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# Perceptions of Nursing Students Regarding Evidence-Based Practice

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The project and manuscript have been successfully completed and meet the standards of the School of Nursing at San Jose State University. The project demonstrates the application of professional knowledge, clinical expertise, and scholarly thinking. An abstract of the project and two copies of the manuscript are attached.

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# PERCEPTIONS OF NURSING STUDENTS REGARDING EVIDENCE-BASED PRACTICE

A Paper

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Faculty of the School of Nursing

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By

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Abstract

The purpose of this descriptive quantitative study was to explore the nursing students' perceptions of their attitude and knowledge regarding evidence-based practice (EBP). The Research Awareness Questionnaire (RAQ), previously used only with healthcare professionals was slightly modified and piloted with senior nursing students (N=22). Eighty-two percent (n=18) of the participants believe that EBP is part of their role. Only 41% (n=9) were confident to undertake research. On the actual knowledge measures, 96% (n=21) could define qualitative research, and 86 % (n=19) correctly defined quantitative research. Suggestions for revising the RAQ are discussed. With modifications, this instrument could be utilized by other schools to measure nursing students' perceptions of their attitude and knowledge towards EBP.

## Research Problem

Professional health care providers have been encouraged to adopt evidence-based practice as the new gold standard in their practice (Institute of Medicine, 2006; Rycroft-Malone, J., Seers, K., Titchen, A., Harvey, G., Kitson, A. & McCormack, B., 2004). Evidence-based practice (EBP) is defined by Melnyk & Fineout-Overholt (2005) as "...a problem-solving approach to clinical practice that integrates: a systematic search for and critical appraisal of the most relevant

evidence to answer a burning clinical question incorporating one's own clinical expertise and patient preferences and values" (p. 6).

The goal for health care professionals is to implement the best available, most current research into practice while considering the professional's own area of expertise and the patient's individual condition and preferences (Melnyk & Fineout-Overholt). The idea is to move from habitual practices to using the best-proven interventions to obtain quality patient outcomes (Institute of Medicine). The safety and quality of patient care will improve greatly if EBP is implemented by all health care professionals (Agency for Healthcare Research and Quality, 2006).

The literature supports the use of EBP by health care professionals (Coopey & Nix, 2006; Koehn & Lehman, 2008; Gilbert, Salanti, Harden, & See, 2005). Gilbert et al. did a historical review of infant sleeping positions between the years 1940 to 2002. Findings revealed that without the use of a systematic appraisal of available evidence, the time it takes for research to influence practice is about 10 years. Gilbert et al. stated that if a critical appraisal of available evidence had been done earlier, thousands of infant deaths could have been prevented. There is a wide gap between the time research evidence is published and the time health care professionals apply it at the bedside. Several healthcare

organizations and healthcare leaders are promoting the use of EBP in order to bridge this gap (Sigma Theta Tau International, 2008; Association of Perioperative Registered Nurses, 2008; Melnyk, 2002; Institute of Medicine, 2006; Registered Nurses Association of Ontario, 2008).

Because EBP is encouraged and supported by nursing organizations and health care professions, it is imperative that nursing students be taught how to utilize EBP so novice nurses can integrate it in their practice. The purpose of this study was to explore the senior nursing students' perceptions of their attitude and knowledge regarding evidence-based practice. This was a pilot project to determine the feasibility of using the Research Awareness Questionnaire (RAQ) (McSherry, Artley, & Holloran, 2006) as a tool to determine students' attitude and knowledge regarding EBP.

## Research Questions and Definitions

To achieve the best patient outcomes, Registered Nurses (RNs) must utilize evidence-based practice (McSherry, Artley, & Holloran, 2006). Thus, RNs should know the research process, how this is appraised to find the best available and most current practice, and how to apply this in their area of expertise according to the patients' needs. The basics of EBP should be taught in nursing school. This study will focus on the following research questions:

1. What are nursing students' perceptions of their attitude and knowledge regarding evidence-based practice?

2. Is the Research Awareness Questionnaire an appropriate tool to be used by nursing schools to measure nursing students' perception of their attitude and knowledge towards evidence-based practice?

