

Healthcare productivity, and its sociodemographic determinants, of Saudi female nurses: A cross-sectional survey, Al-Qassim, Saudi Arabia, 2017

Hassan Altakroni¹,
Ilias Mahmud²,
Yousif Mohammed Elmossad³,
Ali Al-Akhfash⁴,
Adel Al-Hindi⁵, Kavija Joshva⁶

¹Department of Research and Studies, Nursing Administration, Buraidah, Al-Qassim, Saudi Arabia, ²Department of Public Health, College of Public Health and Health Informatics, Qassim University, Bukayriyah, Al-Qassim, Saudi Arabia, ³Department of Public Health, King Faisal University, College of Medical Applied Sciences, Al-Ahsa, Saudi Arabia, ⁴Department of Cardiac, PSCC-Qassim, Maternity and Child Hospital, Buraidah, Al-Qassim, Saudi Arabia, ⁵Department of Nursing, Health Affairs, Buraidah, Al-Qassim, Saudi Arabia, ⁶Department of Nursing Education and Training, Maternity and Child Hospital, Buraidah, Al-Qassim, Saudi Arabia

Address for correspondence:

Ilias Mahmud, Department of Public Health, College of Public Health and Health Informatics, Qassim University, Bukayriyah, Al-Qassim, Saudi Arabia.
E-mail: imahmudot@gmail.com

WEBSITE: ijhs.org.sa

ISSN: 1658-3639

PUBLISHER: Qassim University

ABSTRACT

Background: In Saudi Arabia, cultural and language differences between expatriate nurses and patients affect the quality of nursing care. Hence, the Kingdom is eyeing Saudization in this field. The productivity of nurses can affect the productivity of the whole health system. The aim of this study was to investigate the health-care productivity of Saudi female nurses and socio-demographic determinants of their productivity.

Methods: We conducted a cross-sectional survey of 256 randomly selected Saudi female nurses in the Qassim region. The nurses who were not working in public hospitals; not giving direct patient care or had <1-year patient-care experience were excluded from the study. The nurses' work productivity was measured using a 17-item index.

Results: The mean age of the nurses was 30.2 ± 5.6 years. Among the nurses, 62.6% were currently married, 33% were never married, and 4.4% were divorced/widowed. Most of the nurses were not willing to serve male patients (70.3%); they wanted to work only in female units (66.1%) and did not prefer night shifts (50.8%). Over the past 1 year, most of them demonstrated tendency of taking emergency leave (64.2%) and sick leave (56.4%), while 27.3% had unexcused absences and 19.5% had unplanned but excused absences. In addition, 20.3% demonstrated a tendency of taking frequent breaks during duty hours and 18.9% demonstrated tendency of being late on duty. Multivariable linear regression analysis revealed that being married was associated with 1.66 points decrease in the productivity index score when compared to never married nurses. Having one more child under 5 years of age was associated with 0.75 points increase in the productivity index score. In addition, nurses who employed household workers at home scored 1.04 points less than those who did not.

Conclusions: Healthcare productivity index score was lower among married Saudi female nurses than never married nurses. However, aspects of married life commonly believed to cause home work-life conflicts, such as number of children, living with or without family, having disabled children in household and personal factors such as age did not have statistically significant influence on the productivity index score. It is possible that unexplained cultural issues associated with being married may be responsible for a lower productivity index score among married female nurses in Saudi Arabia.

Keywords: Female nurses, healthcare productivity, Saudi Arabia

Background

History of nursing in Saudi Arabia is date back to the time of the Prophet Muhammad (PBUH).^[1] However, currently, Saudi Arabian health services are heavily dependent on expatriate nurses.^[1] There is a chronic shortage of local nurses. This situation is further compounded by high rates of turnover.^[2]

During the second Gulf War (1990), many expatriate nurses left the country without giving adequate time to replace them. This resulted in a nursing staffing crisis in hospitals. This event made the policy of "Saudization" a priority in the health sectors.^[3] However, according to a review published in 2011, Saudi nurses comprise only 29.1% of the total nursing workforce in the Kingdom of Saudi Arabia (KSA).^[2] Developing and

maintaining a sustainable nursing workforce in the KSA is a prime concern of the Saudi health sectors.^[1,2,4] To make a sustainable local nursing workforce, we need them to have high performance and productivity.

