Returning to Nursing Career among Exited Nurses: Evidence from Health and Working Life of Registered Nurses in Thailand – Thai Nurse Cohort Study

การกลับเข้าทำงานหลังจากลาออกจากงาน ของพยาบาลวิชาชีพในประเทศไทย

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ABSTRACT

Nurses who have exited the profession are precious sources for filling serious shortages of nursing workforce. Usually they are skillful nursing workforce. This study aimed to estimate the rate of re-entering to nursing career of Thai registered nurses (RN), median time since leaving to the re-entering, and its associated factors. This study utilized data from the baseline survey of the Thai Nurse Cohort Study (TNCS). It was a mailed survey conducted in September 2009. The primary outcome of this paper was re-entering to nursing career which was defined as nurses who had left their career then return to nursing workforce. Rate of the re-entering and its 95% confidence interval (CI) were calculated. Median time since leaving to the re-entering and its 95%CI were estimated using Kaplan-Meier methods. Factors affecting the re-entering were quantified by hazard ratio (HR) and its 95% CI using multiple cox regression. Of 18,756 RNs, 860 had ever leaved their nursing career. Among these, 93.7% were female, with a mean age of 49.6 sd = 9.7 years old and a mean working duration of 38.5 sd = 12.5 years. These contributed 5,593.5 person-years under observations. There were 314 nurses who returned to nursing career. The rate of the re-entering was 5.6 per 100 nurses per year (95%CI: 5.1 to 6.3). The highest rate, 7.8 per 100 per year, was found in RN <30 years old. Median time since leaving to re-entering nursing career was 14 years (95%CI: 11 to 18). RNs whose age of <30 years old were significantly 11.04 times likely to re-entering compared to those > 50 years old (HR = 11.04; 95%CI: 4.48 to 27.20; p<0.001). Current exited nurses, in particular those who were less than 30 years of age, was a potential target for nursing workforce recruitment.

บทคัดย่อ

พยาบาลวิชาชีพที่ได้ออกจากงานพยาบาลไปเป็นอีกหนึ่งปัญหาสำคัญที่ส่งผลต่อการขาดแคลนพยาบาลวิชาชีพ อย่างไรก็ตามในปัจจุบันยังมีข้อมูลเกี่ยวกับการกลับเข้าทำงานใหม่ของกลุ่มคนที่ได้ลาออกไปแล้วน้อยมาก เพื่อประมาณอัตราการการกลับเข้าทำงาน ระยะเวลาเฉลี่ยตั้งแต่ออกถึงตอนที่กลับเข้าสู่งานพยาบาลอีกครั้ง ของพยาบาลวิชาชีพ การศึกษานี้ใช้ข้อมูลของโครงการวิจัยสุขภาพและชีวิตการทำงานของพยาบาลวิชาชีพในประเทศไทย (TNCS) ระยะที่ 1 ปี พ.ศ. 2552 ที่มีผู้ตอบกลับแบบสอบถามทั้งสิ้น 18,756 คน โดยสนใจเกี่ยวกับการกลับเข้าสู่งานพยาบาลอีก

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ครั้งของพยาบาลวิชาชีพได้ออกจากงานพยาบาลไปแล้ว ปัจจัยที่นำมาศึกษาได้แก่ อายุ ประสบการณ์ ประเภทสถาบันที่จบ การทำงานในภูมิลำเนา และกลุ่มสายงานที่เริ่มทำงาน โดยสนใจอัตราส่วนการย้อนกลับเข้างานพยาบาลอีกครั้ง ต่อ 100 คน-ปี ตั้งแต่ออกถึงตอนที่กลับเข้าสู่งานพยาบาลออกครั้ง และปัจจัยที่ส่งผลต่อการกลับเข้าสู่งานอีกครั้งด้วยค่า hazard ratio (HR) ในการวิเคราะห์แบบ Multiple cox regression ช่วงเชื่อมั่น 95%. จากพยาบาลวิชาชีพจำนวน 18,756 คน พบ 860 คนที่เคยออกจากงานพยาบาล ร้อยละ 93.7 เป็นเพศหญิง มีอายุเฉลี่ย 49.6 ปี (sd = 9.69) อายุเฉลี่ย ก่อนออกจากงาน 38.5 ปี (sd = 12.48) จาก 860 คน โดยมี 314 คนที่ย้อนกลับเข้างานพยาบาลอีกครั้งหลังจากที่ได้ออกจากงานพยาบาลไปแล้ว อัตราส่วนคิดเป็น 5.6 ต่อ 100 คน-ปี (59%CI: 5.1 ถึง 6.3) สูงสุดที่ 7.8 ต่อ 100 คน-ปี ในกลุ่มที่ออกจากงานตอนอายุน้อยกว่า 30 ปี มีระยะปลอดเหตุการณ์โดยเฉลี่ย (Median survival time) ก่อนที่จะกลับเข้ามาทำงานพยาบาลอีกครั้งเท่ากับ 14 ปี (95%CI: 11 ถึง 18) ใน 314 คนที่กลับพบว่าร้อยละ 73.3 กลับเข้าสู่งานบริการ พบอีกว่าในกลุ่มที่ออกจากงานพยาบาลเมื่ออายุน้อยกว่า 30 ปีจะมีการย้อนกลับเข้ามาทำงานคิดเป็น 11 เท่าของกลุ่มที่ออกจากงานเมื่ออายุมากกว่า 50 ปี (hazard ratio = 11.04; 95%CI: 4.48 ถึง 27.20, P<0.001)