McSherry, Artley & Holloran stated that "evidence-based practice" has 14 working definitions. This study used Melnyk & Fineout-Overholt's (2005) definition. Melnyk & Fineout-Overholt delineated five steps to evidence-based practice: (a) formulating a clinical question in P.I.C.O. (P = patient, I = intervention, C = comparison intervention, O = outcome) format, (b) collecting the best and most relevant evidence to that clinical question, (c) "critically appraising the" (p. 7) collected evidence, (d) integrating the evidence into one's personal area of interest with the consideration of the "patient's condition, belief, and preferences" (p. 7), and (e) evaluating the end result of the implemented change. Based on these five steps, one can deduce that EBP is more than just research utilization. It requires clinicians to be able to critically analyze which evidence is most relevant to the clinical question and incorporate that evidence into their own practice in consideration of the patient's unique situation and values (Coopey & Nix, 2006).

## Literature Review

Several studies have explored the attitudes, perceptions, knowledge, and understanding of RNs regarding evidence-based practice (Gerrish, Ashworth, Lacey, & Bailey, 2008; Bonner & Sando, 2008; Munroe, Duffy & Fisher, 2008; Cleary, Matheson, Walter, Malins, & Hunt, 2008; McSherry, Artley & Holloran, 2006; Koehn & Lehman, 2008). These studies revealed that some RNs were not aware of the term evidence-based practice or that they lacked the skill and understanding to conduct research (Koehn & Lehman; Munroe, Duffy & Fisher). Other RNs surveyed commented on the difficulty of changing practice (Koehn & Lehman). Several barriers to EBP were identified by these nurses such as lack of time, lack of knowledge regarding EBP and lack of support from the administration (Koehn & Lehman; Kajermo, Unden, Gandolf, Eriksson, Orton, Arnetz, & Nordstrom, 2008; Bonner & Sando). Overall, the results of these studies revealed that RNs do not utilize EBP in clinical decision making consistently (Koehn & Lehman; Bonner & Sando; Gerrish et al.).

Gerrish et al.'s (2008) study compared staff RNs and charge RNs' knowledge, understanding, and perceived barriers to EBP. The results of the study showed that charge RNs are more inclined to incorporate EBP into their practice, whereas staff RNs felt that they lack the resources needed to accomplish this

(Gerrish et al.). Similarly, Bonner and Sandon (2008), concluded senior nurse managers are more likely to utilize EBP in their practice. Koehn and Lehman (2008) showed that RNs with a Bachelor's degree are more likely to use EBP in clinical decision making than RNs who graduated from a Diploma or an Associate degree program. Nurses with a higher level of education are more likely to integrate EBP in their practice (Koehn & Lehman; Bonner & Sando).

Several studies (Bonner & Sando, 2008; Cleary et al., 2008; Gerrish et al., 2008; Koehn & Lehman, 2008; Munroe, Duffy & Fisher, 2008) explored the attitude and knowledge of nurses regarding EBP; however, studies that explore the perception, knowledge and attitudes of nursing students regarding EBP are scarce. Ax and Kincade (2001) investigated the perceptions of nursing students regarding research. This qualitative study explored the perceptions of nursing students (N=12) in the United Kingdom regarding the value of integrating research into practice and whether or not they were adequately trained regarding research utilization (Ax & Kincade). Other studies that included nursing students in the sample explored the best ways to teach EBP to nursing students (Aronson, Rebeschi & Killion, 2007; Gannon-Leary, Walton, G., Cader, R., Derbyshire, J., & Smith, A., 2006). This study addressed nursing students' perception of their attitude and knowledge regarding EBP using a quantitative methodology.

