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Barriers and Facilitates of Research Utilization from the Perspective of Nurses in Asser Region of Saudi Arabia

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Abstract

This study was performed to determine the barriers to the implementation of nursing research findings, as perceived by the nurses working in Asser Region of Saudi Arabia. Seven hospitals were randomly selected using a cluster sampling technique, encompassing governmental and private hospitals. A cross-sectional survey design was used and nurses working in these hospitals participated (response rate 67%). The barriers scale was used to fulfill the purpose of this study. The greatest barriers as perceived by nurses were insufficient time to implement new ideas (56 %); the facilities are inadequate for implementation (52.5 %); the nurse does not have time to read research (51.2 %); the nurse does not feel she/he has enough authority to change care (48.8 %); and research reports/articles are not readily available (46.7 %). The most frequently mentioned facilitators were improving research knowledge through training (82 %), providing sufficient financial support for research(77 %), increasing enough time for research activities (70 %), enhancing administrative support & encouragement from colleagues (68 %), and more employees & sufficient staff in place of work (60 %). The findings suggested that there is a need for education to increase nurses' awareness of the knowledge and skills of research utilization.

Keywords: Evidence Based Practice (EBP), Research Utilization (RU), Research Facilitators, Research Barriers.

1 Introduction

Research utilization (RU) is vital to promoting education, where educational practice continues to grow in complexity and educators have greater responsibility and

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accountability for learning. It fosters movement from innovation into practice. However, information about research activities and barriers to research utilization in education and clinical is limited(1).

Research utilization is the basic issue of evidence based practice (EBP)(2). Evidence-based practice (EBP) is a method of problem solving which involves using information from experts and evidence from empirical research for making decisions on the intervention(3). The EBP is becoming the standard and foundation of health care because it is encouraging empirically derived practice applications to increase the efficiency of healthcare delivery, reduce cost, and improve clinical care quality(4); however, the gap between research results and practice emphasizes the presence of significant barriers. A strategy commonly recommended for bridging the gap between research and practice is to identify barriers to practice change and implement strategies that account for identifying its barriers(5;6).

Extensive research has been carried out to examine barriers to research use in nursing that prevent them from incorporating research findings into their practice include not having enough time to read, evaluate and implement research findings(7-10); lack of support from the organization and from other health care professionals as well as a lack of autonomy and authority to change practice(11-14); lack of knowledge of the research process and the skills to access, understand, critically evaluate and implement research findings(15); not being able to understand research reports and interpret research findings(16); shortages of colleagues with expertise to discuss research(17;18); and the dependence of nurses on doctors and managers in making changes in clinical practice(19).

In Kingdom Saudi Arabia, little is known about nurses' perceptions of their research training program and their use of research in clinical area after graduation. While research is considered to be an important part of nursing practice, professional practices are often still guided by traditional methods, and nurses do not generally utilize research findings in providing care. So this studywas conducted to analyze nurses' perception of barriers and facilitates of research utilization in the clinical setting of Asser Saudi region.

1.1 Research Questions

1. What are barriers to Research Utilization (RU) in Asser Region hospitals as perceived by nurses?
2. What are facilitators to Research Utilization (RU) in Asser Region hospitals as perceived by nurses??

1.2 Aim of study

Identify barriers and facilitators to research utilization in -Asser Region hospitals as perceived by nurses.

2 Preliminary Notes

KSA: Kingdom Saudi Arabia
RU: Research Utilization
EBP: Evidence Based Practice
SPSS: Statistical Package of Social Science
GNPH: GhassanNajeebPharaon Hospital
SGH: Saudi German Hospital
ANOVA: Analysis of Variance

3 Materials and Methods

3.1 Research Design

A cross sectional descriptive design study

3.2 Setting

The study was conducted at seven hospitals (5 Governmental hospitals& 2 Private hospitals)

3.3 Sample

Seven hospitals were randomly selected using a cluster sampling technique, encompassing governmental and private hospitals in all cities of Asser region. Nurses working in these hospitals were asked to participate. Seven-Hundred questionnaires were distributed, 400 questionnaires were received completely (n=400) with response rate (57 %). All of them having up diploma degree and having minimum one year of experience in the setting of work.

