



## Review Article

# RESEARCH UTILIZATION AMONG NURSES: BARRIERS AND FACILITATORS S SAPKOTA\*

\*Correspondence to: Ms. Sochana Sapkota, Masters in Nursing, Lecturer, Janamaitri Foundation Institute of Health Sciences/ Little Angels College of Higher Education, Hattiban Lalitpur, Nepal, E-Mail: sochana.sapkota@gmail.com

### ABSTRACT

Research utilization is the implementation of research-based findings in practice clinical setting to provide services to consumers. It is the critical way to strengthen the discipline and practice of nursing to provide quality nursing care to consumers of nursing that may be individual, family or community but different factors/barriers preventing the nurses to implement the research finding into the practice. The aims of this article are firstly to introduce about research utilization among nurses, secondly to present barriers of research utilization to nurses and lastly to discuss the ways of promoting research utilization among nurses in developed and developing countries like Nepal. For these purposes, different electronic and database literatures related to research utilization among nurses are searched, reviewed and presented here to by giving meaningful organization and presentation. This article presents progress in development of research utilization in developed and developing countries, barriers of research utilization including valid scale to measure barriers of research utilization and ways of promoting research utilization among nurses. Most common barriers that prevent nurses from implementing research findings include not having enough time; lack of institutional or financial support; insufficient support from colleagues; shortage of personnel and resources; not able to understand research reports; lack of knowledge; and the dependence of nurses on doctors and managers in making changes in clinical practice.

**Key Words:** Barriers, Evidence, Facilitators, Practice, Research utilization

### INTRODUCTION

Improving research utilization will provide nurses with the 'golden opportunity' to meet the patients' caring demands with the appropriate positive responses and lead to the improvement of the nursing profession. Research utilization is also the one of the many ways one can approach EBP (Evidenc Based Practice). The EBP movement emphasizes the importance of putting research into practice; however, the gap between research results and practice emphasizes the presence of significant barriers.<sup>1</sup>

The concept of research utilization emerged in nursing since early 1970s. Since that time, many researchers have investigated the barriers to the use of research findings in nurses' clinical practice, and several research utilization models have been incorporated into basic research text.<sup>2</sup> Research utilization scholars continuously express concern about whether nurses use the best available scientific (i.e., research) evidence to guide their clinical practice (Veeramah, 2004).<sup>3</sup> But, in spite of, increase in the quantity and quality of nursing research and included research content in current nursing curricula, research knowledge among nurses and use of research in practice remains poor (Jolley, 2002).<sup>4</sup> In addition, utilization of research evidence by nurses in clinical settings is still not perceived favorably by the majority of nurses and it is not parallel with the increase

in research output. Although most nurses express their belief in the importance of research utilization, they also believe that they cannot put it into practice as desired (Edward, Chapman & Davis, 2002).<sup>5</sup> This disparity between the availability of research evidence and its use in practice is often referred to as the 'research-practice gap (Parahoo, 2000).<sup>6</sup> As a result, patients frequently do not receive best (or even optimal) nursing care.

The barriers nurses confront have been analyzed by qualitative and quantitative studies in many countries. Factors that prevent nurses from implementing research findings include not having enough time; lack of institutional or financial support; insufficient support from colleagues; shortage of personnel and resources; not being able to understand research reports; research that lacks validity and reliability; lack of generalizability of findings; lack of reliability in the interpretation of research findings; lack of knowledge; personal skepticism; and the dependence of nurses on doctors and managers in making changes in clinical practice (French, 2005).<sup>7</sup>

In the context of Nepal, research education in nursing started in 1976 by including the research in bachelor nursing program under T.U, IOM. Research practice in the field of nursing gained momentum with the establishment of master's degree programs in 1995, and PhD programs in 2011 but its utilization

is so limited to make meaningful change in nursing practice. Little studies in Nepal have investigated nurses' perspectives regarding carrying out research as well as reading and utilizing research. While research is considered to be an important part of nursing practice, professional practices are often still guided by traditional methods and rituals, and nurses do not generally utilize research findings in providing care.

