Present conditions of evidence-based practices among nursing and midwifery professionals in Tanzania

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Abstract

Objectives: This study was performed to evaluate nurses' knowledge, attitudes, and practices regarding evidence-based practice (EBP) in Tanzania.

Methods: A self-administered questionnaire survey regarding EBP was conducted among nurses working in Muhimbili University Hospital, which is a teaching hospital, and three other non-teaching hospitals from October to December 2016. The questionnaire consisted of 10 measures regarding EBP in addition to demographic characteristics and EBP training experience.

Results: A total of 143 nurses participated in the questionnaire survey regarding EBP, and 131 completed questionnaires without missing data were included in the analysis. Nurses working in Muhimbili University Hospital were more likely to receive EBP training than those working in the other institutions (chi-square test, $P = 0.015$). Recognition of the importance of receiving EBP ($P = 0.019$), frequency of using print information resources ($P = 0.009$), and frequency of using electronic resources ($P = 0.001$) were significantly higher among nurses with EBP training. Nurses with EBP training experience reported the use of greater numbers of research articles as well as printed and electronic resources for EBP. EBP training for nurses may improve the capacity for research using appropriate resources and access for EBP.

Conclusion: EBP training programs should be targeted toward nurses with a diploma, those not working in Muhimbili University Hospital, and those without EBP training. The concerns of nurse managers and/or supervisors should also be addressed to achieve EBP among staff nurses in clinical settings.

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Introduction

Evidence-based practice (EBP) in nursing and midwifery has been emphasized increasingly over the past decade, and both nurses and midwives are considered important health professionals for the provision of quality health care services[1]. However, EBP is not fully implemented in clinical settings because the value and importance of EBP are not sufficiently recognized by health professionals[1,2], or because of obstacles and constraints to integrate EBP in clinical performance, although nurses are familiar with and appreciate the value of EBP[3]. In addition, most previous studies regarding EBP in nursing were conducted in developed countries, such as the USA, Finland, etc. [1–6].

Despite widespread recognition of the need for nursing and midwifery practices to be based on sound evidence, implementing research remains challenging at both the individual and organizational levels. Barriers include lack of confidence in critical appraisal skills, a perception that research reports are too complex and fail to give sufficient clinical direction, time constraints, lack of support from colleagues, and restricted local access to information [7–11]. Moreover, lack of skills and motivation to use research, preferring to access such

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information through third parties, also result in insufficient performance of EBP [12]. Nurses and midwives draw heavily on knowledge obtained in the workplace, from patient care, colleagues, and evidence-based protocols [12, 13], rather than that obtained from research reports [14-16]. Use of social interaction with more experienced nursing colleagues rather than online sources of evidence or published research reports were also popular among nurses [10, 17]. There are various constraints in EBP even in resource-rich settings, so EBP and training with necessary knowledge and skills to access information related to EBP and training opportunities are more difficult in resource-poor settings [18].

The 2002−2008 Strategic Directions for Strengthening Nursing and Midwifery Services [19] and the more recently updated Strategic Directions for Strengthening Nursing and Midwifery Services for 2011–2015 [20] seek to provide policy-makers, practitioners, and other stakeholders at every level with a flexible framework for broad-based, collaborative action to enhance the capacity of nurses and midwives. Building on the global strategic directions, the WHO Regional Office for Europe has prepared the Strengthening Nursing and Midwifery Services: European Strategic Directions Towards Health 2020 [21]. The shared goal is to strengthen the contribution of nursing and midwifery to improve the health and well-being of populations and reduce health inequalities.

Tanzania is a country with challenges in reduction of maternal mortality ratio in the context of goal-5 of the Millennium Development Goals (MDGs) by 2015. More than 250,000 maternal deaths in childbirth occur every year around the world, 66% of which are in 15 major resource-poor countries, including Tanzania [22]. This is still a major worldwide problem, but the MDGs were replaced by the Sustainable Development Goals (SDGs) in 2016. Only one of the 17 SDGs is related to health, although the eight MDGs included three goals related to health (i.e., child health, maternal health, and infectious diseases including HIV/AIDS). Taking these changes into account, the Nursing and Midwifery Society of Tanzania and the director general of the Tanzania Midwives Association (one of the authors of this study) developed initiatives to improve EBP among nurses and midwives as a means of reducing the rates of maternal deaths and child mortality in Tanzania.

