Perception and Associated Factors on Evidence-Based Practice among Mongolian Nurses

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ABSTRACT

Perception and Associated Factors on Evidence-Based Nursing Practice among Mongolian Nurses

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In contemporary healthcare settings, a multitude of new research, technology, and evidence is continually emerging, and it is widely recognized throughout the globe that evidence-based practice (EBP) is key to delivering the highest quality of healthcare and ensuring the best patient outcomes. EBP is the integration of clinical expertise, patient values, and the best research evidence into the decision making process for patient care.

The purpose of this study was to describe perception and associated factors on EBP among Mongolian nurses and to examine the relationship of associated factors on perception of EBP. Data derived from this study can facilitate the efficient adoption of EBP in clinical settings in Mongolia.

Data were collected from 2013 11.10 to 2013.11.20 among 173 conveniently selected nurses who were employed in tertiary hospitals having more than 400 beds in Ulaanbaatar, Mongolia. The coded data were analyzed using SPSS version 210.

The major results are as follows.

1. The mean age of the participants was 37 year old. 162 (94%), were female, 112 (65%) held a bachelor's degree in nursing, 130 (77%) were staff nurses, and 104 (61%) had intermediate English proficiency.

2. The overall mean EBPQ score was moderate (4.01±1.62). The attitude subscale of the EBPQ showed the highest mean score (4.58±1.64), followed by the knowledge (3.84±1.59), and the performance subscales (3.71±1.56).

3. Education degree (t= 2.90, p=0.004), English proficiency (t= 2.02, p=0.045), attendance at nursing conferences/seminars (F= 4.28, p=0.015), taking a research methods class (t= 2.93, p=0.04), and barriers of organization (r = -0.179, p=0.018) were found significantly associated with perception of EBP.

4. Education degree, attendance at conferences/seminars, taking a research methods class, and barrier of organization had an explanatory power of 11.7% about perception of EBP.

This study has found that Mongolian clinical nurses have knowledge deficits and misconceptions of EBP and indicate the importance of providing education and training courses for EBP. Based on these research findings it is necessary to develop educational and training programs to introduce EBP to clinical settings to insure success in achieving high-quality patient care. For this, nurse educators, leaders, and managers of organizations can play an important role in promoting, supporting, and providing training courses on EBP.

1. INTRODUCTION

1.1 Background

In contemporary healthcare settings, a multitude of new research, technology, and evidence is continually emerging, and it is widely recognized throughout the globe that evidence-based practice (EBP) is key to delivering the highest quality of healthcare and ensuring the best patient outcomes (McGinty & Anderson, 2008). Evidence-based practice is the integration of clinical expertise, patient values, and the best research evidence into the decision making process for patient care. Clinical expertise refers to the clinician's cumulated experience, education and clinical skills. The patient brings to the encounter his or her own personal preferences and unique concerns, expectations, and values (Sackett, 2002).

EBP versus the implementation of clinical care that is steeped in tradition or based upon outdated policies results in a multitude of improved health, safety, and cost outcomes, including a decrease in patient morbidity and mortality (McGinty & Anderson, 2008; Williams, 2004). The most important reasons for consistently implementing EBP are that it leads to the highest quality of care and the best patient outcomes (Reigle et al., 2008; Talsam et al., 2008). EBP provides practicing nurses with evidence-based data to deliver effective care based on the best research, resolve problems in the clinical setting, achieve excellence in care delivery even exceeding quality assurance standards, and introduce innovation (Grinspun et al, 2002).

Although the current status of the health care system challenges healthcare providers, including nurses, to incorporate EBP in order to provide efficient nursing care and validate client outcomes, there are still an alarming number of healthcare providers who do not consistently implement evidence based nursing practice or follow evidence-based practice guidelines, and there remains a pervasive culture of practice based on tradition. (Fonarow, 2004; Melnyk et al., 2004). Some studies' findings indicated that nurses' awareness of and attitude toward EBP were relatively lower than other professionals related to health, and this

lack of awareness created a barrier to implementation of EBP (Kuuppeloma et al, 2005; Knop, 2008; Weng et al, 2013).

According to the research that examined the readiness of U.S. nurses for evidence-based nursing practice, 77% percent of nurses indicated that they had never been trained in how to conduct bibliographic database searches. The fact that they weren't using these resources was also apparent from their lack of familiarity with the term "evidence-based practice". If the term was unfamiliar, the successful integration of EBP could scarcely be anticipated. (Diane, 2005)

In Mongolia, the concept of EBP has been introduced in the health care field but has not become familiar to health care professionals yet. Despite EBP being recognized as the best way to provide high quality and cost effective patient care in clinical settings worldwide, almost all Mongolian clinical practice is still based on experience, tradition, another colleague's advice, or intuition rather than scientific validation (Burmaa et al., 2008; Batgerel et al., 2010)

There is limited research examining the perception and associated factors on EBP among Mongolian nurses. In the future, in order for EBP to be adopted efficiently in clinical settings, it is necessary for Mongolian nurses' perception and associated factors on evidence based practice to be studied.

1.2 Study Purpose

The purpose of this study was to describe the perception and associated factors on EBP among Mongolian nurses and to examine the relationship of associated factors on the perception of EBP.

The specific purposes were:

1. To describe the perception of EBP, barriers to research utilization, and research-related activity of study participants

2. To examine the relationship between the perception of EBP with barriers to research utilization and research-related activities of study participants

3. To identify the factors influencing the perception of EBP

1.1 Definition of Terms

1.1.1 Theoretical Definition of EBP

EBP is the integration of clinical expertise, patient values, and the best research evidence into the decision making process for patient care. Clinical expertise refers to the clinician's cumulated experience, education, and clinical skills. The patient brings to the encounter his or her own personal preferences and unique concerns, expectations, and values. The best research evidence is usually found in clinically relevant research that has been conducted using sound methodology (Sackett, 2002)

1.1.2 Operational Definition of EBP

EBP is measured by the Evidence-Based Practice Questionnaire (EBPQ), developed and validated by Upton and Upton (2006) which includes three subscales: nurses' perceptions of their performances, attitudes toward, and knowledge of EBP.

1.3.3 Perception

Definitions of perception defined in dictionaries are shown below:

- the way in which something is regarded, understood, or interpreted:
- the ability to see, hear, or become aware of something through the senses:

In this study the definition that "the way in which something is regarded, understood, or interpreted" was used.

2. LITERATURE REVIEW

This literature review was conducted for the purpose of searching the previous studies related to the perception and associated factors of EBP by examining three databases: Cumulative Index to Nursing and Allied Health Literature (CINAHL), MedLine, and RISS. An advanced search with key words "evidence-based practice," "perception," "barriers," and "nurses", was used. The search was narrowed to research articles in English with publication dates ranging from 2000 to 2012.

2.1 Concept of Evidence Based Practice

Evidence-based practice (EBP) is a problem-solving approach that incorporates the best available scientific evidence, clinicians' expertise, and patients' preferences and values (Melnyk & Fineout-Overholt, 2004). EBP is a recognized method for improving clinical practice and has been described as "essential for nurses to establish who they are, what they do, and what effect they have on patient outcomes" (Richardson, Miller, & Potter, 2002). Since the 1970's, US nurses and physicians have developed and focused on evidence-based medicine and evidence-based practices (Titler et al., 2011). Nurses and nursing education have been influenced by the use of research in nursing practice. As more nurses with master's and doctoral-level education entered the workforce in last 30 years, the research based data produced by their scientific investigation acknowledged the integral role nursing plays in health care (Polit & Beck, 2003). Archie Cochran, a British physician, has been closely associated with the movement of evidence-based medicine (Reynolds, 2000). He struggled for efficacy in healthcare and challenged the public to pay only for care that had been empirically supported as effective (Enkin, 1992).

The seven critical steps of EBP include: 1. Cultivate a spirit of inquiry 2. Ask the burning clinical question in the format that will yield the most relevant and best evidence 3. Search for and collect the most relevant and best answer to the clinical question 4. Critically appraise the evidence that has been collected for its validity, reliability, and applicability, and then

synthesize that evidence 5. Integrate the evidence with one's clinical expertise and the patient's preferences and values to implement a clinical decision 6. Evaluate the outcomes of the EBP decision or change (Melnyk & Fineout-Overholt, 2004)

2.2 Perception of Evidence Based Practice and Associated Factors

Some instruments have been created for analyzing factors that promote or prevent evidence based practice, and one of these is the Evidence Based Practice Questionnaire (EBPQ). Several studies have identified perception of evidence-based practice in nursing using this EBPQ. Most of the studies consistently indicated that the nurses view EBP positively, although their attitude toward EBP tends to be more positive than their knowledge/skills and practice of EBP (Koehn et al., 2007, Brown et al., 2008, Torrente et al., 2012).

