

Awareness of holistic care practices by intensive care nurses in north-western Saudi Arabia

Hamdan M. Albaqawi, MSN, PhD, Vincent R. Butcon, MAnP, RN, Roger R. Molina, MAnP, RN.

ABSTRACT

الأهداف: قياس مستوى وعي الممرضين العاملين في أقسام العناية المركزة بالرعاية التمريضية الشاملة المقدمة للمرضى بمستشفيات مدينة حائل، المملكة العربية السعودية.

الطريقة: استخدمت هذه الدراسة الإحصاء الكمي لمعرفة العلاقة بين معلومات الممرضين العاملين في أقسام العناية المركزة بالرعاية التمريضية الشاملة، أي تأثير ديموغرافي، وكذلك أي علاقة في تقييم الاداء الاخير للممرضين. تم جمع الاستبانات من 99 ممرضا يعملون في 4 مستشفيات حكومية في حائل، هذه الاستبانات تقيس معلومات الممرضين في 5 مجالات للرعاية التمريضية الشاملة وهي: الفسيولوجي، الاجتماعي - الثقافي، النفسي، التطوري والروحاني. تم جمع البيانات من شهر أكتوبر إلى شهر ديسمبر من عام 2015م من خلال الاستبانات المكتوبة وكذلك من تقييم الاداء الاخير للممرضين والذي تم الحصول عليه من إدارة المستشفيات. تم تحليل النتائج إحصائياً ومقارنتها (العددية، النسبة المئوية، بيرسون ار، ألفا كرونباخ).

النتائج: ممرضين وحدة العناية المركزة في المملكة العربية السعودية على وعي تام بالجوانب العالمية للرعاية التمريضية الشاملة، وكان لدى الأغلبية تقييمات «جيدة جداً» للأداء. ولم تكن هناك اتجاهات ديموغرافية فيما يتعلق بالوعي الشامل وتقييم أدائهم. علاوة على ذلك، لم يكن وعيهم بالرعاية التمريضية الشاملة مرتبطاً بتقييم أدائهم الوظيفي الاخير.

الخاتمة: ورشات العمل لتطوير الرعاية الصحية والبرامج الإرشادية للممرضين غير السعوديين من شأنها أن تزيد من مستوى الرعاية التمريضية الشاملة وتعزز ممارستها في وحدات العناية المركزة.

Objectives: To examine awareness of holistic patient care by staff nurses in the intensive care units of hospitals in the city of Hail, Saudi Arabia.

Methods: A quantitative correlational study design was used to investigate relationships between intensive care nurse's awareness of holistic practices and nurses' latest performance review. Intensive care staff nurses (n=99) from 4 public sector hospitals in Hail were surveyed on their awareness of variables

across 5 holistic domains: physiological, sociocultural, psychological, developmental, and spiritual. Data were collected between October and December 2015 using written survey, and performance evaluations obtained from the hospital administrations. Results were statistically analyzed and compared (numerical, percentage, Pearson's correlation, Chronbach's alpha).

Results: The ICU staff nurses in Hail City were aware of the secular aspects of holistic care, and the majority had very good performance evaluations. There were no demographic trends regarding holistic awareness and nurse performance. Further, awareness of holistic care was not associated with nurse performance.

Conclusion: A caring-enhancement workshop and a mentoring program for non-Saudi nurses may increase holistic care awareness and enhance its practice in the ICUs.

*Saudi Med J 2017; Vol. 38 (8): 826-831
doi: 10.15537/smj.2017.8.20056*

From the Department of Academic Affairs (Albaqawi), College of Nursing (Butcon, Molina), University of Hail, Hail, Kingdom of Saudi Arabia.

Received 31st November 2016. Accepted 10th May 2017.

