in-service training in the use of EBNP. However, only 36.4% reported that they had sufficient knowledge on EBNP. The level of knowledge observed in the current study is lower than findings in a study conducted by Merdad et al (2012) where about 47.1% of nurses reported that they had sufficient knowledge on EBNP. These findings are worrying because the implications of the low level of knowledge of EBNP points to insufficient means toward professional development with regards to EBNP.

Application of tested evidence from research and outcome management projects has been shown to improve the quality of patient care and health service delivery. There is evidence that in cases where nurses are better educated in their professional duties, patients have 8% lower risk of dying in hospitals (Thorsteinsson, 2013). However, only nurses who had 1-5 years of service in the current study believed that in-service training could help them develop professionally towards effective utilization of EBNP. The need for training is important in the current study given that 42.7% of the nurses indicated that they were performing poorly regarding EBNP. There is a need for support for nurses to practice evidence-based nursing; the study’s findings suggest that poor performance with regard to the application of EBNP could be due to the low level of support nurses get from the hospital. As only 4.3% indicated that the hospital management provides them with the necessary material resources that would enable them to effectively and efficiently apply EBNP when performing their regular duties.

Our study found that lack of access to latest information and poor support from the employer remain the key factors that were hindering the nurses in professional development and application of EBN. The results showed that only 30.3% of the participants indicated that they had means of accessing resource information for professional development regarding EBNP. About a quarter (23.8%) accessed information through the internet and about a third (27.5%) used the local libraries together with the internet in developing themselves. This was found to be consistent with previous findings, Thorsteinsson (2013) found that most (82%) of the respondents would normally turn to peers when in need of information, rather than peer-reviewed resources. Although over half of them (54%) had received instructions in the use of electronic databases (Marshall et al, 2014; Thorsteinsson, 2013; Estabrooks et al, 2005; Profetto-McGrath et al, 2007)

Also of note is the fact that earlier studies regarding nurses' information-seeking behaviors suggested that nurses as a group are unlikely to be consistent users of research journals and other evidence-based resources. Nurses seem to prefer information obtained through social means as compared to those obtained from scholarly sources. Marshall et al (2014) found that critical care nurses, when faced with a clinical question, were most likely to value and use information obtained from consultations with colleagues; while electronic and print resources were less preferred options. Of note, this trend is evident throughout the world that nurses point limited physical access to information resources, lack of skills to understand and utilize information accessed, and insufficient time to seek out research and incorporate it into clinical practice in the form of EBNP (French, 2005; Marshall et. al, 2014; Thompson, et al, 2005).

The above findings should be considered bearing in mind that this was a cross-sectional study at one tertiary hospital in Gauteng province. Hence the findings may not be generalized in the whole of South Africa. In addition, the questionnaire was adapted and adjusted to suit the local site. Hence some key issues relating to this topic may have been omitted altogether.

### **Conclusion**

The findings suggest that there remains a gap in embracing and applying EBNP within the nursing practice. This emanates from a variety of factors such as insufficient resource information, age differences among nurses, and lack of management support regarding EBNP. It concerns that less than half of the nurses in a hospital have sufficient knowledge of a program that facilitates and promotes quality in patient care. A lot of need needs to be done among the nursing staff regarding EBNP. Such needs include providing more resources and strategies towards improving the scope of nursing colleges to embrace EBNP and profession development for nurses who are already in the field.

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