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KNOWLEDGE AND PERCEPTION OF NURSES REGARDING TELENURSING: A CROSS-SECTION IN PESHAWAR KHYBER PAKHTUNKHWA

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ABSTRACT

Background: Telenursing is considered a time-saving and effective source of care delivered to patients that cannot approach the health care facilities. Telenursing needs clinical expertise with good knowledge and who works independently for sick people. The aim of the study was to assess the telenursing perception and knowledge among Nurses in Peshawar, Khyber Pakhtunkhwa. **Methodology:** An analytical cross-sectional study was carried out in district Peshawar Khyber Pakhtunkhwa. Participants were employed from Lady Reading Hospital, Khyber Teaching Hospital and Hayatabad Medical Complex Peshawar. Data was collected from overall 180 participants using a validated questionnaire. **Results:** The mean age of the participants was 28.86 years. 86.1% of the participants were female and 77.8% of the participants were diploma holders. Overall, 66% of the participants were having “Moderate knowledge”, 26% of the participants were reported good while only 8% of the participants were reported Poor knowledge. Similarly, 85% of the participants were reported positive perceptions while 15% were reported negative perceptions towards telenursing. There was a significant association ($p= 0.015$) between the level of knowledge and the perception of nurses towards telenursing. **Conclusion:** Telenursing services is an effective and time-saving modern technology that plays a dynamic role in patient care and allows them to access nursing services at home. Nurses had positive perceptions and moderate level of knowledge regarding telenursing.

Keywords: Telenursing, Telehealth, Knowledge, Perception, Nurses.

INTRODUCTION

Information technology and communication play a vital role in transforming the world in every perspective, among health and health care delivery systems are also prioritizing globally (1). Health for all” has significantly enhanced public health with the increased population. Telemedicine is a notable part of the health care delivery system in which distance is a critical element that came from the Greek (2).

Globally, the health care system has been changed in the last decade, and telemedicine and telenursing are playing an important role in the health care sector. To live in the current digital era and to deal with

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advanced technologies, nursing is also expanded like telenursing in the western country. Still, telenursing faces multiple challenges in the health care setup (3). The development of telenursing is to aware the patients, families, and health care professionals about communication skills and the ability to an interpersonal relationship with the client through distance (4).

Telenursing is considered a time-saving and effective source of care delivered to patients that cannot approach the health care facilities. Telenursing needs clinical expertise with good knowledge and who works independently for sick people. Approximately 5.5 million calls are received yearly which has highly affected the outcome of patients (5). The American nurses association has also explained telenursing as a subset of telehealth in which the focus is on the specific profession's practice and about 40% of health care services in America are based on telehealth (6).

In the United States, home nursing care is replaced by telenursing due to the huge shortage of nurses.

To provide standard and effective telenursing care to the patients, enough knowledge of nurses regarding telenursing is very important. In Egypt, about 53.9% of the nurses have moderate knowledge regarding telenursing while 75.8% appreciate the inclusion of telenursing in the curriculum as well (7).

In telenursing, nurses provide a constant attachment with patient care after discharge which guides and educate them regarding information about patient care at home (8). In this regard, a study conducted in Canada shows about 48% of nurses get knowledge and solve their health problems, and 38% save their traveling expenses (9). Telenursing is a transmission association and a relationship of using technology through wire, radio, and transfer the voice data and video to overcome space charges between human and computer (10).

In Pakistan literature on E-Health shows multiple challenges regarding the delivery of patient care. In the current study, the perception of nurses regarding the importance of telenursing has been highlighted. The study may have a variety of implications in the modern era of the health care sector where health care is in a dynamic position and shifting to E-health.

Methodology

A cross-sectional study was carried out in government tertiary care hospitals of Peshawar. Data was collected in Lady Reading Hospital, Khyber Teaching Hospital and Hayatabad Medical Complex Peshawar. Overall, 180 nurses were included in the study. Data was collected using a questionnaire. The questionnaire was consisting of 22 questions regarding the perception and knowledge regarding telenursing. The questionnaire was validated by six experts and reliability was checked on 10% population. The content validity comes to be 0.88 and the Cronbach alpha coefficient was 0.776.

Data collection permission was granted from the hospital's administrations. Consents were also granted from all the study participants before the collection of the data. Data were analyzed using SPSS version 24.