According to the studies that described attitude toward, knowledge, and practice of EBP using various instruments, nurses had a positive attitude towards EBP and a strong sense of valuing the contribution of research (Oh, 2008; Waters et al., 2009; Knops et al., 2009; Ezelarab et al., 2012)

However, some studies' findings indicated that nurses' awareness of and attitude toward EBP are relatively lower than other professionals related to health, and this limited awareness creates barriers to implementation of EBP. Positive attitudes toward and beliefs in EBP were significantly lower among nurses than in the other groups. Physicians had more sufficient knowledge and skills of EBP than did the other professionals; in addition, they implemented EBP for clinical decision-making more often and perceived fewer personal barriers to EBP (Weng et al., 2013). Among the surgeons, 90% were familiar with EBS terms, whereas only 40% of the nurses were, and common barriers for nurses were unawareness of EBS and unclear reported research (Knops et al.,). There were deficiencies with respect to the information value and utilization of research results among nurses. Only one-third viewed participation in research as an important part of the nurse's job (Kuuppeloma ki et al., 2005). Further, 77% percent of nurses indicated never having been trained in how to conduct bibliographic database searches. The fact that they weren't using these resources was also apparent from their lack of

familiarity with the term "evidence-based practice". If the term was unfamiliar, the successful integration of evidence-based practice could scarcely be anticipated (Diane, 2005).

Koehn et al (2007) have found minimal variation across three factors: attitude toward, knowledge/skills, and practice of EBP. This may suggest that participants did not fully comprehend the EBP terminology because knowledge/skills items were lower than those on the practice items, and it is a reasonable conclusion that if nurses are engaged in EBP, then they were also fairly proficient in using skills.

Some researchers found that a relationship existed between knowledge and practice, and this suggests that the more knowledge and skills faculty have about EBP, the more they practice EBP. It demonstrated that educational interventions can be effective in increasing the knowledge and skills associated with evidence-based practice (Brown et al, 2007; Stitcher et al, 2011)

The most commonly reported top learning needs for EBP were converting information needs into a research question, developing research skills, improving information technology skills, increasing awareness of major information types and sources; critically appraising literature findings against pre-determined criteria, critically analyzing evidence against set standards, and determining the validity of the material (Koehn et al., 2007; Brown et al., 2008; Jennings-Sanders et al., 2011). Nurses rated themselves slightly below average in the area that workload was too great to keep up-to-date with all the new evidence. For the practice of EBP among nurses, critical appraisal and formulating questions around clinical problems were consistently reported priority items (Koehn et al., 2007; Brown et al., 2008; Jennings-Sanders et al., 2011; Lim et al., 2011)

BSN and higher educated nurses consistently showed higher perceptions of EBP than associate degree (AD) and diploma educated nurses (Koehn et al., 2007, Lim et al., 2011) Significant intergroup differences were found with regard to the three factors that make up the EBPQ (practice, attitude, and knowledge/skills), depending on the number of years of professional experience. It is worth noting that the professionals with shorter experience obtained the best scores. There was a better score for nurses with management functions

(supervision and coordination), compared to clinical nurses in the attitude factor (Torrente et al., 2012)

Factors associated with attitude include: age, frequency of reading the professional literature, participation in training courses, training received in research and development, type of workplace, type of professional category, education, skills in locating various research sources, years in practice, exposure to EBP, attendance of the academic conferences, research participation, awareness of EBP, support of the organization, and knowledge sources based on colleagues (Oh et al., 2004, 2008; Kuuppeloma et al, 2005; Sherriff et al, 2007; Johansson et al , 2010; Eizenberg et al, 2010; Lim, et al, 2011; Torrente et al, 2012). Further, the barriers subscales of adopter, innovation, communication, and organization had negative correlations with perception of EBP (Brown et al., 2008; Stitcher et al., 2011).

A finding that was consistent internationally was that barriers related to the organization subscale were more influential than barriers related to other subscales, (Oh et al., 2004; Glacken et al., 2004; Gerrish, 2004; Schoonover, 2006; Funk et al, 2006; McGrath et al., 2007; Parahoo et al., 2007; Yava et al, 2009; Retsas, 2010; Wang et al, 2011).

The most frequently cited barriers were related to a lack of authority to change patient care procedures, lack of time to read research, insufficient time on the job to implement research findings, the lack of awareness of the research, difficulty understanding statistical analyses, insufficient facilities, and perceived isolation from knowledgeable colleagues with whom to discuss the research.(Retsas et al., 1999; Glacken et al., 2004, Oh et al., 2004, Gerrish, 2004; Schoonover, 2006; El-shaer, 2006; McGrath et al., 2007; Parahoo et al., Yava et al., 2009; Strickland et al., 2009; Chang, 2010) For countries in which English was not the native language, difficulty understanding research written in English was one of the highest barriers. (Oh et al., 2004; Wang et al., 2011)
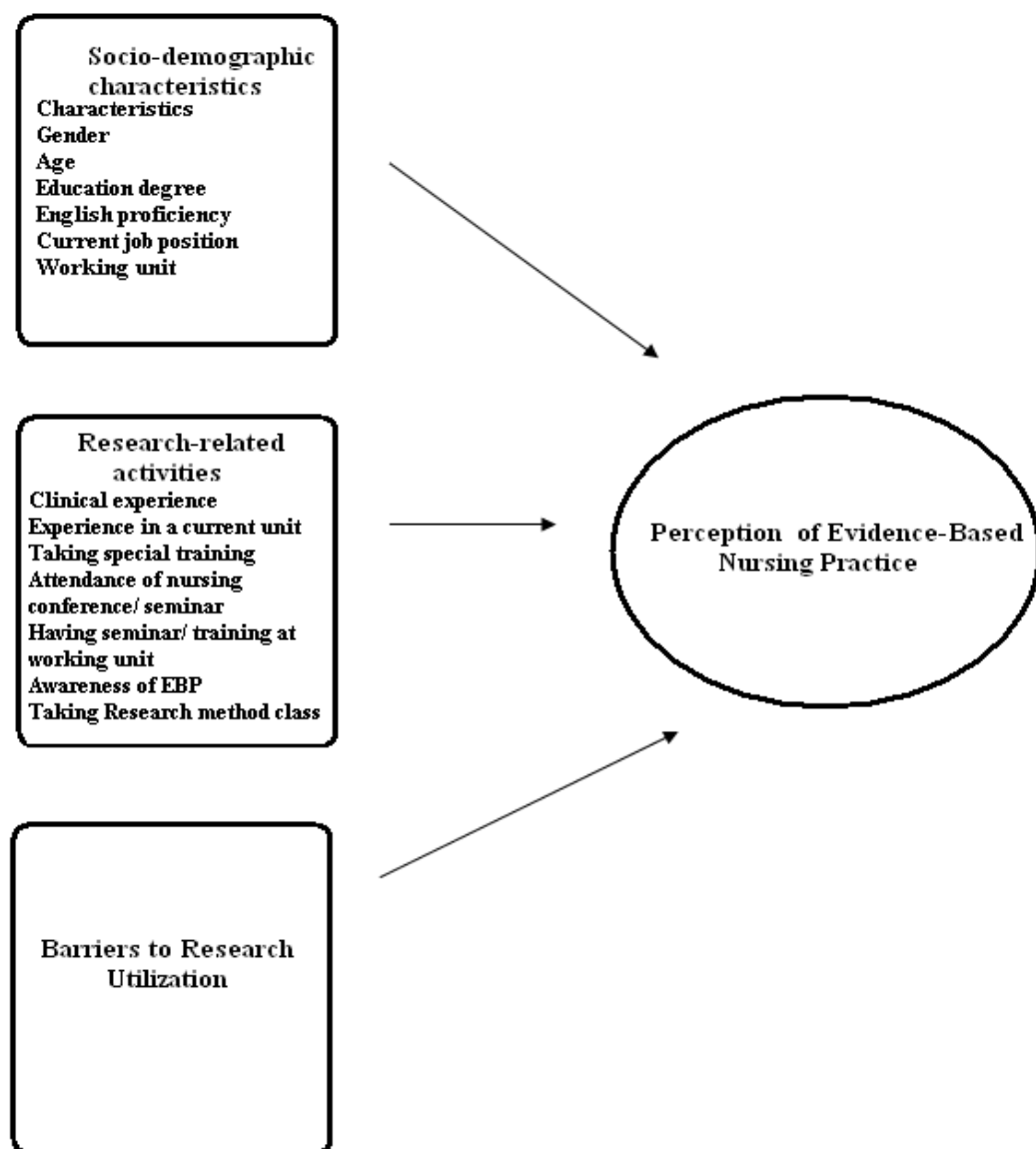
Results of a study that examined the knowledge of EBP among Mongolian rehabilitation physicians showed that attending training about evidence-based medical practice was very low 21 (36.2%). Among the physicians, 22 (37.9%) responded they did not know much about the evidence-based medicine. Also, 35 (60.3%) physicians responded they had confidence to

critically read and evaluate articles. Among participants, 20% responded that they fully understood the term EBP. However, no respondents reported knowing the meaning of a meta-analysis. More than 40% of the physicians answered they did not understand the terms "a systematic review of the literature, published convenience and odd ratio". There were 53 physicians (91.4%) who answered evidence-based medicine should be applied in practice. In addition, 51 physicians (87.9%) answered they believed that EBP would improve patient service and outcomes. Finally, 54 (94.7%) respondents answered they were interested in learning knowledge and skills of EBP and applying these to patient services.