Keywords: Returning or re-entering to nursing career, Health workforce, Longitudinal cohort study
คำสำคัญ: การกลับเข้าทำงาน บุคลากรทางการแพทย์และสาธารณสุข การศึกษาระยะยาว

Introduction

Nursing demands are increasing due to increasing ageing population and increasing emerging infectious diseases. The nursing shortages was estimated to be 800,000 by the year 2020 (Brush, Sochalski, & Berger, 2004). In the supply side, nursing's failure to be attractive to the younger generation leads to the decreasing number of new graduates. To fill the nurse critical shortages, many developed countries recruit their nurses from oversea (Kline, 2003). However, this could eventually induce more complex problem including the mal distribution of nursing in limited resources countries which are the nursing workforce suppliers.

Filling nurse critical shortages is costly. In the United States, there were strategies to alleviate the shortages such as the Nurse Reinvestment Act passed in 2002. This provided funding to advance nursing education and many other incentives (Luther, 2007). Thailand have also implemented, during the past several decades, the scholarships for expenditures of nurses' training in a return of service commitments after graduation. However, effects of these strategies required careful investigation because the problems of nursing shortages remain unresolved in the country. These strategies also involved a huge investment for supplying the shortages. For instance, in the U.S. it was estimated at around $30,000 - $64,000 a cost to replace one nurse. This was for recruiting and training nurses into the organization (Stone, Clarke, Cimiotti, & Correa-de-Araujo, 2004).

One solution to alleviate the nursing shortage is to recruit retired nurses, to help inactive nurses, or to encourage unemployed nurses to return to practice (Durand & Randhawa, 2002; Maxwell, 1994; McLean & Anema, 2004; McMurtrie, Cameron, Oluanaigh, & Osborne, 2014; Welty & Gooden, 1989; White, Roberts, & Brannan, 2003). These groups of nurses are considered to be skilled and experienced profession, hence less investment in retraining (Coombs et al., 2007; Ehlers, 1994; White et al., 2003). A number of programs had been

implemented for this purposes such as a nursing recruitment initiative and nursing workforce development program in the United States and the Return to Practice Programs in the United Kingdom (Barriball, Coopamah, Roberts, & Watts, 2007; Coombs et al., 2007). Financial incentives might also another strategy (Barnighausen & Bloom, 2009).

Successful recruitment of nurses who had left their careers requires information to support the planning. Factors associated to re-entering to nursing career included flexible employment opportunities (McLean & Anema, 2004), financial incentives, being valued (Durand & Randhawa, 2002), work environments (Skillman, Palazzo, Hart, & Keepnews, 2010), maintenance of registration (McMurtrie et al., 2014), and appropriate work life balance (Barriball et al., 2007; Coombs et al., 2007) (Fottler & Widra, 1995). In addition, a manpower database containing information on all nurses for all posts held and breaks in service can facilitate this strategy of recruitment. The data may also be used to analyze the durations being in post and out of service prior to leaving the posts or even the entire nursing career (McClean, Reid, Devine, Gribbin, & Thompson, 1991). This kind of database become available in Thailand and therefore enables the investigation for this issue in a developing country.

In light of the above, it is clear that nurses who had left their nursing career serve as a potential resource of recruitment and several studies had been conducted in developed. There was no study conducted in Asia, in particular, under a situation where there was no program implemented for the re-entering. This paper aimed to estimate rate of re-entering to nursing career of RNs in Thailand, median time since leaving to the re-entering, and factors that associated to the re-entering under uncontrolled conditions.