Results

Overall, 180 nurses were included in the study from three different hospitals. 60 nurses from each hospital were selected randomly. The mean age of the participants was 28.86 years with a standard deviation of 7.085. The minimum age of the participant was 22 and the maximum was 50 years. The majority (86.1%) of the participants were female. More than half (52.2%) participants were unmarried while 47.8% were married. The majority (77.8%) of the participants were diploma holders while 22.2% were educated to graduate level in nursing (BScN, Post RN). The majority (41.7%) of the participants were having experience between 2 to 5 years, 29.4% of nurses were having to experience less than 2 years, 25% of nurses experienced between 5 to 10 years, and 3.9% of nurses were having to experience more than 10 years (Table 1).

Table 1: Socio-Demographic Profile of the nurses, n=180.

	Frequency	Percent	Valid Percent	Cumulative Percent
Gender of the Participants				

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Male	25	13.9	13.9	13.9
Female	155	86.1	86.1	100.0
Total	180	100.0	100.0	
Marital status of the Participants				
Married	86	47.8	47.8	47.8
Unmarried	94	52.2	52.2	100.0
Total	180	100.0	100.0	
Education Status of the participants				
Diploma Nursing	140	77.8	77.8	77.8
BScN/ Post RN	40	22.2	22.2	100.0
Total	180	100.0	100.0	
Working experience of the participants				
Less than 2 Years	53	29.4	29.4	29.4
2 - 5 Years	75	41.7	41.7	71.1
5 - 10 Years	45	25.0	25.0	96.1
More than 10 Years	7	3.9	3.9	100.0
Total	180	100.0	100.0	

The participant's access to the computer and internet were identified. The majority (78.7%) of the participants reported that they have access to a computer. Similarly, 71.6% reported that they have access to the internet. The majority (91.6%) of the nurses highlighted the need for telenursing in the health care system. 95% of participants were reported that telenursing in undergraduate studies would be useful for future healthcare workers. 79.44% of participants like to use telenursing as an additional form of patient care in their future work. 93.8% of participants think that telenursing can improve the efficiency of the Nursing staff and 95% of participants reported that telenursing can facilitate the contact of medical staff with patients (Table 2).

Table 2: Perception of nurses towards telenursing, n=180.

SNO	Items	f	%
1.	Need of telenursing in health care system	165	91.6
2.	Do you think that telenursing in undergraduate studies would be useful for future healthcare workers?	171	95%
3.	Would you like to use telenursing as an additional form of patient care in your future work?	143	79.44
4.	Do you think telenursing can improve the efficiency of the Nursing staff	169	93.8
5.	Do you think Telenursing can facilitate the contact of medical staff with patients	171	95%

The participant's perception of telenursing was explored. The majority (85%) of the participants were holding a positive perception regarding telenursing while 15% were having a negative perception towards telenursing (Figure 1).

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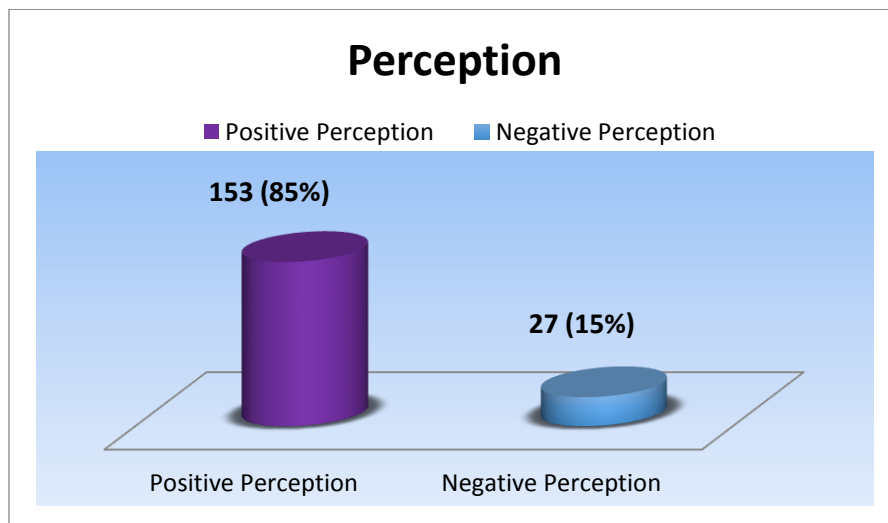


Figure 1: Bar-Chart depicting perception of nurses towards telenursing

Overall, knowledge of nurses was categorized as “Good”, “Moderate” and “Poor”. The majority (66%) of the participants was reported “Moderate knowledge” regarding telenursing, 26% reported “Good knowledge” and only 8% reported, “Poor Knowledge” regarding telenursing (Figure 2).