Sherriff et al. (2007) implemented a quasi-experimental interrupted time series design and found improvement following the intervention in nurses' attitudes to organizational support for EBP and their perceptions of their knowledge and skills in locating and evaluating research reports. This provided empirical evidence for the proposition that education reduces barriers to EBP.

Most of the studies supported the implementation of educational interventions as an integral aspect of implementing EBP and highlighted the importance of supportive leadership and organizational support for evidence-based nursing practice (Kuuppeloma et al 2005; Eizenberg et al 2007; Oh 2008; Koehn et al 2007; Brown et al 2008; Johansson et al, 2010; Lim et al, 2011; Sanders et al 2011; Torrente et al, 2012; Ezelarab et al, 2012)

2.3 Research Framework

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┌──────────────────────────┐
│  Socio-demographic       │
│     characteristics      │
│  Characteristics         │
│  Gender                  │
│  Age                     │
│  Education degree        │
│  English proficiency     │
│  Current job position    │
│  Working unit            │
└──────────────────────────┘
                              ╲
                               ╲
┌──────────────────────────┐    ╲        ╭─────────────────────────╮
│  Research-related        │     ➘     │                         │
│     activities           │            │  Perception  of Evidence-Based │
│  Clinical experience     │  ──────➤   │     Nursing Practice    │
│  Experience in a current unit │        │                         │
│  Taking special training │            ╰─────────────────────────╯
│  Attendance of nursing   │                   ↗
│  conference/ seminar     │                  ╱
│  Having seminar/ training at │            ╱
│  working unit            │            ╱
│  Awareness of EBP        │          ╱
│  Taking Research method class │     ╱
└──────────────────────────┘        ╱
                                   ╱
┌──────────────────────────┐     ╱
│                          │   ╱
│                          │ ╱
│  Barriers to Research    │
│     Utilization          │
│                          │
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└──────────────────────────┘
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3. METHODS

3.1 Study Design

This study was a descriptive survey to describe perception and associated factors of EBP among Mongolian nurses.

3.2 Subjects

1.1 .1 Study participants

The target population of this study was nurses who were employed in national tertiary hospitals and had responsibility for research and training. The accessible population of this study was nurses who were employed in tertiary hospitals which had more than 400 beds in Ulaanbaatar, Mongolia. A power analysis was done to determine the number of participants needed to ensure statistically significant data (Burns & Grove, 2005). Using 12 numbers of predictive factors, an alpha level of 0.05, an anticipated effect size of 0.35, and desired statistical power level of 0.8, the power analysis yielded a minimum required sample size of 163 people. The sample of this study was 173 nurses who were conveniently selected from eight tertiary hospitals in Ulaanbaatar. The total number of unit nurses and sample size per hospital is shown below:
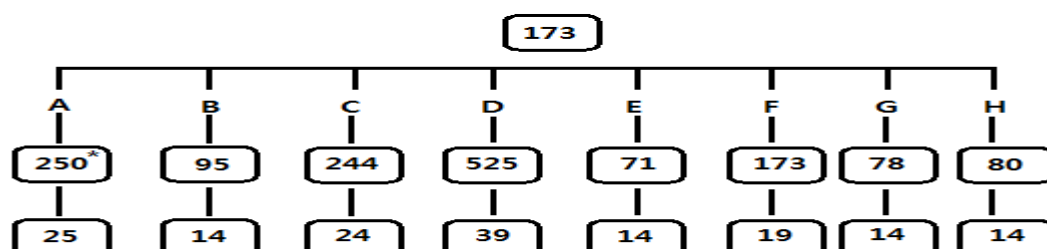
*Total number of unit nurses

3.3 Instruments

Two instruments were used to investigate respondents' perception of evidence based practice and associated factors developed using the forward–backward-forward translation technique. In the first step, the researcher translated the original English version of the questionnaire into the Mongolian language. The translation was translated back into English by another translator who had no knowledge about the original questionnaire. Next, the researcher and two independent translators reviewed and compared the backward translation with the original English instrument.

a) Perception: The Evidence-Based Practice Questionnaire, developed and validated by Upton and Upton (2006) is a 24-item, Likert-style questionnaire to measure nurses' perceptions of their performance, attitudes and knowledge of EBP. Each of the 24 items on the questionnaire uses a Likert scale, ranging from 1 to 7 points. A higher score on the Likert scale indicates a more positive attitude toward EBP or a greater knowledge and use of EBP. Internal consistency of the entire questionnaire was reported with a Cronbach's α of 0.87. Internal reliability for the performance of EBP subscale was reported at α 0.85, for the attitude toward EBP subscale at α 0.79, and for the knowledge/skills associated with EBP subscale at α 0.91.14 Construct validity was reported with correlation coefficients ranging from 0.3 to 0.4 ($P < .001$), indicating a positive but moderate relationship between questionnaire scores and an independent measure of awareness of EBP. The attitudes toward EBP subscale is comprised of four items, the knowledge of EBP subscale consists of 14 items, and the performance of EBP subscale is made of six items. The attitudes subscale included four items, such as 'My workload is too great for me to keep up to date with all the new evidence' and 'Evidence-based practice is a waste of time." The knowledge subscale included 14 items that addressed perceptions of knowledge of EBP and included 'Informational technology skills' and 'Ability to analyse critically evidence against set standards'.

The performance subscale consisted of six items such as "I critically appraise literature". (Upton & Upton 2006)

b) Associated factors on perceptions of evidence based nursing practice:

1. Socio-demographic characteristics of the study participants

The questionnaire includes nine questions to collect socio-demographic characteristics data of the study participants: age, gender, education degree, English proficiency, job position, working unit, clinical experience and experience, current unit, and taking special training.

2. The BARRIERS Scale developed by Funk et al. (1991) was used as a tool to examine perceived barriers of evidence based practice. The BARRIERS Scale uses a five-point response Likert-type scale with 16 items. Originally the scale consisted of four subscales, but this study had adopted only two subscales: barriers of nurse and barriers of organization. The barriers of the nurse subscale includes eight items such as "I do not see the value of research for practice", "Research utilization is little benefit for me", and "I am unwilling to change/try new ideas". The barriers of organization subscale includes eight items such as "Administration will not allow implementation", "Physicians will not cooperate with implementation", and "There is insufficient time on the job to implement new ideas". Internal reliability has been established by a Cronbach's alpha of 0.91 (Funk et al., 1991a). Content validity was established using a second measure of research utilization and feedback from experts in the field (Funk et al., 1991a). Permission to use the scale was gained from developer, Sandra G. Funk Ph.D., by submitting a signed permission form available online.

3. Research related activities of the study participants

Based on previous studies the questionnaire includes four questions to collect general characteristics information: attendance at nursing conference/seminar, awareness of EBNP, having seminar/ training at working unit, and taking a "research methods" course. (Kuuppeloma et al 2005; Eizenberg et al 2007; Oh 2008; Koehn et al 2007; Brown et al

2008;Johansson et al, 2010; Lim et al, 2011; Sanders et al 2011; Torrente et al, 2012; Ezelarab et al, 2012)

3.4 Data Collection

The study was approved by Yonsei University's Institutional Review Board. Data were collected from 2013 11.10 to 2013.11.20 among 173 nurses who were employed in tertiary hospitals having more than 400 beds in Ulaanbaatar, Mongolia. Consent was implied by return of a completed questionnaire. Participation was voluntary, and the anonymity of survey participants was maintained. The researcher gained approval of this study activity among the hospital nurses by directly visiting the hospitals and explaining the purpose of the study to the head nurse or manager of the hospital. After this explanation, cooperation for this study was requested and granted. The head nurse or manager asked the unit staff nurses if they wanted to participate in the study. After the researcher gave a detailed explanation about the research to the unit staff nurses, the questionnaires were distributed to those nurses who voluntarily agreed to participate in the study.