In general, productivity is expressed as a ratio of outputs and inputs.^[5,6] It is a measure of the efficiency with which labor and other resources, such as materials and equipment, are converted into goods and/or services.^[5] In nursing services, the goal of productivity is to achieve a level of nursing care that is adequate, affordable, and acceptable to patients, nurses, and physicians.^[7] Understanding the factors affecting productivity and performance of nurses is important for providing efficient nursing services.^[8] In today's competitive world, an important goal of any organization is increasing productivity and improving quality of services. Thus, productivity is an individual behavior embedded in the organizational culture, which is affected by the employee's attitude toward work and life; and its goal is to achieve excellence in work life.^[9,10] Productivity is also measurable through objective evaluation of an employee's work performance over a period of time.

Nurses are the largest and important health human resources in any country health systems. They are at the frontline of patient care at any hospital where patients with a complex and diverse needs admit. Therefore, the productivity of this group of the health workforce is an important issue.^[11] The productivity of nurses can affect the productivity of the whole health system. The higher productivity level of nurses reduces the rate of hospital infections and nurses' turnover and increases effective use of nursing workforce. Furthermore, it improves satisfaction level of patients, nurses, and physicians.^[12] However, productivity of the nurses is the greatest challenge for the hospital managers who are striving to increase the quality of health services and, at the same time, decreasing health service costs.^[9] The complexity associated with the impact of marriage on nurses' productivity is one of the least studied factors.^[11]

Although nursing productivity is an old concept and used in everyday practice by the nursing executives^[13] and nurses are concerned about declining levels of effective care and productivity, nursing staff productivity rarely has been assessed within the health-care organization of Saudi Arabia and little is known about factors that affect nurses' productivity.

There is a lack of studies in the KSA to understand nursing productivity and its determinants among the Saudi female nurses. In this context, the aim of this study was to evaluate the work productivity of Saudi female nurses and investigate the socio-demographic determinants of their productivity.

Methodology

We conducted a cross-sectional survey of Saudi female nurses working in government hospitals in the Qassim region of the

KSA. Qassim has 19 government hospitals at secondary and tertiary levels, and all of these were included in the study. There were 482 Saudi female nurses working in these hospitals during the study period, between May and June 2017. We calculated the sample size using the Epi Info™. For a 50% expected frequency, 5% acceptable margin of error and 95% confidence level, the minimum required sample size was 214, after adjusting for the population size. We distributed the questionnaire to 300 randomly selected nurses, to cope with the expected non-response, but 256 of them completed and returned the survey form. We excluded the nurses who were not giving direct patient care or had <1-year direct patient-care experience.

We developed a structured questionnaire in Arabic, the local language. The questionnaire had two separate parts. Part one consisted of demographic information and productivity indicators, while the part two consisted of only productivity indicators of the nurses. Nurses completed the first part, while their managers completed part two for each nurse separately. We pretested the questionnaire in 10 nurses before final data collection. We distributed relevant part of the questionnaire, a written informed consent form and an envelope to the selected nurses and their managers separately. The nurses, who provided informed consent, completed the questionnaire by themselves and returned it to the first author in sealed envelopes. The managers of the nurses who provided informed consent completed part two of the questionnaire for each nurse and returned it to the first author in a similar fashion. Anonymity and confidentiality were maintained strictly – the managers did not know the information provided by the nurses, and likewise the nurses did not know the information provided by the managers. Moreover, evaluation of productivity of nurses by their managers was within the latter's job description; we ensured that this exercise did not have any extra effect on the nurses' reputation in the eyes of their managers. Later, researchers linked two parts with a unique number.

Explanatory variables included in the models were marital status, age, daily working hours, years of nursing experience, number of pregnancies, number of children, number of children <5 years of age, presence of children with disabilities in the household, living with family, living and working in the same city, having paid workers at home for household chores, and child day-care center at the hospital. The productivity of the nurses was the outcome variable in this study. We measured productivity using a 17-item productivity index.