3.4 Tool of Data Collection

It included two parts and 47 questions;
Part1 (12 questions): Personal characteristics such as: age, years of experience, education qualification and place of work.
Part2 (35 questions): Barriers and Facilitators to research utilization (RU) questionnaire. It was developed by Funk(20). It was used to identify barriers and facilitators to RU in selecting setting as perceived by nurses. It consists of two sections; one of them is for barriers and the other is for facilitators to RU.
Each barriers or facilitators statements included in these sections was measured on a five point Likert scale representing the extent to which the items is a barrier or a facilitator to RU (1= no extent, 2 = little extent, 3 = moderate extent, 4 = great extent, 0= no opinion). The higher the score achieved, the greater the perceived barriers or facilitator.
The barriers and the facilitators included in each section are classified into the main four categories; (a) Characteristics of the adopter (the nurse's own research values, skills, and awareness); (b) Characteristics of the organization (setting barriers and limitations); (c)

Characteristics of the innovation (qualities of the research); and (d) Characteristics of the communication (presentation and accessibility of the research). The items were randomly arranged throughout the questionnaire without identification of the factor titles. In addition, subjects were asked for adding any other barriers or facilitators from his/her point of view.

3.5 Procedure

The present study was conducted between April & June in 2013 in Asser region of Saudi Arabia. A permission to conduct the study was obtained from the general director of Govern & Private Hospitals after reviewing research protocol from Ethics Committee of all hospitals that were randomly selected. An information sheet contained information clearly describing the purpose of the study, and informed consent was obtained. Participants were reassured that return of the questionnaire was voluntary and the questionnaire would remain anonymous.
A pilot study was conducted and 20 participants were asked to participate (whom are not included in the study) to evaluate the clarity and applicability of the tool and necessary modification were done based on their responses. - Using Cronbach`s alpha to determine reliability and the internal consistency of the tool and it was 0.80.The questionnaire was distributed by the researchers; each sheet took 10- 15 minutes to be answered.

3.6 Statistical Analysis

The collected data were organized, tabulated and statistically analyzed using SPSS software statistical computer package version 11.5. For quantitative data, the range, mean and standard deviation were calculated. For comparison between means of two groups (t-test) and analysis of variance (ANOVA)with scale mean scores were used. Significance was adopted at $p<0.05$ for interpretation of results of tests of significance.

4 Main Results

Table 1- shows the distribution of the studied sample according to their socio-demographic characteristics. The number of participants was 400, Female constituted 341 (85.2 %), while 59 (14.8 %) were male. Regarding to the age group, of the total sample more than half of sample (65.2 %) were less than 30 years, while 34.8 % were 30 years or older. Overall age group for both sexes ranges from 22-67 years with M±SD (29.55 ±7.06). Their years of experience ranges from 1-37 years with M±SD (5.79 ± 5.82).The majority of the sample was either staff nurses (77.5 %), or in-charge nurse (15.3 %), 76.3 % of them were non-Saudi, and more than half (54.8 %) held diploma or associate degree in nursing. They come from 7 work places, with largest proportion from Saudi German Hospital (SGH) (25 %) and lowest proportion from Ghassan Najeeb Pharaon Hospital (GNPH) (6.3 %). More than half of the sample did not attend any courses or training in statistics or research methods after graduation, and did not participate in any research activity. Only 44.5 % of them participated in continuing education program. About quarter of the sample (25.2 %) did not know the meaning of evidence based nursing practice.

The barriers rated as great or moderate in this study are presented in rank order in table 2. The five greatest barriers were there is insufficient time on the job to implement new ideas; the facilities are inadequate for implementation; the nurse does not have time to read research; the nurse does not feel she/he has enough authority to change patient care procedures; and research reports/articles are not readily available (56 %, 52.5 %, 51.2 %, 48.8 %, & 46.7 % of nurses rated these barriers as great or moderate respectively). Four out of the top 10 barriers were related to organization, three to communication, two to nurse, and one to research. In the open ended question and when the participant were asked to rank the three greatest barriers, the nurses pointed out administration will not allow implementation, other staffs are not supportive of implementation, and the facilities are inadequate for implementation, all of these barriers were related to organization sub-scale barrier.