Although the studies are carried out in several countries, the factors inhibiting research utilization have not been well explored in the Nepalese national health system and particularly within the discipline of nursing in Nepal. Since the context is different, it is an urgent need to develop nursing knowledge based on the health of the global community. We need to understand constraints of research utilization in several countries including Nepal. Therefore, it is time to identify Nepalese clinical nurses' views on issues that hinder research utilization in nursing practice.

#### **Barriers of research utilization among nurses**

Research utilization is the implementation of research-based knowledge (science) in practice. It is one indicator of an optimum practice environment, an environment that leads to improved patient outcomes. Nursing is the largest healthcare profession in Nepal, and they are responsible for the care they provide for their patients. But the Nepalese nurses have been criticized for poor quality of patient care and informed by the healthcare system that nursing practice should be carried out based on international standards to improve the quality of patient care. Although nurses may have positive attitudes and values overall towards research or research-based practice, the transfer of research evidence into nursing practices and education remains slow, and is sometimes unsuccessful [Eller et al, 2003].<sup>8</sup> To understand this slow development of research-based practice in nursing, it is important to examine the possible factors influencing nurses' successful transfer and implementation of research evidence into their practice. One of the most important areas of research on these factors is an understanding of the involved nurses themselves and of their organizational context and culture, in terms of both their perceived barriers to and facilitators of research utilization in their practice settings. Several studies in developed Western and Asian countries have found a few common important perceived barriers and facilitators among nurses. However, major differences on both of these barriers and facilitators have also been identified across countries due to the great variations between the cultures and organizational contexts (Chien, 2010; Uysal, et al 2010).<sup>9, 10</sup>

The **BARRIERS to Research Utilization Scale**, was developed by Funk, Champagne, Wiese & Tornquist in 1991. It is a 29-item 4-point Likert-type questionnaire with established reliability and validity. The scale was tested with a sample of registered nurses (n=1,948) who were employed full time in nursing, 924 of whom held clinical positions. Standard psychometric analyses were performed on the instrument and replicated.<sup>11</sup> This scale has been frequently used in recent studies of different developed and developing countries, to assess nurses'

perceptions in regard to barriers to research utilization in their practice which scale can be used in context on Nepal also. This scale includes,

#### **FACTOR 1: CHARACTERISTICS OF THE ADOPTER/INDIVIDUAL: The nurse's research values, skills, and awareness.** (8 items; alpha = .80)

- The nurse does not see the value of research for practice.
- The nurse sees little benefit for self.
- The nurse is unwilling to change/try new ideas.
- There is not a documented need to change practice.
- The nurse feels the benefits of changing practice will be minimal.
- The nurse does not feel capable of evaluating the quality of the research.
- The nurse is isolated from knowledgeable colleagues with whom to discuss the research.
- The nurse is unaware of the research.

#### **FACTOR2:CHARACTERISTICSOF THE ORGANIZATION: Setting, barriers and limitations.**

(8 items; alpha = .80)

- Administration will not allow implementation.
- Physicians will not cooperate with implementation.
- There is insufficient time on the job to implement new ideas.
- Other staffs are not supportive of implementation.
- The facilities are inadequate for implementation.
- The nurse does not feel she/he has enough authority to change patient care procedures.
- The nurse does not have time to read research.
- The nurse feels results are not generalizable to own setting.

#### **FACTOR3:CHARACTERISTICSOF THE INNOVATION: Qualities of the research.** (6 items; alpha = .72)

- The research has methodological inadequacies
- The conclusions drawn from the research are not justified.
- The research has not been replicated.
- The literature reports conflicting results.
- The nurse is uncertain whether to believe the results of the research.
- Research reports/articles are not published fast enough.