This study was performed to evaluate nurses' knowledge, attitudes, and practices regarding EBP in Tanzania as a developing country with critical conditions related to maternal and child health. The findings are expected to be useful in planning an adequate training program considering the EBP needs of nurses in Tanzania, which is a limited setting with regard to searching for EBP information and opportunities of EBP training among nurses.

Methods

A self-administered anonymous questionnaire survey regarding EBP was conducted among nurses and midwives working in Muhimbili University Hospital, and three other non-teaching hospitals in Tanzania from October to December, 2016. Muhimbili University Hospital was purposefully selected as it is a teaching hospital and the largest hospital in Tanzania. Three other hospitals were selected, one from each of the Eastern, Central, and Northern zones in Tanzania. The mainland of Tanzania consists of 25 regions, and three hospitals were selected from major regions of each zone: Dar es Salaam from the Eastern zone, which has the largest population and is the previous capital of Tanzania; Mwanza from the Northern zone, which is the second largest city; and Dodoma from the Central zone, which is the present capital of Tanzania. One regional or district hospital was selected at random from each of the selected regions for data collection. The three selected hospitals were facilities with well-established infrastructure, e.g. electricity and Internet access, and with nurses and midwives possessing diplomas and/or bachelor's degrees, as most nurses and midwives with this level of training work at large hospitals, such as regional and/or district hospitals in large cities. Current nursing education includes items of EBP only for diploma and/or bachelor level, although it did not previously provide such contents. There were 14,096 nurses and midwives working in Tanzania (2013), and nurses and midwives who worked in the three selected regions were 3,201 (22.7%) [23].

The questionnaire, which was developed by the authors based on previous studies [24, 25] and adapted for local use in Tanzania with supervision by EBP specialists, elicited responses regarding demographic information, such as gender, nursing educational background, and nursing working experience, EBP training experience, such as outline/concept of EBP and using print information sources and electronic resources, and 10 measures related to EBP. These 10 measures, which were used to calculate scores, were: 1) negative attitude toward EBP; 2) self-rated skills in performing EBP; 3) using

research articles for EBP; 4）barriers to adopting EBP; 5）important factors for adopting EBP; 6）importance of receiving EBP training; 7）frequency of using printed resources for EBP; 8）frequency of using electronic resources for EBP; 9）frequency of using human resources for EBP; and 10）use of search options in online databases and web search engines for EBP.

The questionnaire was distributed to nurses through the head of each nursing division from the four institutions at their organized nurses' meeting, with collection of completed questionnaires at the end of the meeting.

The chi-square test, Cochran–Armitage trend test, and logistic regression analysis were used to analyze the study participants' demographic background depending on EBP training experience. After Mann–Whitney U-test, linear regression analysis was used to analyze factors associated with the scores of the 10 measures related to EBP. Analyses were performed using IBM SPSS ver. 22. In all analyses, $P < 0.05$ was taken to indicate statistical significance.

Ethical approval was granted by the Committee of Research and Publication of Muhimbili University of Health and Allied Sciences. Permission to conduct the research was sought from the hospital management after providing a detailed explanation of the purpose of the study and assurance that the researchers would abide with all ethical guidelines when conducting the research.

Results

Table 1 shows the numbers of nurses and midwives employed in the regions and that participated in this study from each hospital. A total of 143 nurses participated in the questionnaire survey regarding EBP, and 131 completed questionnaires without missing data regarding demographic information, such as working institution, nursing educational background, and nursing work experience, were included in the analysis. Among 131 study participants, 23（17.6%）were male, 106（80.9%）were female, and two（1.5%）did not provide information on gender.

Table 2 shows study participants' demographic information depending on EBP training experience. Nurses working at Muhimbili University Hospital were more likely to have received EBP training than those at the other institutions（chi-square test, $P = 0.015$）. Logistic regression analysis indicated that nurses working at three hospitals other than Muhimbili University Hospital were less likely to have received EBP training（adjusted odds ratio: 0.356; 95% confidence interval: 0.168, 0.757; $P = 0.007$）, regardless of nursing education background and number of years of nursing working experience（Table 3）.

Table 4 shows the scores of 10 measures related to EBP depending on EBP training experience. Recognition of the importance of receiving EBP training（$P = 0.019$）, frequency of using print information resources（$P = 0.009$）, and frequency of using electronic resources（$P = 0.001$）were significantly higher among nurses with EBP training（Mann–Whitney U-test）. Although not statistically significant, nurses with EBP training tended to use research articles for EBP to a greater extent than those without such training（$P = 0.051$）.

