Research Article

Meeting Nursing Staff Education through Learning Need Assessment

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Abstract

Nursing workforce needs continuous education in order to maintain their current knowledge and skills. Nurses' learning needs could be assessed through several tools and strategies. The aim of this study is to identify nurses 's (at all levels) deficits in knowledge and skills through conducting a learning need assessment tool and meet their educational needs in order to enable them practicing safe, effective, deemed competent and efficient patient care.

Method: A descriptive quantitative and qualitative design adapting an Education Needs Assessment Model. Instrument used was anonymous SurveyMonkey and target population was all nurses at different levels working at King Fahad Specialist Hospital, Dammam, and Kingdom of Saudi Arabia. The survey was constructed through literatures utilizing multiple database such as Pubmed and CINAHL and then through meetings the expert educators and stakeholders. The survey contained nine (9) educational domains that would identify their learning deficits using Likert scale. The survey was piloted to examine both face validity and content validity and then IRB approval was granted from the hospital.

Results: Data were collected and analyzed following descriptive analysis frequency statistics using Excel Spreadsheet. Response rate was 34% although the targeted response rate was 67%. Nurses with all levels and from all divisions with various years of experience had identified their learning needs on the nine domains. The major performance gap was related to research utilization and Evidence Based Practice. Another gap was found in Leadership and Management Courses to support their nurse leaders. The study recommended that nurse educators have to look at the quality of clinical teaching when they conduct in-service educational sessions in terms of when to conduct it, which learning style to adopt, where to conduct it and for how long.

Conclusion: Survey Monkey is a comprehensive learning assessment tool used to identify current nurses' knowledge and skills. Further studies and researches using different designs and instruments are strongly needed.

Keywords: Continuing Nursing Education, Nursing Professional Development, Learning Need Assessment.

Introduction

The changes in today's healthcare services require nurses to stay updated in technology and practice. Continuing or Ongoing Education for all healthcare professionals including nursing workforce is essential. According to the Code of Ethics for Nurses, nurses are accountable to maintain competence, and update their professional growth; thus, "continuing education and staff development are fundamental components of being a professional nurse" and they are very important to ensure that all nurses have current knowledge and skills in order to practice safe, effective, efficient and evident based care [1,2]. Furthermore, Jest and Tonge found that continuing education is crucial for professional nurses to update their knowledge and skills and also to maintain their nursing licensure [3]. There

should be some mandatory education required by nurses to attend every year in order to maintain safe practice such as orientation programs, generic and specific competencies and other programs to advance nurses knowledge and practice [2].

Learning is a method to ensure that healthcare professionals have the knowledge and skills to function effectively and competently and it is more needed when there is a gap in the performance that is due to lack of skill or knowledge. Learning may only be able to resolve part of the problem; thus, we need to analyze the problem and find out whether learning will be able to resolve it. If learning is necessary, we also need to define the objective and how it will help the staff member(s) become more effective in their practice. As professional development is critical to the nursing profession, development and implementation of educational learning needs assessment and service training programs in order to enhance knowledge, skills and

attitudes are essential for all nurses to ensure better health services provision to the community [3,4].

Background (Literature Review)

Definition of Learning Need Assessment: There are many definitions for Learning Need Assessment (LNA) found in the literature. Carlson et al, defined LNA as a "systemic process of collecting and analyzing data to bring out discrepancies in an individual's knowledge base" [5]. Learning Need Assessment is a strategy for identifying gaps in knowledge or a method that is essential in nursing continuing professional development and tends to enhance nurse's knowledge, skills and attitude [3,6]. Grant explained that LNA is a tool that is needed if there is expected gap between the current learning level and the targeted or expected level; thus, it will reveal the discrepancies in knowledge and skills [7, 8]. Similarly, Morton and While et al, defined LNA as a tool that is used to assess nursing learning needs to determine their current knowledge and skills from Novice-to- Expert [4,9].

Learning Need is something perceived as interesting by learners' knowledge, skills and attitudes and necessary for goal attainment which can be acquired through learning experience while learning Need Assessment is a systematic process of collecting information that is sufficient to develop and implement effective educational programs that will address their gap.