The mean scores on each of the sub-scales are displayed in table 3. They show that organization M±SD (19.52 ± 5.39) was perceived as the greatest barrier, followed by nurse M±SD (17.52 ± 5.06), research M±SD (15.47 ± 4.54), and communication M±SD (13.70 ± 4.36).

Comparison of groups of nurses according to various demographic groups was conducted by considering the overall subscale score. Age of the nurses ($t=1.154$, $p=.249$), years of professional experience ($t=1.986$, $p=.048$), gender of the nurse ($t=2.223$, $p=.027$), settings in which they were working ($F=8.770$, $p=.000$), level of education ($F=2.805$, $p=.062$), and current role for the nurse ($F=1.970$, $p=.118$) . Regarding nurses subscale barriers, there were no statistical significant different between two sex groups except for two barriers (nurse does not see the value of research for practice and nurse sees little benefit for self) $P<.05$. A statistical significant found between two age groups regarding nurses subscale barriers (nurse does not feel capable of evaluating quality of research, nurse is isolated from knowledgeable colleagues, and nurse is unaware of the research) $P<.05$. While, there were no statistical significant different between two age groups in organization, research, and communication subscale barriers ($P>.05$),

Results also revealed that a statistical significant among nurses in different settings toward research and communication subscales barriers ($F=10.033$, $P=.000$; $F=8.770$, $P=.000$) respectively, while there were no significant different among nurses in different settings toward nurse and organization subscales barriers ($P>.05$). Regarding barriers to research utilization in relation to nursing degree obtained, there were no statistical significant different between nurses groups in organization, nurse, research, and communication barriers ($P>.05$). A comparison of groups of nurses according to current role was conducted in relation to the overall average score of the barriers subscales, the differences between them were statistically significant among group of nurses regarding to research subscale barrier ($F=3.095$, $P=.027$), while not found to be statistically significant in nurse, organization & communication subscales barriers ($P>.05$).

The facilitators defined by the nurses about research utilization are presented in table 4. The question “what are the things you think facilitate research utilization” was answered by 40 nurses. Out of the listed 25 facilitators reported, the top 10 are detailed in table 4. The five most important facilitating factors pointed out by the nurses were: improving research knowledge through continuing education program & training (82 %), providing appropriate & sufficient financial support for participation of nurses in scientific activities (77 %), increasing enough time for research activities (70 %), enhancing administrative support & encouragement for nurses with regard to research and scientific activities (68 %), and more employees & sufficient staff in place of work (60 %).

Table 1: Distribution of the studied sample according to their socio-demographic characteristics.

		N=400	%
Age	Less than 30 years	261	65.2
	30 years or More	139	34.8
Minimum (Maximum)		22-67	
Mean (SD±)		29.55 (7.06)	
Years of Experience	Less than 6 years	259	64.8
	6-10 years	90	22.5
	More than 10 years	51	12.7
Minimum (Maximum)		1-37	
Mean (SD±)		5.79 (5.82)	
Sex	Male	59	14.8
	Female	341	85.2
Position Title	Staff Nurse	310	77.5
	In-Charge Nurse	61	15.3
	Supervisor	18	4.5
	Others (Educator, Administrator, & Interns)	11	2.7
Working Setting	Mahayl Hospital	65	16.3
	Abha General Hospital	30	7.5
	Rijal Alma Hospital	37	9.3
	SaratAbidah General Hospital	58	14.4
	Saudi German Hospital	100	25
	GhassanNajeebPharaon Hospital	25	6.3
	AL Namas General Hospital	85	21.2
Nationality	Saudi	95	23.7
	Non Saudi	305	76.3
Degree Obtained in Nursing	Diploma/Associate	219	54.8
	Baccalaureate	167	41.8
	Higher Education (Master or Doctorate)	14	3.4
Knowing Meaning of Evidence Based Practice	Yes	299	74.8
	No	101	25.2
Statistics and Research Training after Graduation	Yes	175	43.8
	No	225	56.2
Participation in Research Activity	Yes	189	47.3
	No	211	52.7
Participation in Continuing Education	Yes	178	44.5
	No	222	55.5

Table 2: The Ranking of barriers to research utilization and percentages of nurses who perceive each barrier as great or moderate (N=400).