We did a descriptive analysis of demographic variables and productivity index items. We reported frequency and percent for categorical variables, while for continuous variables mean and standard deviation (SD) were reported. To investigate the socio-demographic determinants of productivity, we did multivariable linear regression analysis.

Results

We distributed the questionnaire to 300 randomly selected nurses, 256 of them completed and returned the survey form. However, following exploratory analysis, we dropped 13 participants from further analysis since these nurses were part of admin and were not involved in direct patient-care or had <1-year experience.

Among the retained 243 nurses, the majority of 91.7% were staff nurses and the remaining 8.3% were nurse-midwives. At

Table 1: Sociodemographic characteristics of the Saudi female nurses, a cross-sectional survey, MOH hospitals, Al-Qassim, Kingdom of Saudi Arabia, May–June 2017

Sociodemographic characteristics	Count (%) / Mean (SD)
Marital status	
Never married	80 (32.9)
Married	152 (62.6)
Divorced/widow	11 (4.4)
Age (in years)	
Mean (SD)	30.2 (5.6)
Experience (in years)	
Mean (SD)	6.5 (5.3)
Daily workload (in h)	
Mean (SD)	8.4 (0.7)
Number of pregnancies	
Mean (SD)	1.5 (1.9)
Number of children	
Mean (SD)	1.3 (1.6)
Number of children under 5 years of age	
Mean (SD)	0.4 (0.7)
Have children with disabilities in family	
Yes	21 (8.6)
No	222 (91.4)
Have fulltime paid household workers at home	
Yes	45 (18.6)
No	198 (81.5)
Child day-care center in hospital	
Yes	42 (17.3)
No	201 (82.7)
Living and working in the same city	
Yes	183 (75.3)
No	60 (24.7)
Living with family	
Yes	196 (80.7)
No	47 (19.3)
Job satisfaction	
Dissatisfied	100 (41.2)
Neither satisfied nor dissatisfied	123 (50.6)
Satisfied	20 (8.2)

SD: Standard deviation

the time of the survey, they were working in the outpatient (25.4%), surgery (20.2%), medical (15.4%), obstetrics and gynecology (14%), orthopedic (11%), emergency (7.5%), and intensive care units (6.6%) of the public hospitals in the Qassim region, KSA. Distribution of the nurses by different socio-demographic and hypothesized explanatory variables is presented in Table 1. The majority (62.6%) of the nurses were married at the time of data collection and only 4.4% were either divorced or widowed. The mean age of the nurses was 30.2 years with a SD of 5.6 years. Job experiences of the participating nurses ranged from 1 year to 32 years with a mean of 6.5 years (SD: 5.3 years). Average workload of the nurses was 8.4 h (SD: 0.7). The average number of pregnancies, children, and children under 5 years of age was 1.5 (SD: 1.9), 1.3 (SD: 1.6), and 0.4 (SD: 0.7), respectively. About 8.6% of the nurses had at least one child with disabilities in their household. About 17.3% nurses reported that they had child day-care centers in their hospital. The majority of the nurses were living in the same city they were working (75.3%) and were living with their family (80.7%). Only about a fifth (18.6%) of the nurses had paid fulltime household workers at home. The majority (91.8%) of the nurses reported that they were not satisfied with their job.

Nurses' productivity indicators

Nurses productivity indicators are presented in Table 2. We found that most of the female nurses participating in our study did not want to serve male patients (70.3%); a majority of them wanted to work only in female units (66.1%); a little over half of them did not like to serve in night shifts (50.8%); and 39% did not want to accompany patients in ambulances. Regarding their professional development initiatives, we found that the majority of them had the interest to attend professional development courses (93.4%); had desire for higher studies (82.2%); and attended at least one educational activity in the past year (78.5%). Regarding punctuality and absences (as reported by the corresponding manager), we found that majority of the nurses were punctual (85.1%); but on the contrary demonstrated tendency of taking emergency leave (64.2%); and sick leave (56.4%). In the past year, little over a quarter of the nurses had unexcused absences (27.3%); about a fifth had unplanned but excused absences (19.5%); over one-fifth demonstrated tendency of taking frequent breaks during duty hours (20.5%); and about a fifth demonstrated the tendency of being late on duty. However, we found that majority of the nurses could overcome difficulties in work (86%) and accepted and could follow guidance provided by their superior (92.1%).

