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Community Health Nursing in Saudi Arabia: Practices and Learning Needs

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Purpose: This study investigated the daily practices of community nurses working in Primary Health Care Centers (PHCCs) and their learning needs.

Participants and Methods: This descriptive cross-sectional correlational study was guided by the eight sections of the Canadian Community Health Nursing Standards of Practice 2019 expressing daily clinical activities and learning needs based on a five-point Likert scale. Participants were recruited from three Saudi Arabian cities. Descriptive data were processed regarding mean and Confidence Intervals for items, subscales, and the entire instrument. Comparisons for subgroups' mean scores were assessed using one-way ANOVA followed by a Tukey HSD pairwise comparison.

Results: 318 nurses participated in the study (75.5% response rate). The top practiced nursing activities were health education and supporting those who are unable to take action for themselves. On the other hand, the least practiced were participating in research invitations and research groups. Participants expressed their learning needs in utilizing health education theories and strategies and using Health informatics to support optimum nursing care.

Conclusion: Saudi Arabia has a young community health nursing taskforce that needs to upgrade its knowledge and skills to match international standards. Understanding the real-life activities and learning needs of community health nurses in comparison to international standards will help health policymakers support the optimal contribution of nursing to patients outcomes and healthcare system utilization.

Keywords: community health nursing, Saudi Arabia, learning needs, nursing practice

Introduction

Community nurses provide various crucial roles and activities, including health promotion, maintenance, and prevention. Considering that nurses represent about 50% of the health workforce, understanding community nurses' roles will enhance healthcare team communication and collaboration, resulting in an optimization of patient care and healthcare system outcomes.[1,2] The focus of this paper will be on primary health care nursing in Saudi Arabia as part of community health nursing.

According to Saudi Ministry of Health, primary healthcare centers provide prevention and treatment health care in six domains: urgent care, scheduled care, prevention care, maternity and pediatric care, chronic disease care, and school health. The Ministry of Health (MoH) aims to achieve medical excellence since 2018. MoH initiated two main programs to accelerate primary healthcare service improvements. First, the Nartqy program encourages quality improvement projects within the healthcare centers. Second, the Adaá program, which is a monitoring dashboard to monitor health care center services and facilitate quality improvement decision-making.[3]

From a digital transformation standpoint, MoH initiated several services, including the Mawid service, an electronic healthcare center visit system enabling clients to book or cancel their medical appointments. In addition, Wasfati service allows patients to receive their medication prescriptions on their mobile phones and dispense them from private sector pharmaceutical companies around the Kingdom. More importantly, MoH initiated the electronic medical record system to standardize medical records and facilitate digital transformation.[3]

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According to the General Authority of Statistics, the estimated 2022 population in Saudi Arabia is 32,175.224 citizens served by 2120 PHCCs. The budget appropriations for MoH in relation to the government budget is 11.2%, representing a Gross domestic product per Capita (by American $) of 34,441.[4] From study locations view, 2022 data showed PHCCs visits for Medina, Riyadh, and Jeddah as 3,968,919; 7,966,093; and 3,689,528, respectively. Health resources (per 10,000 population), including PHCCs, physicians, and nurses, are 0.66, 32.7, and 60.9, respectively.[5] However, despite the increase in the physician ratio since 2018, the nurse ratio has dropped slightly due to several factors, including increasing demand in the acute care sector and limitations of national nursing production beelines. Considering the paramount role of nursing in community health, the decrease of nurses working in Saudi PHCCs, and the scarcity of earlier national nursing studies, it is imperative to explore community health nurses' practices and identify their learning needs. The study aims to answer the following questions: What are the daily practices of community nurses working in PHCCs, and what are their superior learning needs? Reviewing the Saudi literature revealed limited studies exploring community health nursing roles, activities, and learning needs.

Materials and Methods

Study Design and Instrument

The study adopted a descriptive cross-sectional correlational design utilizing on-line questionnaires. The study instrument was constructed with guidance from the eight Canadian Community Health Nursing Standards of Practice 2019 sections. Each section/sub-scale was represented by 2–4 items that fit Saudi Arabian community health nursing practices. The item selection process was performed in consultations with two community health nursing professors. A similar Canadian instrument design approach guided the instrument design steps.[6] Each item has two questions (activity performed and learning needs) to be answered with five points Likert-Scale. The first statement is ranked according to the question of how many times you have performed this competency. The multiple answers were (1) never practiced, (2) quarterly, (3) monthly, (4) weekly, and (5) daily. Regardless of their response to the first question, the second question asked the participants what their need for education and training in the specified competency is. The answer options include (1) no since it's not applied in my practice; (2) I am fine, and I do not need education and training; (3) there is minimal need, (4) there is a need, and (5) there is a huge need.