## Theoretical Framework

As a new clinical decision making process, EBP may take time before it can be fully implemented in the practice of nursing. As a new process in the health care industry, this change requires time and energy before it is fully realized. These requirements are reflected in the theory of diffusion of innovations. Therefore, the theoretical framework used to guide this study was the diffusion of innovations theory by Everett Rogers (1995).

According to Rogers (1995), there are five stages involved to achieve the diffusion of innovation which includes; knowledge, persuasion, decision, implementation and confirmation. The members of the social system through which the innovation is introduced follows these five stages before the complete diffusion of innovation is achieved (Rogers). Knowledge is the first stage where the social system (or individual) learns about the new innovation. In the persuasion stage, the social system (or individual) starts forming attitudes regarding the innovation and determines whether the innovation is valuable to them or not. In the decision stage, the social system (or individual) decides whether or not to use the innovation. In the implementation stage, the social system (or individual) uses the innovation. Confirmation is the last stage where the social system (or individual) evaluates the outcomes of implementing the

innovation and seeks other decision-makers to reaffirm that the right decision to adopt the innovation was made (Rogers, 1995).

This study explored the nursing students' behavior in the first three stages of the theory. This research explored whether they had acquired the knowledge regarding EBP, which is the first stage. Moreover, the researcher also investigated their attitudes regarding EBP, which is the persuasion stage. Then the researcher explored whether they had made the decision to utilize EBP in their practice, which is the decision stage. The implementation and confirmation stage were not explored in this study since these stages were only applicable to professional nurses.

## Methods

### *Research Design*

A descriptive quantitative research design was utilized to explore the senior nursing students' perceptions of their attitude and knowledge regarding evidence-based practice. A non-probability, convenience sample of senior nursing students (N=22) at an urban, public university was used. Participants were recruited by the researcher after a lecture class. Students completed the instrument after class and data was collected by the researcher. IRB approval was obtained and a consent form was attached to the instrument. No anticipated risks

were associated with this research. No compensation was offered.

*Instrument*

McSherry, Artley, & Holloran (2006), used the Research Awareness Questionnaire (RAQ) with registered health care professionals (RHCP) to measure research awareness. Permission was received from Dr. McSherry to use this tool. The RAQ is composed of 33 items that elicit information regarding participants' attitude regarding research, their research knowledge and whether or not they perceive that they have support regarding research utilization. Items 1-10, 13, and 14 are presented in a Likert scale, responses to the items range from "strongly agree" to "strongly disagree" (McSherry, Artley, & Holloran). In addition, Items 12, 19, 21, 23, and 24 require free-text answers. Items 11, 18 and 20 require a yes or no response. Lastly, Items 15, 16, 17a and 17b are multiple choice questions that measure students actual knowledge regarding EBP. To better understand the subjects that participated in the study, a demographics questionnaire consisting of 13 items was also given to the students.

*Data Analysis*

Data were analyzed using descriptive statistics, specifically measures of central tendencies and frequencies. With the assistance of a statistician, mean scores, standard deviations, and frequencies were determined (Table 2). Moreover, corresponding percentages were also calculated.

## Results

Ninety-six percent (N=22) of the students in the class participated. Results of the responses that relates to the students' attitudes and knowledge of EBP are summarized in Table 2. In addition, the students' perception of their confidence in undertaking research and support from their peers and co-workers is also included in Table 2. The demographics of participants is presented in Table 1.

### *Attitude towards Evidence-Based Practice*

Eighty six percent (n=19) of the participants all agree that EBP has a large part to play in improving patient care. However, this percent dropped to 82% (n=18), when asked if EBP is part of their role as nurses. Ninety-one percent (n=20) of the participants believe that in using evidence to support practice, there is a benefit to them. To support this claim, 54.5% (n=12) responded that they read professional journals to educate themselves. Also, 91% (n=20) believed in the principle that EBP can have a benefit in changing practice in the working environment. Eighty-seven percent (n=16) of the participants agree that EBP is the way to change clinical practice. In support of these principles, 31.8 % (n=7) of the participants indicated that they have instigated a change in practice that was related to research. Overall, the majority of these nursing students had a positive attitude towards EBP and its benefit to nursing practice.