*Address correspondence and reprint request to: Dr. Hamdan M. Albaqawi, Department of Academic Affairs, University of Hail, Hail, Kingdom of Saudi Arabia. E-mail: dr-hamdan@outlook.com
ORCID ID: orcid.org/0000-0001-9749-9669*

The American Holistic Nurses' Association¹ defines holistic care as 'all nursing practice that has healing the whole person as its goal'. Holistic, in the nursing practice, regards the patient as the center of care,² where nurses of different cultures find patient expectations difficult to fulfill, such as observance of values, gender segregation of patients and staff, and their patients' family and tribal relationships.³ Indeed, such connection among the nurses and the patients is based on respect, relative openness, equality and mutuality.⁴ From the

foregoing context, the intensive care unit (ICU) nurses regardless of urgency of task need to deliver holistic care. Nursing literature recognizes dearth in the awareness of holistic care practices by intensive care nurses in the local context despite working in a non-static environment. Less studies demonstrate the awareness of holistic care practices⁵⁻⁷ and others on spiritual aspects of holistic care interest.^{8,9} While Arab definition of holistic practice; however, differs by refocusing spirituality as the culture and religion that are fundamental to the Arab entity, this redefines the role of ICU nurses to deliver holistic and culturally specific health care to patients¹⁰ as it necessitates greater collaboration of care.¹¹ In all, spirituality¹² and culturally sensitive care⁵ are important components of holistic care. In connection, the theoretical basis of holistic care is necessarily sparse, given its empirical and evidence-based context. Several holistic authors^{13,14} identified interconnected theoretical stances to explain the interaction of nurse and patient in a complex environment. The nurses' responsibility to achieve a balanced state of the patient's well-being through harmony and equilibrium of the biological, psychological, and social mechanisms of the patient. To this end, using holistic care as the framework will result in major changes in the treatment process.¹⁵

This research is of significance that it may be assumed that holistic practices of healthcare take place in a calm and relaxing environment for the patient and the caregiver. In the stressful environment of the ICU, the fundamental principles of holistic care: physiological, sociocultural, psychological, developmental, and spiritual, are of perhaps greater importance in the support of very ill people.¹⁶⁻¹⁸ This aspect of holistic care appears not to be well-researched and this study will add to the literature in that regard. It seeks to understand the issues encountered by nursing staff in practicing holistic care through their responses to holistic factors in fulfilling their responsibilities to their patients. This present study investigates the awareness of holistic factors in patient care: physiological, psychological, sociocultural, developmental, and spiritual; by intensive care nurses in 4 public hospitals in Hail City, north-western sector of Saudi Arabia. Moreover, it aims to ascertain whether to recommend interventions to assist new staff in the important religious and cultural (spiritual) aspects of patient care.

Disclosure. The authors have no conflict of interests and the work was not supported or funded by the Ministry of Health.

Methods. This study employed descriptive-correlational design for investigating the awareness of nursing staff in practicing holistic care. Ethical procedures were observed and are recorded as relevant. Data collection was approved by the institutional review boards of both the Ministry of Health and University of Hail. The researchers protect the rights of the respondents by maintaining confidentiality, anonymity, right to withdraw policy and privacy throughout the study.

Sample and settings. The volunteer study participants were sourced from hospitals in Hail City, namely: ICU of King Khalid Hospital (KKH); the Male Intermediate Care Unit (MICU), Female Intermediate Care Unit (FICU), Pediatric Intensive Care Unit (PICU), and Neonatal Intensive Care Unit (NICU) of Hail General Hospital (HGH); ICU for the Convalescent Center Hospital (CCH); and Coronary Care Unit (CCU) in Cardiac Center Hospital. Nursing directors of the respective hospitals approved the study.

Respondents were selected through purposive sampling of ICU staff nurses.¹⁹ A total of 99 staff nurses responded, a return rate of 48 percent: 30 from KKH ICUs, 32 from HGH ICUs, 29 from CCH ICUs and eight staff nurses from Cardiac Center CCU. Exclusions include those who were on extended leave and those who preferred not to participate the study. Standard consents to establish legitimacy were signed by all study participants.