Why LNA is needed: Continuous Nursing Education programs depend on learning needs of nurses that should be assessed. Learning Need Assessment will "elicit subjective data based on wish lists of participants or the untested assumptions of the tool's designer" [10]. Learning Need Assessment is used to figure out and understand learning deficiencies in knowledge and clinical practice then there will be more information that could be utilized to develop educational programs and to fill the performance gaps and enhance practice [11]. Learning Need Assessment is crucial instrument used to diagnose nurses' deficit in knowledge and practice. It is a tool that is used to assess nurses' learning needs and provide a feedback and then to set a plan to improve their practice and promote patient safety [8].

The cost of education is very high to the healthcare facility and the individuals therefore; education must be assessed and planned strategically. Nursing education must be cost effective, relevant and appropriate [2]. Studies showed that nursing education is not usually systematically planned and it is conducted according to the Nurse Educators and Managers [2]. Smith & Topping argued that "little continuous professional development is underpinned by effective needs analysis", and education is delivered according to "ad-hoc basis and based on "wish list" of educators [12,13]. Learning Need Assessment has a fundamental role in nursing education and training and need to learn must "underpin any educational system" [7]. Learning Need Assessment is an effective strategy to identify strengths and weakness in nursing performance as well as for helping nurse educators to make decisions regarding nursing staff professional development [2].

Learning Need Assessment is required to be conducted by National and International Standards. In Kingdom of Saudi Arabia, one of the fundamental Nursing Standards by The Saudi Central Board for Accreditation of Healthcare Institutes (CBAHI) is to assess nurses needs by LNA. Internationally, as most of the Healthcare Facilities nowadays are on their journeys towards Magnet Recognition that is an international certificate of Nursing Excellence awarded by American Nurses Credentialing Center (ANCC), one of the five pillars for Magnet Model is Structural Empowerment which has a force stating that "The learner assessment of the continuing education needs for nurses at all levels and settings and the related education implementation plan" [14]. It was found that hospitals adopting LNA and engaging all nursing staff in the education process, it will increase staff nurse's commitment and support in the education process. Dyson et al, and enhance their motivation and increase satisfaction through shared governance principles [2].

The research question is "What are the potential educational needs by nurses?" and the main aim/ goal of this study is to identify nurses 's (at all levels) deficits in knowledge and skills through conducting a learning need assessment tool and meet their educational needs in order to enable them practicing safe, effective, deemed competent and efficient patient care

Methodology

Design: In order to assess nurses learning needs and plan for a Continuing Nursing Education events, a descriptive quantitative and qualitative design is used in this study. Learning needs are assessed in the study based on a model adapted by the author from Education Needs Assessment Model developed by Robert Mager and Allison Rossett (1997) as shown in Model 1 [15,16]. The model will be used during data analysis to signify the learning needs.

Method: Learning needs could be assessed through several tools. Assessment data is obtained using a variety of methods including peer reviews, performance appraisals, and group discussions or brainstorming exercises at staff meetings, evaluation of educational programs, formal surveys, focus groups, interviews, and questionnaires. The most common tools used in LNA are structured questionnaire and surveys. In this study, a survey is used in order to assess nurses' learning needs because the survey method is cost effective, we could distribute it to a large number of participants, it is anonymous and it is a formal method with a permanent record of stakeholders input.

Sample: the target population in this study is all nurses at different levels that includes
Team Leaders, Charge Nurses, Educators, Nurse Managers, Clinical Nurse Coordinators, Supervisors, Directors and also Students were included. Any nurse under Nursing Administration is eligible in this study regardless of the gender, qualification, experience and positions. The targeted response rate is two third of the total number of the nurses (67%).

Setting: this study was conducted in King Fahad Specialist Hospital, Dammam, Kingdom of Saudi Arabia.

Instrument: the survey was constructed through literatures utilizing multiple database such as Pubmed and CINAHL and then through meetings the expert educators and stakeholders. The survey was constructed as follows:

Covering Sheet: to seek their collaboration and explain the survey content and the scope of the questions and also the benefits of the results.

Demographic Data: their positions, unit/divisions and years of

experience.

LNA Content: questions (indicating their current Knowledge and skills) are structured on 9 domains, they are:

Domain 1: General Skills- core abilities (soft skills or intercultural skills) that are needed for practice.