#### **FACTOR 4: CHARACTERISTICS OF THE COMMUNICATION: Presentation and accessibility of the research.** (6 items; alpha = .65)

- Implications for practice are not made clear.
- Research reports/articles are not readily available.
- The research is not reported clearly and readably.
- Statistical analyses are not understandable.
- The relevant literature is not compiled in one place.
- The research is not relevant to the nurse's practice

Based on mentioned scale Squires et al., conducted a systematic review on research evidence utilization, indicating that individual factors of health professionals such as personal

beliefs and attitudes, involvement in research activities, and a few selected socio-demographic and professional characteristics (e.g., education level, rank position and age) might affect their perceptions of the value of research evidence applied to their practice. Being A lack of understanding about research methods, statistical knowledge and critical appraisals of research findings have been cited as the most common personal barriers to research utilization among health professionals, including nurses.<sup>12</sup> Continuing education to develop nurses' knowledge and skills in understanding about research design, appraising research literature and participating in research are recommended to improve the extent of research utilization among nurses (Rodgers, 2000).<sup>13</sup> It is indicated that the most reported worldwide barriers perceived by nurses included mainly a few organizational or work setting,, which were a lack of autonomy or authority to change practice, inadequate facilities for research, limited cooperation and support from the management level and physicians, and a lack of time to implement new ideas and read research.<sup>14</sup> While initiating changes and updates in clinical practice have been required by the management level as an integral part of nursing (Meijers et al, 2006),<sup>15</sup> the limited organizational support perceived by nurses as the most common barriers to research utilization in many recent studies compromises the development of evidence-based nursing practice (Rodgers, 2000).<sup>13</sup> Research factors such as quality and communication of research findings have been frequently rated as the second most important set of nurses' perceived barriers in recent research in china.<sup>16</sup>

Research reports with too brief a presentation of research evidence or unclear implications for nursing practice could be seen as a major barrier to evidence based practice in primary care nurses, conflicting results and perceived gaps between theory, research evidence and practice are considered to be the most important barriers by community nurses<sup>17</sup> Recently, a few studies of nurses' perceived barriers to research utilization have been conducted in Western countries, particularly in Europe (e.g., Bryar et al., 2003) in the United Kingdom; Oranta, Routasalo and Hupli ,2002, in Finland; and Parahoo , 2000, in Northern Ireland). Most recent research findings using the BARRIERS scale identified a few common perceived barriers, including inadequate time to read, interpret and implement new ideas of research findings, knowledge deficits in accessing, understanding and evaluating research findings, relevant research findings not being accessible in the workplace, and lack of autonomy and authority to change practice. Several aspects of nursing culture such as ritualistic care and lack of incentives to develop research based practice have also been found to contribute to nurses' perceived barriers to research utilization (Sitzia,2001).<sup>18</sup>

As a matter of fact, there is a lack of research on these perceived barriers and facilitators from the nurses' point of view in slow developing countries such as Nepal, perceived barriers to and facilitators of research utilization among a large group of hospital nurses in Nepal, need to e revealed for better utilization of research findings by Nepalese nurses.

### **Promoting research utilization among nurses**

One strategy to enhance research use and change current practice is to identify barriers and then implement tailored interventions to reduce these barriers. A qualitative research among the Iranian Nurses also concluded that Iranian they felt restricted because of lack of time, lack of peer and manager support and limited knowledge and skills of the research process. This study also confirms that research utilization and the change to research nursing practice are complex issues which require both organizational and educational efforts (Salsali and Mehrdad, 2009).<sup>19</sup>

The quality of information that nurses demand and how effectively they evaluate and use it for clinical decision making will influence patient outcomes and, ultimately, the part nurses play in the delivery of health care (Royle and Blythe, 1998).<sup>20</sup> A systematic review of the literature on research utilisation, found that organizational factors explained 80–90% of the variance in research utilisation, environmental factors accounted for 5–10% of the variance, and individual characteristics contributed only 1–3%. Multifaceted interventions directed at the individual, the organisation, and the environments are most likely to lead to changes in practice (Dobbin et al, 1998).<sup>21</sup> Thus based on the perceived barriers of research utilization, the following strategy can be applied to promote research utilization among nurses.

