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Assessing Attitudes towards Knowledge and use of Evidence-Based Practice among Nurses Working in a Teaching Hospital in Kuala Lumpur

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ABSTRACT

Evidence-based practice provides the most effective care that is available with the aim of improving clients' outcome. However, despite existing policies related to encouragement to or requirement of evidence-based practice (EBP), results of reviewed studies show nurses do not generally incorporate research evidence in their daily practice. This study aimed to assess nurses' attitudes towards knowledge and use of EBP in a teaching hospital in Kuala Lumpur. This study used descriptive cross-sectional survey among 265 nurses (out of 851), working in the different adult medical-surgical wards, who were selected through the quota sampling. Participants in this study, reported positive attitudes towards EBP, good knowledge of EBP, but poor utilization of evidence in their practice. Results of this study affirmed the findings of previous researches, showed despite having positive attitude and perception of good knowledge/skill regarding EBP; nurses did not incorporate evidence into practice. Application of EBP in clinical setting increases the quality of patient care, clients' outcome and nurses' job satisfaction and retention. In this regard, nursing managers and authorities have an important role in providing supports, facilities and persuading environment to focus nurses on evidence-based practice. It is recommended that the effect of personal and professional agents on actual EBP activities among nurses should be assessed through the observational studies rather than self-report questionnaire.

Key words: Evidence-Based Practice, Nurse, Attitude, Knowledge, EBP use

INTRODUCTION

Evidence-based practice (EBP) provides the most effective care that is available with the aim of improving client outcomes. Health care professionals are progressively requested to apply evidence in to the practice in order to amend the quality and efficacy of patient care (Brown et al., 2010; Gifford et al., 2007; Moch et al., 2010). In order to employ evidence-based practice and promote quality of care effectively, nurses need to have a positive attitude, adequate knowledge and applicable research utilization (Belden et al., 2012; Lenz & Barnard, 2009; Vratny & Shriver, 2007).The aim of the study was to assess the nurses' attitudes towards knowledge and use of EBP in a teaching hospital in Malaysia.

Significance

Application of the novel relevant evidence to notify practice has been discussed as a necessary part of implementing a high quality care (Brown et al., 2009; Ferguson & Day, 2007). However, despite existing policies related to encouragement to or requirement of evidence-based practice (EBP), results of reviewed studies show nurses do not generally incorporate research evidenced in their daily practice (Shaneyfelt et al., 2006; Sherriff et al., 2007; Thompson et al., 2007).

Although the value of evidence-based practice is broadly and by no means new, this topic deserves continued discussion. Thus, it can be important to assess nurses' attitudes towards knowledge and use of EBP.

Bahtsevani et al. (2010); Doolin et al. (2011); Kin et al. (2013); Mashiach Eizenberg (2011); McSherry et al. (2006); Scott and McSherry (2009), and Timmins et al. (2012) have reported that nurses have consistently positive attitudes towards using research in practice. Furthermore, a systematic review conducted by Milner et al., (2006) showed that not all of clinical nurse educators had essential knowledge of appraising the research and the skill to apply evidence effectively into practice. Mashiach Eizenberg (2011)found a relationship between educational level and rate of EBP. It showed that degree level nurses reported more evidence-based professional behaviour than those without degree (Mashiach Eizenberg, 2011). The education level of the nurses in these studies may vary from the education preparedness found among the Malaysian nurses. This may lead to a different conclusion since a majority of the Malaysian nurses are currently diploma or certificate holders only.

Indeed, it was noted by researcher that majority of nurses who were working in a public teaching hospital rarely use

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EBP, as some of them did not understand what EBP is when informally asked by the researcher. Their sources of information, attitudes, knowledge and practice regarding EBP were not assessed nor were much written about it. Since there is no evidence of such previous studies in Malaysia, this research can help to validate the EBP questionnaire in Malaysia through the pilot study. It also provides the chance of more relevant studies for other researchers. Indeed, such study can provide future interventional studies related to EBP. Thus this study is timely and will help to address the subject matter.

Research Questions

The four research questions reported on in this paper are:

1. What are nurses' attitudes toward EBP?
2. What kind of knowledge nurses have related to EBP?
3. How is EBP practice by the nurses?
4. Is there any relationship between demographic data and dependent variables (Attitudes toward EBP, Knowledge of EBP and Use of EBP)?

This study also included an analysis of different sources of information used in EBP by nurses. This information will be presented in a future publication.

Theoretical Framework

Theory of Reasoned Action (Fishbein, 1979) has been widely applied to understand various behaviours in the field of health care (Analysis, 2002; Côté et al., 2012) and to describe behaviours and intentions of health care professionals (Godin et al., 2008).