Domain 2: Direct Comprehensive Patient Care- patient focused activities that include assessments, procedures, interpretation of data and patient counseling within a specific clinical specialty.

Domain 3: Research- practice that challenges the status quo and seeks better patient care through scientific inquiry and incorporating evidence-based practice into direct patient care.

Domain 4: Education- contributions to caregiver, student and public learning related to health and illness.

Domain 5: Publication and Professional Leadership- promotion and disseminations of nursing and health care knowledge beyond the individual practice setting.

Domain 6: Support of Hospital/ Cluster- professional contributions to standards, quality initiatives, and development of policies, procedures and practice guidelines to optimize nursing practice within the institution.

Domain 7: In-Service Education.

Domain 8: Learning Method/ Style.

Domain 9: Unit Specific Learning Needs.

Final Sheet: to thank all nurses for their anticipated collaboration

Likert scale is used for Domains 1-6. The responses could be filled as Developed, Refining/ Enhancing, Highly Developed or Not Applicable. While Domain 7 and 8 has tick box answers and Domain 9 was structured as open-ended questions.

Pilot: The survey was piloted to examine both Face Validity and content validity. Face Validity was tested by asking all experts educators to review the questions to validate the items and relevance and ease of comprehension.

Content Validity: the domains and items were developed by using the evidence based and best practice tools then support them by the expert stakeholders and expert educators. The final survey was refined by the author.

Ethical Consideration: the final Survey was submitted to Nursing Services Administration seeking their comments. A feedback was received with approval by Executive Nursing Director. Furthermore, the study proposal was completely submitted to Hospital Research Committee. Feedback was received with IRB approval letter.

After Study approval, the IT Department was contacted to design the survey and create a hyperlink then it could be sent to all nurses as Survey Monkey. Email from Executive Director of Nursing was sent to all nurses with a hyperlink to access the SurveyMonkey within 2 weeks. Another reminder was sent. Furthermore, the hyperlink was sent to all nurses by their respective Directors and Managers through emails and WhatsApp messages in order to seek the maximum and desired response rate.
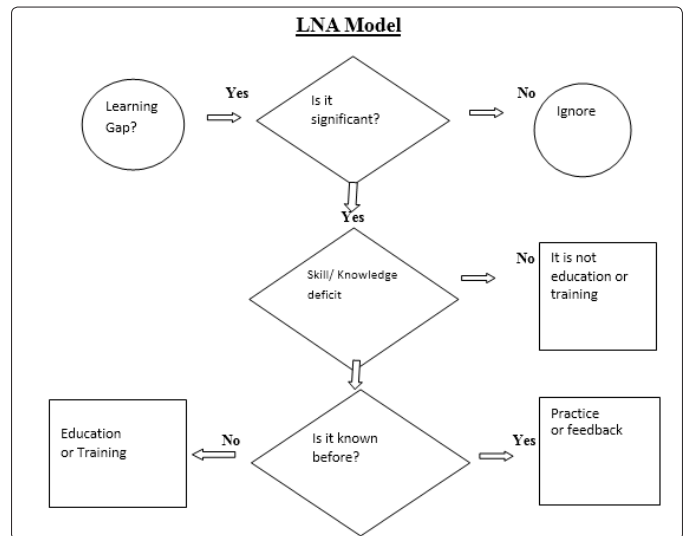
Model 1: LNA Model, Adapted from Robert Mager & Alison Rossett [15,16].

Analysis and Results
Data were collected and analyzed following descriptive analysis frequency statistics using Excel Spreadsheet.

Response Rate: the study targeted a response rate of 67% but the factual response rate was only 34% of the total nurses at all levels from all divisions.