3.5 Data Analysis

The coded data were analyzed using SPSS version 21.0. Descriptive statistics included frequencies, percentages, means, and standard deviations. The alpha level was set at 0.05. ANOVA and the independent t-test were used to examine the difference between socio-demographic characteristics, research related activities, and perception of EBP. Pearson correlations are used to examine the relationship between the barriers scale and perception of EBP. Multiple regression analyses were used to determine the predicting factors for perception of EBP.

4. RESULTS

4.1 Socio-demographic Characteristics of the Study Participants

The sample was comprised of 173 participants. The majority, 162 (93.6%), were female, with 11 (6.4%) being male. The mean age of these participants was 37 (age range = 20 to 55). The majority, 80 (47.1%), were over the age of 41 years. Most participants, 112 (64.5%), held a bachelor's degree in nursing. The majority, 130 (77.4%), were staff nurses, and 18 (10.7%) were head nurses. Among the nurses, 104 (61.2%) had intermediate English proficiency. The participants were in the following units: medical: 70 (40.5%), surgical: 33 (20.0%), intensive care: 15 (9.1%), psychiatric: 14 (8.5%), and maternity and neonatal: 33 (20.0%). The participants had been in clinical experience for 12.6 ± 9.7 years on average (range = 1 year, 1 month to 35 years). Their average time of experience on their current units was 6.4 ± 6.91 years (range = 4 month to 25 years). Table 1 shows specific socio-demographic characteristics of participants.

Table 1. Socio-demographic characteristics of the study participants   (n=173)

Characteristics	Category	n (%)*
Gender	Male	11(6.4)
	Female	162(93.6)
Age (37.44±9.9)	20<30	55(32.4)
	31≤40	35(20.5)
	41<55	80(47.1)
Education degree	Diploma	59(34.5)
	Bachelor	112(64.5)
English proficiency	Low	66(38.2)
	Intermediate	104(61.2)
Current job position	Staff nurse	130(77.4)
	Head nurse	18(22.6)
Working unit	Medical	70(40.5)
	Surgery	33(20.0)
	ICU	15(9.1)
	Psychiatry	14(8.5)
	Maternity	33(20.0)
Clinical experience (12.6±9.70)	1month-3years	36(20.8)
	4years-8years	47(27.2)
	9-15years	34(19.7)
	More than 15 years	56(32.4)
Experience in a current unit (6.4±6.91)	1month-3years	72(41.6)
	4years-8years	53(30.6)
	9-15years	33(19.1)
	More than 15 years	15(8.7)
Having a special course	Yes	111(69.4)
	No	49(30.6)

* Missing values are excluded

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4.2 Perception of EBP and the Barriers to Research Utilization, and Research-related Activities of the Study Participants

4.2.1 Perception of Evidence Based Practice

The overall mean EBPQ score was moderate (4.01±1.62). The mean scores for each question ranged from 3.07 to 4.93. The attitude subscale of the perception of EBP showed the highest mean score (4.58±1.64), followed by the knowledge (3.84±1.59), and the performance (3.71±1.56) subscales. The top rated item for the attitudes subscale was "stick to tried and trusted methods rather than changing to anything new" (4.93 ± 1.523). The top five items for the knowledge subscale were ability to review their own practice (4.39±1.581), determine material usefulness (4.17±1.446), use information technology skills (4.16±1.469), share ideas and information with colleagues (4.15±1.760), and determine material validity (4.04±1.469). The top item for the performance subscale was "sharing information with colleagues" (4.39±1.581), and the top low-rated item was "track down relevant evidence" (4.25±1.56). The data is shown in Table 1 along with the individual item means.

Table 1.Perception of Evidence Based Practice   (n=173)

Subscale(M±SD)	Items	Response N (%)							M±SD
		1	2	3	4	5	6	7	
Attitude* (4.58±1.64)	I stick to tried and trusted methods rather than changing to anything new	5(2.9)	14(8.1)	34(19.7)	55(31.8)	28(16.2)	22(12.7)	15(8.7)	4.93 ± 1.523
	Evidence-based practice is a waste of time	14(8.1)	33(19.1)	25(14.5)	52(30.1)	25(14.5)	18(10.4)	5(2.9)	4.87± 1.602
	I resent having my clinical practice questioned	17(9.8)	29(16.8)	21(12.1)	49(28.3)	23(13.3)	28(16.2)	6(3.5)	4.66±1.681
	My workload is too great for me to keep up to date with all the new evidence	29(16.8)	11(6.4)	38(22.0)	42(24.1)	19(11.0)	25(14.5)	9(5.2)	3.85±1.843
Knowledge (3.84±1.596)	I have an ability to review my own practice	5(2.9)	21(12.1)	22(12.7)	42(24.3)	22(12.7)	41(23.7)	20(11.6)	4.39±1.581
	I have an ability to determine how useful the material is	6(3.5)	17(9.8)	32(18.5)	46(26.6)	29(16.8)	27(15.6)	16(9.2)	4.17±1.446
	I have an information technology skills	6(3.5)	11(6.4)	30(17.3)	54(31.2)	31(17.9)	27(15.6)	14(8.1)	4.16±1.469
	I share of ideas and information with colleagues	3(1.7)	7(4.0)	36(20.8)	51(29.5)	32(18.5)	30(17.3)	14(8.1)	4.15±1.760
	I have an ability to determine how valid the material is	6(3.5)	15(8.7)	38(22.0)	56(32.4)	35(20.2)	15(8.7)	8(4.6)	4.04±1.469
	I disseminate new ideas about care to colleagues	11(6.4)	38(22.0)	29(16.8)	45(26.0)	26(15.0)	20(11.6)	4(2.3)	4.03±1.461
	I can convert my information needs into a research question	14(8.1)	19(11.0)	56(32.4)	41(23.7)	25(14.5)	16(9.2)	2(1.2)	3.90±1.501
	I have an ability to identify gaps in your professional practice	7(4.0)	17(9.8)	43(24.9)	53(30.6)	24(13.9)	22(12.7)	6(3.5)	3.90±1.935
Performance (3.71±1.56)	I am awareness of major information types and sources	5(2.9)	18(10.4)	41(23.7)	54(31.2)	24(13.9)	24(13.9)	7(4.0)	3.86±1.744
	I have an ability to apply information to individual cases	9(5.2)	19(11.0)	24(13.9)	74(42.8)	22(12.7)	18(10.4)	7(4.0)	3.84±1.481
	I have an ability to analyze critically evidence against set standards	4(2.3)	35(20.2)	38(22.0)	52(30.1)	20(11.6)	18(10.4)	6(3.5)	3.82±1.695
	I have a research skills	6(3.5)	27(15.6)	39(22.5)	61(35.3)	14(8.1)	19(11.0)	7(4.0)	3.34± 1.682
	I have a monitoring and reviewing of practice skill	9(5.2)	48(27.7)	45(26.0)	42(24.3)	16(9.2)	11(6.4)	2(1.2)	3.13±1.595
	I have a knowledge of how to retrieve evidence	14(8.1)	34(19.7)	46(26.6)	46(26.6)	14(8.1)	17(9.8)	2(1.2)	3.07± 1.526
	I share information with colleagues	12(6.9)	27(15.6)	43(24.9)	35(20.2)	27(15.6)	24(13.9)	5(2.9)	4.39±1.581
	I evaluate outcomes of practice	9(4.0)	9(5.2)	56(32.4)	34(19.7)	33(19.1)	24(13.9)	10(5.8)	4.25±1.560
	I formulate clear question	7(4.0)	9(5.2)	56(32.4)	36(20.8)	31(17.9)	24(13.9)	10(5.8)	3.79±1.599
	I integrate the evidence with expertise	12(6.9)	27(15.6)	43(24.9)	36(20.8)	26(15.0)	24(13.9)	5(2.9)	3.69±1.580
	I critically appraise literature	3(1.8)	1(0.6)	39(22.5)	82(47.3)	44(25,4)	2(1.2)	2(1.2)	3.65±1.465
	I track down relevant evidence	9(5.2)	48(27.7)	45(26.0)	42(24.3)	16(9.2)	11(6.4)	2(1.2)	3.38±1.469
Total mean score									4.01±1.623

*Responses ranging from 1 to 7 and higher scores indicating a more positive attitudes toward EBP.