Materials and Methods

This study utilized data from Thai Nurse Cohort Study (TNCS) database. This project was approved by the Human Research and Ethics Committees of the Ministry of Public health of Thailand.

The TNCS was designed as a 20-year longitudinal cohort study. The TNCS aiming to investigate workforce dynamics and health conditions of Thai registered nurses (RN). The initial cohort included RNs who hold professional licenses granted by Thailand Nursing and Midwifery Council (TNC) as of 2008 selected using age-stratified random sampling technique from 5 year-interval age-groups, from 20 to 64. The first wave, which was the baseline survey, was conducted in September 2009 using mailed questionnaire. The baseline survey involved a total of 18,756 respondents who were then members of the Cohort.

The primary outcome of this study was re-entering or returning to nursing career which was defined as nurses who had left their profession then return to nursing workforce. The factor of interest included sex, age at leaving from nursing, years of work experiences, institute from which being graduated, and work position at started the career. Demographic and other baseline characteristics of the cohort members were described using mean, standard deviation, median, minimum, and maximum for continuous data and percentage for categorical data.

Rate of re-entering per 100 person-years since leaving nursing career and its 95% confidence interval (CI) were calculated based on Poisson distribution assumption. Median time since leaving to

the re-entering and its 95%CI were estimated using Kaplan-Meier methods. Factors affecting the re-entering were quantified by hazard ratio (HR) and its 95% CI using multiple cox regression.

All analyses were performed using Stata version 13. P-value less than 0.05 were considered as statistically significant.

Results

Of 18,756 RNs who are member of the Thai Nurse Cohort Study, 17,896 were excluded due to that they had never leaved nursing career. A total of 860 RNs were included in the study. The overall rate of leaving nursing career was 4.8% (95%CI: 4.5 to 5.1).

Among the 860 RNs in the analysis, almost all, 93.7 % were female, with a mean age of 49.6 sd = 9.7 years old (Table 1). About two-thirds of them, 62.7, were married, half had their highest education at bachelor degree level, and almost all worked in nursing services at the beginning of nursing career. At the date of leaving from nursing career, their mean age was 38.5 sd = 12.5 years old and their mean duration of working was 16.3 sd = 12.2 years.

Table 1 Demographic characteristic at enrollment

Characteristics	Number	Percent
Sex		
Male	54	6.3
Female	800	93.7
Age at the survey date		
Lower than 25	4	0.5
25 – 44	265	30.8
45 or greater	591	68.7
Mean (Standard deviation)	49.6 (9.7)	
Marital status at the survey date		
Single	216	25.2
Married	537	62.7
Widowed	35	4.1
Divorced	53	6.2
Separated	15	1.8
Region of the workplace at the survey date		
North	65	10.8
Northeast	110	18.3
Central	309	51.3
East	41	6.8
West	24	4.0
South	53	8.8
Current and the highest educational attainment at the survey date		
Certificate equivalent to bachelor degree	157	18.8
Bachelor degree	428	51.2
Master degree	220	26.3
Doctoral degree	13	1.6
Others	18	2.2
Age at point of leaving from nursing career (years)		
< 30	283	32.9
30 – 39	255	29.7
40 – 49	121	14.1
≥ 50	201	23.4
Mean (Standard deviation)	38.5 (12.5)	
Median (Min : Max)	34.6 (20.0 : 61.1)	
Duration of working at point of leaving from nursing career (years)		
< 5	178	20.7
5 – 9	181	21.1
10 – 19	206	24.0
20 – 29	113	13.1
≥ 30	182	21.2
Mean (Standard deviation)	16.3 (12.2)	
Median (Min : Max)	12.2 (0.1 : 41.7)	
Institute from which being graduated		
Public university	75	12.0
Nursing colleges under Ministry of Public Health	350	55.8
Other nursing colleges	153	24.4
Private institutes	49	7.8
Work category at the beginning of nursing career		
Nursing services	839	97.5
Academic	17	2.0
Administrative	4	0.5

Among 860 who had left their nursing careers, constituting 5593.5 person-years of observations, 314 nurses re-entered to nursing career. The overall rate of re-entering was 5.6 per 100 per year (95%CI: 5.0 to 6.3) (Figure 1). The highest rate was found in male (9.1; 95%CI: 6.4 to 13.0), worked in private organization upon graduation (8.1; 95%CI: 5.5 to 12.2), leaved nursing career at age of less than 30 years old (7.8; 95%CI: 6.7 to 9.2), and worked in nursing career for less than 5 year before leaving (7.8; 95%CI: 6.4 to 9.5).