Rank Order	*Sub-scale	Barriers	Rated as Moderate to Great Extent %	Rated as Little Extent to No Opinion %
1	**O**	There is insufficient time on the job to implement new ideas.	**56**	**44**
2	**O**	The facilities are inadequate for implementation.	**52.5**	**47.5**
3	**O**	The nurse does not have time to read research.	**51.2**	**48.8**
4	**O**	The nurse does not feel she/he has enough authority to change patient care procedures.	**48.8**	**51.3**
5	**C**	Research reports /articles are not readily available.	**46.7**	**53.3**
6	**N**	The nurse sees little benefit for self.	**46.2**	**53.8**
7	**N**	The nurse is isolated from knowledgeable colleagues with whom to discuss the research.	**45.2**	**54.8**
8	**C**	The research is not reported clearly and readably.	**44.2**	**55.8**
9	**R**	Research reports /articles are not published fast enough.	**43.7**	**56.3**
10	**C**	Statistical analyses are not understandable.	**42**	**58**
11	**O**	The nurse feels results are not generalizable to own setting.	**41.7**	**58.3**
12	**O**	Other staffs are not supportive of implementation.	**41.2**	**58.8**
13	**C**	Implications for practice are not made clear.	**41**	**59**
14	**N**	The nurse is unaware of the research.	**40.5**	**59.5**
15	**O**	Administration will not allow implementation.	**40**	**60**
16	**O**	Physicians will not cooperate with implementation.	**40**	**60**
17	**C**	The relevant literature is not compiled in one place.	**39.7**	**60.3**
18	**R**	The amount of research information is overwhelming.	**38.2**	**61.8**
19	**R**	The literature reports conflicting results.	**37.2**	**62.8**
20	**R**	The research has methodological inadequacies.	**36.7**	**63.3**
21	**N**	The nurse feels the benefits of changing practice will be minimal.	**36.2**	**63.8**
22	**R**	The conclusions drawn from the research are not justified.	**35.7**	**64.3**
23	**N**	The nurse does not see the value of research for practice.	**35**	**65**
24	**R**	The research has not been replicated.	**35**	**65**
25	**R**	The nurse is uncertain whether to believe the results of the research.	**35**	**65**
26	**N**	The nurse does not feel capable of evaluating the quality of the research.	**34.2**	**65.8**
27	**C**	The research is not relevant to the nurse's practice.	**34**	**66**
28	**N**	The nurse is unwilling to change/try new ideas.	**32.7**	**67.3**
29	**N**	The nurse is not a documented need to change practice.	**30**	**70**

***N, Nurse; O , Organization; R, Research; C, Communication.**

Table 3: Mean scores of sub-scale barriers to use research in the clinical Area

Sub-Scale	minimum	maximum	mean	sd±
Nurse	**8**	**32**	**17.52**	**5.06**
Organization	**8**	**32**	**19.52**	**5.39**
Research	**7**	**28**	**15.47**	**4.54**
Communication	**6**	**24**	**13.70**	**4.36**

Table 4: Ranking top 10 facilities to use research in the clinical area as perceived among study sample

Rank	Facilitator	%
1	Improving research knowledge through continuing education program & training.	**82 %**
2	Providing appropriate & sufficient financial support for participation of nurses in scientific activities.	**77 %**
3	Increasing enough time for research activities.	**70 %**
4	Enhancing administrative support & encouragement for nurses with regard to research and scientific activities.	**68 %**
5	More employees & sufficient staff in place of work.	**60 %**
6	Cooperative & supportive colleagues.	**56 %**
7	Improving accessibility to research literature.	**48 %**
8	Improving opportunity for research activities.	**40 %**
9	Improving nurses' attitudes to become research aware staff.	**32 %**
10	Guidance of officers charged with regard to applying research findings into clinical practice.	**25 %**