Two community health nursing professors ensured the questionnaire's content validity by assessing its items to confirm they cover community health nurses roles and activities in Saudi Arabian context. Reliability testing through Cronbach's Alpha (α) showed acceptable outcomes. The first part of the instrument (performing the competency) = 0.95, while the second part of the instrument (need for education and training) = 0.97. Cronbach's Alpha for the instrument subscales was Health promotion (0.75–3 items); prevention and health protection (0.98–3 items); health maintenance, restoration, and palliation (0. 89: 4 items); professional relationship (0.94: 3 items); capacity building (0.80: 3 items); health equity (0.85: 3 items); evidence-informed practice (0.75: 2 items); and professional responsibility (0.91: 3 items). Reliability retained 24 items in the instrument where the respondent should answer the two questions for each item. The number of items was lower than earlier studies in community health nursing practice due to differences in community nursing practices in Saudi Arabia.[6,7] Sociodemographic data include workplace city, gender, age, educational level (Diploma-BSN-higher education), and years of experience.

Participants and Settings

An estimated 6041 nurses work in primary health care centers in Madinah, Riyadh, and Jeddah cities. Sample size calculations where Confidence Level (95%) and Margin of Error (5%) showed a sample size of 362 participants. Participants were included in the study if they were working at PHCCs centers of target cities and had one year or more of clinical experience in community health nursing. A convenient sampling approach was adapted due to accessibility, time, and resource constraints.

Data Collection

Invitations, including the questionnaire link and detailed information about the study, were sent to nursing directors in both Madinah health networks, who disseminated the invitations to potential participants in PHCCs A similar approach was applied in Jeddah and Riyadh, where nurse educators and managers were invited to distribute the survey link to the nurses. Data were collected from August to November 2023 utilizing the SurveyMonkey platform. Consent to participate in the study was implied by the completion of the questionnaire, which was a convenient approach for both the participants and the researcher. Since that no identifiable or personal information was collected, asking participants to provide written consent in this case would have posed a risk to their privacy and confidentiality.

Data Analysis

Nursing care practices were considered active if they were applied quarterly at least, while education and training needs were considered necessary if they scored (3) or higher out of (5). Descriptive data were processed regarding mean (M) and Confidence Intervals (CI) for items, subscales, and the entire instrument. Comparisons for subgroup mean scores were assessed using one-way ANOVA followed by a Tukey HSD pairwise comparison for the highest-ranked items in parts (A) and (B) of the instrument.

Ethical Considerations

This study complies with the Declaration of Helsinki and approved by the joint Institutional Review Board (IRB) of the AlMadinah Health Cluster and the General Directorate of Health Affairs in AlMadinah under approval number 23–064. The research adhered to strict ethical guidelines to ensure participant privacy and confidentiality. No personal or identifiable information was collected during the study, and all data were processed and analyzed anonymously.

Results

Four hundred nurses were invited, 318 (75.5 response rate) participated in this study from three Saudi cities that are Medinah, Jeddah, and Riyadh where participants from these cities were 207 (65%);62 (20%);49 (15%), respectively. Females were dominant at 64% (202) in the study sample compared to males at 36% (116). The study sample showed a young task force age (M=35). From an educational perspective, those who have nursing diplomas represent 67% (212), followed by Bachelor of Nursing 24% (78), and Master degree 9% (28).

Table 1 presents a comparison of mean scores and standard deviations for various nursing competencies, divided into two categories: "Activity performed" and "Learning need". The results showed that competencies cover areas such as Health Promotion, Prevention and Health Protection, Health Maintenance Restoration and Palliation, Professional Relationships, Capacity Building, Health Equity, Evidence-Informed Practice, and Professional Responsibility and

Table 1 Identified Community Nursing Practices and Learning Needs

	Items	Activity performed Mean (S.D.)	Learning need Mean (S.D.)
	Health Promotion		
1	I utilize health education theories and strategies.	3.39 (1.46)	3.23 (1.24)
2	I participate in identifying the health needs of the community	2.65 (1.43)	3.15 (1.29)
3	I provide health education	3.86 (1.43)	3.18 (1.31)
	Prevention and Health Protection		
4	I apply harm reduction strategies to reduce risk in the community, including districts and schools	3.30 (1.51)	3.09 (1.26)
5	I participate in applying different levels of health prevention interventions in the community	3.45 (1.47)	3.18 (1.22)

(*Continued*)

Table 1 (Continued).

