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Relationship Of Oncology Nurses' Knowledge And Self-Efficacy With The Quality Of Life (Qol) Of Cancer Patients In Punjab, Pakistan: An Empirical Investigation

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Abstract

It is hypothesized that oncology nurses' knowledge and self-efficacy play an instrumental role in improving the Quality of Life (QoL) of cancer patients. Thus, this study was conducted to investigate the strength of the relationship of oncology nurses' knowledge and self-efficacy with the quality of life of cancer patients. The cross-sectional analytical research design was used. The nurses working in oncology centers & cancer patients of stage III and stage IV were considered as the study population. The non-probability purposive sampling was used. The sample of 150 oncology nurses and 150 cancer patients was selected from the five hospitals in Punjab, Pakistan. The analysis yi[1]elded that the mean knowledge score among oncology nurses regarding palliative care was 8.78 ± 2.31. The nurses also had a mean self-efficacy score of 33.6 ± 7.85. Notably, 72.0% of cancer patients (n=108) experienced poor quality of life, while 28.0% (n=42) reported an average quality of life. Statistical analysis revealed significant relationships between nurses' knowledge and self-efficacy in palliative care (p=0.044) and between nurses' knowledge and the quality of life of cancer patients (p=0.013) Conclusion: Palliative care-experienced nurses with adequate knowledge and high self-efficacy yields improved outcomes and enhance the quality of life for advanced cancer patients, emphasizing the value of healthcare organizations prioritizing nurse expertise.

INTRODUCTION:

Non-communicable diseases (NCDs) now account for most worldwide deaths. Cancer is anticipated to rank as the top cause of death and the single biggest obstacle to raising life expectancy in every country in the world in the 21st century. Palliative care is the greatest way to treat patients who have advanced tumors or metastatic cancers and are not responding to any specific treatments. This allows the patient's family to accept the disease's progression and the patient to live and die with dignity [1]. The terminally sick patients' physical, psychological, emotional, and spiritual needs are all covered by this type of care provided by doctors, nurses, support staff, paramedics, pharmacists, physiotherapists, and volunteers who assist patients and their families [2]. Given the rising burden of non-communicable illnesses and the aging of the global population, palliative care is needed globally and will continue to be demanded. Hence,

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palliative education for nurses should address the knowledge of EOL care and concentrate on boosting palliative care self-efficacy [3].

Compared to the developed countries, the field of palliative care is not acknowledged in Pakistani medical curricula. It is unknown how much the registered nurses working in non-specialist palliative care settings understand about this field [4]. Lack of knowledge and insufficient expertise in delivering end-of-life care may be blamed for the nurses' often inadequate and unsatisfactory readiness to provide palliative care [5]. A strong belief in one's ability to execute a function in relation to their aim can be implied by citing self-efficacy as a motivating factor that drives nurses in clinical practice and can effect changes [6]. Self-efficacy is an indicator of how well a person believes they can perform in particular situations, not of their abilities.

A steadily growing number of long-term cancer survivors has been made possible by early detection, treatment methods, and life expectancy. A multifaceted concept, health-related quality of life (HRQoL) refers to the patients' perceptions in the areas of their physical, social, mental, and functional well-being. For cancer patients, a worse health-related quality of life (HRQoL) is linked to a worse prognosis. The care of cancer patients must consider maintaining health-related quality of life (HRQoL) [7]. Given that they spend the most time with patients, nurses are essential members of the palliative care team in providing high levels of care. However, one of the main obstacles to the development and implementation of palliative care is thought to be a lack of appropriate understanding of the field [8].

Pakistan is the world's fifth most populous nation, and its cancer statistics are comparable to those of the industrialized world. According to the 2018 GLOBOCAN study, Pakistan has 173 thousand new cases of cancer, 118 thousand annual fatalities from the disease, and more than 310 thousand cases over a five-year period [9]. About 40 million people need palliative care, and nurses in the role of care provider are expected to provide quality care to their patients which is nearly impossible without accurate knowledge of the disease process, sign symptoms, prognosis and treatment, and high self-efficacy in the care provided [10].