Demographic Data: respondents Positions/titles, Unit/Division and Years of Experience (employment period) are displayed in figure 1
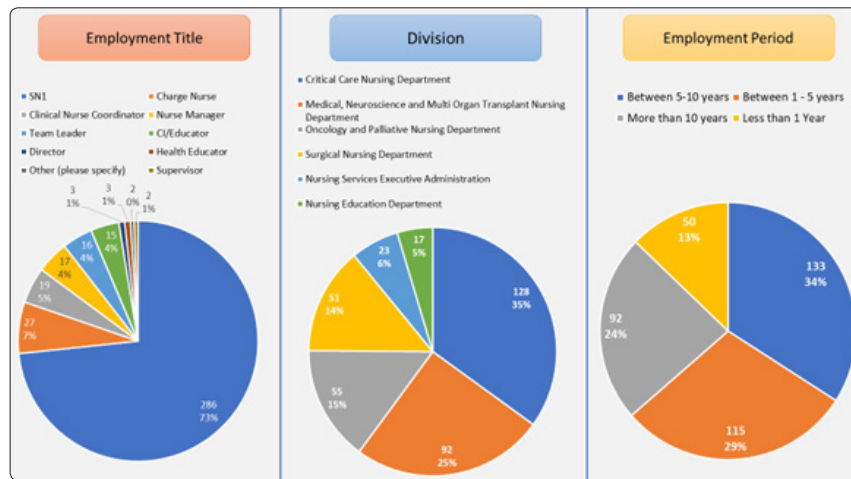
Figure 1: Demographic Data: respondents Positions/titles, Unit/Division and Years of Experience (employment period)

LNA Content: domains 1-8 were analyzed and displayed in figures 2-4 and graph 1
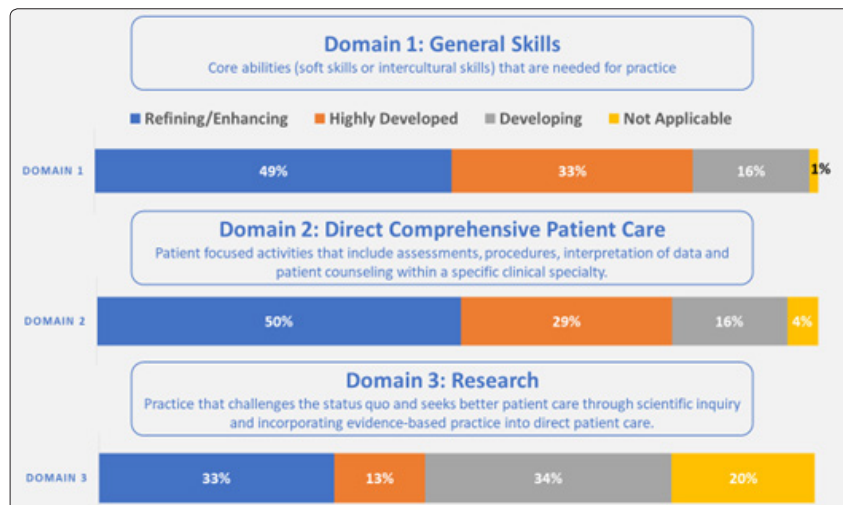

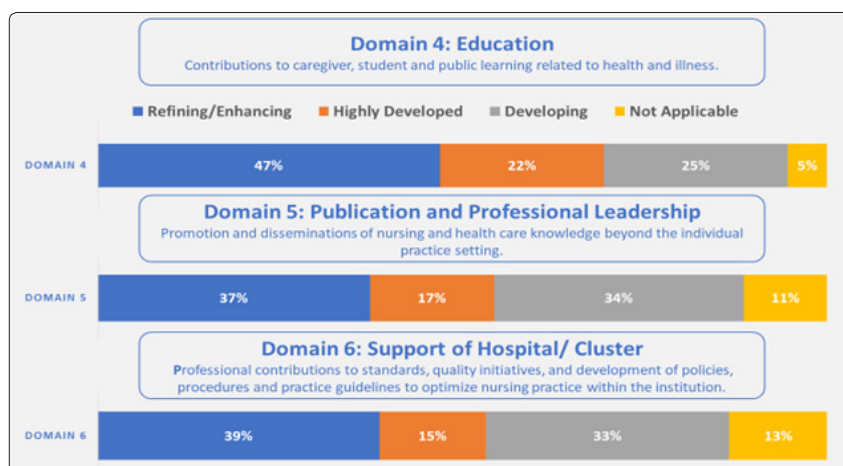**Figure 2:** Domains General Skills, Direct Comprehensive Patient Care and Research