Socio-demographic determinants of Saudi Female nurses' productivity

Sociodemographic determinants of the healthcare productivity of Saudi female nurses are presented in Table 3. We found that marital status, number of children under 5 years of age, having fulltime paid household workers, and job satisfaction

Table 2: Saudi female nurses' productivity indicators, a cross-sectional survey, MOH hospitals, Al-Qassim, Kingdom of Saudi Arabia, May–June 2017

Productivity indicators	Proportion (n=243)
Prefers to work in female units only	66.1
Does not want to serve male patients	70.3
Does not prefer night shifts	50.8
Does not want to accompany any patient in an ambulance to another hospital	39.0
Has interest to attend professional development courses	93.4
Has desire for higher studies	82.2
Attended at least one educational activity in the past year	78.5
Punctual with the working hours	85.1
Had unauthorized absenteeism in the past year	27.3
Had sudden absences (excused) in the past year	19.5
Has tendency of taking frequent breaks during duty hours	20.3
Has tendency of taking emergency leave	64.2
Has tendency of taking unpaid vacation	0.8
Has tendency of taking sick leave	56.4
Has tendency of being late on duty	18.9
Able to overcome difficulties in the work	86.0
Accepts guidance/advice	92.1

are associated with the productivity index score. We did not find such statistically significant association between nurses' productivity index score and age, experience, daily duty hours, number of pregnancies, number of children, having disabled children, having child day-care center at hospital, living and working in the same city, or living with or without family. Being married was associated with 1.66 points decrease in productivity index score when compared to never married nurses, adjusting for age, experience, daily working hours, number of pregnancy, number of children, number of children under 5 years of age, having any disabled children, having fulltime paid household workers at home, having child day-care center at hospital, living and working in the same city, living with family, and job satisfaction. We also found that having one more child under 5 years of age was associated with 0.75 points increase in productivity index score, adjusting for the rest of the explanatory variables included in the model. In addition, we found that having fulltime paid household workers at home was associated with 1.04 points decrease in the productivity index score in comparison to the nurses who did not have so, adjusting for the rest of the explanatory variables included in the model. Furthermore, we found that being neither satisfied nor dissatisfied was associated with 1.1 points decrease in the productivity index score when compared to nurses who were dissatisfied with the job.

Discussion

This study highlighted an important issue for health-care facilities in KSA – health-care productivity of Saudi female nurses working in different public hospitals in Al-Qassim region, KSA, and socio-demographic determinants of their productivity. Understanding the Saudi female nurses' productivity and the factors associated with their productivity is vital considering the Kingdom's continued effort of Saudization of the health-care sector. Health-care facilities need qualified, competent, sincere, and dedicated nurses for better quality patient care.

We used a 17-item nursing productivity index. An index is different than a scale. Index items are cause indicators that determine the level of a latent variable (in our case, productivity of Saudi female nurses). In contrast, scale items are effect indicators whose values are determined by a latent variable.^[14] Nurses scored low on our nursing productivity index were suspected to be less productive. Using a nursing productivity index will aid nursing management in being proactive in improving nursing productivity.

We found that the majority of Saudi female nurses working in Qassim hospitals preferred to work in female units only and did not want to serve male patients. In addition, majority of them did not want to work in night shifts, and about 40% did not want to accompany patients in ambulances. These findings are not surprising in the context of KSA. Previous studies in different other parts of the KSA found the same. A cross-sectional survey in the public hospitals in Riyadh found that about 40% nurses were considering leaving nursing profession because they feel uncomfortable in serving patients from opposite gender.^[15] These preferences probably due to the community culture which discourages contacts between females and males in work environment, and female patients prefer female nurses.^[16] Nevertheless, this behavior can be attributed to reduced nurse productivity and, therefore, might hinder the Kingdom's efforts to reducing reliance on foreign health workforce. This issue should be dealt with during nursing educational and promotional activities. It should be highlighted that nursing services in Saudi Arabia started at the hand of Rufaida Al-Asalmiya during the time of Prophet Mohammed (PBUH). She and her colleagues served both male and female patients.^[1] Another strategy of overcoming this problem could be recruiting male nurses to serve male patients female nurses to serve female patients.