*Confidence and Knowledge*

To measure their confidence of EBP, the participants had to indicate whether or not they are confident to undertake a piece of research, only 41% (n=9) of the participants agreed that they have the confidence to undertake a piece of research. Thirty-six percent (n=8) of the participants could not decide whether or not they were confident in this aspect. These students are currently enrolled in a class that covers research methodology and terminology as it relates to the nursing process. Moreover, 77% (n=17) recognized this class as research awareness training or education. When asked if they have received adequate information about the research process in their training, 64% (n=14) agreed that they did, 27% (n=6) could not decide, while the rest 18% (n=2) disagree with this. In addition, 68% (n=15) believed that they had a basic knowledge and understanding of the research process.

Items number 15, 16, 17a and 17b are actual knowledge measures. Ninety-six percent (n=21) of the students could define qualitative research and 86% (n=19) correctly defined quantitative research. In question number 17a, they were asked what they would do first if they were to carry out a research project, 82% (n=18) responded (identify practical problem). Question 17b asked what they would do next, and 45% (n=10) 'conduct a literature search', with another 45% (n=10) answering 'formulate a research question'.

*Limitations*

This study is limited primarily by sample and setting. The study was done in one semester of one nursing school in the western region of the United States; therefore the results of the study can not be generalized to all nursing students in the United States. The small convenience sample limits generalization as well. Moreover, the RAQ needs several modifications for it to be applicable the nursing students. Only a descriptive analysis was completed, inferential analyses may have yielded more information.

## Discussion

Eighty-two percent of students believed that evidence-based practice is part of their role and 91% believe that it will impact a change in the working environment. However, only 41% of those students were confident to take on a piece of research and 64% believed that they received adequate training in research. Because there is an incongruence between the attitude and knowledge factors in nursing students perhaps they need to be immersed in more training regarding EBP. These senior nursing students are close to becoming professional nurses, and one would hope that they would feel prepared enough to incorporate EBP in their role as nurses, especially that they believe in the positive impact of EBP. It must be noted that there are one or two students who answered strongly disagree in most of the items. Perhaps, these are the outliers or perhaps they have

misinterpreted the Likert scale. The strength of this research is that it used a quantitative method to measure students' perceptions of their attitude and knowledge towards EBP. Most studies regarding nursing students and their attitude and knowledge regarding evidence-based practice used qualitative methods. Moreover, it was a pilot project to determine if indeed the RAQ is a valid tool to measure nursing students' attitude and knowledge towards evidence-based practice. However, since this instrument has only been used on registered health care professionals, the items need several modifications before it can be a valid instrument to be used on nursing students.

*Recommendations*

There are several recommendations for the modification of the RAQ to measure nursing students' perceptions of their attitude and knowledge regarding EBP. First, the "can't decide" choice must be eliminated to force the students to answer whether or not they agree or disagree. This could have made a great impact on the results of the study. In addition, there are two questions that elicit a response regarding the support that the nursing students receive from their peers and managers. Since, these are still nursing students, many of them are not employed in a healthcare environment (64%, n=14). Perhaps these are not valid questions to be asked of nursing students since they are not yet in clinical practice. Utilizing the modified tool with a larger sample size that includes a

variety of nursing schools would further establish its validity and reliability. Further research incorporating the use of inferential statistics may identify relationships among attitude, confidence, and knowledge.

Based on this study's findings, several curricular recommendations can be made. A consistent definition of evidence-based practice must be used in nursing programs. This same definition must be incorporated in courses and projects throughout the program. Faculty must be aware that EBP is more than the research process, because it takes into consideration the practice of professional nurse and the patients' own preferences. Moreover, it involves formulating a clinical question, appraising the research that pertains to a particular clinical question, and continuously evaluating the result of the change (Melnyk & Fineout-Overholt, 2005). Perhaps the research course can be introduced early in nursing school so the students can utilize this knowledge throughout the program. The importance of incorporating research into practice must be highlighted to students. EBP must also be integrated in the course work of the students. Also, evidence-based practice must also be incorporated in all aspects of the nursing program whether it be a theory class or in the clinical area (Aronson, Rebeschi, & Killion, 2007; Courey, Benson-Soros, Deemer, & Zeller, 2006; Ireland, 2008).