The theory of reasoned action proposes behavioural intention as the main essential determinants of behaviour which depends on two constructs: attitudes towards act or behaviour and subjective norm. They demonstrate that how hard people are likely to try and how much an effort they put to change in order to fulfil a given behaviour. In this study, the researcher aims at answering questions like how likely the nurses' attitude towards EBP is, how much they put effort to gain knowledge of EBP and to use EBP into their daily clinical practice.

Behavioural intention in this study is identified as the knowledge and practice score that nurses obtained via the questionnaire. It is defined as nurses' attempt to achieve the best knowledge regarding EPB.

Behaviour is defined as the practice that an organism regulates to its setting (Cuddon, 2012). To change or adopt a new behaviour, people need internal and external stimulating factors to use. In this study, behaviour is defined by EBP practice and scored in the second part of questionnaire. However, limitation of self-reported questionnaire does not allow the researcher to observe participants' practice regarding EBP. Therefore, the behaviour or behavioural changes will be assessed through the nurses' self-report of their EBP.

Attitude is a belief about the outcomes of a given behaviour. The more positive attitude towards an action, the more intention would be constructed in person to perform that. In this study nurses' attitudes towards EBP is one of the main concepts that will be assessed in the second part of the questionnaire.

Another concept of theory of reasoned action is subjective norm. It is defined as a one's perception of social pressure to fulfil or not to fulfil a given behaviour. However in this study, the researcher will not assess the effects of nursing managers or patients' expectations on nurses' EBP. Therefore, the subjective norm is suggested to be included in the future research. This study aimed to assess nurses' intentions towards evidence-based practice (behaviour) by identifying their knowledge (behavioural intention) and attitudes toward EPB.

METHOD

This study used descriptive cross-sectional survey which was carried out in a teaching hospital (UMCC hospital (University Malaya Medical Centre) in Kuala Lumpur, Malaysia.

Sample

The Raosoft program (taken from the website http://www.raosoft.com/samplesize.html) calculated 265 samples of 851 nurses' employees working at adult medical surgical wards in the hospital. Quota sampling provided this study with the major characteristics of the population by sampling a proportional amount of subjects, considering time limitation of the study. First, the researcher found out the proportion of the population working in each speciality. Then, sampling started and continued until those proportions were completed. The sample size which was finally used for data analysis was 220 nurses.

Data Collection

As soon as the study was approved by Ethics Committees of University Malaya (Ref No: 201310-0368), self-administered questionnaires and consent forms were distributed to the subjects. Those who met the inclusion criteria were asked to sign the written consent forms before participating in the study. Eligible participants were encouraged to return the questionnaires on the same day to avoid any discussion among the participants. Necessary information about how to complete the questionnaire was given to respondents. Data were collected from December to February 2014.

Instrument

Data were collected using self-administrated questionnaires with two parts. The first part, demographic data consisted of 9 items, and the second part, evidence-based practice questionnaire (EBPQ) consisted of 24 items in three subscales to measure: practice (6 items), attitudes (4 items) and knowledge (14 items) regarding EBP.

The first part of the questionnaire was designed by the author gaining ideas from previous studies, expert lecturers and the researcher's own reflection on factors associating outcomes. The second part of the questionnaire (EBPQ) has been previously used by researchers (Gerrish & Cooke,

2013; Rycroft-Malone & Bucknall, 2011; Upton & Upton, 2006) and validated by Upton and Upton (2006).

Validity and Reliability

In order to make the questionnaire understandable for all participants, back-translation was conducted. Since, the official language of the participants was *Bahasa Malayu*, a Malay translated questionnaire was provided. To test the research validity both face and content validity were employed. The questionnaire was shown to a group of panel experts to check the items based on assessment in the topic area which was the attitudes towards knowledge of and use of evidence-based practice. To test the reliability a pilot study was conducted. The pilot study was undertaken involving 10 per-cent of sample size (n= 27) who were then excluded from the main study. Internal reliability was established by a Cronbach's alpha of 0.93 for the entire questionnaire, 0.90 for the practice of EBP sub-scale, 0.77 for the attitudes sub-scale, and 0.96 for the knowledge/skills sub-scale.

Data Analysis

SPSS software (Version 23.0) was used for data analyses. A total of 227 nurses working at different adult medical surgical wards in the teaching hospital participated in this study. The total number of excluded participants was 7 from further analyses because of incomplete data, resulting in 220 respondents. Descriptive statistics was used to explain the demographic data of participants and the rate of each subscale/item of EBP questionnaire (Attitude towards EBP, Knowledge of EBP and Use of EBP). Bivariate Pearson's correlations, independent T-test and one-way ANOVA were conducted to emphasise any associations between dependent and independent variables.