Involving in continued professional development is important in maintaining and improving the quality of services. We found that a great majority of the nurses working in Al-Qassim hospitals had interest in attending professional development courses (93.4%) and higher studies (82.2%), while over 78% attended at least one educational activity in the past year. Attending professional development training, courses or higher studies will increase knowledge and skills of the nurses. Improved knowledge

Table 3: Sociodemographic determinants of the productivity of Saudi female nurses, cross-sectional survey, MOH hospitals, Al-Qassim, Kingdom of Saudi Arabia, May–June 2017

Variables	Productivity index score (0-17)	
	Coefficient (95% CI)	P-value
Marital status		
Never married	0	-
Married	-1.66 (-2.52–0.80)	0.000
Age	-0.04 (-0.16–0.08)	0.516
Experience in years	-0.01 (-0.12–0.11)	0.898
Daily working hours	-0.25 (-0.72–0.23)	0.307
Number of pregnancies	0.07 (-0.47–0.62)	0.792
Number of children	-0.09 (-0.72–0.53)	0.772
Number of children under 5 years of age	0.75 (0.18–1.32)	0.010
Have child with disabilities in the household	-0.55 (-1.74–0.65)	0.370
Employed household worker at home	-1.04 (-1.87–0.21)	0.015
Have child day-care center in hospital	0.25 (-0.61–1.12)	0.564
Job satisfaction		
Dissatisfied	0	
Neither satisfied nor dissatisfied	1.10 (0.43–1.77)	0.001
Satisfied	-0.89 (-2.09–0.31)	0.146
Lives and works in the same city	0.39 (-0.35–1.14)	0.301
Lives with family	-0.43 (-1.28–0.42)	0.320

and skills translate into improved quality and productivity of the services.^[17] Therefore, Saudi female nurses' interest in professional development activities is a good sign and this trend might be useful in making the Saudization program a success.

The current study also found that the majority of the nurse did not have children day-care facilities in their hospitals. Furthermore, they did not feel their children were safe during performing the work and working hours did not suitable for their families, this circumstance might make majority of the staff nurses dissatisfied about their work (89.1%), similarly, a study conducted in Iran revealed that poor working environment has a negative impact on nurses' productivity and satisfaction.^[18]

Low productivity and satisfaction are positively associated with absenteeism and late attendance.^[19] In our study, we found that more than a quarter of Saudi nurses had unexcused absences in the past year. In addition, about a fifth of the nurses had absences which were later excused. Further to this, one-fifth of the Saudi nurses demonstrated tendency of being late on duty in the past year. These behaviors are alarming for any management since these nurses are involved in providing direct patient care. Being absent or late without prior notice might make patient management extremely difficult. This will require the other nurses to work extra, hence will reduce quality of nursing services. Absenteeism and being late on duty perhaps are linked to lack of commitment to the job. We argue that when the nurses become committed to their organization she becomes more

productive with high performance. Several studies identified a positive relationship between commitment and productivity.^[20,21]

Long working hours per shift contribute to accidents, sickness, mistakes, and absenteeism and finally decreased productivity.^[22] In our study, we did not find any association between working hours and productivity. Perhaps, this is because average working hours of the nurses participated in this study are not much over 8 h. There is evidence that the existence of balance between work and family life has a positive effect on productivity.^[22]

In our multi-variables linear regression analysis, we found evidence of a significant association between the female Saudi nurses' marital status and nursing productivity index score. Being married was associated with 1.66 points decrease in nursing productivity index score, adjusting for all other socio-demographic variables included in the model. Studies elsewhere found that married women report significantly higher family-work conflict than unmarried women.^[23] In Saudi Arabia, a study in Jazan region, among primary health-care nurses found that one of the influencing factors on their quality of work-life was their inability to balance between work and family life.^[24] Marital status and gender create distinct contexts that shape employees perceived family-work conflicts.^[25] A cross-sectional study in Riyadh among MOH hospital nurses found that the home-work interface was not the source of stress for unmarried nurses but for the married one.^[26] This

family-work conflict might lead to low productivity among Saudi female nurses.