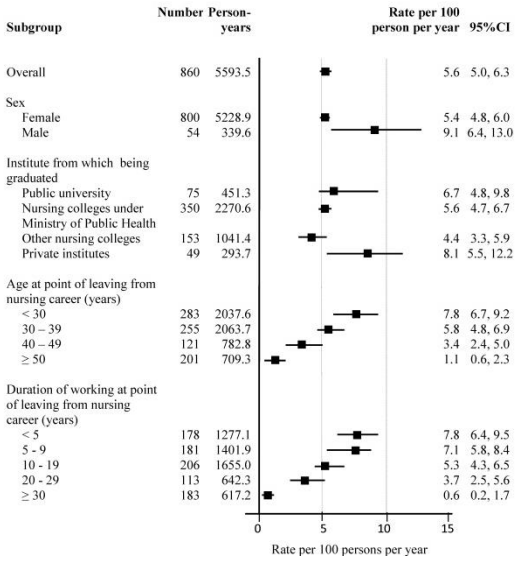

Figure 1 Rate (per 100 per year) of re-entering to nursing career according to relevant subgroup

Median time since leaving to re-entering to nursing career was 14.0 years (95%CI: 11.0 to 18.0) (Figure 2). Re-entering to nursing career for each age group at the date of leaving nursing career was statistically significantly differ across groups, log-rank test p-value < 0.001 (Figure 3). Nurses at age of less than 30 years old were much faster re-entering than all other age groups.

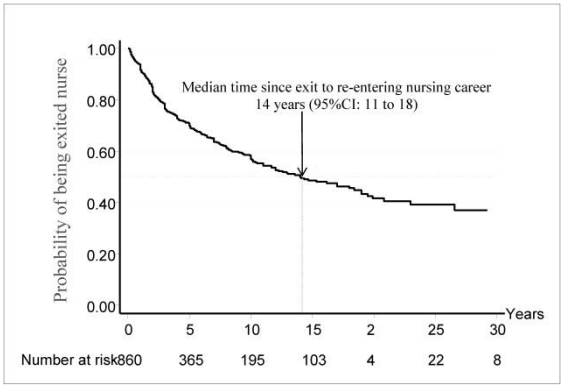

Figure 2 Kaplan-Meier survival estimates of re-entering to nursing career

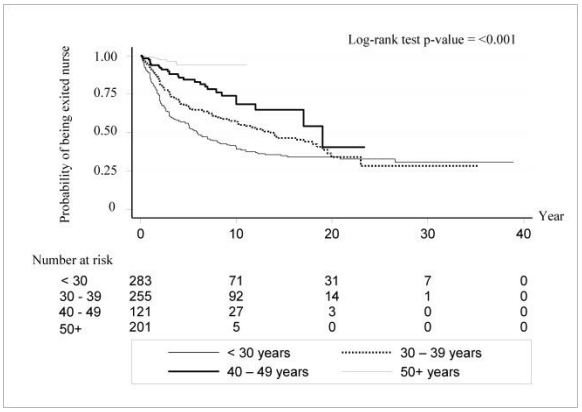

Figure 3 Kaplan-Meier survival estimates of re-entering to nursing career by age group at the date of leaving nursing career

Among a total of 314 returners, 73.3% returned to work as nursing services (Figure 4).

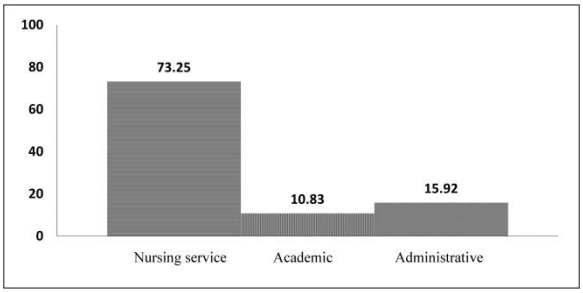

Figure 4 Percent of re-entering to nursing career according to work category to which they returned (n = 314)

When they leaved their nursing career, most of them, 42.6%, leaved from nursing services to work in non-nursing career, followed by to being unemployed, 26.7% (Table 2). When they returned, most of them returned from non-nursing career to nursing service, 47.8%, followed by returning from unemployed to nursing services, 25.5%.

