

Research methods in health and social care

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Research Methods in Health and Social Care Critical review of quantitative research Majid, S. Foo, S. Luyt, B. Ahang, X. Theng, YL. Chang, YK. Mokhtar, IA. (2011) Adopting and evidence-based practice in clinical decision making: nurses' perceptions, knowledge, and barriers. *Journal of the Medical Library Association* 99(3) PP229-236. This essay will be a critical review on the study conducted by Majid et al (2011). The article which is titled ' Adopting evidence-based practice in clinical decision making: Nurses' perceptions, knowledge, and barriers'.

Investigates the attitudes of Singaporean nurses regarding; evidence based practise. The researchers wanted to identify how the nurses informed were about evidence base practice. They also wanted to identify how the nurses researched literature. Evidence based practise is about good practice and improving the quality of care, this is achieved through a combination of evidence and professional expertise, integrated into clinical practice (Baker, 2012). The study reveals that the majority of nurses working in public hospitals in Singapore have positive attitudes towards evidence based practice.

Literature review A literature review is a complete study and understanding of research literature that researchers examine prior or during their research study (Aveyard, 2010). Majid, et al. (2011) looked at a wide range of literature within their research, it is imperative for researchers to look at numerous research related to their research topic to gain an insight on how they conducted their study and the conclusion that was identified from the study (Aveyard, 2010). Literature reviews should have a sufficient amount of studies considered.

Majid, et al. (2011) looked at a total of twenty two studies, by reading a sufficient amount of studies this ensures that the researcher does not get a misleading picture of the topic (Aveyard, 2012). The sources used within the literature were relatively old; these old sources may not be relevant to current times. Literature reviewed should not be more than five years old as attitudes and beliefs change frequently meaning the studies could not be relevant to current attitudes and beliefs (Godshall, 2010). Majid, et al. (2011) found from their literature search that the general view on evidence based practice was positive. This could question whether Majid, et al. (2011) conducted a systematic review of the literature as there was no mention of any research which found that nurses found a negative view on evidence based practice (Houser, 2008). The studies mentioned in the literature at were not conducted within the southeast of Asia therefore Majid, et al. (2011) wanted to investigate attitudes towards evidence based practice from the southeast of Asia.

This gives justification for the study as there have only been studies conducted in North America, Europe and other developed western countries. Majid, et al. (2011) wanted to compare the result from their study with the previous studies. Majid, et al. (2011) also discovered that most of the literature that was reviewed shared the same findings on barriers to evidence based practice. The healthcare professionals claimed that lack of time was the barrier to acceptance, adoption and implementation of evidence based practice. Majid, et al. (2011) in addition recognised that only a few studies that they researched had explored the literature searching skills of nurses Literature reviews should be systematically reviewed to ensure that

the research reviews are reliable (Graziano and Raulin, 2007). Majid, et al. (2011) did not state whether the studies that were looked at were systematically or peer reviewed. Approach and Methodology The study was a primary study however did look at survey instrument used by other previous evidence based practise studies. Majid, et al. (2011) used a quantitative method of research.

Quantitative research methods require finding a variable for concepts, operationalising them in the study and measuring them (Grix, 2010). Majid, et al. (2011) study did this by using a survey questionnaire as a means of collecting data. The questions were compiled by a team comprising information studies faculty at the Nanyang Technological University and nursing representatives from the National University hospital. Making the questionnaire unbiased towards the researchers. Marczyk, et al. (2005) states that it is important for all research to not be biased towards the researchers.

Quantitative research methods are objective as it uses measurements and analysis of statistical data to answer the study question. The researchers' opinions do not affect the outcome of the study, ensuring that the study is unbiased. Another advantage is quantitative research uses numbers and statistics which is understood universally (Houser, 2008). The researchers have clearly described how they implemented their research in the methods section; the study is easily replicable as it uses a survey questionnaire to collect data.

However the research study would have been better if they used qualitative methods to find out the nurse's perceptions, knowledge and barriers towards

evidence based practice in clinical decision making. Majid, et al. (2011) could have interviewed some of the participants to get detailed descriptions of how they feel about evidence based practice in clinical decision making. This would allow the researches to get an in-depth understanding making the study more valid (Saris and Gallhofer, 2007).

Quantitative research is best used for quantifying relationships between variables (Hopkins, 2008). The objective of the study was not to identify relationships between variables instead was to explore the attitudes, awareness and knowledge towards evidence based practice. Some could argue that making this study more suitable for a qualitative study. Quantitative research study should have a hypothesis (Maryann, 2010). Majid, et al. (2011), did not state a hypothesis for their study neither did they define a prediction of what they think was going to be the outcome of the research.

Sample The samples used for the research conducted by Majid, et al. (2011) were registered nurses in 2 public hospitals in Singapore. The researchers made 2, 100 copies of the questionnaires to be completed, however 1, 486 were completed. The response rate was 70% , for quantitative research a large sample size is essential to ensure that the study is statistically accurate (Houser, 2008). The fact that not all of the questionnaires were completed means that the study cannot be fully generalised as some people did not respond.

Also some staff was on annual, medical or maternity leave therefore could not participate again making the study not generalised and potentially biased. Majid, et al. (2011) used two different hospital sites to collect data

from; this is a good approach as the views on Evidence based practice may be different in the two hospitals, therefore allowing for a comparison of the hospital views. However this could be a negative as only two public hospitals in Singapore were used, therefore making the study hard to generalise to other hospitals in Southeast Asia.