RESULTS

Most of the respondents (84.5%) were females (n=186). The mean age of the participants was 29 years (*SD* = 7.262). A majority of the participants were Malay (72 %) and married (64%). In terms of educational level, 69 % of nurses were diploma holders and only 2% of them had bachelor's degree. The mean year of qualification of subjects was 2006 (*SD* = 7.232). Most of the participants were specialised in general medical wards (99%) and positioned as staff nurse (89%). The mean of duration of participants' work experience was 7 years (*SD* = 6.742) (Table 1).

Each item on the EBP questionnaire is scored from 1-7 (1= poor, 7= best) and the average score was calculated for each subscale (Practice (1), Attitude (2) and Knowledge (3)). Higher score indicates a more positive attitude towards EBP, or knowledge and use of EBP. Three subscales of EBP mean scores (± standard deviation) were as follow:

Attitude	5.3 ± 1.26
Knowledge	4.5 ± 0.808
Practice	3.8 ± 0.967

It demonstrated a positive attitude towards evidence-based practice, and good knowledge of EBP which was slightly higher than mid-range among nurses. The nurses reported a poor practice regarding EBP (Table 2).

Table 1. Characteristics of participants

Variable	N		Percentage
Gender			
Male	34		15.5
Female	186		84.5
Race			
Malay	160		72
Chinese	29		13
Indian	28		13
Others	3		2
Marital statues			
Married	141		64
Single	79		36
Educational level			
Diploma	152		69
Post basic	63		29
Bachelor	5		2
Specialty			
Gynaecology	6		3
Ophthalmology	7		3
Critical care	62		28
General medical	88		40
Psychiatric	14		6
Surgery	43		20
Position			
Staff nurse	198		90
Head nurse	13		6
Supervisor	6		2.5
Matron	3		1.5
	Min	**Max**	**Mean**
Age	21	59	29.42
Year qualified	1972	2013	2006
Experience	1	32	7.26

The results reported in Table 2 are interpreted in the following sections.

Attitudes toward EBP

Nurses' attitudes towards EBP (*M* = 3.87; *SD* = .967) had a significant association with total EBP ($p < .05$) and knowledge of EBP ($p < .05$). Whereas, no significant correlation was shown between nurses' attitudes towards EBP and their practice ($p > .05$).

Regarding participants demographic information, attitudes towards EBP were correlated with race (Malay, Chinese, Indian, others) ($p < .05$), educational level (diploma, post basic and bachelor) ($p < .05$) and specialty (gynaecology, ophthalmology, critical care, general medical, psychiatric, surgery) ($p < .05$).

Table 2. Descriptive statistics results of Evidence-Based practice (EBP)

Scale	N	%	Mean±SD
Poor (4>), Mid-Range (4) , Good (4<)*			
Total EBP			
Poor	42	19.1	4.573 ± 0.679
Mid-Range	4	1.8	
Good	174	79.1	
Attitude			
Poor	23	10.5	5.313 ± 1.264
Moderate	38	17.3	
Good	159	72.3	
Knowledge			
Poor	47	21.4	4.569 ± 0.808
Mid-Range	25	11.4	
Good	148	67.3	
Practice			
Poor	116	52.7	3.837 ± 0.967
Mid-Range	29	13.2	
Good	75	34.1	

*1-7 Likert scale

Knowledge of EBP

A significant association were seen between nurses' knowledge of EBP (M = 5.31; SD = 1.26) and total EBP. Also respondents' knowledge of EBP was related to their attitudes toward EBP and their utilisation of EBP ($p < .05$). There were positive associations between nurses' knowledge of EBP and their age and work experience and a negative association between nurses' knowledge of EBP and the year of qualification ($p < .05$). Indeed, knowledge of EBP was related to the nurses' races, educational levels and positions (staff nurse, head nurse, supervisor and matron) ($p < .05$).

Use of EBP

Participants' use of EBP (M = 4.56; SD = .808) had a relationship with total EBP and knowledge of EBP ($p < .05$). Utilization of EBP was associated with nurses 'age and positions' ($p < .05$).

DISCUSSION

The findings of this study revealed that the extent of EBP among nurses was related to nurses' attitudes towards EBP, knowledge of EBP and utilization of EBP. This supported the results of previous studies that subscales of EBP had a significant association with the EBP among nurses (Estabrooks et al., 2003; Kin et al., 2013; Rycroft-Malone & Bucknall, 2011).