Survey instrument. The questionnaire was developed to reflect the complex nature of holistic healthcare for an Arab society. It was available only in English, as that is the workplace language for hospital setting. The survey consisted of 2 parts: the first part was demographic questions which included gender, age, and years of experience. The second part was presented in 5 sections to determine the participants' awareness of the 5 aspects of holistic care: physiological, sociocultural, psychological, developmental, and spiritual.

These domains were derived from the literature.¹⁸ Scale measurements were interpreted as follows: 1 to 1.5 (not aware); 1.51 to 2.5 (moderately unaware); 2.51 to 3.5 (somewhat aware); 3.51 to 4.5 (moderately aware); 4.51 to 5 (extremely aware). The summated score of items in each domain were calculated. Thus, the higher the score, the higher the level of awareness. The research instrument was validated through a pilot study-review by non-ICU staff nurses in KKH, HGH, CCH and the Cardiac Center.²⁰ Any comments were incorporated into the final set of questions. The instrument was piloted to 20 nurses, who were not part of the actual

respondents. Data was subjected for reliability testing using the Cronbach's alpha, having a result of 0.967.

Data collection. The printed survey forms and the accompanying letter were delivered to the nurse administrators at each hospital in October 2015, and then delivered to the ICU nurse stations. The authors checked regularly and collected the responses, and the final date for collection was December 2015.

Supplementary data collection. As part of the research, nurses' periodic performance reviews were obtained from the nurses' administration of each hospital. The Ministry of Health's performance evaluation tool is a standard instrument for all Saudi hospital staff. Performance evaluation is in 3 categories: function standards, personal characteristics, team and patient relationships. Nurse evaluation is excellent (90 to 100 total score); very good (80 to 89); good (70 to 79); satisfactory (60 to 69), and unsatisfactory (≤ 59).

Statistical analysis. Data were transcribed and loaded into SPSS version 22.²¹ Original forms and letters were placed in the University of Hail's secure data store. Data were analyzed for internal consistency using Cronbach's $\alpha = 0.967$. Frequency distribution and percentages were used to describe the demographic variables. The weighted mean was used to determine participant awareness of each item.²² Analysis of variance (ANOVA) was used to establish significant differences, if any, between staff nurse knowledge based on demographic variables; and between the ICU nurses' performance and demographic variables. Pearson's correlation was used to determine if there was any significant relationship between the participants' knowledge of holistic care and their aggregated performance standards.

Table 1 - Demographic variables of 99 intensive care staff nurses from 4 public sector hospitals in Hail, Saudi Arabia.

| Demographic variables | n | (%) |
|-------------------------------------|----|--------|
| <i>Age (years)</i> | | |
| 21 to 25 | 22 | (22.2) |
| 26 to 30 | 51 | (51.5) |
| 31 to 35 | 7 | (7.1) |
| 36 to 40 | 9 | (9.1) |
| ≥ 41 | 10 | (10.1) |
| <i>Gender</i> | | |
| Male | 2 | (2.0) |
| Female | 97 | (98.0) |
| <i>Length of experience (years)</i> | | |
| 1 to 5 | 43 | (43.4) |
| 6 to 10 | 27 | (27.3) |
| 11 to 15 | 14 | (14.1) |
| 16 to 20 | 15 | (15.2) |

Results. Demographic profile of the participants.

Of the 99 ICU staff nurses who participated in the study were mostly female (98%) and aged 26-30 years (51.5%) cohort. The nurses had been in their current positions from 1 to 5 years (43.4%), 6 to 10 years (27.3%), and 11 years and over (29.3%) (Table 1).