Table 2 Percent of work category when leaving from and re-entering to nursing career (1=Nursing service; 2=Academic; 3=Administrative; 4=Non-nursing career; 5=Unemployed; 6=Continuing education)

Work category when leaving				Work category when returning			
Leaved from	To	Number	%	Returned from	To	Number	%
1	4	366	42.6	4	1	150	47.8
1	5	230	26.7	5	1	80	25.5
3	5	100	11.6	4	3	32	10.2
2	4	47	5.5	4	2	21	6.7
3	4	43	5.0	5	3	18	5.8
2	5	35	4.1	5	2	13	4.1
6	4	25	2.9				
6	5	14	1.6				
Total		860		Total		314	

Multiple cox regression revealed that only age at leaving from nursing career was statistically related to re-entering to nursing career ($p < 0.001$) (Table 3). That is, every an additional year of age at leaving, the chance of re-entering reduced by 6% (HR = 0.94; 95%CI: 0.93 to 0.96). Nurses aged of less than 30 years old were 11 times likely to re-enter compared to those greater than 50 years old (HR = 11.04; 95%CI: 4.48 to 27.20).

Table 3 Multiple analysis for factors affecting re-entering to nursing career

Subgroup	Number	Person-years	Rate per 100	Crude HR	Adjusted HR	95%CI	P-value
Sex							0.078
Female	576	5228.9	5.4	1	1		
Male	49	339.6	9.1	1.6	1.47	0.98 to 2.23	
Institute from which graduated							0.219
Public university	75	451.3	6.7	1	1		
Nursing colleges under Ministry of Public Health	348	2270.6	5.6	0.83	0.89	0.60 to 1.31	
Other nursing colleges	153	1041.4	4.4	0.64	0.74	0.47 to 1.18	
Private institutes	49	293.7	8.1	1.24	1.27	0.74 to 2.16	
Model 1: Age at leaving from nursing (years) as continuous	625			0.94	0.94	0.93 to 0.96	<0.001
Model 2: Age at leaving from nursing (years) as group							0.001
≥50	201	709.3	1.1	1	1		
40 - 49	121	782.8	3.4	4.07	4.33	1.61 to 11.60	
30 - 39	255	2063.7	5.8	7.76	8.59	3.48 to 21.23	
<30	283	2037.6	7.6	11.02	11.04	4.48 to 27.20	

Discussion

In addressing the global shortages of the nursing workforce, several studies focused mainly on exiting nursing career. Our study investigated the re-entering to their career. Although there are studies on the re-entering, most of them involved small sample or studied about attitude or opinion on returning to nursing career (Coombs et al., 2007; Elwin, 2007; Jamieson & Taua, 2009; Langan, Tadych, & Kao, 2007; McMurtrie et al., 2014). We quantified it in a large and nationally representative sample of exited nurses. We also focused in the registered nurses who were the major category of this profession.

With the overall re-entering rate of 5.6 per 100 per year, we considered this a potential resource for the workforce recruitment in addition to training the new graduates. That is, as this study also reported that the number of exited nurses was about 5%, hence, approximately 7,500 out of 150,000 nurses currently registered in Thailand were exited nurses. The re-entering rate of 5.6 implies 420 returners. This is about 14% of the total number of newly graduated nurses in Thailand which is about 3,000 annually. But they were already trained.

Their mean age at time of re-entering was 38.5 sd = 12.5 years. About 14 years later, they returned, i.e., at the mean age of approximately 52 years. However, we found that nurses with age of less than 30 years old were 11 times likely to re-enter compared to those greater than 50 years old. Thus, nurses who were less than 30 years old at time of exit would be 44 years old at time of re-entering. We considered this the age of most productive for women as they would usually be less busy with parenting duties (Williams et al., 2006).

A previous study reported younger females were the most likely to indicate an interest in returning(Bentham & Haynes, 1990). Our study quantified this fact. That is, nurses with age of less than 30 years old were 11 times likely to re-enter compared to those greater than 50 years old. It is interesting that the main reason for leaving might be pregnancy as indicated by previous studies (Bentham & Haynes, 1990; McMurtrie et al., 2014). If this is true, then we can identify a more précised target group of recruitment accordingly. Unfortunately, the current study did not assess the reason of re-entering. We also investigate the effect of other factors such as gender, the institute from which being graduated, and the duration of working before the exiting. These factors were not found to be significantly associated to the re-entering in our study. With this limited study factors, our findings might confounded by other unmeasured factors. However, we hope this effect could be small due to a large sample size of 860 with a sufficient number of events which is 314 nurses who re-entered.