4.2.2 Barriers to Research Utilization

Barriers of the organization emerged as the highest mean score (2.58±1.25) subscale. The top five barriers ranked by participants were from the 'barriers of the organization' subscale, with the item "lack of time to read research" (2.88±1.22) identified as the top barrier, followed by "insufficient time on the job to implement new ideas" (2.73±1.20). These were followed by "facilities are inadequate for implementation" (2.67±1.19), "lack of authority to change patient care procedures" (2.64±1.21) and, "results are not generalizable to setting" (2.53±1.50). Table 2 shows the barriers to research utilization.

Table 2. Barriers to Research Utilization

<div align="right">(n=173)</div>

Factors (M±SD)	Barriers items	M±SD	Priority
Barriers of the organization (2.58±1.245)	I do not have time to read research.	2.88±1.22	1
	There is insufficient time on the job to implement new ideas.	2.73±1.20	2
	The facilities are inadequate for implementation.	2.67±1.19	3
	I do not feel I have enough authority to change patient care procedures.	2.64±1.21	4
	I feel results are not generalizable to setting where I work.	2.53±1.50	5
	Administration will not allow implementation.	2.48±1.27	6
	Other staffs are not supportive of implementation.	2.40±1.16	7.5
	Physicians will not cooperate with implementation.	2.28±1.17	13
Barriers of the individual (2.27±1.172)	I am isolated from knowledgeable colleagues with whom to discuss the research.	2.40±1.18	7.5
	I am unaware of the research	2.36±1.28	9
	I am unwilling to change/try new ideas.	2.35±1.09	10
	I feel the benefits of changing practice will be minimal.	2.33±1.17	11
	I do not feel capable of evaluating the quality of the research	2.32±1.27	12
	There is not a documented need to change practice.	2.23±1.19	14
	I do not see the value of research for practice.	2.13±0.93	15
	Research utilization is little benefit for me.	2.06±1.24	16

4.2.3 Research-related Activities of Study Participants

   More than half of nurses, 111 (69.4%), had participated in training courses, and 49 (30.6%) had not participated in training courses. Further, 113 respondents (68.5%) had awareness of EBP, and 52 respondents (31.5%) answered they had not heard about EBP. Of the total participants, 127 respondents (76.5%) answered that they had taken a research methods course, while 39 respondents (23.5%) answered they had not taken a research methods course. Among the participants, 80 (47.3%) attended a nursing conference or seminar once in 2-3 months, and 34 participants (20.1%) attended once in 6 months, while 55 participants (32.5%) attended once in a year.

Table 3. Research-related activities of participants

		(n=173)
Variables (M±SD)	Classification	n (%)[*]
Attendance of nursing conference/ seminar	Once a 2-3 months	80(47.3)
	Once in 6 months	34(20.1)
	Once in a year	55 (32.5)
Having seminar/training at working unit	Every two weeks	58(34.7)
	Once a month	75(44.9)
	Once in a few months	34(20.4)
Awareness of EBNP	Yes	113(68.5)
	No	52(31.5)
Taking a research method class	Yes	127(76.5)
	No	39(23.5)

* Missing values are excluded

4.3 The Relationship Between Perception of EBP and Socio-demographic Characteristics, the Barriers to Research Utilization, and Research-related Activities of the Study Participants

4.3.1 Socio-demographic Characteristics and Perception of EBP

Table 1 shows socio-demographic characteristics and their relationship to the perception of EBP. Education degree (t= 2.90, p=0.004) was found significantly associated with perception of EBP. As well, English proficiency (t= 2.02, p=0.045) were found significantly associated with perception of EBNP.

Table 1.Socio-demographic characteristics and Perception of Evidence-Based Practice

Socio-demographic Variables	Category	n	Perception of EBP	
			M±SD	F/t(p)
Age (37.44±9.9)	22-30	55	3.98±0.53	.176(.839)
	31-40	35	4.06±20.2	
	41-55	80	4.00±23.3	
Education degree	Diploma	59	3.81±0.65	2.90(.004)*
	Bachelor	112	4.12±0.68	
English proficiency	Elementary	66	3.88±0.77	2.02(.045)*
	Intermediate	104	4.10±0.62	
Job position	Staff	130	4.01±0.68	0.49(.611)
	Head nurse	18	4.09±0.83	
Working unit	Medical	70	3.90±0.73	0.80(.523)
	Surgery	33	4.01±0.71	
	ICU	15	3.88±0.75	
	Psychiatry un it	14	4.10±0.86	
	Maternal and Child	33	4.13±0.40	
Clinical experience	1month-3years	36	4.01±0.64	.44(.725)
	4years-8years	47	4.03±0.62	
	9-15years	34	3.89±0.60	
	More than 15 years	56	4.06±0.82	
Experience in a current unit	1month-3years	72	3.98±0.67	3.42(.052)
	4years-8years	53	4.00±0.63	
	9-15years	33	4.27±0.69	
	More than 15 years	15	3.91±0.82	
Having a special course	Yes	111	4.02.±0.66	.59(.554)
	No	49	3.95±0.75	

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4.3.2 The Barriers to Research Utilization and Perception of EBP

Significant correlation was found between the "Barriers of the Organization" subscale of the Barriers scale and Perception of EBP (r = -0.179, p=0.018). This negative relationship signifies that higher scores for "Barriers of the Organization" were associated with lower scores for perception of EBP. The more nurses perceived the organizational barrier, the lower they have perception of EBNP. As well, a statistically significant correlation was found between "Barriers of Organization" and "Barriers of Individual" subscale of the Barrier scale (r = -0.553, p=0.000). This relationship signifies that the more the nurses perceived the organizational barrier, the more they perceived the individual barrier.

Table 2.The Barriers to Research Utilization and Perception of Evidence Based Practice

Variable	Perception of EBP	Barriers of Individual	Barriers of Organization
Perception of EBP	1		
Barriers of Individual	0.127(.096)	1	
Barriers of Organization	-0.179(.018) *	. 553(.000)**	1

*p<0.05, **p<0.01

4.3.3 Relationship Between Research-related Activities of the Study Participants and Perception of EBP

Table 3 shows research-related activities of subjects and their relationship to the perception of EBNP. Attendance at nursing conferences/seminars (F= 4.28, p=0.15) was found to be significantly associated with attitude on EBP. Post hoc analyses of the univariate ANOVA for the attitude scores consisted of conducting pairwise comparisons to find which educational level affected attitudes most strongly. The BSN group demonstrated statistically significantly higher scores in attitude scores in comparison with the diploma group. As well, taking research methods class (t= 2.93, p=0.04) was found to be significantly associated with attitude of EBP.

Table 3. Research-related activities and Perception of EBP

Research-related activities	Category	n	Perception of	EBP
Attendance of nursing conference/ seminar	Once in 2-3 months	80	$4.15.\pm0.63^{a}$	4.28(.015)*
	Once in 6 months	55	4.03 ± 0.77	a>b
	Once a year	34	3.80 ± 0.67^{b}	
Having seminar/training at working unit	Every two weeks	58	$4.04.\pm0.73$	0.20(.823)
	Once a month	75	3.96 ± 0.69	
	Once in 2-3 months	34	3.98 ± 0.59	
Awareness of EBNP	Yes	113	4.05 ± 0.648	1.10(.272)
	No	52	3.92 ± 0.753	
Taking research method class	Yes	122	4.08 ± 0.64	2.93(.004)*
	No	44	3.73 ± 0.74	

Post hoc analysis: a>b

4.4 The Factors Influencing the Perception of EBP

Table 1 shows the factors associated with perception of EBP using multiple linear regression. Multiple linear regression examined a total of five variables (education degree, English proficiency, attendance at conference/seminar, research methods class attendance, and barriers of organization which have significant relationship with the dependent variable, perception of EBNP, by stepwise method. As a result, four variables were included in the final model, and it has an explanatory power of 11.7% about perception of EBP.