## Conclusion

Evidence-based practice is encouraged by several nursing organizations to improve patient care. This must be introduced to nursing students and incorporated in the curriculum so they are prepared to utilize this in practice. The findings of this study revealed that although nursing students have positive attitudes towards evidence-based practice, some of them reported that they lack the confidence and that they lack the education or training in evidence-based practice based on the collected data. Recommendations were made to address this issue. Nursing students will benefit from proper EBP training because it formulates their future practice and as research suggests EBP does contribute to positive patient outcomes. The instrument used in this study needs several modifications for it to be more applicable to the unique situation of nursing students. After those modifications, this same instrument can be a valid tool to use on measuring the nursing students' perceptions of their attitude and knowledge towards EBP.

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TABLE 1

Demographic Characteristics (N=22)

| Demographic Variable | n (%) |
|---|---|
| Gender | |
| Male | 6 (27) |
| Female | 16 (73) |
| Age | |
| 21 to 30 | 18 (82) |
| 31 to 40 | 2 (10) |
| 41 to 50 | 1 (4) |
| 51 and above | 1 (4) |
| Grade point average | |
| 2.5 to 3.0 | 2 (10) |
| 3.1 to 3.5 | 10 (45) |
| 3.6 to 4.0 | 10 (45) |
| Current clinical preceptorship | |
| Pediatrics | 2 (10) |
| ICU | 6 (27) |
| Medical-Surgical | 3 (14) |
| Other | 8 (36) |
| No Answer | 3 (13) |
| Clinical specialty you would want to work in | |

| | |
|---|---|
| Pediatrics | 3 (14) |
| OB-Gyn | 3 (14) |
| ICU | 8 (36) |
| Medical-Surgical | 4 (18) |
| Other | 3 (14) |
| No Answer | 1 (4) |
| Hours you currently work per week | |
| None | 8 (36) |
| 10-14 | 4 (18) |
| 15-20 | 5 (23) |
| 21-30 | 2 (9) |
| 31 or more | 3 (14) |
| Do you work in a healthcare environment? | |
| Yes | 8 (36) |
| No | 14 (64) |
| If you do, what type of healthcare environment? | |
| Hospital | 5 (23) |
| Clinic | 3 (14) |
| Do you have a journal club or research-related committee in the place you work? | |
| Yes | 1 (5) |
| No | 21 (95) |
| Highest level of education prior to entering the nursing program | |
| High-school degree | 8 (35) |

| | |
|---|---|
| Associate degree | 11 (50) |
| Bachelor degree | 1 (5) |
| Master degree | 1 (5) |
| No answer | 1 (5) |
| Is your degree health-related? | |
| Yes | 3 (14) |
| No | 7 (32) |
| Professional qualifications | |
| RN | 1 (5) |
| EMT | 2 (10) |
| Have you taken any research-related course prior to entering the nursing program? | |
| Yes | 5 (23) |
| No | 17 (77) |

TABLE 2

Summary of Research Awareness Questionnaire **(N=22)**

| ITEM | Strongly Agree | Agree | Can't Decide | Disagree | Strongly Disagree |
|---|---|---|---|---|---|
| 1. Evidence-based practice has a large part to play in improving patient care (A) | 15 (68%) | 4 (18%) | 1 (5%) | | 2 (9%) |
| 2. Evidence-based practice is part of my role (A) | 13 (59%) | 5 (23%) | 2 (9%) | | 2 (9%) |
| 3. In using evidence to support my practice I see a benefit for myself (A) | 17 (77%) | 3 (14%) | | | 2 (9%) |
| 4. Evidence-based practice is the way forward to change clinical practice (A) | 16 (73%) | 3 (14%) | 2 (9%) | | 1 (5%) |
| 5. Evidence-based can have a benefit in changing practice in the working environment (A) | 17 (77%) | 3 (14%) | | | 2 (9%) |
| 6. I have sufficient support and | 4 (18%) | 7 (32%) | 6 (27%) | 3 (14%) | 2 (9%) |