Table 1. The numbers of nurses and midwives employed and that participated in this study from each hospital

Selected region	Hospitals in region	Nurses & midwives employed in the regions	Nurses & midwives participated in the study (*n* = 143)	Nurses & midwives analyzed in the study (*n* = 131)
Muhimbili	1	1,274	67	58
Dar es Salaam	39		41	39
Mwanza	17	1,179	26	25
Dodoma	8	748	9	9

Table 2. Demographic background according to EBP training（$n = 131$）

	With EBP training ($n = 68$)		Without EBP training ($n = 63$)		P–value
	n	%	n	%	
Institution					
Muhimbili hospital	37	54.4	21	33.3	0.015[a]
Others	31	45.6	42	66.7	
Nursing education					
Diploma	44	64.7	35	55.6	0.285[a]
Bachelor or higher	24	35.3	28	44.4	
Nursing experience					
0 – 4 years	25	36.8	21	33.3	0.401[b]
5 – 9 years	26	38.2	21	33.3	
≥ 10 years	17	25.0	21	33.3	

[a]: Chi–square test, [b]: Cochran–Armitage trend test

Table 3. Factors related to receiving EBP training（$n = 131$）

	Receiving EBP training		P–value
	AOR	95% CI	
Institution			
Muhimbili	1		
Others	0.356	0.168, 0.757	0.007
Nursing education			
Diploma	1		
Bachelor or higher	0.677	0.327, 1.401	0.293
Nursing experience			
0 – 4 years	1		
5 – 9 years	0.634	0.400, 2.179	0.874
≥ 10 years	0.495	0.195, 1.260	0.140

Logistic regression analysis was conducted.
AOR: adjusted odds ratio
95% CI: 95% confidence interval

Table 4. Scores of 10 measures related to EBP according to EBP training

	With EBP training ($n = 68$)	Without EBP training ($n = 63$)	P–value
	mean ± SD	mean ± SD	
Negative attitude score: 5 points ($n = 63/n = 52$)	1.46 ± 1.16	1.73 ± 1.24	0.224
Self–rated skills score: 12 points ($n = 68/n = 59$)	6.22 ± 2.70	5.85 ± 2.11	0.609
Using research article score: 12 points ($n = 67/n = 58$)	7.36 ± 2.86	6.28 ± 2.53	0.051
Barrier of adopting EBP score: 6 points ($n = 62/n = 58$)	3.18 ± 2.12	3.40 ± 2.00	0.584
Important factors of adopting EBP score: 5 points ($n = 62/n = 58$)	3.84 ± 1.52	3.61 ± 1.67	0.547
Importance of receiving EBP training score: 7 points ($n = 62/n = 57$)	6.47 ± 1.34	5.74 ± 2.14	0.019
Frequency of using print information sources score: 5 points ($n = 63/n = 57$)	3.75 ± 1.51	2.98 ± 1.70	0.009
Frequency of using electronic resources score: 7 points ($n = 54/n = 53$)	4.61 ± 2.38	2.92 ± 2.38	0.001
Frequency of using human information resources score: 6 points ($n = 61/n = 58$)	4.82 ± 1.59	4.55 ± 1.56	0.212
Use of search options on online database and web search engines score: 7 points ($n = 58/n = 54$)	3.81 ± 2.30	3.02 ± 2.65	0.078

Mann–Whitney U-test.