Table 1.The factors influencing to Perception of Evidence Based Nursing Practice

Factors	B	S.E	β	R^2	AdjustR^2	T	p
Taking Research method class	.291	.118	.187	.046	.046	2.462	.015
Degree	.253	.107	.179	.027	.073	2.367	.019
Barriers of Organization	-.150	.067	.169	.022	.095	2.230	.027
Attendance at conference/seminar	.112	.060	.145	.022	.117	1.889	.061

5. Discussion

This study described the perceptions of EBP and associated factors among nurses who were employed in tertiary hospitals in Ulaanbaatar, Mongolia. A total of four kinds of variables were identified as predicting factors of perception of EBP, including attendance at a research methods course, educational degree, attendance at conferences/seminars, and barriers of organization. Although numbers of predicting factors are too few, the data derived from this study closely mirrors results from previous research findings (Eizenberg et al., 2007; E.G. Oh, 2008; Koehn et al., 2007; Brown et al., 2008; Johansson et a.l, 2010; Lim et al., 2011; Sanders et al., 2011; Torrente et al., 2012)

In the current study, a non-significant difference was observed between nurses according to their age in perception of terms related to EBP, and this finding is not congruent with a previous study. This may be caused by a participant's misconception of EBP or if the EBP terminology in the questions was not fully comprehended. One indication of this interpretation is that overall mean EBPQ score (4.01±1.62), knowledge/ skills (3.84±1.59), and performance score were higher than the researcher's expectation, although the mean score is lower than previous studies. This is a reasonable conclusion because there are no EBP training courses yet in the universities, and introduction about EBP is included in research methods courses. This misconception of EBP indicates there is a need for improvement regarding the perception EBP among the nurses in this study.

In addition, this study revealed that nurses with a BSN degree had significantly higher EBPQ scores compared with diploma level nurses. This finding reveals that research is incorporated more throughout the educational courses in the BSN programs than diploma programs, and BSN nurses had a more positive attitude and were more confident regarding knowledge/skills of research and EBP. Nursing education at all levels, therefore, should incorporate an EBP framework throughout the curriculum in order to better prepare nursing students in the area of EBP. This finding is congruent with previous studies showing that the

BSN nurses demonstrated statistically significantly higher scores in comparison with the other groups (Koehn, 2007).

Furthermore, data from this study showed that that nurses who attended nursing conferences more frequently had significantly higher perceptions on EBP compared with those who infrequently attended nursing conferences/seminars. The findings in this study are congruent with Oh's study (2009) which studied perceptions and performances of EBP among community health nurses in Korea.

The main barriers reported against implementing research in the current study were lack of time, facilities are inadequate for implementation, lack of authority to change patient care procedures, and results are not generalizable to setting. Although a lack of time was the most commonly reported barrier for nurses, there were also barriers such as lack of authority to change patient care procedures, and results are not generalizable to setting. Moreover nurses are still highly dependent on the physicians' orders. This is not just the culture of the hospital, but an overall perspective in Mongolian society. All of these barriers can be improved through the health facility. With the support of hospitals administrators, who can encourage nurses to gain research and EBP knowledge and read current best evidence, the nurses will be able to provide better quality care to patients. These results are congruent with findings from previous studies which showed that a lack of time was the most commonly reported barrier for healthcare professionals around the world (Retsas et al, 1999; Schoonover, 2006; El-shaer1, 2006; McGrath et al, 2007; Chang, 2010).

Included in the data, 45 participants responded in the comments section on barriers to EBP. In these comments, 30 participants indicated that they either did not understand the questionnaire or did not understand EBP. Comments included 'Not clear on what EBP is' and "I have never been trained in EB", "This is a new term for me". Other responses respecting barriers to EBP which participants wrote can be divided into three sections: no time, no knowledge of research, and lack of authority in the comments section on barriers to EBP

This descriptive study was limited by four kinds of factors. First, it was limited by use of a convenience sample. Second, participants' misconception of EBP terminology in the questions

was a limitation of this study. Third, there was a higher proportion of staff nurses in the sample. Lastly, there was a smaller proportion of nurses between ages 30-40 years in the sample, while a higher proportion were older aged nurses. This may be due to the fact that most of the nurses in Mongolia who are employed in clinical settings are over age 40.

6. Conclusion and Suggestion

6.1 Conclusion

This study was undertaken for purpose of describing perception and associated factors on EBP among Mongolian nurses and examining the relationship of associated factors on perception of EBP.

Data were collected from 2013 11.10 to 2013.11.20 among 173 nurses who were employed in tertiary hospitals having more than 400 beds in Ulaanbaatar, Mongolia.

A summaries of findings includes:

1. The mean age of these participants was 37. The majority were female 162 (93.6%). Of participants, 112 (64.5%) held a bachelor's degree in nursing, 130 (77.4%) were staff nurses, and 104 (61.2%) had intermediate English proficiency. The participants were working in the following units: medical: 70 (40.5%), surgical: 33 (20.0%), intensive care: 15 (9.1%), psychiatric: 14(8.5%), and maternity and neonatal units:33 (20.0%). The participants had been in clinical experience for 12.6 ±9.7 years, and experience on their current units was 6.4± 6.91 years.

2. The overall mean EBPQ score was 4.01±1.62. The attitude subscale of the perception of EBP showed the highest mean score (4.58±1.64), followed by the knowledge (3.84±1.59), and the performance (3.71±1.56) subscales. The top rated item for the attitudes subscale was "stick to tried and trusted methods rather than changing to anything new" (4.93 ± 1.523). The top item for the knowledge subscale were ability to review their own practice (4.39±1.581). The top item for the practice subscale was "sharing information with colleagues" (4.39±1.581).

3. Barriers of the organization emerged as the highest mean score (2.58±1.25) subscale. The top five barriers ranked by participants were from the 'barriers of the organization'

subscale, with the item "lack of time to read research" (2.88±1.22) identified as the top barrier, followed by "insufficient time on the job to implement new ideas." (2.73±1.20). These were followed by "facilities are inadequate for implementation" (2.67±1.19), "lack of authority to change patient care procedures" (2.64±1.21) and, "results are not generalizable to setting" (2.53±1.50).

4. More than half of nurses, 111 (69.4%), while 113 respondents (68.5%) had awareness of EBP, 127 respondents (76.5%) answered that they had taken a research methods course, and 80 (47.3%) attended a nursing conference or seminar once in 2-3 months.

5. For the socio-demographic characteristics, education degree (t=2.90, p=0.004) was found significantly associated with perception of EBP. Also, English proficiency (t=2.02, p=0.045) was found significantly associated with perception of EBNP.

6. Significant correlation was found between the "Barriers of the Organization" subscale of the Barriers scale and Perception of EBP (r = -0.179, p=0.018). As well, a statistically significant correlation was found between "Barriers of Organization" and "Barriers of Individual" subscale of the Barrier scale (r = -0.553, p=0.000).

7. Attendance at nursing conferences/seminars (F= 4.28, p=0.015) was found to be significantly associated with attitude on EBP. Post hoc analyses of the univariate ANOVA for the attitude scores consisted of conducting pairwise comparisons to find which educational level affected attitudes most strongly. The BSN group demonstrated statistically significantly higher scores in attitude scores in comparison with the diploma group. As well, taking a research methods class (t= 2.93, p=0.04) was found to be significantly associated with attitude of EBP.

8. Education degree, English proficiency, attendance at conference/seminar, taking a research methods class, and barrier of organization were included in the final model, and it has an explanatory power of 11.7% about perception of EBNP.

6.2 Suggestion

This study has found that Mongolian clinical nurses have knowledge deficits and misconceptions of EBP and indicate the importance of providing education and training courses for EBP. Acknowledging nurses' knowledge deficits and misconceptions of EBP is one of the most crucial initial steps that must occur in the process of EBP implementation. Based on these research findings, it is necessary to develop educational and training programs to introduce EBP to clinical settings to insure success at achieving high-quality patient care. For this, nurse educators, leaders, and managers of organizations can play an important role in promoting and supporting EBP by providing appropriate training courses. Subsequently, nurses' clinical practice will move to evidence-based decision making. It is clear that a considerable amount of work needs to be done until clinical nurses attain greater knowledge and understanding of EBP which will enable them to become confident in their ability to use appropriate research findings in practice and contribute to their professional responsibility of providing high-quality care. Additionally, there are few nursing research studies conducted in Mongolia, and nurses do not have enough research articles to read. There is limited information on why nurses do not conduct research frequently. Thus, this study recommends future research to identify the attitudes and knowledge related to research methods among Mongolian clinical nurses.

7. References

Brown, C. E., Wickline, M.A., Ecoff, L., & Glaser, D. (2008) Nursing practice, knowledge, attitudes and perceived barriers to evidence-based practice at an academic medical center . *Journal of Advanced Nursing 65*(2), 371–381

Ciliska, D. (1998). Implementing evidence-based nursing: some misconceptions. *Evidence-Based Nursing, 1(2), 38-40*

Chang, H. C., Russell, C., & Jones, M. K . (2010). Implementing Evidence-Based Practice in Taiwanese Nursing Homes Attitudes and Perceived Barriers and Facilitators. *Journal of Gerontological Nursing , 36*(1), 41-48.