	Items	Activity performed Mean (S.D.)	Learning need Mean (S.D.)
6	I utilize epidemiological strategies such as screening, surveillance, and infectious disease management.	3.26 (1.56)	3.15 (1.21)
	Health Maintenance, Restoration and Palliation		
7	I regularly evaluate individual/family/ community outcomes in partnership with healthcare team members.	3.12 (1.53)	3.18 (1.26)
8	I utilize epidemiological trends to initiate improvement strategies.	2.69 (1.52)	3.00 (1.36)
9	I facilitate health maintenance in response to significant emergencies that negatively impact clients' health.	3.08 (1.53)	3.08 (1.27)
10	I developed a mutually agreed healthcare plan with the individual/family.	3.23 (1.57)	3.08 (1.29)
	Professional Relationships		
11	I use culturally relevant communication in building effective community relationships	3.36 (1.53)	3.04 (1.25)
12	I understand how my personal beliefs and assumptions may affect the provided healthcare interventions	2.88 (1.60)	3.02 (1.33)
13	I understand community health beliefs and practices and how they affect provided health interventions	3.22 (1.56)	3.03 (1.26)
	Capacity Building		
14	I use several strategies, such as networking and partnership, to address community health issues	2.85 (1.57)	3.14 (1.27)
15	I use principles of social justice to support those who are unable to take action for themselves	3.66 (1.55)	2.93 (1.25)
16	I facilitate community participation in the identification process of health concerns	2.98 (1.52)	3.02 (1.19)
	Health Equity		
17	I advocate for optimum community health by participating health health-determinant improvement initiatives	3.08 (1.41)	3.10 (1.15)
18	I accept individual/ family choices to access alternative healthcare interventions	3.34 (1.50)	2.92 (1.23)
19	I advocate for resource allocation that facilitates access to healthcare	3.15 (1.52)	3.00 (1.28)
	Evidence-Informed Practice		
20	I participate in research groups	2.62 (1.56)	2.89 (1.29)
21	I utilize available professional websites/resources to assess community health nursing interventions.	2.75 (1.43)	3.01 (1.25)
	Professional Responsibility and Accountability		
22	I participate in nursing students/new nurses' orientation and training	3.07 (1.46)	2.95 (1.26)
23	I respond to the research invitation as a participant	2.60 (1.48)	3.08 (1.34)
24	I use Health informatics (M.O.H. Information Technology system) to support optimum nursing care	3.50 (1.51)	3.18 (1.28)

Accountability. Each competency item shows mean scores and standard deviations for both categories, highlighting areas where there is a notable difference in perceived proficiency versus learning needs among nursing professionals.

The results revealed that the most practiced nursing activities were health education (M=3.86; SD=1.433), supporting those who are unable to take action for themselves (M=3.66; S=1.554); using health informatics to support optimum

Table 2 Differences Among Study Locations

City Items	Med n=207	Jed n=62	Riya n=49	Total n=318
Health Promotion F(2315)= 5.95, p= 0.003, n2=0.036	3.32 (1.08)	3.56 (1.02)	2.85 (1.25)	3.29 (1.12)
Prevention and Health Protection F(2315)= 8.87, p= 0.000, n2=0.053	3.31 (1.21)	3.81 (1.30)	2.80 (1.41)	3.33 (1.29)
Health Maintenance and Restoration F(2315)= 7.599, p= 0.001, n2=0.046	2.97 (1.25)	3.52 (1.25)	2.61 (1.35)	3.02 (1.29)
Professional Relationships F(2315)= 11.994, p= 0.000, n2=0.070	3.08 (1.27)	3.80 (1.22)	2.64 (1.42)	3.15 (1.33)
Capacity Building F(2315)= 6.661, p= 0.001, n2=0.040	3.19 (1.19)	3.48 (1.15)	2.64 (1.36)	3.16 (1.23)
Health Equity F(2315)= 7.086, p= 0.001, n2=0.043	3.19 (1.21)	3.58 (1.12)	2.68 (1.51)	3.19 (1.27)
Evidence-Informed Practice F(2315)= 2.422, p= 0.090, n2=0.015	2.71 (1.30)	2.38 (1.08)	2.90 (1.49)	2.68 (1.30)
Professional Responsibility F(2315)= 2.931, p= 0.055, n2=0.001	2.95 (1.17)	3.37 (0.962)	3.06 (1.41)	3.05 (1.18)

nursing care (M+3.50; SD=1.519); and applying different levels of health preventions interventions (M=3.45; SD=1.478). On the other hand, the least practiced nursing activities were a participating in research invitations (M=2.60; SD=1.480), participating in research groups (M=2.62; SD=1.56), identifying the health needs of the community (M=2.65; SD=1.439); utilize epidemiological trends to initiate improvement strategies (M=2.69; SD=1.526); and utilize professional websites/resources to assess community health nursing interventions (M=2.75; SD=1.435).