Participants' awareness on the 5 aspects of holistic care. Item results for awareness of the physiological practices of ICU staff nurses in Saudi Arabia were 'extremely aware' in all items, with hand washing and disinfection before and after handling patients (mean

Table 2 - Awareness on the of five aspects of holistic care 99 intensive care staff nurses from 4 public sector hospitals in Hail, Saudi Arabia.

| Five aspects of holistic care | Mean | Standard Deviation |
|---|------|--------------------|
| <i>Awareness of procedural aspects</i> | 4.82 | 0.39 |
| 1. Patient identification | 4.91 | 0.29 |
| 2. Continuous care | 4.84 | 0.37 |
| 3. Pain recognition and relief | 4.53 | 0.59 |
| 4. Physical assessment | 4.85 | 0.41 |
| 5. Continuous nurse bedside presence | 4.85 | 0.39 |
| 6. Nurse hand hygiene patient contact | 4.93 | 0.29 |
| <i>Response to Cultural and Social factors regarding patients</i> | 4.68 | 0.04 |
| 1. Respect of patient's culture | 4.75 | 0.48 |
| 2. Facilitate patient's coping with family | 4.45 | 0.58 |
| 3. Safe and comfortable environment | 4.78 | 0.46 |
| 4. Promotion of patient's well-being | 4.71 | 0.54 |
| 5. Patient's right to autonomy | 4.67 | 0.55 |
| 6. Nurse focus on patient and family needs | 4.71 | 0.52 |
| <i>Awareness and response to patient's psychological state</i> | 4.65 | 0.10 |
| 1. Patient's consciousness and orientation | 4.87 | 0.34 |
| 2. Patient's awareness of condition | 4.65 | 0.56 |
| 3. Patient's coping with stressors | 4.47 | 0.61 |
| 4. Patient's ability to manage condition | 4.62 | 0.57 |
| 5. Clear information on condition | 4.70 | 0.52 |
| 6. Patient's emotional state regarding condition | 4.60 | 0.62 |
| <i>Nurses knowledge on assisting patient's learning to cope</i> | 4.58 | 0.04 |
| 1. Patient's health learning needs | 4.63 | 0.55 |
| 2. Assessment of patient's readiness to learn | 4.65 | 0.56 |
| 3. Patient's unwillingness to learn | 4.48 | 0.64 |
| 4. Patient's ability to commence learning | 4.55 | 0.58 |
| 5. Equipment availability for learning | 4.49 | 0.64 |
| 6. Patient learning self-care techniques | 4.65 | 0.63 |
| <i>Recognition of spiritual needs</i> | 4.31 | 0.21 |
| 1. Praying with or for the patient | 4.18 | 0.88 |
| 2. Reading to patient from holy texts | 4.01 | 1.01 |
| 3. Making time to sit with patient | 4.70 | 0.50 |
| 4. Supporting patient's belief structure | 4.58 | 0.58 |
| 5. Foster communication and hope | 4.40 | 0.75 |
| 6. Pastoral care services or spiritual advisors | 3.98 | 0.99 |

Table 3 - Relationship of holistic care and performance groups with the level of significance and their interpretation.

| Demographic variables | Significance | Level of significance | Interpretation |
|-----------------------|--------------|-----------------------|---------------------------|
| <i>Holistic care</i> | | | |
| Age | 0.470 | 5% | No significant difference |
| Gender | 0.521 | 5% | No significant difference |
| Length of experience | 0.163 | 5% | No significant difference |
| <i>Performance</i> | | | |
| Age | 0.345 | 5% | No significant difference |
| Gender | 0.839 | 5% | No significant difference |
| Length of experience | 0.807 | 5% | No significant difference |

4.93) and patient identification (mean 4.91) having the highest mean values. The ICU staff nurses' awareness of social and cultural factors for their patients were extremely aware regarding 3 items: providing safe and comfortable environment that is conducive to recovery (mean 4.78) and respect to cultural differences that may affect opinions, values and beliefs of the patient and family (mean 4.75) had the highest mean values. However, respondents were moderately aware of identification of factors in the environment that may influence patient's coping with health problems (mean 4.45) (Table 2).

The participants' recognition of the patient's psychological state notes that ICU staff nurses were moderately aware of identifying psychological coping mechanisms of previous stressors used by the patient (mean 4.47). With the highest mean value, participants were extremely aware of the need to assess the patient's level of consciousness and orientation (mean 4.87) (Table 2).