Cranley, L., Doran, D.M., Tourangeau, A.E., Nagle, L. (2009). Nurses' Uncertainty in Decision-Making: A Literature Review. *Worldviews on Evidence-Based Nursing, 6*(1), 3–15.

Doran, D.M., & Sidani, S. (2007). Outcomes-Focused Knowledge Translation: A Framework for Knowledge Translation and Patient Outcomes Improvement. *Worldviews on Evidence-Based Nursing, 4*(1), 3–13.

Dunne, M. (2011). Barriers and Facilitators to Research Use Among Allied Health Practitioners: A Mixed-Method Approach to Assessment. *Evidence Based Library and Information Practice 6.4,* 41-56

Ezelarab, H. S., El Salam, S. A, Behalik, S. G., & Eltayeb, H. E. (2012). Nurses, Practice, Knowledge and Attitude towards Evidence-Based Practice at Yanbu general hospital – kingdom of Saudi Arabia. *Life Science Journal, 9*(3), 1062-1071

Fineout-Overholt, E., Levin, R. F., & Melnyk, B. M. (2005). Strategies for Advancing Evidence-Based Practice in Clinical Settings. *Journal of the New York State Nurses,* 28-32

Funk, S. G., Champagne, M. T., Wiese, R. A., & Tornquist, E. M. (1991b). Barriers: The barriers to research utilization scale. *Applied Nursing Research, 4*(1), 39-45.

Glacken, M., Chaney, D. (2004). Perceived barriers and facilitators to implementing research findings in the Irish practice setting. *Issues in Clinical Nursing, 2*(1), 104-113

Gerrish, K., (2004). Promoting evidence-based practice: an organizational approach. *Journal of Nursing Management, 12*, 114–123

Granger, B. . (2008). Practical Steps for Evidence-Based Practice Putting One Foot in Front of the Other. *Advanced Critical Care , 19*(3), 314–324

Jennings-Sanders, A. J.,   Jury, L. A., & Burant, C. J. (2011). VA Nurses' Opinions Regarding the Use of Evidence-Based Practice. *Federal Practitioner, 31*

Koehn, M. L., & Lehman, K. (2008).   Nurses' perceptions of evidence-based nursing practice . *Journal of Advanced Nursing,   62*(2), 209–215

Knops, A. M., Vermeulen, H.,   Legemate, D. A., & Ubbink, D. (2009). Attitudes, Awareness, and Barriers Regarding Evidence-Based Surgery Among Surgeons and Nurses. *World Journal of Surgery 33:*1348–1355

Labeau, S., Vandijck, D. M., Claes, B., P. Aken, P., & Blot, S.I. (2007).   Critical Care Nurses' Knowledge of Evidence-Based Guidelines for Preventing Ventilator-Associated Pneumonia: An Evaluation Questionnaire. *American Journal of Critical Care 16*, 371-377

Lim, K. Ch.,   Park, K.   O., Kwon, J. S., Jeong, J. S.,   Choe, M. A.,   Kim, J. H., Lee, K. S. (2011). Registered Nurses' Knowledge, Attitudes, and Practice about Evidence-Based Practice at General Hospitals in Korea.   *Journal of Korean Clinical Nursing Research, 17*(3), 375~387.

Mantzoukas., S. (2008). A review of evidence-based practice, nursing research and reflection:levelling the hierarchy. *Journal of Clinical Nursing 17*, 214–223

McGrath, J. P., Smith, K.B., Hugo, K., Taylor, M., and El-Hajj, H. RN, (2007). Clinical Nurse Specialists' Use of Evidence in Practice: A Pilot Study. *Worldviews on Evidence-Based Nursing, 4*(2), 86–96.

Moch, S, D., Cronje, R.J., & Branzon, J. (2010). Undergraduate nursing evidence-based practice education: Envisioning the role of students. *Journal of Professional Nursing, 26*(1), 5–13 5

Oh, E. G., Oh, H. J., & Lee, Y. J. (2004). Nurses' Research activities and Barriers of Research Utilization. *Journal Korean Academy of Nursing, 34*(5), 838-848

Oh, E. G. (2008). Research activities and perceptions of barriers to research utilization among critical care nurses in Korea. *Intensive & Critical CareNursing, 24*(5), 314-322.

Oh, E. G. (2009) Perceptions and performances for evidence-based practice among community nurses in Korea. *International Journal of Evidence-Based Healthcare 7*, 220-220,

Oh, EG, Kim S, Kim SS, Kim S, Cho EY, Yoo JS, et al. (2010) Integrating evidence-based practice into RN-to-BSN clinical nursing education. *Journal Nursing Education, 49*, 387–92

Olade , R. A. (2004). Evidence-Based Practice and Research Utilization Activities Among Rural Nurses . *Journal of Nursing Scholarship, 36*(3), 220-225

Parahoo, K. (2000). Barriers to, and facilitators of, research utilization among nurses in Northern Ireland. *Journal of Advanced Nursing, 31*(1), 89-98.

Pravikoff, D. S, Tanner, A. B., & Pierce S.T. (2005) Readiness of U.S. Nurses for Evidence-Based Practice. *Americal Journal of Nursing. 105*(9), 40-51

Retsasa, A. (2000). Barriers to using research evidencein nursing practice. *Journal of Advanced Nursing, 31(3), 599-606*

Retsasa, A., & Nolanb, M. (1999). Barriers to nurses' use of research: an Australian hospital Study. *International Journal of Nursing Studies 36,* 335-343

Sackett, D. L., Rosenberg, W. M., Gray, M., Haynes, R. B., & Scott, W. (1996) Richardson Evidence based medicine: what it is and what it isn't . *BMJ 1*, 312:71-72

Scott , K., & McSherry, R. (2008). Evidence-based nursing: clarifying the concepts for nurses in practice. *Journal of Clinical Nursing, 18,* 1085–1095

Strickland, R.J., & O'Leary-Kelley. (2009) C. Clinical Nurse Educators' Perceptions

of Research Utilization Barriers and Facilitators to Change. *Journal for Nurses in Staff Development, 25*(4), 164–171.

Stitchler, J.F., Faan, F., Fields, W., Kim, S. C., & Brown, C. (2011). Faculty knowledge, attitudes, and perceived barriers to teaching evidence-baswd nursing. *Professional Nursing 27*, 92–100.

Tagney, J., & Haines, C. (2009). Using evidence-based practice to   address gaps in nursing knowledge. *British Journal of Nursing, 18*(8),   484-489

Titler, M. G.(2006).   The Evidence for Evidence-Based Practice Implementation Patient Safety and Quality. *An Evidence-Based Handbook for Nurses, 1*, 113-160

Thompson.C. (2003). Clinical experience as evidence in evidence-based practice. *Journal of Advanced Nursing 43*(3), 230–237

Thomson, P., Angus,   N. J., & Scott, J. (2000).   Building a framework for getting evidence into critical care education and practice. *Intensive and Critical Care Nursing 16*, 164–174

Thompson T.,   McCaughan, D., Cullum, N., Sheldon, T., & Raynor, P. (2005). Barriers to evidence-based practice in primary care nursing – why viewing decision-making as context is helpful. *Journal of Advanced Nursing 52*(4), 432–444

Upton, D., & Upton, P. (2006). Knowledge and Use of Evidence-based Practice by Allied Health and Health Science Professionals in the United Kingdo. *Journal of Allied Health,   35*,(3), 127-133

Upton, D., & Upton, P. (2006). Development of an evidence-based practice questionnaire for nurses . Journal of Advanced Nursing 54(4), 454–458.