### **The individual nurse**

#### *Networking*

Nurses who participate in research related projects promote research utilisation and are more likely to apply research in practice (Bostrom & Suter, 1993).<sup>22</sup> Nurses who understand the importance of EBP might act as mentors to colleagues who are unaware of its potential impact on practice or the range of information available. Further, nurses can collaborate to promote research utilisation in the workplace. Peer mentoring and coaching are effective strategies for assisting colleagues to search for, evaluate, and apply information (Royle, Blythe, & Boblin).<sup>23</sup>

#### *Promoting accessibility*

Because the accessibility and quality of information have implications for the efficacy of clinical decision making, it is important that workplace reference materials are current and user friendly and those protocols and guidelines are based on the best research evidence. Evaluating and updating personal collections is also important.

#### *Managing time*

Prioritization is important when time is limited. Strategic choices may include reading a research article or critical review instead of a clinical journal, or taking a course on how to understand or apply research findings. Visit to health sciences or medical library to learn how to use cinahl, Medline, or the cochrane library will make it easier to find useful articles.

### **The organisation**

Organizational characteristics, including size, location, and centralization of decision making, have been associated with

research utilisation (Dobbin, 1998).<sup>21</sup> Programmes intended to improve research utilisation have been most successful when administrative support was available (Royle et al, 1997)<sup>23</sup> According to Titler, at the university of iowa hospitals, an infrastructure supporting research use encompassed both high level management and frontline nurses. Duties relating to research utilisation were included in job descriptions; evidence based practice was linked to quality assurance; and appropriate education was provided. Staff who used research to solve clinical problems were recognized and rewarded. The iowa model used triggers to alert nurses to clinical problems in their workplaces and specified processes for solving them. Clinical nurses were allocated time and resources to be involved in all aspects of research utilisation including problem identification, assessment of evidence, change planning, implementation, and evaluation of change.<sup>24</sup>

### The environment

An information friendly environment links the clinical nurse to a variety of information brokers, the healthcare literature, and other evidence based resources. The internet provides global connectedness for all nurses. The development of tools for evidencebased nursing requires time and resources and is dependent on collaboration among healthcare organisations and academic institutions. As communication throughout the global healthcare community improves, pooling expertise on national and international levels becomes increasingly feasible. Health science libraries are important resources for clinicians. Besides keeping up with new information resources, the librarian's role includes helping users to master information handling skills, and using technology to organize, synthesize, and filter information for scholarly, clinical, and institutional decision making.

Thus facilitators of research utilization can be:

- The provision of organizational and other support and training
- Collaboration, partnerships and links
- Dissemination strategies
- Communication networks
- Leadership to facilitate research utilization

### CONCLUSIONS

Most recent research findings using the BARRIERS scale identified a few common perceived barriers, including inadequate time to read, interpret and implement new ideas of research findings, knowledge deficits in accessing, understanding and evaluating research findings, relevant research findings not being accessible in the workplace, and lack of autonomy and authority to change practice. Several aspects of nursing culture such as ritualistic care and lack of incentives to develop research based practice have also been found to contribute to nurses' perceived barriers to research utilization. Due to the slow development of the organizational structure and system of health care in developing countries like Nepal nurses' perceived barriers concerning organizational support and their characteristics and competence could vary from the recent findings on research utilization in Western countries and thus should be investigated by scientific research in order to better understand nurses' current perceived barriers to research

utilization in developing countries.

In the future, to increase research utilization among nurses, these barriers should be replaced with facilitators of research utilization. Further information systems should integrate clinical data about patient treatments and preferences, available resources, expert opinion, and research evidence to provide nurses with current, patient specific information to address complex clinical issues. Then nurses will be able to plan and provide quality care and treatment with latest research evidences and can work with increasingly sophisticated information systems as per international standards.

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