The developmental aspect of holistic practice refers to the patient's knowledge of health status and willingness to learn new coping strategies and responses to facilitate a return to health. The ICU staff nurses were extremely aware of the need to assess patient's readiness to learn (mean 4.65) and support patient's ability to learn new self-care techniques (mean 4.65). They were moderately aware of appropriate activities in achieving learning (mean 4.49) (Table 2).

The spiritual section of holistic healthcare, as noted, is Islamic-based. Non-Saudi nurses may be Muslims; however, others need to be aware of the patient's religious imperatives, especially in stressful situations. Adherence to core Islamic tenets can significantly

Table 4 - Nurses' performance evaluation of the study participants.

| Overall evaluation | n | (%) |
|----------------------|-------------|------|
| 90 - 100 (Excellent) | 97 | (98) |
| 80 - 89 (Very good) | 2 | (2) |
| Mean ± SD | 4.98 ± 0.14 | |

Table 5 - Relationships between holistic awareness of the intensive care unit nurses and performance.

| Section | Pearson's r | P-value | Relationship |
|----------------|-------------|---------|-----------------|
| Physiological | -0.044 | 0.334 | Not significant |
| Socio-cultural | -0.070 | 0.244 | Not significant |
| Psychological | -0.076 | 0.228 | Not significant |
| Developmental | -0.093 | 0.179 | Not significant |
| Spiritual | -0.151 | 0.068 | Not significant |

assist the patient's attitude. Perhaps unsurprisingly in a secular and public environment did not show the same conviction to metaphysical needs as they reported in the other sections. They recognized the need for making time to be with the patient to establish a caring presence (mean 4.70), and awareness of personal and spiritual beliefs to manage stress and find answers to health care issues that may affect the quality of nursing care (mean 4.58). The participants responded as moderately aware of spiritual caring items (Table 2).

Association between demographic profile, holistic care, and nurse performance. There were no significant differences at a 95% confidence level for holistic care and nurse performance when demographic variables were taken as test factor (Table 3).

Nurses' performance evaluation. The results from performance reviews for the participants showed 'excellent' (above a score of 90) and 'very good' (above 80) (Table 4).

Relationship between holistic care and nurse performance. Correlation analysis reveal no relationship between awareness of ICU nurses on holistic care, and their performance reviews (Table 5).

Discussion. In this study, Hail ICU staff nurses showed no extraneous responses (as means) in comparisons between their demographic attributes and their awareness of holistic practices. The largest age cohort of women (51.5%) were in their late twenties, and age was reflected in their present job experience of 1 to 5 years (43.4%). Further, the Ministry of Health²³ reported 30% non-Saudi nurses in its Hail hospitals at that date (compared to approximately half in Saudi hospitals overall), and this higher proportion of Saudis

may have influenced the results of this study. With one exception, the respondents were women; therefore, no gender comparisons were possible. The Ministry of Health²² reported that 71% of its Hail hospital nurses were female, so that it appears that male nurses chose not to respond to the survey. This lack of representation is a limitation of this study.

Despite their youth, 82.5% of the ICU nurses received performance ratings of 'very good', with the remaining 'excellent' (17.5%). As highly trained professionals, the participants would be expected to respond knowledgeably to 'awareness' questions on holistic principles, many of which are fundamental to a caring environment. Further, many of the variables on the survey would be assessable items for the nurses' performance reviews.

This study concerns the 5 dimensions attributed to holistic care: physiological, sociocultural, psychological, developmental, and spiritual.^{10,16-18} A holistic approach is arguably of importance in a collectivist society where women as family members are dependent on others for decision-making; often including healthcare, whilst men have stressful decision-making family responsibilities.²⁴

The World Health Organization²⁵ recognized that, due to medical and technical developments, healthcare professionals' responsibilities were fragmenting. The WHO raised debate on the need of national health systems and importantly, professional associations, to return to a more comprehensive, holistic, healthcare model.