Varnell, G., Barbara, H.,   Duke, G., & Hudson,   K. (2008). Effect of an Educational Intervention on Attitudes Toward and Implementation of Evidence-Based Practice *Worldviews on Evidence-Based Nursing, 5*(4), 172–181

Yava, .A.,   Tosun, N., Hatice K, Yavan, T., Terakye, G., & Hatipoglu, S.   (2009). Nurses' perceptions of the barriers to and the facilitators of research utilization in Turkey. *Applied Nursing Research 22*, 166–175

Wang L-P, Jiang X-L, Wang L, Wang G-R, Bai Y-J. (2013). Barriers to and Facilitators of Research Utilization: A Survey of Registered Nurses in China. *PLoS ONE 8(11): e81908. doi:10.1371/journal.pone.0081908*

연세대학교 간호대학 기관생명윤리위원회 결과 통보서

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심의번호	간대 IRB 2013-0039-1		발송일자	2013. 11. 8.
심의종류	□신규심의 ■재심의 □변경심의 □지속심의 □종료 및 결과보고 □기타심의			
연구과제명	몽골간호사들의 근거기반실무의 인식 및 영향요인			
연구자	연구책임자	소속	직위	성명
		연세대학교	석사생	Tsolmon Tumurtogoo
연구종류 (중복표시가능)	■설문조사 □관찰연구 □행동실험연구 □검체 활용 연구(혈액, 체액 등) □기타			
연구계획기간	2013 년 10 월 15 일 ~ 2013 년 12 월 15 일			
심의일자	2013 년 11 월 7 일			
심의결과	■승인 □시정승인 □보완 □반려 □중지 또는 보류			
연구승인유효기간	2013 년 11 월 7 일 ~ 2013 년 12 월 15 일	- 연구 진행 중 변경사항이 발생하면 변경심의를 거친 후 연구를 진행하여야 합니다. - 총 신청 연구기간이 IRB 연구승인 유효기간을 초과할 경우, 유효기간 만료 이전에 '지속심의' 승인을 받아야 연구지속 진행에 가능합니다. - 연구종료 후 3 개일 이내에 종료보고를 해주시기 바랍니다.		
심의의견	특이사항 없음			

연구책임자는 본 위원회의 심의결과에 대하여 이의가 있을 경우, 결과 통보일로부터 14 일 이내에 서면으로 이의신청을 할 수 있습니다. 다만, 동일 사안에 대하여 2 회 이상의 재심은 하지 않습니다.

연세대학교 간호대학 기관생명윤리위원회

Perceptions of Evidence-based practice

	Poor						Best
	1	2	3	4	5	6	7
1. My workload is too great for me to keep up to date with all the new evidence	□	□	□	□	□	□	□
2. I resent having my clinical practice questioned	□	□	□	□	□	□	□
3. Evidence-based practice is a waste of time	□	□	□	□	□	□	□
4. I stick to tried and trusted methods rather than changing to anything new	□	□	□	□	□	□	□
5. I have a research skills	□	□	□	□	□	□	□
6. I have an information technology skills	□	□	□	□	□	□	□
7. I have a monitoring and reviewing of practice skill	□	□	□	□	□	□	□
8. I can convert my information needs into a research question	□	□	□	□	□	□	□
9. I am awareness of major information types and sources	□	□	□	□	□	□	□
10. I have an ability to identify gaps in your professional practice	□	□	□	□	□	□	□
11. I have a knowledge of how to retrieve evidence	□	□	□	□	□	□	□
12. I have an ability to analyze critically evidence against set standards	□	□	□	□	□	□	□
13. I have an ability to determine how valid (close to the truth) the material is	□	□	□	□	□	□	□
14. I have an ability to determine how useful (clinically applicable) the material is	□	□	□	□	□	□	□
15. I have an ability to apply information to individual cases	□	□	□	□	□	□	□
16. I share of ideas and information with colleagues	□	□	□	□	□	□	□
17. I disseminate new ideas about care to colleagues	□	□	□	□	□	□	□
18. I have an ability to review my own practice	□	□	□	□	□	□	□
19. I critically appraise literature	□	□	□	□	□	□	□
20. I integrate the evidence with expertise	□	□	□	□	□	□	□
21. I formulate clear question	□	□	□	□	□	□	□
22. I track down relevant evidence	□	□	□	□	□	□	□
23. I evaluate outcomes of practice	□	□	□	□	□	□	□
24. I share information with colleagues	□	□	□	□	□	□	□

The BARRIERS to Research utilization

	Disagree Strongly	Disagree	Agree	Agree Strongly	I have no idea
1. I do not see the value of research for practice.	□	□	□	□	□
2. Research utilization is little benefit for me.	□	□	□	□	□
3. I am unwilling to change/try new ideas.	□	□	□	□	□
4. There is not a documented need to change practice.	□	□	□	□	□
5. I feel the benefits of changing practice will be minimal.	□	□	□	□	□
6. I do not feel capable of evaluating the quality of the research	□	□	□	□	□
7. I am isolated from knowledgeable colleagues with whom to discuss the research.	□	□	□	□	□
8. I am unaware of the research	□	□	□	□	□
9. Administration will not allow implementation.	□	□	□	□	□
10. Physicians will not cooperate with implementation.	□	□	□	□	□
11. There is insufficient time on the job to implement new ideas.	□	□	□	□	□
12. Other staffs are not supportive of implementation.	□	□	□	□	□
13. The facilities are inadequate for implementation.	□	□	□	□	□
14. I do not feel I have enough authority to change patient care procedures.	□	□	□	□	□
15. I do not have time to read research.	□	□	□	□	□
16. I feel results are not generalizable to setting where I work.	□	□	□	□	□

Socio-demographic characteristics and Research-related

activities of participants

1. Gender	□ Male □ Female
2. Birth year	□ 19_____
3. Education degree	□ Diploma □ Bachelor □ Master
4. English proficiency	□ Elementary □ Intermediate □ Advanced
5. Current job position	□ Staff nurse □ Head nurse □ Other
6. Clinical area	□ _____
7. Clinical experience	□_____years
8. Experience in a current unit	□ _____years_____months
9. Having a special course	□ Yes_____ □ No
10. Attendance at nursing conference/seminar	□ Once in 2-3 months □ Once in 6 months □ Once a year
11. Seminar/training which hold at working unit	□ Every two weeks □ Once in a month □ Once a few months
12. Awareness of EBNP	□ Yes_____ □ No
13. Taking a research research method course	□ Yes_____Where_____ □ No

In your opinion, what are the barriers in implementing EBP in Mongolia?
1._____
2._____
3._____

국문 요약

몽골 간호사들의 근거기반 실무에 대한
인식 및 관련요인

현대 의료 환경에서 새로운 연구, 기술, 근거는 지속적으로 나오고 있으며 근거 기반 실무 (EBP)는 가장 높은 질의 헬스케어이를 제공하고 최고의 환자의 결과를 보장하는 열쇠라고 세계에서 인정되고 있다 . EB 는 환자 케어에 대한 의사 결정을 내리는 데 있어서 임상 숙련상, 환자의 선호도와 최고의 연구 근거를 통합하는 과정이다.

본 연구는 몽골 간호사들의 EB 에 대한 인식 및 관련 요인을 조사하여 근거기반 실무 활성화 전략 개발 및 교육에 대한 기초 자료를 제공하고자 시도된 서술적 연구다. 자료 수집은 2013 년 11 월 01 일부터 2013 년 11 월 15 일까지 몽골의 올린바타르시 소재 400 병상 이상의 8 개 삼차 병원에서 근무하는 간호사 173 명을 대상으로, 자기기입식 설문지법을 통해 이루어졌다. 연구 도구는 근거기반 실무 측정도구(Upton & Upton, 2006) 및 연구 활용의 장애 요인 측정도구를 (Funk et al., 1991) 사용하였다. 수집된 자료는 SPSS version 21.0 프로그램을 이용하여 기술통계, 독립 T 검정, 피어손 상관관계, 다중회귀분석 방법으로 분석하였으며 연구 결과는 다음과 같다.

근거기반 실무 인식 전체 평균 점수는 4.01 ± 1.62 이었고, 태도관련 점수는 (4.58 ± 1.64)으로 가장 높은 수준이였고 , 다음으로 지식 관련 점수가(3.84 ± 1.5)9 이었으며 실무 점수는 (3.71 ± 1.56)으로 낮은 수준이였다.

교육 경력 (t = 2.90, p = 0.004), 영어 능력 (t = = 0.045 2.02, P), 간호 학회의 / 세미나에 참석(F = 8.40, p = 0.00), 연구 방법 수업(t = 3.17, P = 0.001), 조직 장애 요인이(R = -0.179, p = 0.018) 근거기반 실무 인식과 통계적으로 관련되는 것으로 발견되었다.

다중회귀분석방법으로 근거기반 실무 인식의 영향 요인을 분석하였다. 교육 경력, 간호 학회의 / 세미나에 참석, 연구 방법 수업, 조직 장애 요인이 근거기반 실무 인식에 대해 11.7 %의 설명력을 가지고 최종 모델에 포함되었다.

 본 연구 결과는 몽골 임상 간호사들이 근거기반 실무에 대한 지식의 결여와 개념이 부족한 것으로 나타내고 있으며 근거기반 실무에 대한 교육 및 훈련 과정을 제공의 중요함을 강조하고 있다. 본 연구 결과를 바탕으로 최상의 환자 치료를 제공하기 위해 임상에서 근거기반 실무를 소개하는 창조적인 전략을 세울 필요가 있다. 이를 위해, 간호사, 교육자, 지도자 및 조직의 관리자는 서로 협력하고 근거기반 실무에 대한 교육 과정을 제공하는 중요한 역할을 할 수 있다.