Figure 3: Domains Education, Publication & Professional Leadership and Support of Hospital/ Cluster
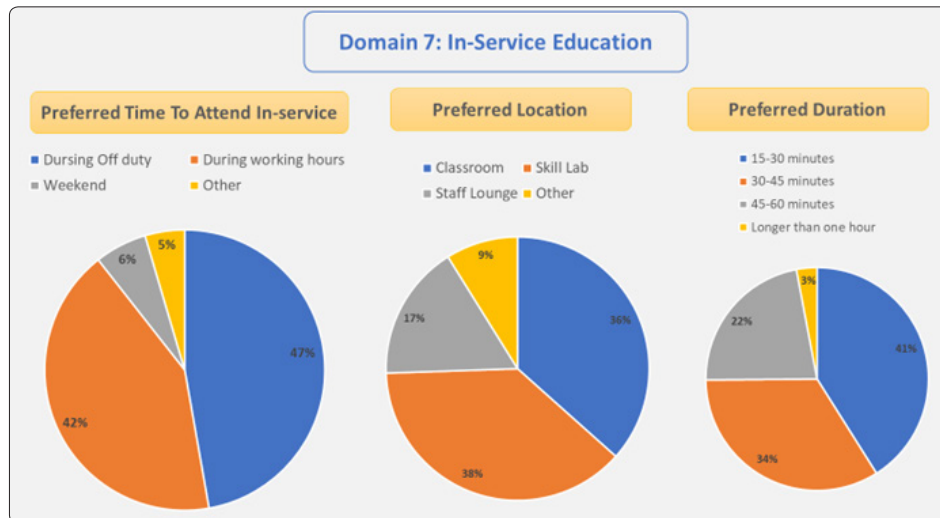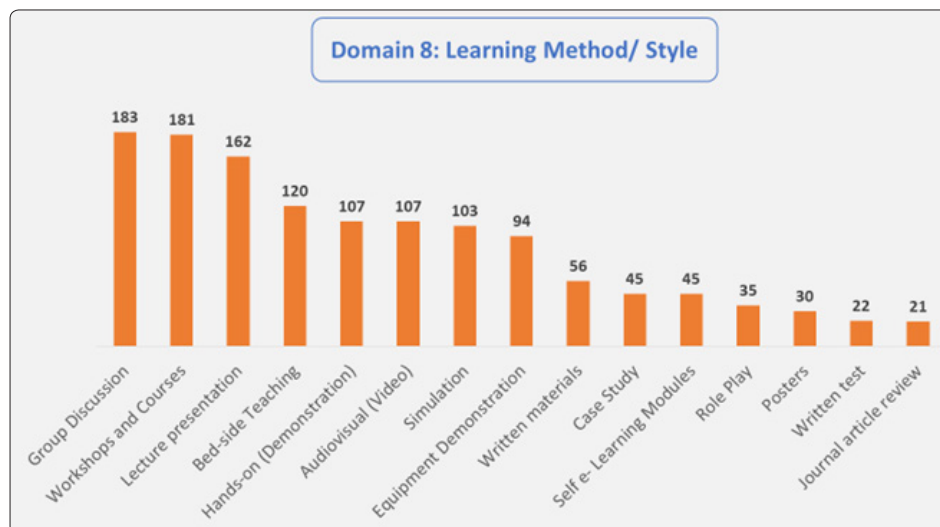
Figure 4: Domain, In-service Education

Graph 1: Domain, Learning Method / Style

Domain 9: Unit Specific Learning Needs, were analyzed qualitatively. The following learning needs were identified by nurses from all divisions as shown on Table 1:

Table 1: Unit Specific Learning Needs

| Learning Needs by Frontline Nurses: Critical Care Nursing	Learning Needs by Frontline Nurses: Surgical Nursing	Learning Needs by Frontline Nurses Oncology & Palliative Care Nursing:
• Plasmapheresis • CVAD • AHA Courses • ATCN and Triage Courses • Mock Codes • Effective Bedside Nursing • IT in Nursing • Stress Management • Use of SPSS • Mutual Respect • Critical Thinking • Cross Training • Porta Cath Insertion • Self Confidence • Quality Nursing Care • TPN Infusion • Preceptorship • Chest Tube • Clinical Procedures • ECG • Burnout • Arabic Language • Oncology Emergencies	• Transformational Leadership • Communication • Arabic Language • English Language • Surgical Instruments • Updates in Policies and Procedures • Conflict Management • Time Management • Stress Management • Innovation in Nursing	• Disease Management • Bone Marrow Transplant • New Chemo/hormonal medications • Treatment Modalities • Research in Nursing • Arabic Language • Discharge Education • Family Support • Lab Interpretation • Teamwork • Patient Psychological Support • CVAD • Multi Organ Transplant Nursing Theories • Hematology • Stem Cell • Pressure Ulcer/ injury
Learning Needs by Frontline Nurses Medical Neuroscience Nursing:	**Learning Needs by Nurse Educators:**	**Nurse Managers/ supervisors and Directors:**
• Time Management • Effective Leadership • AHA Courses • Current Trends and Issues in Nursing • Ethics in Nursing • Communication • Confidence • English Language • Arabic Language • Peritoneal Dialysis • Preceptorship • Use of Computer in nursing • Statistics • Wound Care • Gynecological cases • Research in Nursing	• CCRN for adult & Pediatrics • Nurse Educator Course • Update on Infusion • Transformational Leadership • Journal Club • Emotional Intelligence • Advances in Clinical Procedures • Train of Trainers • Teamwork • Current issues and trends in Nursing • Communication • Ethics in Nursing	• How to Manage getting burned out at the workplace • Nursing Leadership courses • Updates from Hospital Quality • Patient safety Risk Management • Effective bedside nurse • Stress Management & Teamwork • PALS course but optional • Model of Care for the cluster • Formal Lean Six Sigma Training • Proper distribution and implementation of work scope • Simulation training • Quality assurance • Mutual Respect • Training in other places • Patient Experience • Customer care • Train the trainer's principles • How to motivate nurses • Transplant and oncology courses • Magnet standards • Conflict management workshops

Discussion

This study aimed at assessing the learning needs identified by all nurses at different levels. The response rate was a concern. We recommended a response rate 67% and despite the use of several communication methods with participants and sending few reminders to encourage them to participate but unfortunately there were only 410 nurses who completed the SurveyMonkey with response rate almost 34%. The response rate in such surveys will be "inversely proportional to the length and complexity of the instrument", although the survey was piloted to examine both face validity and content validity but still some nurses found it lengthy and not easy [17]. Poor response rate could be

justified by the fact that most of the nurses were always busy and have no free time to fill in the survey at work and they don't have access to the survey web-link after hours. Since Nursing Education at King Fahad Specialist Hospital has a well organized and structured Calendar of Events with more than 20 specialized courses and programs, the decision was made to proceed with the current available response rate and analyze nurses learning needs and consider the available responses then modify the Calendar of Events as needed.

Demographic data results showed that 73% of participants were frontline nurses as they are the majority of the nursing workforce in

any healthcare organization. Responses from other nurses based on their positions were Charge Nurses 7%, Clinical Nurse Coordinator 5% and then Educators, Team Leaders, Nurse Managers 4% respectively and finally directors, health educators and supervisors 1% respectively. The study showed 0% from the option "others" that indicates all several levels of nurses had participated in the survey and this is consistent with Magnet Manual, "The learner assessment of the continuing education needs for nurses at all levels and settings and the related education implementation plan" [14]. By engaging all nursing staff in the education process, staff nurse's commitment and support in the education process will be increased and this will enhance their motivation and increase satisfaction through shared governance principles [2]. Engaging staff in educational process (curriculum development, teaching methodology and evaluation) is a key in the transformative Learning - Model 2- that aims to motivate and empower nurses [18].
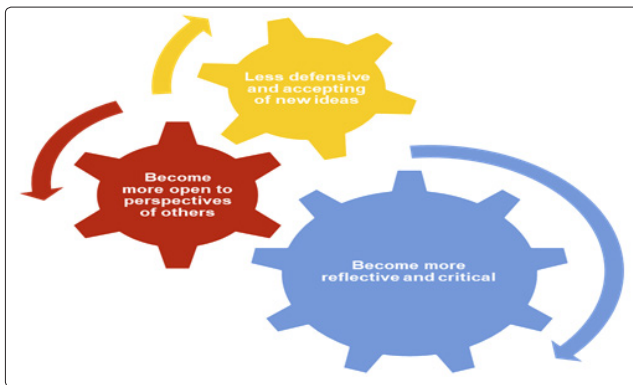
*Model 2: Transformative Learning Theory, Mezirow, 2006

Similarly, all units and divisions had participated in the LNA survey. Critical Care Nursing was the highest (35%) then Medical Neuroscience Nursing (25%). It was found that almost same percentage of nurses working in Oncology and Surgical Nursing had participated in the survey (15% and 14% respectively). Similarly, almost same percentage of nurses who report to Nursing Services Administration (such as Nurse Managers, Supervisors and Directors) and nurses working in Nursing Education Department had participated in the study (6% and 5% respectively).