Table 5. Factors associated with scores of 10 measures related to EBP

	β	P–value
Negative attitude score: 5 points ($n = 115$)		
Institution (1: Muhimbili/2: Others)	−0.073	0.447
Nursing education (1: Diploma/2: Bachelor or higher)	−0.188	0.046
Nursing experience (1: 0 − 4 years/2: 5 − 9 years/3: 10 or more years)	−0.109	0.260
EBP training (1: No/2: Yes)	−0.163	0.092
Self–rated skills score: 12 points ($n = 127$)		
Institution (1: Muhimbili/2: Others)	0.085	0.366
Nursing education (1: Diploma/2: Bachelor or higher)	0.150	0.093
Nursing experience (1: 0 − 4 years/2: 5 − 9 years/3: 10 or more years)	0.107	0.247
EBP training (1: No/2: Yes)	0.113	0.220
Using research article score: 12 points ($n = 125$)		
Institution (1: Muhimbili/2: Others)	0.177	0.055
Nursing education (1: Diploma/2: Bachelor or higher)	0.068	0.438
Nursing experience (1: 0 − 4 years/2: 5 − 9 years/3: 10 or more years)	0.203	0.026
EBP training (1: No/2: Yes)	0.256	0.005
Barrier of adopting EBP score: 6 points ($n = 120$)		
Institution (1: Muhimbili/2: Others)	−0.107	0.281
Nursing education (1: Diploma/2: Bachelor or higher)	−0.027	0.771
Nursing experience (1: 0 − 4 years/2: 5 − 9 years/3: 10 or more years)	−0.077	0.423
EBP training (1: No/2: Yes)	−0.083	0.390
Important factors of adopting EBP score: 5 points ($n = 119$)		
Institution (1: Muhimbili/2: Others)	0.029	0.763
Nursing education (1: Diploma/2: Bachelor or higher)	0.249	0.007
Nursing experience (1: 0 − 4 years/2: 5 − 9 years/3: 10 or more years)	−0.099	0.293
EBP training (1: No/2: Yes)	0.087	0.353
Importance of receiving EBP training score: 7 points ($n = 119$)		
Institution (1: Muhimbili/2: Others)	−0.036	0.708
Nursing education (1: Diploma/2: Bachelor or higher)	0.093	0.314
Nursing experience (1: 0 − 4 years/2: 5 − 9 years/3: 10 or more years)	−0.020	0.829
EBP training (1: No/2: Yes)	0.203	0.032
Frequency of using print information resources score: 5 points ($n = 120$)		
Institution (1: Muhimbili/2: Others)	−0.249	0.008
Nursing education (1: Diploma/2: Bachelor or higher)	0.121	0.168
Nursing experience (1: 0 − 4 years/2: 5 − 9 years/3: 10 or more years)	−0.121	0.184
EBP training (1: No/2: Yes)	0.185	0.043
Frequency of using electronic resources score: 7 points ($n = 107$)		
Institution (1: Muhimbili/2: Others)	−0.181	0.058
Nursing education (1: Diploma/2: Bachelor or higher)	0.139	0.134
Nursing experience (1: 0 − 4 years/2: 5 − 9 years/3: 10 or more years)	−0.042	0.652
EBP training (1: No/2: Yes)	0.327	0.001
Frequency of using human information resources: 6 points ($n = 119$)		
Institution (1: Muhimbili/2: Others)	−0.313	0.001
Nursing education (1: Diploma/2: Bachelor or higher)	−0.076	0.399
Nursing experience (1: 0 − 4 years/2: 5 − 9 years/3: 10 or more years)	−0.055	0.553
EBP training (1: No/2: Yes)	0.018	0.848
Use of search options on online database and web search engines score: 7 points ($n = 112$)		
Institution (1: Muhimbili/2: Others)	−0.072	0.463
Nursing education (1: Diploma/2: Bachelor or higher)	0.136	0.153
Nursing experience (1: 0 − 4 years/2: 5 − 9 years/3: $\geq$ 10 years)	−0.104	0.289
EBP training (1: No/2: Yes)	0.150	0.126

Linear regression analysis.

Table 5 shows the results of linear regression analysis of factors associated with the scores of 10 measures related to EBP. The score of negative attitude toward EBP was significantly lower among nurses with a bachelors or higher educational degree $(P = 0.046)$. The score of using research articles was significantly higher among nurses with longer nursing working experience $(P = 0.026)$ and EBP training experience $(P = 0.005)$. Nurses with a bachelors or higher educational degree showed a significantly higher score for recognition of factors important for the adoption of EBP $(P = 0.007)$. Nurses with EBP training experience had a significantly higher score for recognizing the importance of receiving EBP training $(P = 0.032)$. The frequency of using print information resources showed significantly higher scores among nurses working at Muhimbili University Hospital $(P = 0.008)$ and among nurses with EBP training experience $(P = 0.043)$. The score for using electronic information resources was significantly higher among nurses with EBP training $(P = 0.001)$. Nurses working at Muhimbili University Hospital showed a significantly higher score for using human information resources than those at the other hospitals $(P = 0.001)$.