5 Discussion

Evidence based practice has been described as "the integration of best research evidence with clinical expertise and patient values. The emphasis on high quality, evidence based practice as well as cost effectiveness in today health care environment is posing unique challenges for the nursing profession(21). Kathleen(22) stated that the essence of nursing

is the therapeutic relationship between the nurse and the patient, so the clinical practice should be based on sound clinical expertise and the best scientific evidence in order to obtain best outcome for patients and their families. The systematic process of EBP may assist nurses in reducing the gap between theory and practice. Such process could be a driving force in encouraging the clinical practitioner to focus upon the critical reading and analysis of literature in an effort to provide effective health care. Implementing EBP is challenging for both clinicians and students, facilitating collaboration among students and clinicians can improve the process of both teaching EBP in the academic setting and utilizing EBP in the clinical setting.

A commonly stated reason for dissatisfaction among nurses is that their input regarding patient care and suggestion for improvement in the workplace environment does not support or value EBP(23). This is in agreement with this study that shows the organization was perceived as the greatest barrier, followed by nurse, research and finally communication.

Nurses will be successful in implementing EBP strategies when they practice in an environment that supports and values evidence based care. Barriers to effective use research in clinical setting may include time factors, limited access to the literature, lack of confidence in the staff's ability to critically evaluate empirical research, limited interest in scientific inquiry, inadequate research resources and limited authority to change practice based on evidence, lack of theses and dissertations publication that making their findings inaccessible to staff nurses, lack of support from manager; and absence of published on specific issues, in addition, published research may have limitation that restrict the ability to generalize results to clinical settings.

The significant barriers that showed by this study included limited authority or power to change practice based on research findings; statistical analysis are not understandable; inadequate research resources; insufficient time for nurses to participate in research activities, and limited access to the literature, this is consistent with findings by other researchers(24;25)

As nursing move toward EBP, nurses must be involved in decision making and protocol development that strives to promote EBP. Nurses must work in interdisciplinary team an assist in shaping how care is provided. In addition, the responsibility for nursing care and assurance of the quality of that care must rest with nursing in order to move nursing system away from traditional practice that is based on sound scientific practice(26). All levels of nursing staff need to be involved in evidenced based health care practice activities. Staff awareness begins with the job description and expectations. Activities related to implementing EBP should be a component of progression up the ranges of a clinical ladder(27;28)

In this study the nurses' identified the following strategies to facilitate the research utilization in clinical setting. They were improving research knowledge through training, provide fund for research activities, time factor that include sufficient time to think, to read, to implement research, and to attend training. In addition, to sufficient staffing and cooperative and support from colleagues; administrative support and encouragement; improving accessibility to research articles; increasing opportunity for research activity and improving nurses' attitudes to become research aware staff. This is in consistence with other authors(18;29;30).

The first strategy to facilitate the use of research in clinical setting as suggested by the participant was improving research knowledge through training, through education, the value of research can be promoted(22). The study of Kajermo(18)& colleagues also

indicated that providing training support for nurses was important. Continuing professional education has been promoted as one way to minimize the time between research development and practice utilization. However, there is a lack of concern with the education of nurses in the process of research during initial training. The graduate nurses are themselves more likely to follow a research, since; it is the nature of their own education. The follow of knowledge through research is firmly embedded in their attitudes after graduation. Continuing education is not merely traditional lectures, it is any and all ways by which health professionals learn and change after formal training is completed. Shared information through educational meeting and distribution of educational media represent the most common approaches and can be a powerful motivator(31). Awareness of facility and unit outcomes and benchmarking data can serve as an active change stimulus for initiating EBP changes. Using benchmarks to demonstrate the outcomes of specific practice changes and how those changes improve patient outcomes can be a significant motivator(32).

6 Conclusion

The results of this study identified barriers, as well as a variety of strategies, which might prove useful in overcoming perceived barriers to the use of EBP in nursing care.In this study, insufficient time to implement new ideas; inadequate facilities for implementation; the nurse does not have time to read research; & the nurse does not feel she/he has enough authority to change patient care procedures were perceived as the most important barriers. Also, the complexity of understanding statistical analyses is still hindering nurses from comprehending and using research. The most important factors proposed by the nurses participating in the study were to provide time, and financial & organizational support.

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