Nurses' Knowledge and Self-Efficacy in Providing Palliative Care

A study conducted in Iran portrayed that physical activity is a nonmedical and unaggressive treatment with positive impacts on breast cancer patients paying attention to their emotional state, strengthening self-efficacy in patients, and developing desired health behavior with social support and other skills [11]. In Pakistan, a handful of studies are found on the topic under study. A study conducted in Lahore by Bibi F et al. on oncology nurses' knowledge, attitude and practices towards palliative care revealed that nurses did not possess ample knowledge and they were also deficient in standardized practice guidelines [12]. Another study in Pakistan conducted by M Khalid on Optimism, Spousal Support and Quality of Life in Women with Breast Cancer concluded that optimism, negative dyadic coping and quality of life have a significant relationship [13].

Association of Nurses' Knowledge and Self-Efficacy with Quality of Life of Cancer Patients

Researchers from Brazil revealed that advanced practice nurses have the essential characteristics to design, implement, and evaluate intervention protocols aimed at the management of "symptom clusters" in cancer patients [14]. Similarly, a study conducted in China revealed that Patients with lung cancer undergoing radiotherapy and chemotherapy may have improvements in treatment compliance, quality of life, and self-efficacy because of evidence-based nursing interventions [15].

Nurses having adequate knowledge and self-efficacy regarding palliative care principles and interventions can effectively provide support and comfort to patients during their advanced stages of cancer. Ultimately, this leads to enhanced overall quality of life for individuals suffering from stage III and stage IV cancer. This study was employed to determine the association between nurses' knowledge and self-efficacy in providing palliative care, and Quality of Life of cancer patients.

Research Objective

To investigate the strength of relationship of oncology nurses' knowledge and self-efficacy with the quality of life of cancer patients.

MATERIALS AND METHODS

The Cross-sectional analytical research design was used. This study was conducted in the Institute of Nursing, University of Health Sciences Lahore in collaboration with INMOL Hospital Lahore, Jinnah Hospital Lahore, Nishtar Hospital Multan, Allied Hospital Faisalabad and Ganga Ram Hospital Lahore. Nurses working in the above-mentioned hospitals and Patients in oncology units of mentioned hospitals were considered as the study population.

Sample Size

The sample size was computed by the following formula, keeping the confidence interval equal to 95% and the margin of error equal to 8%.

$$n = \frac{Z^2_{1-\alpha/2}\, P\,(1-P)}{d^2}$$

$Z^2_{1-\alpha/2}$ = for 95% confidence level = 1.96

P =Assumed proportion of quality of life 40% (Nayak et al., 2017) [16]
d = Margin of error = 8%

n = Sample Size = 150

The Non-probability purposive sampling technique was used to select the sample.

Inclusion Criteria

- Nurses working in the oncology unit have at least 1-year experience.
- Both genders (male and female)
- Stage III& IV patients of cancer (Alert & able to verbalize)

Exclusion Criteria

- Nurses who were not working in the oncology unit
- Patients with psychological disorder

Data Collection Tool

An adopted questionnaire was used for data collection. The questionnaire consists of 4-parts:

1. Demographic Characteristics of nurses and cancer patients
2. Palliative Care Quiz for Nursing (PCQN) for the assessment of knowledge (20 items) At the time of development, the internal consistency of the PCQN was 0.78, as measured using the Kuder-Richardson Formula 20 (KR-20). After pilot testing reliability of tool was 0.70. The measurement of knowledge was categorized as under:

- Adequate knowledge Category 1 ≥50 %
- Inadequate knowledge Category 2<50%

3. Self-Efficacy Score (12 items)

Participants were asked to rate their perceived capacity to successfully perform each task using a 4-point Likert scale. Possible scores range from 12 to 48. Reliability of the tool was 0.77. The measurement of self-efficacy was categorized as under:

- Low efficacy Assumed Category 1 <50%
- High efficacy Assumed category 2 ≥50%

4. Quality of Life

Since QOL tool was a standardized tool, and the reliability was obtained by administering to fifteen samples. The reliability was established using Cronbach's alpha coefficient formula. The reliability coefficient of the tool was r = 0.83

Data Collection:
Before data collection, ethical and administrative permission were taken from the concerned hospitals. The nurses were selected according to the inclusion and exclusion criteria by using non-probability purposive sampling technique. The purpose of the study was explained to the participants and the participants were asked to sign a consent form. The questionnaires was distributed to the participants. Researcher remains with the participants during data collection.

Data Analysis
Data analysis was done through a statistical package for social sciences (SPSS) version 25. Mean ± SD was given for numeric data i.e., knowledge, self-efficacy, and psychological well-being scores. Frequency and percentage were given for categorical variables i.e., gender, age group, education, experience, and responses to knowledge, self-efficacy, and psychological well-being questions. The Chi-square test was used to determine the association of knowledge and self-efficacy with the quality of life of patients. A p-value ≤ 0.05 will be significant.

