

## Brief Communication

### Nurses' perception of barriers to research utilization in a public hospital in Saudi Arabia

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#### ABSTRACT

**Objectives:** To explore nurses' perception of barriers to research utilization.

**Methods:** A descriptive study was implemented. A total of 243 registered nurses in a public hospital in Riyadh, Saudi Arabia was selected using convenience sampling during the first quarter of 2013. The 29-item BARRIERS scale was used.

**Results:** The top 5 items were rated as great or moderate barriers were either setting- or nurse-related: 'insufficient time to implement new ideas' (n=157, 64.6%); 'nurse sees little benefit for self' (n=150, 61.7%); 'nurse does not feel she/he has enough authority to change patient care procedures' (n=146 60.1%); 'nurse is isolated from knowledgeable colleagues' (n=145; 59.7%); and 'nurse does not have time to read research' (n=143, 58.8%).

**Conclusion:** Setting- and nurse-related items comprised the top 5 barriers. Motivation issues, and knowledge-translation issues appeared to be the themes drawn from this study. Further studies using both quantitative and qualitative methods are needed.

Nurses are responsible and accountable not only in providing safe and high quality patient care,<sup>1</sup> but are also expected to play active roles in developing research-based professional knowledge that supports nursing education, practice, research, and management.<sup>2</sup> Despite of mounting pressure to conduct research and utilize findings to improve patient care, gaps in utilizing research findings were reported in various studies all over the world.<sup>3</sup> In a survey<sup>3</sup> among Chief Nurse Officers in 110 countries on why research findings were not utilized, it was found out that lack of reports and studies in one place, lack of cooperation within the organization, and lack of awareness of research findings were perceived as the top barriers to research utilization. Contrary to the admonitions to use knowledge from research findings in providing patient care, nurses preferred to use knowledge they obtained

from their education, policy and procedure manuals, accumulated personal experience, and interactions with co-workers, physicians and patients.<sup>4</sup> Apparently, gaps existed between the need to utilize research findings to inform clinical practice, and the source of knowledge utilized by nurses in providing care to their patients. In this brief communication, we explored the barriers in research utilization as perceived by nurses in a public hospital affiliated with the Ministry of Health in Saudi Arabia. The findings of this study should provide a basis for organization in designing programs aimed at promoting the conduct of research and utilization of its findings to further improve the quality of patient care services.

**Methods.** A survey was conducted among 400 nurses assigned to various service units in a tertiary public hospital in Riyadh, Kingdom of Saudi Arabia (KSA) during the first quarter of 2013 using convenience sampling. The inclusion criteria included full time registered nurses employed by the hospital setting in this study. Students, trainees, and part-time nurses were not included. There were 243 surveys that were retrieved with a response rate of 60%. The 29-items BARRIERS to Research Utilization Scale also known as the BARRIERS Scale<sup>5</sup> in its original English version was the principal instrument used in this study with permission. This instrument was selected on the basis of its stability since it was first used in 1991,<sup>5</sup> and in one of the latest studies in 2013.<sup>6</sup> Construct validity was good based on factor analysis.<sup>5</sup> The BARRIERS Scale was presented to a panel of evaluators comprised of academicians, researchers, and practitioners for validation, and determination of utility in the current setting. The panel of evaluators recommended the BARRIERS Scale to be used without modification. Pretest was conducted to find out if there were any problems in the instrument. The pretest participants completed the survey in 12 and 15 minutes without any difficulty. An inter-item correlation coefficient test (Cronbach's Alpha [ $\alpha$ ]) was conducted and yielded the following results: Adopter/

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Nurse with  $\alpha=0.81$ ; Organization/Setting with  $\alpha=0.81$ ; Innovation/Research with  $\alpha=0.85$ ; Communication/Presentation with  $\alpha=0.87$ ; and overall with  $\alpha=0.93$ . The instrument was used confidently based on the results of the validation, pretest, and reliability tests. The instrument used in this study has 2 sections. The items in Section A comprised the demographic characteristics of the participants: unit assigned; board licensure other than Saudi; length of work as a registered nurse; age group; gender; highest level of nursing education; job title; length of work at the hospital setting; duty shift; enrolment in research activities; need to conduct research; support provided for research and utilization of findings; and familiarity with utilization of research offering within the organization. Section B comprised the BARRIERS scale. The BARRIERS scale comprised 29 items that were grouped into 4 subscales, namely, the characteristics of: Adopter or Nurse-related (8 items); Organization or Setting-related (8 items); Innovation or Research-related (6 items); and Communication or Presentation-related factors (7 items). The BARRIERS scale was answerable by encircling the responses in each item and coded as follows: to no extent (1); to a little extent (2); no opinion (3); to a moderate extent (4); and to a great extent (5).