| | | | | | |
|---|---|---|---|---|---|
| encouragement from peers and professionals to engage in research activities | | | | | |
| 7. I have sufficient support from my peers-staff RN's and other professionals in the clinical area to engage in research activities | 5 (23%) | 6 (27%) | 5 (23%) | 4 (18%) | 2 (9%) |
| 8. I am confident to undertake a piece of research (K) | 5 (23%) | 4 (18%) | 8 (36%) | 3 (14%) | 2 (9%) |
| 9. In my training, I received adequate information about the research process (K) | 5 (23%) | 9 (41%) | 6 (27%) | 1 (5%) | 1 (5%) |
| 10. I have a basic knowledge and understanding of the research process (K) | 8 (36%) | 7 (32%) | 3 (14%) | 2 (9%) | 2 (9%) |
| 11. Have you had any research awareness, education or training? (K) | YES<br>17 (77%) | NO<br>5 (23%) | | | |
| 13. Research provides information regarding feelings and attitudes related to clinical practice (K) | 7 (32%) | 7 (32%) | 6 (27%) | | 2 (9%) |
| 14. Research provides information regarding figures and numbers relating to clinical practice (K) | 11 (50%) | 6 (27%) | 3 (14%) | | 2 (9%) |

| 15, 16. Which of the following is associated with (K-actual measure) | Qualitative Research | Quantitative Research |
|---|---|---|
| Causes and associations | 1 (5%) | 19 (86%) |
| What individuals think about the world | 21 (95%) | 1 (5%) |
| Do not know | | |
| None of the above | | 2 (9%) |
| Both | | |

| 17a. If you were about to carry out a research project, what (K-actual measure) | Would you do first? | 17b. Would you do next? |
|---|---|---|
| Identify practical problem needing addressing | 18 (82%) | 1 (5%) |
| Do a literature search | 1 (5%) | 10 (45%) |
| Formulate a research question | 3 (14%) | 10 (45%) |
| Devise a method of how to study problem | | 1 (5%) |
| Perform the research | | |
| Write up and present research | | |
| Do not know | | |

Ticked more than one box

| | | |
|---|---|---|
| 18. Have you instigated a change in practice that was related to research? (K) | YES 7 (32%) | NO 15 (68%) |
| 20. Do you read any professional journals regularly? | YES 5 (23%) | NO 17 (77%) |

Note: Attitude measures (A), Knowledge measures (K)

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| **Abstract** | The purpose of this descriptive quantitative study was to explore the nursing students' perceptions of their attitude and knowledge regarding evidence-based practice (EBP). The Research Awareness Questionnaire (RAQ), previously used only with healthcare professionals was slightly modified and piloted with senior nursing students (N=22). Eighty-two percent (n=18) of the participants believe that EBP is part of their role. Only 41% (n=9) were confident to undertake research. On the actual knowledge measures, 96% (n=21) could define qualitative research, and 86 % (n=19) correctly defined quantitative research. Suggestions for revising the RAQ are discussed. With modifications, this instrument could be utilized by other schools to measure nursing students' perceptions of their attitude and knowledge towards EBP. |
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# PERCEPTIONS OF NURSING STUDENTS REGARDING EVIDENCE-BASED PRACTICE

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## ABSTRACT

The purpose of this study was to explore the nursing students' knowledge and attitudes regarding EBP. The Research Awareness Questionnaire (RAQ) was piloted with senior nursing students at a public university. The RAQ has only been used on healthcare professionals. The demographics portion of the RAQ was modified to fit nursing students. This was a descriptive quantitative study with a convenience sample of 22 students. Eighty-two percent of the participants believe that EBP is part of their role. Only 41% are confident to undertake research. The modification of this tool was discussed. This questionnaire must be modified more to fit nursing students and perhaps this could be utilized by other schools to measure nursing students knowledge and attitude towards EBP.