Variables, such as family support, the size of the family, the age of children, organizational support and culture, and time spent at work may also influence the performance of women at work.^[27] Studies also reported that productivity is influenced by family life.^[24,27] However, among our Saudi female nurses, we did not find any evidence of association between productivity index score and number of children, number of pregnancies, living with family or having any disabled children in family. Therefore, low productivity among Saudi female nurses perhaps is explained by some other unexplained variables associated with the culture and attitudes toward work after being married. It was a surprise to found that having children under 5 years of age are positively associated with the productivity index score among Saudi female nurses. Perhaps experience of taking care of children under 5 years of age makes the nurses more caring and responsible to the patients. Another surprising find, as suggested by our multivariable regression model, is that Saudi female nurses having fulltime paid household workers are less productive than the nurses who did not have such household workers. Perhaps this is because the Saudi female nurses who are comparatively less organized, dependent, struggle to manage household work or who has a lot of household responsibilities employ a household worker. Therefore, employing a household worker was not enough for them to be more, or at least equally, productive than the nurses without a household worker.

Conclusions

Our study is the first of its kind in the KSA – investigating productivity of Saudi female nurses and their socio-demographic determinants. We found that being married is associated with low productivity index score. However, aspects of married life commonly believed to cause home work-life conflicts such as number of children, living with or without family, having disabled children in the family and personal factors such as age was not associated with productivity. Perhaps, unexplained cultural issues associated with being married in the KSA explain the lower productivity index score among married Saudi female nurses. Therefore, we recommend qualitative studies to explore this issue further.

Declarations

Ethics approval and consent to participate

Ethical approval for this study was obtained from the Regional Research Ethics Committee, Al-Qassim, Saudi Arabia, registered at National Committee of Bio& Med Ethics, Registration No. (H-04-Q-001).

Consent for Publication

Not applicable.

Availability of Data and Material

The datasets analyzed during the current study are available from the corresponding author on reasonable request.

Competing Interests

The authors declare that they have no competing interests.

Funding

Nursing administration in Al-Qassim region, KSA, funded the project.

Authors' Contributions

AH and HA conceptualized the study. KJ designed the survey. HA collected data with supervision from AH, AA, and KJ. IM analyzed and interpreted data with assistance from YM, HA, and AA and supervision from AH. IM wrote the first draft with assistance from HA and YM. All authors read and approved the final manuscript.

Acknowledgments

This research was completed with the encouragement and support of the regional nursing administration in Al-Qassim, KSA. Authors thank Dr. Fahad Alhethily for his support and help.

Authors' Information

HT is supervisor at nursing administration, general directorate of health affairs, Buraidah, Al-Qassim, Saudi Arabia. IM is an Assistant Professor at the College of Public Health and Health Informatics, Qassim University, Bukayriyah, Qassim, KSA. AA is a Consultant Paediatric Cardiologist, Head of Training and Research Center, Maternity and child hospital, Buraidah, Al-Qassim, Saudi Arabia. AH is the nursing director at nursing administration, general directorate of health affairs, Buraidah, Al-Qassim, Saudi Arabia. KJ is a nursing educator at Maternity and Child hospital, Buraidah, Al-Qassim, Saudi Arabia.