It is interesting to find from the results that most of the respondents (34%) were employed in the hospital for 5-10 years then those staff who were employed for 1-5 years. Almost one fourth of the respondents were employed since more than 10 years while only 13% of them were newly hired with less than one year of employment.

The main focus of this study is to assess nurses learning needs. The SurveyMonkey has contained nine domains. Results of domains 1-6 showed that nurses at King Fahad Specialist Hospital are highly developed in both domains 1 and 2 (33% and 29% respectively). Domain 1 is related to general skills and core abilities (soft skills or intercultural skills needed for practice) while domain 2 is related to direct comprehensive patient care and patient focused activities that include assessments, procedures, interpretation of data and patient counseling within a specific clinical specialty. The results are supported as King Fahad Specialist hospital is a tertiary facility and providing specialized health care services; thus, nurses must be deemed competent and expert in the general skills and skills related to basic nursing care.

On the other hand, nurses reported domain 3 as a deficit that they need to be developed. Domain 3 is related to research utilization and incorporating evidence-based practice into direct patient care. Literature is rich in studying factors or barriers encounter nurses toward research utilization and this is a learning gap or deficit in many healthcare facilities. King Fahad Specialist Hospital is on its journey toward Magnet Recognition and using Magnet Model in all its standards mainly in pillar related to research that is "New Knowledge, Innovation, & Improvement" [14]. The hospital has established a research unit and a research council that aims to build the capacity of nursing research and establish the culture of research and evidence-based practice by providing research courses, in-services and workshop/ seminars in order to motivate nurses to conduct researches and utilize evidence-based practice. Nurses started to utilize Journal Clubs and initiated more researches.

Domain 7 is related to in-service education. Most of the participants (47%) prefer the time of in service to be conducted during off duty and almost the same percentage (42%) prefer it during working hours (before or after work). It is known that nurses have a problem related to shortage of staff and they are always busy. Asking staff nurses to attend in-service during working hour might be inconvenient to most of the staff as they are engaged in direct patient care. There were few nurses (6%) who prefer the in-service to be conducted during weekend but it will be a challenge for Nursing Management. Most of the healthcare facilities conducting the in-service either before or after the shift to allow the maximum numbers of nurses to attend it.

Furthermore, the results showed that majority of participants prefer the in-service to be conducted in the skills Lab or classrooms (38% and 36% respectively) while some nurses (17%) prefers the in-service to be conducted in the staff launch that is closed to the nurses' station in their units. In-service should be conducted in a convenient space to all nurses and the space must be equipped with educational resources.

It is interesting to find that most of the nurses (41%) prefer the duration of the in-service to be 15-30 minutes while almost same percentage of the staff (34%) prefer the in-service not to exceed 45 minutes. One fifth of the staff (22%) recommended the in-service to be up to one hour and only few nurses had requested the in-service to be longer than one hour. The duration of the in-service should be considered carefully by the educators. There is no standard timing but the shorter the duration of the in-service the more nurses could concentrate and absorb the scientific content and utilize it in the clinical area. The in-service duration depends on the topic that should be focusing on their learning needs and clinical aspects.

In reference to domain 8 that is related to learning style or method, most of the participants prefer group discussion, workshops and courses while using journal as a teaching methodology was not recommended. Nursing Education must move forward from the traditional (classical) teaching that is classroom based to more advanced and modern web-based program [19]. Online education is becoming an integral part of formal nursing education [20]. Nursing Educators and clinical teachers need to "inspire their charges while challenging them to deliver competent culturally aware, and evidence – based care [19]. Furthermore, Gazzar, found that most nurses cited the in-services and bedside training regardless of the methodology are factors influencing their decision to stay or leave the hospital

[21]. This strongly requires nurse educators and clinical teachers to pay attention to the process of delivering the in-service sessions for staff professional development [22]. Nursing Educators must identify the teaching method and engage the staff in deciding what methods suit their needs and their interest by conducting continuous Learning Need Assessment that is a modern tool in adult learning for engaging the frontline staff in the educational process and ensure that the professional development plans are more effective and more efficient [23].