In this study, the ICU nurses were well aware of the practicalities of patient care and administration (physiological care), awarding high values to patient identification, assessment of patient condition, nurse self-care in hygiene, and patient comfort and pain relief. These duties are emphasized by nursing and professional associations such as the Royal College of Nursing² in Britain and the American Holistic Nurse's Association.¹ They are also part of a nurse's basic training.¹⁰

The sociocultural dimension of holistic care is of increasing concern in global healthcare, and Saudi Arabia's multicultural healthcare workforce is no exception.²³ The risks to patient health through misunderstandings concerning language, values, norms and training are well documented.^{3,7,14} In this study, participants were aware that their patients and their families needed cultural respect. This result was in accord with Hoffman's²⁶ study of nurse students growing in knowledge and self-efficacy as they learned to communicate and empathize with their patients.

The patient psychology and developmental phases of holistic care were perhaps not evident in an ICU

environment, where a patient could be unconscious, only partly aware of the ICU environment, or under strain and in many cases unable to take control of the situation. Nurses were aware of the need to assess the patient's condition in this regard. They were bound to inform the patient of his or her condition, and to assess the patient's psychological ability to cope with information and to learn further of the options available to manage the condition.¹⁰

The last dimension, spiritual care, is perhaps the most culturally significant for this research. The metaphysical aspects were summarized in the theories discussed¹⁴ and 'theory of theories' argument.¹³ These theories centered on the individual's belief structures and internal communications with the social and physical environment. However, the spiritual belief structure of Arabs is immersion in Islam, and nurses must be aware of its importance in times of stress.

In a collectivist society, individualism is not valued as it is in the theories recounted.¹⁴ Whilst there is now an Arab version of a spiritualistic measure for nurse care, perhaps more appropriate for the purposes of this study⁵ consideration of holistic care as that of human relationships, the sociocultural environment, and a religious being.

The results of this research, whilst finding that the nurses are aware of Islamic tenets to some degree, are symptomatic of the influence of a multicultural workforce where culture in terms of language and norms is readily understood, but the patient's foundations in Islam are less understood.

Study limitations. The researchers acknowledge that in this study endeavor limitation exists. The limitations include the use of purposive sampling where participants have been chosen based on the set criteria, thus leads to lesser and unequal number of male to female participants. Moreover, the nationality has not been considered in this study as there might have been a significant finding.

In conclusions, it is clear that demographic factors, nurse experience, and nurse performance variables were not influential in participants' awareness of holistic care. Intensive care unit staff nurses were not as comfortable in responding to complex issues open to definition such as cultural and religious practices. Although nationality of the nurse respondents were not considered in the study, some 70% of public hospital patients are Saudi nationals.²³ A recommendation is that Saudi nurses may need additional training to recognize other aspects of holistic care, such as that of the state of the patient and the degree of awareness of what has happened and its ramifications to his or her future lifestyle.

A recommendation for non-Saudi or non-Islamic staff, is that the spirituality section of holistic practice should be defined as Islam, rather than the amorphous concept of 'spirituality'. Nurse induction should include information on Islamic practices and beliefs in regard to trauma, illness and social needs; and practices attributed to Arab culture. Moreover, Saudi senior nurse mentor system could be set up whereby new non-Saudi nurses can feel free to discuss patient reactions, demands, or expectations. A more low-key approach close to the ICU environment would be more effective than formal courses, and could remove language and cultural barriers between team members.