Discussion

This is the first systematic study regarding EBP among nurses and midwives in Tanzania. In general, EBP was not implemented even in major hospitals in Tanzania, due to a number of constraints, including lack of basic knowledge and skills to obtain essential information, although these conditions had been noted empirically by EBP professionals. The proportion of nurses with EBP training was higher at Muhimbili University Hospital than the other hospitals included in the study. These observations did suggest that hospital managers and head nurses of the other hospitals should invest more effort in training nursing professionals to improve the quality of healthcare provision.

Both bivariate and linear regression analyses indicated that nurses with EBP training experience appreciated the importance of EBP training, and they used more research articles as well as printed and electronic resources for EBP. Thus, EBP training may improve the capacity for evidence searching using appropriate resources and access to EBP even in Tanzania, which is not a developed country.

A higher level of nursing education, such as having a bachelor's degree or higher, may mitigate negative attitudes toward EBP. Planning for EBP training programs should target nurses with diplomas, working in hospital other than Muhimbili University Hospital, and without EBP training. A previous study suggested the importance of taking nursing educational background into consideration, although EBP training programs provided improvement of nurses' confidence and readiness for EBP performance [25]. It is also important to address the considerations of managers and/or supervisor nurses to achieve EBP in clinical settings, because working conditions for staff nurses are important for EBP [2, 4]. Although staff nurses have sufficient capability for EBP, if their managers and/or supervisors do not foster appropriate conditions and are unaware of the importance of EBP, staff nurses cannot realize this potential.

This study had several limitations. Due to the cross-sectional nature of this study, it was not possible to determine whether Muhimbili University Hospital provided more opportunity for training than the other institutions or employed more trained nurses with EBP experience. In addition, the authors did not evaluate the quality of care and performance of clinical practices in the study hospitals. Furthermore, we did not consider whether the sampling procedure was appropriate for power analysis, or whether the study participants were representative of the nurses and midwives in Tanzania. While this study was conducted with nurses and midwives working in the major hospitals in Tanzania, there were complex constraints preventing the realization of EBP. These constraints may have been related to not only current nursing and midwifery education, but also to the accumulation of conservative mentality and hierarchical dominance over generations.

Based on the findings of this study, the authors recommend that EBP in-service training programs should be targeted toward nurses with a diploma, those not working in Muhimbili University Hospital, and those without EBP training. The concerns of nurse managers and/or supervisors should also be addressed in implementing EBP among staff nurses in clinical settings. Not only training, but also infrastructure, including stable electricity supply and Internet connectivity, availability of computer rooms as common spaces, and a library with updated printed information and books should also be provided in the hospitals for EBP.

institutions that collaborated in data collection.

References

1. Pravikoff DS, Tanner AB, Pierce ST. Readiness of U.S. nurses for evidence-based practice. Am J Nurs, 105(9):40-51, 2005.

2. Melnyk BM, Fineout-Overholt E, Gallagher-Ford L, Kaplan L. The state of evidence-based practice in US nurses: critical implications for nurse leaders and educators. J Nurs Adm, 42(9):410-7, 2012.

3. Saunders H, Vehviläinen-Julkunen K. Nurses' Evidence-Based Practice Beliefs and the Role of Evidence-Based Practice Mentors at University Hospitals in Finland. Worldviews Evid Based Nurs. 2016. doi: 10.1111/wvn.12189.

4. Wallen GR, Mitchell SA, Melnyk B, Fineout-Overholt E, Miller-Davis C, Yates J, Hastings C. Implementing evidence-based practice: effectiveness of a structured multifaceted mentorship programme. See comment in PubMed Commons belowJ Adv Nurs, 66(12):2761-71, 2010.

5. Yost J, Thompson D, Ganann R, Aloweni F, Newman K, McKibbon A, Dobbins M, Ciliska D. Knowledge translation strategies for enhancing nurses' evidence-informed decision making: a scoping review. Worldviews Evid Based Nurs, 11(3):156-67, 2014.

6. Saunders H, Vehviläinen-Julkunen K. The state of readiness for evidence-based practice among nurses: An integrative review. Int J Nurs Stud, 56:128-40, 2016.

7. Fink R, Thompson CJ, Bonnes D. Overcoming barriers and promoting the use of research in practice. J Nurs Adm, 35(3):121-9, 2005.

8. Hutchinson AM, Johnston L. Beyond the BARRIERS Scale: commonly reported barriers to research use. J Nurs Adm, 36(4):189-99, 2006.