The demographic characteristics were analyzed using frequency distribution. The individual items of the BARRIERS scale was analyzed by summing the average of 'moderate extent and great extent' responses, and ranked. The item with the combined most number of responses as great or moderate barrier was ranked first, and the least ranked last. The items ranked in the top 5 were included in the analysis. Analyses were carried out using PASW Statistics for Windows version 18 (SPSS Inc., Chicago, IL, USA).

An approval to conduct this study was granted from the hospital's institutional review board. The purpose of the study was explained to the nurses. Confidentiality and anonymity of participants' responses were assured. Participating nurses were requested to place the completed surveys in a drop box that was placed in each of the units. Implied consent for their voluntary participation in this survey was considered when the participants completed and returned the questionnaires.

**Results.** Most of the participants were assigned in Critical Care (n=47, 19.3%) and Cardiac Care Units (n=43, 17.7%). Most were holders of either Indian (n=77, 31.7%), or Philippine (n=66, 27.2%) Nursing Board Registration. More than half (n=143, 58.8%) have between 6 and 17 years of experience. More than two-thirds (n=172, 70.8%) were between 26 and 40

years old. Most nurses were females (n=220, 90.5%). More than half (n=145, 59.7%) have a Bachelor of Science Nursing degree. Almost three-fourths (n=180, 74.1%) were staff nurses. More than one-third (n=94; 38.7%) have worked as a nurse at the hospital setting for 5 years or more. Almost half (n=116, 47.7%) were on duty on a rotational basis including nights and weekends. Only 17 (7%) were enrolled in research activities at the time of the survey. More than half (n=136; 56%) conducted research because it was needed for nursing board registration, license renewal, or career development.

Support for research and research utilization that was provided in the workplace yielded the following responses: more than two-thirds (n=168, 69.1%) with in-service education regarding research, research utilization, and evidence-based study (n=171, 70.4%); with workshops and courses regarding research, research utilization, and evidence-based study; and almost two-thirds (n=156, 64.2%) with in-house seminars and symposiums. Almost one out of 5 (n=48, 19.8%) had financial support to conduct research. More than two-thirds (n=163, 67.1%) were familiar with utilization of research offerings within the organization. Twenty items from the 4 BARRIERS subscales were rated as great or moderate barrier by more than half of the participants (range between 124 and 157; between 51% and 64.6%). Among the top 10 items rated as great or moderate barrier for research utilization, 4 were setting-related, 3 were nurse-related, and 3 were presentation-related. The top 5 items rated as great or moderate barriers as shown in Table 1 were either setting- or nurse-related: 'insufficient time to implement new ideas' (n=157; 64.6%); 'nurse sees little benefit for self' (n=150; 61.7%); 'nurse does not feel she/he has enough authority to change patient care procedures' (n=146, 60.1%); 'nurse is isolated from knowledgeable colleagues' (n=145, 59.7%); and 'nurse does not have time to read research' (n=143, 58.8%).

**Discussion.** The results showed that the organization in the current study extended educational and financial support for nurses to undertake research activities. However, 3 setting-related items were ranked among the top 5 barriers that appeared to hamper research results utilization (Table 1). 'There is insufficient time to implement new ideas' was the number one barrier. This item was ranked either first,<sup>7</sup> second,<sup>8</sup> third,<sup>9,10</sup> or fifth<sup>11</sup> in other studies. 'The nurse does not feel enough authority to change patient care procedure' was ranked third. This item was ranked either first,<sup>8</sup> second,<sup>7,9</sup> or