RESULTS

Table 1. Demographic Characteristics of the Nurses

Demographic Characteristics		**Frequency**	**Percent**
Gender	Male	4	2.7%
	Female	146	97.3%
Age Group	25-30	17	11.3%
	31-35	57	38.0%
	36-40	40	26.7%
	41-45	36	24.0%
Education	Diploma	114	76.0%
	Post RN	34	22.7%
	Generic	2	1.3%
Working Experience	1-2 years	4	2.7
	2-3 years	9	6.0
	3-5 years	24	16.0
	> 5 years	113	75.3

	1-2 years	4	2.7

In this study, 150 registered nurses working in an oncology unit having at least 1 year of experience in the tertiary care hospital were selected. Among 150 study participants, 146 (97.3%) were female and 4 (2.7%) were male. The majority of the nurses 57 (38.0%) were related to the age group 31-35 years. 40 (26.7%) nurses were related to the age group 36-40 years, 36 (24.0%) nurses were related to the age group 41-45 years and only 17 (11.3%) nurses were related to the age group 25-30 years. The majority of the study nurses 114 (76.0%) were diploma holders. 34 (22.7%) nurses had Post RN degree and only 2 (1.3%) nurse had Generic degrees. In this study, 4(2.7%) nurses had 1-2 years of work experience, 9 (6.0%) nurses had 2-3 years of work experience, 24 (16.0%) nurses had 3-5 years of work experience. The majority of nurses 113 (75.3%) had more than 5 years of work experience.

Table 2. Demographic Characteristics of the Cancer Patients

Demographic Characteristics		**Frequency**	**Percent**
Gender	Male	69	46.0%
	Female	81	54.0%
Age Group	30-40	41	27.3%
	41-50	54	36.0%
	50-60	41	27.3%
	Above 60	14	9.3%
Education	Illiterate	65	43.3%
	Metric	55	36.7%
	Graduation	26	17.3%
	Post-graduation	4	2.7%
Duration of Disease	<1 year	90	60.0
	1-5 years	50	33.3
	6-10years	6	4.0
	>10 years	4	2.7

The 150 cancer patients admitted to the same oncology units of the tertiary care hospitals were also selected. Among 150 patients, 81 (54.0%) were female and 69 (46.0%) were male. The majority of the patients 54 (36.0%) were related to the age group 41-50 years. 41 (27.3%) patients were related to the age group 30-40 years, 41 (27.3%) patients were related to the age group 50-60 years and only 14 (9.3%) patients were related to the age group above 60 years. The majority of the patients 65 (43.3%) were illiterate. 55 (36.7%) patients had matric qualification, 26 (17.3%) patients had graduation qualification, and only 4 (2.7%) patients had post-graduation qualification. There were 90 (60.0%) patients who had a disease duration of less than 1 year, 50 (33.3%) patients had a disease duration ranging from 1 to 5 years, 6 (4.0%) patients had a disease duration ranging from 6 to 10 years and only 4 (2.7%) patients who had a disease duration of more than 10 years.

Table 3: Showing mean knowledge and self-efficacy of oncology nurses about palliative care

Knowledge and Self-Efficacy	**Mean ± SD**	**Minimum**	**Maximum**

Knowledge of Oncology Nurses about palliative care	Knowledge Score	8.78 ± 2.31	3.0	14.0
	Knowledge Percentage score	43.9 ± 11.5	15.0	70.0
Self- Efficacy of Oncology Nurses about palliative care	Self-efficacy Score	33.6 ± 7.85	15.0	48.0
	Self-efficacy percentage score	70.0 ± 16.4	33.1	100.0

Table 4. Showing mean quality of life scores of cancer patients

Quality of Life	**Mean ± SD**	**Minimum**	**Maximum**
Quality of Life Score	108.7 ± 13.1	41	134
Quality of life percentage score	66.3 ± 7.97	25.0	81.7

Table 5. Relationship of Knowledge and Self-Efficacy of Oncology Nurses with the Quality of Life of Cancer Patients