Conclusions

Exited nurses are a potential resource for the workforce recruitment. One out of every 20 exited nurses returned to nursing career annually. Investments on recruiting the exited nurses should be emphasis on the young nurses who were less than 30 years old.

Acknowledgements

The authors thank the Human Resource for Health Research and Development Office, the Health System Research Institute, the International Health Policy Program, the Thailand Nursing and Midwifery Council, and the Medical Research Network of Thailand for their supports and advices. We thank all staffs of data management center for their assistances in data management, and all cohort members for their valuable and continued participations.

References

Barnighausen T., & Bloom DE. Financial incentives for return of service in underserved areas: a systematic review. BMC Health Serv Res 2009, 9, 86.

Barriball KL., Coopamah V., Roberts J., & Watts S. Evaluation of Return to Practice: the views of nurse returnees from three NHS Hospital Trusts. J Nurs Manag 2009, 15(4), 433-441.

Bentham G., & Haynes R. Attitudes to a return to nursing: a survey in the Norwich Health District. Int J Nurs Stud 1990, 27(3), 287-296.

Brush BL., Sochalski J., & Berger AM. Imported care: recruiting foreign nurses to U.S. health care facilities. Health Aff (Millwood) 2004, 23(3), 78-87.

Coombs, CR., Arnold, J., Loan-Clarke, J., Wilkinson, A., Park J. & Preston D. Improving the recruitment and return of nurses and allied health professionals: a quantitative study. Health Serv Manage Res 2007, 20(1), 22-36.

Durand MA., & Randhawa G. Nurses' views about returning to practice after a career break. Br J Nurs 2002, 11(7), 477-485.

Ehlers VJ. A profile of non-practising registered nurses who attended a professional re-entry course in Pretoria & Johannesburg in 1992: their expectations and implications for employing bodies. Curationis 1994, 17(4), 20-27.

Elwin C. Returning to nursing practice: a learning journey. Contemp Nurse 2007, 24(2), 203-211.

Fottler MD., & Widra LS. Intention of inactive registered nurses to return to nursing. Med Care Res Rev 1995, 52(4), 492-516.

Jamieson I. & Taua C. Leaving from and returning to nursing practice: contributing factors. Nurs Prax N Z 2009, 25(2), 15-27.

Kline DS. Push and pull factors in international nurse migration. J Nurs Scholarsh 2003, 35(2), 107-111.

Langan JC., Tadych RA. & Kao CC. Exploring incentives for RNs to return to practice: a partial solution to the nursing shortage. J Prof Nurs 2007, 23(1), 13-20.

Luther AP. The Nurse Reinvestment Act revisited. ORL Head Neck Nurs 2007, 25(2), 16-18.

Maxwell BB. IGRO: a unique re-entry program for inactive registered nurses. Nurse Educ 1994, 19(3), 10-12.

McClean S., Reid N., Devin C., Gribbin O. & Thompson K. Using a manpower database to model nurse turnaround and return to service. J Adv Nurs 1991, 16(11), 1382-1386.

McLean T., & Anema M. Reduce the nursing shortage: help inactive nurses return to work. J Contin Educ Nurs 2004, 35(5), 211-215.

McMurtrie LJ., Cameron M., Oluanaigh P. & Osborne YT. Keeping our nursing and midwifery workforce: factors that support non-practising clinicians to return to practice. Nurse Educ Today 2014, 34(5), 761-765.

Skillman SM., Palazzo L., Hart LG. & Keepnews D. The characteristics of registered nurses whose licenses expire: why they leave nursing and implications for retention and re-entry. Nurs Econ 2010, 28(3), 181-189.

Stone PW., Clarke SP., Cimiotti J. & Correa-de-Araujo, R. Nurses' working conditions: implications for infectious disease. Emerg Infect Dis 2004, 10(11), 1984-1989.

Welty MJ. & Gooden D. Socialization of inactive non-employed nurses returning to the professional nursing role. J Nurs Staff Dev 1989, 5(4), 192-194.

White A., Roberts VW. & Brannan, J. Returning nurses to the workforce: developing an online refresher course. J Contin Educ Nurs 2003, 34(2), 59-63.

Williams KA., Stotts RC., Jacob SR., Stegbauer CC., Roussel L. & Carter D. Inactive nurses: a source for alleviating the nursing shortage? J Nurs Adm 2006, 36(4), 205-210.