TABLE 1

RESEARCH AWARENESS QUESTIONNAIRE RESULTS SUMMARY **(N=22)**

**Attitude Measures (A)**
**Knowledge Measures (K)**

| QUESTION | Strongly Agree | Agree | Can't Decide | Disagree | Strongly Disagree |
|---|---|---|---|---|---|
| 1. Evidence-based practice has a large part to play in improving patient care (A) | 15 (68%) | 4 (18%) | 1 (5%) | | 2 (9%) |
| 2. Evidence-based practice is part of my role (A) | 13 (59%) | 5 (23%) | 2 (9%) | | 2 (9%) |
| 3. In using evidence to support my practice I see a benefit for myself (A) | 17 (77%) | 3 (14%) | | | 2 (9%) |
| 4. Evidence-based practice is the way forward to change clinical practice (A) | 16 (73%) | 3 (14%) | 2 (9%) | | 1 (5%) |
| 5. Evidence-based can have a benefit in changing practice in the working environment (A) | 17 (77%) | 3 (14%) | | | 2 (9%) |
| 6. I have sufficient support and encouragement from peers and professionals to engage in research activities | 4 (18%) | 7 (32%) | 6 (27%) | 3 (14%) | 2 (9%) |
| 7. I have sufficient support from my peers-staff RN's and other professionals in the clinical area to engage in research activities | 5 (23%) | 6 (27%) | 5 (23%) | 4 (18%) | 2 (9%) |

| | | | | | |
|---|---|---|---|---|---|
| 8. I am confident to undertake a piece of research (K) | 5 (23%) | 4 (18%) | 8 (36%) | 3 (14%) | 2 (9%) |
| 9. In my training, I received adequate information about the research process (K) | 5 (23%) | 9 (41%) | 6 (27%) | 1 (5%) | 1 (5%) |
| 10. I have a basic knowledge and understanding of the research process (K) | 8 (36%) | 7 (32%) | 3 (14%) | 2 (9%) | 2 (9%) |
| 11. Have you had any research awareness, education or training? (K) | YES: | NO: | | | |
| 13. Research provides information regarding feelings and attitudes related to clinical practice (K) | 7 (32%) | 7 (32%) | 6 (27%) | | 2 (9%) |
| 14. Research provides information regarding figures and numbers relating to clinical practice (K) | 11 (50%) | 6 (27%) | 3 (14%) | | 2 (9%) |
| 15, 16. Which of the following is associated with (K-actual measure) | Qualitative Research | Quantitative Research | | | |
| Causes and associations | 1 (5%) | 19 (86%) | | | |
| What individuals think about the world | 21 (95%) | 1 (5%) | | | |
| Do not know | | | | | |
| None of the above | | 2 (9%) | | | |
| Both | | | | | |
| 17a. If you were about to carry out a research project, what (K-actual measure) | Would you do first? | 17b.Would you do next? | | | |
| Identify practical problem needing addressing | 18 (82%) | 1 (5%) | | | |
| Do a literature search | 1 (5%) | 10 (45%) | | | |
| Formulate a research question | 3 (14%) | 10 (45%) | | | |

| | | | | | |
|---|---|---|---|---|---|
| Devise a method of how to study problem | | 1 (5%) | | | |
| Perform the research | | | | | |
| Write up and present research | | | | | |
| Do not know | | | | | |
| Ticked more than one box | | | | | |
| 18. Have you instigated a change in practice that was related to research? (K) | YES: 7 (32%) | NO: 15 (68%) | | | |
| 20. Do you read any professional journals regularly? | YES: 5 (23%) | NO: 17 (77%) | | | |