Participants expressed their learning needs in utilizing health education theories and strategies (M=3.23; SD=1.24), using Health informatics to support optimum nursing care (M=3.18; SD=1.28), evaluating individual/family/ community outcomes in partnership with healthcare team members (M=3.18; SD= 1.26), and applying different levels of health prevention interventions in the community (M=3.18; SD=1.22).

Table 2 presents the result of the ANOVA analysis showing differences among study locations (cities) in relation to the study sub-scales. The ANOVA was statistically significant in several sub-scale except for evidence-Informed practice F(2315)= 2.422, p= 0.090, n2=0.015 while the professional responsibility sub-scale showed very closed to significant results F(2315)= 2.931, p= 0.055, n2=0.001. Post hoc analysis with Tukey's showed medium (η2= 0.036) to large-medium (η2= 0.070) effect size.

Discussion

This study provides a snapshot of community nursing practices in Saudi Arabia. Sociodemographic data showed a younger nursing task force in PHCCs with a mean age of 35 compared to the United States (46) and Australia (42.5).[8,9] On the other hand, the study showed a high percentage of diploma nurses (67%) compared to registered nurses. International studies showed that nurses with diplomas were fewer compared with registered nurses.[6] Therefore, it is imperative to reactivate governmental initiatives to support nurses with diplomas to pursue their studies to the bachelor's level, which, in turn, will support Saudi governmental vision 2030 in developing the healthcare workforce. According to Al Khashan et al, human resources issues are among the challenges facing PHCCs development.[10]

The results confirm nurses' contributions to attain Saudi Vision 2030 by supporting the health sector transformation program.[11] The study shows that the most practiced nursing activities were health education, supporting those who are unable to take action for themselves, using health informatics to support optimum nursing care, and applying different

levels of health prevention interventions. The findings are consistent with a similar study in China, where health education and disease prevention were the most practiced activities by community nurses.[12] The use of health informatics among the study participants may reflect the steady progress in Saudi health informatics transformation. Such digital transformation practices further engaged patients and improved care delivery.[13]

On the other hand, the study results showed that participation in research, either as a participant or a research team member, was the least practiced nursing activity. The same outcomes were evident in Ma et al's study in China.[12] Despite scientific rationales for community health nurses' participation in research, factors such as high work demand and inadequate nursing staff numbers, as well as nurses' educational level in the current study, could play a vital role in nurses' inability to engage in research.[12–14] The researcher would support this hypothesis by stating that participants' low utilization of professional websites/resources to assess community health nursing interventions could result from their inability to connect with international community health nursing organizations due to their lack of educational capabilities. Furthermore, the study participants expressed their learning needs to utilize health education theories and strategies and use health informatics to support optimum nursing care. These expressed learning needs brought additional evidence about diploma-level preparation's negative impacts on community nurses' ability to broaden their roles and maximize their contributions.

Interestingly, participants needed educational support to undertake community assessments in partnership with healthcare team members and apply different levels of health prevention interventions in the community. Community health assessment is a cornerstone of community nurse roles, as is the connection between nursing care, community partnership, and health determinants identifications.[15,16] The absence of such a crucial role is a major limitation in Saudi PHCCs services that the MoH administration must address.

Despite interesting study outcomes, the study has limitations that may limit its generalization. First, the study's cross-sectional design prevents causality as well as longitudinal enhancement among community nurses in Saudi Arabia. Second, not reach the target study sample, which was beyond the researcher's control due to time and financial constraints. The study was the first study exploring community nurses' practices in Saudi Arabia using detailed instruments against international standards. This study's descriptive data could inform future studies within the community health nursing field. Identifying practices and learning needs may facilitate nursing development and educational interventions to maximize nurses' contribution toward improving national health outcomes and Saudi Vision 2030 attainment. The developed instrument may facilitate future studies and sheds light on Saudi community nursing roles and clinical activities.

Conclusion

This descriptive study revealed that a young community nursing force needs to upgrade its nursing qualifications to match international standards. Exploring their nursing practices revealed that health education supporting those who are unable to take action for themselves, using health informatics to support optimum nursing care, and applying different levels of health prevention interventions were most practiced. However, participation in research was not usual practice. The study findings may inform decision-makers and nursing administrations in Saudi Arabia to foster nursing development. International nursing readers may be privileged to understand community nursing practices and learning needs in the context of Saudi Arabia.

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Disclosure

The author reports no conflicts of interest in this work.

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