Although nurses had a positive attitude towards evidence-based practice and a good knowledge of EBP, they reported a poor utilization of EBP (Bahtsevani et al., 2010; Doolin et al., 2011; Heaslip et al., 2012; Kin et al., 2013; Mashiach Eizenberg, 2011; McSherry et al., 2006; Scott & McSherry, 2009; Timmins et al., 2012).

The findings of the current study support literature which highlighted the importance of nurses' knowledge of EBP. Participants reported their knowledge/skill of EBP slightly higher than mid-range level (in the Likert scale scores 1-7) while, other researchers found nurses with the poor knowledge/skills of EBP (Milner et al., 2006; Thompson et al., 2007; Gerrish & Cooke, 2013). The results of the study indicated that despite a positive view of research, it is not reflected in nurses' belief to employ evidence into their day-to-day practice and clinical decisions.

Associations between attitude towards EBP and educational level, specialty and race emphasised the role of educations, nursing managers and work place environment (Bradshaw, 2010) in nurses' intention toward EBP in nurses' attitudes towards EBP. It also revealed that nurses with different backgrounds of race, might have more abilities regarding EBP such as English skills.

The significant relationship between nurses' knowledge and total EBP, attitudes towards EBP, and use of EBP indicated that nurses who were more knowledgeable/skilled regarding EBP, had a greater positive attitude towards EBP and a stronger tendency to apply EBP. However, nurses reported that their knowledge of EBP was only slightly higher than mid-range. It confirmed the result of the systematic review conducted by Milner et al., (2006) which found not all of clinical nurses had essential knowledge of the research skills to apply evidence effectively into practice.

Findings showed as the nurses became more experienced, their knowledge/skills of EBP were increased. Perhaps, the more experienced nurses must have more attended in the training courses offered by their organization therefore they could enhance their knowledge and skills of EBP (Thompson et al., 2007). Similarly, Mashiach Eizenberg, (2011) found that degree level nurses reported more evidence-based professional behaviour than those without degrees.

With the same results as other previous studies, this study found poor application of EBP among nurses (Schantz & Soini, 2013; Hewitt-Taylor et al., 2012; Heaslip et al., 2012). Findings of the existing relationship between application of EBP and participants' age and position demonstrated that the nurses, who had greater knowledge and higher positions, were more aware of application of EBP.

Indeed, no relations found between use of EBP and educational level among participants in this study which confirmed the findings of a study done by Schantz & Soini (2013) that believed nurses in any educational level needed capacity of performing evidence-based care.

Clinical setting: EBP increases the quality of patient care and attains the best possible clients' outcome. Nurses feel more confidence about their skills, knowledge and practice as different studies support their actions.

Organization: EBP will decrease health care costs as it manages available resources to identify the most effective mechanisms of patient care, instead of wasting money in useless traditional cares.

Management and Education: nursing managers can provide support, facilities and persuading environment to focus nurses on evidence-based practice (Bradshaw, 2010; Biron et al., 2007; Shirey, 2006). Indeed, nursing authorities are

responsible for preparing nurses to adopt EBP from the early steps.

First, since it was the first study regarding evidence-based nursing practice, more studies should be conducted in different clinical settings to obtain a nationwide data on EBP among nurses in Malaysia. Second, an EBP training course could be implemented followed by randomized clinical trials consists of an intervention or observation to assess the effectiveness of EBP on attitudes, knowledge and practice of nurses who attend in the EBP training course. Third, it is recommended that other components such as barriers and facilitator of EBP among Malaysian nurses could be researched in the future studies. This study used a self-administered questionnaire. Thus, there was the possibility that nurses' responses were confounded by their tendency to self-evaluate. Indeed, instrument did not allow researcher to assess nurses' practice through the observation, and the findings only represented nurses' self-reports of their EBP practice.

Furthermore, this study conducted in just one teaching hospital in Malaysia. Therefore, findings might not be generalizable to other public, private and non-academic hospitals. Finally, as this research applied survey, the relationship between demographic data and outcomes cannot be taken as a cause-and-effect relationship.

CONCLUSION

Findings of this study illustrated that with regard to EBP, Malaysian nurses face the same issues as other worldwide health professionals. Participants in this study reported positive attitudes towards EBP and good knowledge of EBP, but poor utilization of evidence in their practice. In this regard, this research suggests that nursing managers and authorities have an important role in providing support, facilities and persuading environment to focus nurses on evidence-based practice. It is also recommended to investigate the effect of personal and professional agents on actual EBP activities among nurses assessed through the observational studies, rather than self-report questionnaire.

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