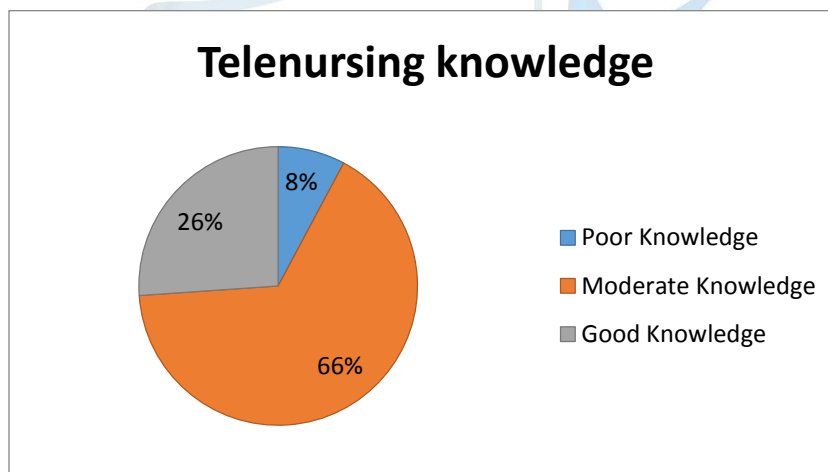


Figure 2: Pie-Chart Depicting perception of nurses towards telenursing.

Chi-Square test was applied on socio-demographic profile of participants and knowledge and perception level towards telenursing. No significant association was identified. In addition, an association between level of knowledge and perception towards telenursing was assessed using the Chi-Square test.

There was a significant association ($p= 0.015$) between the level of knowledge and the perception of nurses towards telenursing. Participants who have a high level of knowledge regarding telenursing have a good perception of telenursing (Table 3).

Table 3: Association between knowledge and perception of nurses towards telenursing, n=180.

	Chi-Square Tests		
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	10.422 ^a	3	.015
Likelihood Ratio	10.254	3	.017
N of Valid Cases	180		

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a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 14.11.

Discussion

The health care system has been changed over the last few decades. Evidence-based practices and new inventions in the medical and nursing care system changed the health care sector. There are frequent changes that occur in the health care system which brings variations in nursing practices. Most of the participants responded that they were aware of their need and duties of acquiring knowledge and skills, majority of the participant (66%) reported that they have quite a bit knowledge regarding telenursing while the (26%) respond that they have very much knowledge and only (8%) of the participant have reported that they have little knowledge regards telenursing services.

Similarly, a study conducted in Egypt showed student's perception towards telenursing, more than three-quarters of the nurses point out that the telenursing services for future health care workers are a vital and additional form of patient care in future work.(7) This finding was interpreted in Egypt to develop their health care delivery system to improve the level of the health care system and provide optimum care to their citizens and the development was reflected in student's awareness and interest for this achievement seen in the country recently.(11)

In the current study majority (85%) of the nurses showed positive perception towards telenursing. Supported the current findings, a study in Florida revealed similar findings and showed positive perceptions towards telenursing.(12) In this study, 78.7% of the participants reported that they have access to a computer.(13)

Similarly, 71.6% reported that they have access to the internet. In the same context, a study revealed that telenursing resources like a landline phone, tele-reports, audio-video conferencing system, and internet are vital for e-health and telenursing and 67% of nurses reported that these facilities are available.(3)

In the current study, 91.6% of participants highlighted the need for telenursing in the health care system. While the previous studies show that less than three of the third participants have agreed that telenursing is important in e-health.(14) In the present study, 95% each reported that telenursing in undergraduate studies would be useful for future healthcare workers and telenursing can facilitate the contact of medical staff with patients. In a similar context, the findings of previous studies revealed that more than three-quarters of nurses stated that telenursing in undergraduate would be beneficial for future healthcare workers. 75.8% of the participants were reported that telenursing can facilitate the contact of medical staff with patients.(12,15)

Significant association ($p= 0.015$) between the level of knowledge and perception of nurses towards telenursing was identified in the current study. Participants who have a high level of knowledge regarding telenursing have a good perception of telenursing. These findings were supported by a study and revealed a strong association ($p=0.03$) among knowledge and perception of nurses towards telenursing. The Association of knowledge and perception with the education and perception of the nurses was also significant ($p=0.02$). (16)

Conclusion

Telenursing services is a profitable and time-saving modern technology that plays a dynamic role in patient care and allows them to access nursing services at home. Nurses had positive perceptions and Moderate knowledge regarding telenursing. Furthermore, it is recommended that the nursing community should implement the concept of telenursing services at the undergraduate level to increase their knowledge and skills to provide optimum care to the patient.

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