References

- American Holistic Nurses Association. About us. [Accessed 2017 January 8] Available from: <http://www.ahna.org/About-Us/What-We-Do>
- Royal College of Nursing. Holistic care, RN Suffolk Branch. In Congress and Exhibition. Glasgow (UK): Royal College of Nursing; 2016.
- Almutairi A, McCarthy A, Gardner G. Understanding cultural competence in a multicultural nursing workforce: Registered nurses' experience in Saudi Arabia. *J Transcult Nurs* 2015; 26: 16-23.
- Zamanzadeh V, Jasemi M, Valizadeh L, Keogh B, Taleghani F. Effective factors in providing holistic care: a qualitative study. *Indian J Palliat Care* 2015; 21: 214-224.
- Tirgari B, Iranmanesh S, Ali Cheraghi M, Arefi A. Meaning of spiritual care: Iranian nurses' experiences. *Holist Nurs Pract* 2013; 27: 199-206.
- Hani M, Ahmad M. Evaluation of the concept of holism in nursing care. *Persian Journal of Medical Sciences* 2016; 3: 4.
- Sevinç, S., Ajghif, M., Uzun, Ö., & Gülbil, U.. Expectations of relatives of Syrian patients in intensive care units in a state hospital in Turkey. *Journal of Clinical Nursing* 2016; 25: 2232-2241.
- Cruz JP, Alshammari F, Colet PC. Psychometric Properties of the Spiritual Care-Giving Scale-Arabic Version in Saudi Nursing Students. *J Holist Nurs* 2016; 9: pii: 0898010116647804. [Epub ahead of print]
- Cruz JP, Alshammari F, Alotaibi KA, Colet PC. Spirituality and spiritual care perspectives among baccalaureate nursing students in Saudi Arabia: A cross-sectional study. *Nurse Educ Today* 2017; 49: 156-162.
- Al-Mutair AS, Plummer V, Clerehan R, O'Brien A. Needs and experiences of intensive care patients' families: a Saudi qualitative study. *Nurs Crit Care* 2014; 19: 135-144.
- McKiernan M, McCarthy G. Family members' lived experience in the intensive care unit: a phenomenological study. *Intensive Crit Care Nurs* 2010; 26: 254-261.
- Lundberg PC, Kerdonfag P. Spiritual care provided by Thai nurses in intensive care units. *J Clin Nurs* 2010; 19: 1121-1128.
- Shea L, Frisch NC. Application of integral theory in holistic nursing practice. *Holist Nurs Pract* 2014; 28: 344-352.
- Papathanasiou I, Sklavou M, Kourkouta L. Holistic nursing care: Theories and perspectives. *American Journal of Nursing Science* 2013; 2: 1-5.
- Holt-Waldo N. The lived experience of being a holistic nurse educator: A heuristic inquiry. Charleston (USA): BiblioBazaar; 2011.
- Billings D, Halstead J. Teaching in nursing: A guide for faculty, 4th ed. St Louis (MS): Elsevier; 2012.
- McCormack B, McCance T, editors. Person-centred practice in nursing and healthcare. 2nd ed. Chichester (UK): Wiley-Blackwell; 2017.
- Potter P, Perry A, Stockert P, Hall A. Fundamentals of nursing. 9th ed. St Louis (MS): Elsevier; 2017.
- Holloway I, Wheeler S. Qualitative research in nursing and healthcare. 4th ed. Chichester (UK): John Wiley & Sons; 2017.
- McIntosh-Scott A, Mason T, Mason-Whitehead E, Coyle D, editors. Key concepts in nursing and healthcare research. London (UK): Sage; 2013.
- IBM Corp. Release. IBM SPSS Statistics for Windows, Version 22.0 Armonk (NY): IBM Corp.; 2013.
- Zhu J. Quantitative models for performance evaluation and benchmarking: data envelopment analysis with spreadsheets. 3rd ed. Cham (SW): Springer; 2014.
- Ministry of Health. Statistics book. [Accessed 2017 January 10]. Available from URL: <http://www.moh.gov.sa/en/Ministry/Statistics/book/Documents/StatisticalBook-1436.pdf>
- Alshahrani H, McConkey R, Wilson J, Youssef M, Fitzsimons D. Female gender doubles pre-hospital delay times for patients experiencing ST segment elevation myocardial infarction in Saudi Arabia. *Eur J Cardiovasc Nurs* 2014; 13: 399-407.
- World Health Organization. Integrated care models: An overview. Working document. Copenhagen (DK): WHO Regional Office for Europe; 2016.
- Hoffman S. How nursing students experience caring relationships with patients. Dissertation for Doctor of Nursing 2013. North Carolina State University, Raleigh (NC): USA.