Knowledge and Self-Efficacy		**Quality of Life of Cancer Patients**			**p-Value**
		Poor	Average	Good	
Knowledge of Oncology Nurses	Adequate knowledge	40 (61.5%)	25 (38.5%)	0 (0.0%)	0.013*
	Inadequate knowledge	68 (80%)	17 (20%)	0 (0.0%)	
Self-Efficacy of Oncology Nurses	High Efficacy	77 (67%)	38 (33%)	0 (0.0%)	0.012*
	Low Efficacy	31 (88.6%)	4 (11.4%)	0 (0.0%)	

***Significant level at 5% (0.05)**

The Chi-square test was used to determine the association between the knowledge and self-efficacy of nurses providing palliative care and the quality of life of cancer patients. Regarding the oncology nurses' knowledge, the p-value of 0.013 indicates a significant relationship between the knowledge of nurses providing palliative care and the quality of life of cancer patients. It means that patients were more likely to have an average quality of life when cared for by nurses with adequate knowledge. The p-value 0.012 also unveil that there was a significant relationship between the self-efficacy of nurses providing palliative care and the quality of life of cancer patients. It means that patients were more likely to have a poor quality of life when cared for by nurses with low efficacy.

DISCUSSIONS

The oncology nurses in the current study demonstrated inadequate knowledge of palliative care and reported a high level of self-efficacy in providing palliative care. Moreover, adequate knowledge and high self-efficacy have significant associations with the quality of life of cancer patients.

In the current study, the average knowledge score of nurses regarding palliative care in tertiary care hospitals assessed by PCQN is 8.78 ± 2.31, with a range of 3 to 14. The Current study findings are in line with the study findings, conducted in North India. The knowledge, attitude, and practices regarding palliative care were poor among the health care workers [17]. In another study, the findings revealed that nurses' level of knowledge about palliative care was low/inadequate (M = 7.75, SD = 2.96) [18]. The results of our study are pertinent to the study carried out in Saudi Arabia. The respondents' mean score on the nursing-specific Palliative Care Quiz was 8.88 (SD=1.75), which is considered to be low knowledge [19].

Moreover, the self-efficacy score in the current study is 76.7%. The mean self-efficacy score of nurses in palliative care in tertiary care hospitals was 33.6 ± 7.85. Current study findings support the findings of a study conducted in Mongolia, mean score for palliative care self-efficacy was 33.8/48. Our study findings are less noteworthy than a study conducted in Iran, self-efficacy score was 39.9 ± 6.96 [20]. Self-care self-efficacy is significantly associated with knowledge [21]. An estimated 32% increase in the number of practices carried out was statistically linked to each unit of self-efficacy [22]. The current study revealed a significant relationship between knowledge and self-efficacy among nurses providing palliative care, with a higher proportion of nurses demonstrating high efficacy when they possess adequate knowledge.

Furthermore, the study results showed a higher proportion of cancer patients living with poor quality of life (72.0%, n=108) than those living with average quality of life (28%, n=42). A study conducted in Pakistan supports these results demonstrating that the cancer survivors have reported poor quality of life. Only 10% of the respondents were optimistic about achieving the desired quality of life indicating a severe need for social, psychological, and physical assistance [23]. In another Ethiopian study, the mean Quality of Life score was 65.6%, which is similarly consistent with our findings [24]. In contrast to the current study's findings, in 1979 Australian cancer patients were studied and their quality of life was mostly good to very good [25].

The study analysis results indicate a significant relationship between the knowledge and self-efficacy of nurses providing palliative care in oncology units of tertiary care hospitals of Punjab with the quality of life of advanced cancer patients. It means that the patients were more likely to have an average quality of life when cared for by nurses with adequate knowledge. Conversely, the patients were more likely to have a poor quality of life when cared for by nurses with low efficacy. Our study has the limitations of time and space. We suggest other researchers to validate our research by further investigating this topic.

CONCLUSION

The oncology nurses who possess a comprehensive understanding of palliative care principles and interventions can effectively provide support and comfort to patients during their advanced stages of cancer. Moreover, nurses with high self-efficacy in palliative care demonstrate confidence and competence in their abilities to alleviate patients' suffering and enhance their quality of life. Ultimately, the combination of knowledgeable and self-efficacious nurses in palliative care leads to improved patient outcomes, increased satisfaction, and enhanced overall quality of life for individuals facing the challenges of stage III and stage IV cancer. By investing in the development of Nurses' expertise and self-efficacy in Palliative care, healthcare organizations can promote holistic care approaches that prioritize the needs and values of

cancer patients in advanced stages, ultimately improving their quality of life and ensuring dignified end-of-life experiences.

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