All research must follow ethical guidelines. Researchers must ensure that their research ensures confidentiality, anonymity, legality and professionalism (Grix, 2011). Majid, et al. (2011) had ethical approval from the Domain Specific Review Board, appointed by the National Healthcare Group. The researchers did not have consent forms for the participants; however the participants were made aware that by completing the questionnaire they were giving their consent. The nursing managers were briefed and asked to hand the questionnaires out.

There is no evidence that the participants were given a briefing from the nursing managers maybe it could have been more ethical if Majid, et al. (2011) briefed the nurses themselves before asking them to complete the questionnaire. As the questionnaire was self administered the respondents may not have got the reassurance or debriefing needed (Nosek, et al. 2002).
Data collection Data collection must be appropriate, reliable and valid (Houser, 2008). Majit, et al. (2011) used a survey questionnaire. A 5-point likert scale was used in the questionnaires for collecting the nurse's perceptions on evidence based practice.

The advantages of using a likert scale are that the questions are easy to construct, furthermore the likert scale allows for easy comparison of the participants responses. The disadvantage of using a likert scale is the total

score of an individual's response does not have a clear meaning as a total score can be fixed by a variety of answer patterns (Kothari, 2004). Survey questionnaires require the participants to answer questions presented to them. The questionnaire was self administered, which allows for anonymity and less control from the researcher (Mitchell and Jolley, 2012).

The first set of questions were demographic questions which asked education, job title and length of experience. Majid, et al. (2011) used the results from the demographic information collected to identify a relationship between the demographic information and the ability to undertake evidence based practice activities and other related activities. Another advantage of the survey questionnaires are that a large sample group was targeted within a small space of time. The surveys were collected within a 2-week period. Maybe if they waited 3-weeks they might have had a greater response rate.

Lastly survey questionnaires are easily replicable as the questions are standardised therefore making them a good method of research (Mitchell and Jolley, 2012). The disadvantages of using survey questionnaires for data collection includes respondents are usually unreliable as the participants may not have time to complete the survey. Majid, et al. (2011) had a response rate of 70%. In addition research is also prone to the Hawthorne effect as the participants know that they are being tested, they may not answer the questions on the questionnaire truthfully (Waltz et al, 2010).

This may mean the study To assess the nurses' ability to search databases a hypothetical top was presented to the nurses, with 5 possible search statements and were asked to choose the most appropriate search statement. The validity of this method of measuring their ability to search a

database could be questioned. Results The results are presented in table form making the data easy to analyse Majid, et al. (2011) seemed to make assumptions about the beliefs and attitudes towards evidence based practice. The result percentages are too close together.

The results from the questions asked about beliefs and attitudes towards evidence based practice showed that 64. 3% of the nurses either disagreed or strongly disagreed with the statement that they preferred using traditional methods than new patient care approaches. Majid, et al. (2011) failed to account for the 35. 7% of respondents who didn't disagree or strongly disagree. Majid, et al. (2011) found that 52. 8% of the nurses disagreed with the statement that they do not like people questioning their clinical practices that are based on established methods.

From this Majid et al concluded that the nurses were open to adopt new health care approaches. Majid, et al. (2011) again did not take into account the 47. 9% of respondents who did not disagree. Majid, et al. (2011) used a statistical test to investigate possible relationships between the ability to undertake evidence based practice activities and other related variables. Their findings were a weak relationship was found between the ability of nurses to implement evidence based practice and their length of experience.

Nurses who had higher qualifications were likely to have better abilities to undertake different evidence based practice tasks. Lastly nurses who attended evidence based practice training were likely to feel more competent in their abilities to implement evidence based practice. Majid, et al. (2011) was able to determine these results using data collected from the questionnaires. . This supports the findings of the other literature which was

mentioned in the literature reviews. Reliability and validity All research studies should have a high reliability and validity.

Reliability is the ability to consistently measure what is being measured. Godshall (2010, p. 36) writes that ' Validity is the ability to measure what is supposed to or is intended to be measured'. To ensure that the content of the questionnaire was valid Majid, et al. (2011) had the questionnaire reviewed by a team of experts. Majid, et al. (2011) used a large sample size of 1, 486 making the study reliable as a large number size is important in ensuring that the research is reliable. However the responses from the questionnaire could not be truthful therefore making the study results unreliable.

The results showed that 64% of the nurses expressed a positive attitude towards evidence based practice. 64% is not a large enough percentage to conclude the study.. Majid, et al. (2011) assessed the reliability and content validity of their questions using Cronbach alpha. Questionnaires in general have a low validity as the questions do not explore the topic in depth or detail. Majid et al, 2011 conducted a pilot study to test the survey questions. The feedback received showed that the participants wanted the language and the format of the questions changed.

By conducting a pilot study this ensures that the study is reliable and valid. Conclusion and clinical implications The conclusions made from Majid et al, (2011) study were that nurses had a positive attitude towards evidence based practice. However they found adopting evidence based practice difficult due to barriers which effect adaptation of evidence based practice. Majid, et al . (2011) suggest that hospital management arrange evidence
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based practice training and providing time off from work to learn and put into practice new techniques.

To summarise the study was a conducted well, the study is easily replicable, although to further the study Majid, et al. (2011) should have considered using a mixture of quantitative and qualitative methods. Majid, et al. (2011) could have interviewed the nurses to get a further insight into the nurses attitudes and beliefs. Reference List Aveyard. H, 2010, Doing a Literature review in health and social care. A practical guide. 2nd ed, New York: Open university press. Baker. J, 2012, Evidence-Based practice for nurses, London: Sage Publications. Bowling. A and Ebrahim.

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