9. Carlson CL, Plonczynski DJ. Has the BARRIERS Scale changed nursing practice? An integrative review. J Adv Nurs, 63(4):322-33, 2008.

10. Gerrish K, Ashworth P, Lacey A, Bailey J. Developing evidence-based practice: experiences of senior and junior clinical nurses. J Adv Nurs, 62(1):62-73, 2008.

11. Brown CE, Wickline MA, Ecoff L, Glaser D. Nursing practice, knowledge, attitudes and perceived barriers to evidence-based practice at an academic medical center. J Adv Nurs, 65(2):371-81, 2009.

12. McCaughan D, Thompson C, Cullum N, Sheldon TA, Thompson DR. Acute care nurses' perceptions of barriers to using research information in clinical decision-making. J Adv Nurs, 39(1):46-60, 2002.

13. Estabrooks, CA. Will evidence-based nursing practice make practice perfect? Can J Nurs Res, 30(1):15-36, 1998.

14. Thompson C, McCaughan D, Cullum N, Sheldon TA, Mulhall A, Thompson DR. The accessibility of research-based knowledge for nurses in United Kingdom acute care settings. J Adv Nurs, 36(1):11-22, 2001.

15. Thompson C, McCaughan D, Cullum N, Sheldon TA, Mulhall A, Thompson DR. Research information in nurses' clinical decision-making: what is useful? J Adv Nurs, 36(3):376-88, 2001.

16. Estabrooks CA, Rutakumwa W, O'Leary KA, Profetto-McGrath J, Milner M, Levers MJ, Scott-Findlay S. Sources of practice knowledge among nurses. Qual Health Res, 15(4):460-76, 2002.

17. Estabrooks CA, O'Leary KA, Ricker KL, Humphrey CK. The Internet and access to evidence: how are nurses positioned? J Adv Nurs, 42(1):73-81, 2003.

18. Mutisya AK, Karani AK, Kigondu C. Research utilization among nurses at a teaching hospital in Kenya. J Caring Sci, 4(2):95-104, 2015.

19. World Health Organization. Strategic directions for strengthening nursing and midwifery services 2002-2008. Geneva, World Health Organization, 2002. http://www.wpro.who.int/hrh/about/nursing_midwifery/strategic_directions_for_strengthening_nursing_and_midwifery_services. pdf ? ua=1 (Accessed April 21, 2017)

20. World Health Organization. Strategic directions for strengthening nursing and midwifery services 2011-2015. Geneva, World Health Organization, 2011. http://apps.who.int/iris/bitstream/10665/70526/1/WHO_HRH_HPN_10.1_eng.pdf (accessed April 21, 2017)

21. World Health Organization Regional Office for Europe. European strategic directions for strengthening nursing and midwifery towards health 2020 goals. Copenhagen, World Health Organization Regional Office for Europe, 2015. http://www.euro.who.int/_data/assets/pdf_file/0004/274306/European-strategic-directions-strengthening-nursing-midwifery-Health2020_en-REV1.pdf?ua=1 (accessed April 21, 2017)

22. H4+ (UNAIDS, UNFPA, UNICEF, UN Women, WHO and World Bank). Roadmap to accelerate achievement of maternal and newborn survival

and reach MDGs 4 and 5（A&B），June 2014.
http://www.healthenvoy.org/wp-content/uploads/
2014/05/Integrated-Roadmap-for-Achieving-MDG5AB-
and-Acceleratin....pdf（accessed April 21, 2017）

23. Ministry of Health and Social Welfare. Human
Resource for Health: Country Profile 2012/2013.
Dar es Salaam, Ministry of Health and Social Welfare,
2013.
http://www.tzdpg.or.tz/fileadmin/documents/dpg_
internal/dpg_working_groups_clusters/cluster_2/
health/Key_Sector_Documents/HRH_Documents/
Final_Country_Profile_2013.pdf（accessed April 21,
2017）

24. Pravikoff DS, Tanner AB, Pierce ST. Readiness of
U.S. nurses for evidence-based practice. Am J
Nurs, 105（9）:40-51, 2005.

25. Saunders H, Vehviläinen-Julkunen K, Stevens
KR. Effectiveness of an education intervention to
strengthen nurses' readiness for evidence-based
practice: A single-blind randomized controlled study.
Appl Nurs Res, 31:175-85, 2016.