Domain 9 is the only question that was open ended in order to give the participants the freedom in identifying their specific learning needs that suit their specialization and level. Participants had sent their needs narratively according to their area of practice, Narratives by frontline staff working in all clinical areas (Critical Care, Medical & Neuroscience, Surgical & Multiorgan Transplant, and Oncology & Palliative Nursing) were analyzed by their respective Clinical Instructors and then they will follow the LNA Model (Model 1 as shown above). If the learning need is new knowledge or skills, Clinical Instructor will adjust and modify the Calendar of Event accordingly and if the learning need is known before, then the Clinical Instructor will enhance it by providing a feedback or further in-services program. Finally, learning needs (narratives) by Nurse Educators, Nurse Managers, Supervisors and Director; Nursing Services Administration had identified the need for developing a Leadership and Management Course to support the Succession Plan and to enhance the leadership skills for all nurses based on their career pathway.

Recommendations and Implication for Nursing Practice

Learning Need Assessment is not only a tool to assess nurses learning gap in knowledge and practice but it is also a strategy to plan a relevant cost effective ongoing educational programs that will build a well-prepared knowledgeable workforce [2]. Through LNA, nurses will be engaged and this will promote their participation in the learning process, thus, it will increase their satisfaction and productivity [24]. Therefore, it is strongly recommended that all Nursing Education or Professional Development Departments in each healthcare facility conducting the LNA on yearly base despite the fact that it is required by National and International Standards.

Findings of this study showed a major performance gap that was found in Domain 3 and related to research utilization and Evidence Based Practice. It is recommended creating a culture for research in healthcare facilities. Nurses should be provided with all resources that could motivate them to participate in conducting research or utilize evidence-based practice that will improve patient care quality. Another performance gap was found in Domain 9 and related to Leadership and Management Course. There is urgent need to support non-frontline staff in their succession planning according to individualized career pathway. It is therefore recommended that each healthcare facility conducting a Leadership and Management Courses to their nurse leaders.

The study recommended nurse educators looking at the quality of learning when they conduct in-service educational sessions in terms of when to conduct it, which learning style to adopt, where to conduct it and for how long. Nurse Educators must ensure that they are providing our nurses with high standard and quality education that will make their care more effective and efficient.

As healthcare is one of the main focus areas of the ambitious Saudi Vision 2030 and the National Transformation Plan 2020, and due to the fact that Ministry of Health in Saudi Arabia has a plan for privatization and formulating Health Clusters, it is recommended replicating the study for E1 Healthcare Cluster. This will ensure that all E1 Healthcare Cluster facilities are utilizing the LNA and engaging their nurses to set their evident based educational programs.

Limitations

The design in this study was descriptive quantitative and qualitative adapting a model in assessing nurses learning needs. Despite the useful results and the above listed recommendations, the study has some limitations; they are but are not limited to:
- The use of only one method "SurveyMonkey Survey". Validity and reliability are compromised. Validity could be enhanced by using the interview or focus group and/or through triangulation of all (survey, interview and focus group). This will give the author more valid data and increase the validity. Furthermore, reliability could be enhanced by using hardcopies of the survey rather than the electronic Monkey Survey.
- The instrument (tool) was a bit lengthy and extensive. This had also compromised the response rate. Response rate is a concern and major limitation in the study and it could be improved if the tool was simplified and participants had some incentives to motivate them to participate in the study

Conclusion

Continuing Nursing Education is an integral part of all nurses' professional lives in order to enable them delivering a competent, safe and high-quality patient care. Continuing Nursing Education could be assessed through several strategies and tools, Learning Need Assessment is a comprehensive tool to identify current knowledge and skills and then set plan to improve their knowledge and practice.

Learning is more likely to lead change when need assessment has been conducted and reinforcement of learning is implemented; thus, more studies and researches using different designs and instruments are strongly recommended.

Acknowledgment

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