References

1. Aldossary A, While A, Barriball L. Health care and nursing in Saudi Arabia. *Int Nurs Rev* 2008;55:125-8.
2. Almalki M, FitzGerald G, Clark M. The nursing profession in Saudi Arabia: An overview. *Int Nurs Rev* 2011;58:304-11.
3. Al-Yami M, Watson R. An overview of nursing in Saudi Arabia. *J Health Spec* 2014;2:10-2.
4. Almalki M, Fitzgerald G, Clark M. Health care system in Saudi Arabia: An overview. *East Mediterr Health J* 2011;17:784-93.
5. Edwardson S. Measuring nursing productivity. *Nurs Econ* 1985;3:9-14.
6. Cardello D. Monitoring staffing variances and length of stay. *Nurs*

- Manage 1995;26:38, 40-1.
7. Walker D. A “bottom-line” approach to nurse staffing. *Nurs Manage* 1996;27:31-2.
 8. Terzioğlu F, Temel S, Uslu Sahan F. Factors affecting performance and productivity of nurses: Professional attitude, organisational justice, organisational culture and mobbing. *J Nurs Manag* 2016;24:735-44.
 9. Borhani F, Arbabisarjou A, Kianian T, Saber S. Assessment of predictable productivity of nurses working in kerman university of medical sciences’ teaching hospitals via the dimensions of quality of work life. *Glob J Health Sci* 2016;8:55666.
 10. Iranzadeh S, Tahouni A. The relationship between quality of work life and productivity of employees. *Prod Manage* 2014;7:67-80.
 11. Hall LM. Nursing intellectual capital: A theoretical approach for analyzing nursing productivity. *Nurs Econ* 2003;21:14-9.
 12. Thompson P, Stanowski A. Maximizing nursing productivity the benefits of improved collaboration between nursing and support services. *Healthc Financ Manage* 2009;63:76-80, 82, 85.
 13. Holcomb BR, Hoffart N, Fox MH. Defining and measuring nursing productivity: A concept analysis and pilot study. *J Adv Nurs* 2002;38:378-86.
 14. DeVellis RF. *Scale Development: Theory and Applications*. United Kingdom: SAGE; 2003.
 15. Alboliteeh M, Magarey J, Wiechula R. The profile of Saudi nursing workforce: A Cross-sectional study. *Nurs Res Pract* 2017;2017:1710686.
 16. Back E, Wikblad K. Privacy in hospital. *J Adv Nurs* 1998;27:940-5.
 17. Bandura A. Self-efficacy: Toward a unifying theory of behavioral change. *Psychol Rev* 1977;84:191-215.
 18. Needleman J, Kurtzman ET, Kizer KW. Performance measurement of nursing care: State of the science and the current consensus. *Med Care Res Rev* 2007;64:10S-43S.
 19. Scott KD, Taylor GS. An examination of conflicting findings on the relationship between job satisfaction and absenteeism: A meta-analysis. *Acad Manage J* 1985;28:599-612.
 20. Yousef DA. Organizational commitment: A mediator of the relationships of leadership behavior with job satisfaction and performance in a non-western country. *J Manag Psychol* 2000;15:6-24.
 21. Samad S. Unraveling the organizational commitment and job performance relationship: Exploring the moderating effect of job satisfaction. *Bus Rev* 2005;4:79-84.
 22. Dehghan Nayeri N, Hooshmand Bahabadi A, Kazemnejad A. Investigating the productivity model for clinical nurses. *Acta Med Iran* 2014;52:757-63.
 23. Patel CJ, Govender V, Paruk Z, Ramgoon S. Working mothers: Family-work conflict, job performance and family/work variables. *SA J Ind Psychol* 2006;32:39-45.
 24. Almalki MJ, Fitzgerald G, Clark M. Quality of work life among primary health care nurses in the Jazan region, Saudi Arabia: A cross-sectional study. *Hum Resour Health* 2012;10:30.
 25. Nomaguchi KM. Marital status, gender, and home-to-job conflict among employed parents. *J Fam Issues* 2012;33:271-94.
 26. Al-Aameri AS. Source of job stress for nurses in public hospitals. *Saudi Med J* 2003;24:1183-7.
 27. Reddy NK, Vranda MN, Ahmed A, Nirmala BP, Siddaramu B. Work-life balance among married women employees. *Indian J Psychol Med* 2010;32:112-8.