**Table 1** - Top 10 perceived barriers in research utilization among nurses.

Rank	Type of BARRIER	Item	Moderate and great extent		Median
			n	(%)	
1	Setting	There is insufficient time on the job to implement new ideas	157	(64.6)	4.00
2	Nurse	The nurse sees little benefit for self	150	(61.7)	4.00
3	Setting	The nurse does not feel she/he has enough authority to change patient care procedures	146	(60.1)	4.00
4	Nurse	The nurse is isolated from knowledgeable colleagues with whom to discuss the research	145	(59.7)	4.00
5	Setting	The nurse does not have time to read research	143	(58.6)	4.00
6.5	Presentation	Research reports/articles are not readily available	138	(56.8)	4.00
6.5	Presentation	The relevant literature is not compiled in one place	138	(56.8)	4.00
8	Setting	The nurse feels results are not generalizable to own setting	136	(55.9)	4.00
9	Presentation	Implications for practice are not made clear	135	(55.6)	4.00
10	Nurse	The nurse feels the benefits of changing practice will be minimal	134	(55.1)	4.00

third<sup>11</sup> in other studies. 'The nurse does not have time to read research' was ranked fifth. This item was ranked in other studies either first,<sup>11</sup> second,<sup>10</sup> or fourth.<sup>9</sup>

The investigators in the current study considered these 3 items as knowledge translation-related issues based on their contextual interpretation of these 3 items. The organization may be able to overcome this barrier by adopting models, or frameworks that would provide clear delineation of roles and responsibilities in every aspect of research-related activities from proposals to implementation of the study, evaluation of findings, communication of findings, implementation to practice settings, and the evaluation of outcomes. One strategy to transfer knowledge is to use an inquiry-based framework advanced by Lavis et al,<sup>12</sup> that included asking the following questions: What should be transferred to decision makers?; To whom should research knowledge be transferred?; By whom?; How?; and With what effect?.<sup>12</sup> This framework would address communication-related issues in translating new knowledge. Another complementing model that can be used in order to utilize research results is the 'revised Promoting Action on Research Implementation in Health Services (PARIHS) framework'.<sup>13</sup> The framework included the elements of: evidence and evidence-based practice (EBP) characteristics, contextual readiness for targeted EBP implementation, and facilitation that are integrated to attain 'successful implementation'.<sup>13</sup> These 2 frameworks would be very valuable to organizations pursuing research, and intending to utilize its findings. There are other frameworks available, and the organization has the prerogative to study various alternatives and adopt what would match their needs. Two nurse-related items

were ranked in the top 5 barriers in the current study that seemed to be contradictory with each other. The second ranked barrier was 'nurse sees little benefit for self,' while the fourth ranked was 'the nurse is isolated from knowledgeable colleagues with whom to discuss the research'. The former appeared to have implied lack of interest while the latter implied nurses were interested. According to the findings of Cummings et al<sup>14</sup> organizations that provided positive work environment that included positive culture, leadership, and evaluations have better research utilization. While the organization in the current study provided educational support through seminars, workshops, and symposiums, the fourth ranked barrier implied that mentors who can guide nurses in conducting studies, especially for first-timers, and those who are interested yet needing somebody to guide them along the way were needed.

The study had limitations as it was conducted in only one hospital in Saudi Arabia. The findings may not be generalizable. However, the pattern of the results in the current study was comparable with the pattern of the results of various studies conducted in various countries cited elsewhere in this paper, especially on the top 5 items that were considered as barriers in research results utilization. The strength in this study would be its contribution to the organization in so far as understanding why research utilization appeared to be hampered despite the supports that were provided. The findings in this study also contributed to the growing body of knowledge that the culture of research needs to be planted, nurtured in time, and provided with appropriate support before the fruits can be borne and harvested when the right time comes.

**Implications for future research.** Future research should use the mixed method of study involving quantitative and interviews of selected participants in order to dig deeper into the nuances on why research findings utilization by nurses are still limited. Systems and processes used by the organization also need to be assessed for congruency of objectives and expected outcomes between the planners and implementers.

In conclusion, it was evident that setting- and nurse-related items comprised the top 5 barriers for research utilization in this organization. Collectively, motivation issues and knowledge-translation issues appeared to be the themes drawn out from this study. Further studies are needed especially in finding out the motivation of nurses that would match the culture of research espoused by the organization, and test models for knowledge translation.

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