KNOWLEDGE, SKILLS, AND ATTITUDE OF NURSES IN CANCER CARE IN A SELECTED HOSPITAL IN QUEZON CITY

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Knowledge, Skills, and Attitude of Nurses in Cancer Care in a Selected Hospital in Quezon City

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Abstract. The increasing complexity of cancer care requires nurses to demonstrate adequate knowledge, clinical skills, and professional attitudes to ensure safe, holistic, and patient-centered care. This study assessed the knowledge, skills, and attitudes (KSA) of nurses in cancer care in a selected tertiary government hospital in Quezon City, Philippines, and examined differences and relationships across demographic variables. Guided by Benner's Novice-to-Expert Model, Watson's Theory of Human Caring, and the Knowledge-Skills-Attitudes framework, the study employed a quantitative descriptive–correlational research design. A total enumeration of 188 registered nurses involved in oncology-related care participated in the study. Data was collected using a researcher-developed, expert-validated questionnaire measured on a five-point Likert scale. Descriptive statistics, t-tests, ANOVA, and Pearson correlation were utilized to analyze the data. Results revealed that nurses demonstrated Advanced Beginner levels in knowledge (M = 1.98) and skills (M = 2.12), while attitudes reflected moderately developing professional readiness. Significant differences in KSA domains were observed across selected demographic variables, particularly in experience and unit assignment. Correlation analysis showed strong positive relationships among knowledge, skills, and attitudes, indicating that improvements in one competency domain contribute to overall oncology nursing competence. Nurses with higher educational attainment demonstrated stronger knowledge levels, while clinical exposure influenced skill development and professional attitudes. The findings highlight the need for structured oncology nursing training programs, competency-based education, and continuous professional development initiatives. Strengthening institutional policies and targeted capacity-building interventions may enhance oncology nursing competencies, improve patient outcomes, and support quality cancer care delivery in tertiary healthcare settings.

Keywords: Cancer Care; Knowledge Skills and Attitudes; Nursing Competency; Oncology Nursing; Professional Development

Introduction

Cancer care has become increasingly complex, requiring nurses to integrate evidence-based knowledge, advanced clinical skills, and patient-centered attitudes across the continuum of care, from prevention and early detection to treatment, survivorship, and palliative care. Global reports have identified persistent gaps in specialized oncology nursing education and workforce capacity, which may affect patient safety, symptom management, communication, and care coordination (Challinor et al., 2020). Recent international competency frameworks highlight essential domains such as assessment and symptom management, treatment delivery, psychosocial care, patient education, interprofessional collaboration, and patient advocacy, serving as standards for evaluating oncology nursing competencies (EONS, 2022).

In the Philippines, strengthening oncology services has become a national priority, with increased emphasis on multidisciplinary training and standardized competencies to ensure equitable and high-quality cancer care. Recent studies have emphasized the importance of investing in cancer workforce development and healthcare systems, particularly in urban centers such as Quezon City, where tertiary hospitals handle large numbers of complex cancer cases (Dee et al., 2022). Local nursing research has also focused on developing educational tools and person-centered approaches in palliative and oncology care, reflecting

ongoing progress but also highlighting variations in practice that require institution-specific evaluation (Soriano et al., 2023).

Recent evidence suggests that nurses' knowledge, skills, and attitudes significantly influence key oncology outcomes, including effective pain management, management of treatment-related complications, and overall patient quality of life. Studies conducted in cancer care settings have reported variations in nurses' knowledge and attitudes related to cancer pain, oral mucositis, and other treatment-related conditions, indicating areas that require continuous professional development despite generally positive attitudes toward patient care (Al Zaabi et al., 2023; Zuo et al., 2024). Further research has identified both challenges and enabling factors across competency domains, reinforcing the importance of structured competency assessment within healthcare institutions (Adombire et al., 2024; Alqaisi et al., 2025).

The COVID-19 pandemic has further influenced oncology nursing practice by increasing workloads, altering healthcare delivery pathways, and introducing new clinical challenges. These changes exposed both strengths and limitations in oncology nurses' knowledge, skills, and attitudes across healthcare settings worldwide (Giordano et al., 2021; Cadorin et al., 2024). The pandemic also highlighted the need for adaptable healthcare systems and continuous professional education to maintain quality cancer care during public health emergencies.

Given these developments, conducting a focused evaluation of nurses' knowledge, clinical skills, and attitudes in a selected hospital in Quezon City is both relevant and necessary. Such an assessment can help identify strengths, weaknesses, and educational priorities among oncology nurses. The results may guide the development of targeted training programs and institutional policies that support professional growth, improve patient satisfaction, and enhance overall patient outcomes in cancer care.

Research Questions

This study sought to determine the knowledge, skills, and attitudes of nurses in cancer care, as well as to explore their relationship with demographic and professional characteristics.

Specifically, it aimed to answer the following questions;

1. What is the Demographic Profile of the respondents in terms of:
   1.1 Age
   1.2 Sex
   1.3 Civil Status
   1.4 Highest Educational Attainment
   1.5 Position at Work
   1.6 Current Area of Assignment; and
   1.7 Length of Service
2. What is the level of Knowledge, Skills, and Attitude of Nurses in Cancer Care in terms of:
   2.1 Knowledge
   2.2 Skills; and
   2.3 Attitude
3. Is there a significant difference in the knowledge, skills, and attitudes of the respondents when grouped according to their demographic profile?
4. Is there a significant relationship among the knowledge, skills, and attitudes of the respondents in the provision of cancer care?

Scope and Delimitation of the Study

This study assessed the knowledge, skills, and attitudes (KSA) of staff nurses involved in oncology patient care at Veterans Memorial Medical Center. The participants included registered nurses directly providing care to cancer patients, while administrative staff, nursing aides, and other healthcare workers were excluded. The study focused specifically on evaluating nurses' knowledge, technical skills, and attitudes related to oncology care, without addressing administrative functions, policy-making roles, or non-oncology competencies. Data collection was conducted within the academic year 2025–2026, and the findings were limited to the selected hospital setting, which may restrict generalizability to other institutions. Guided by Jean Watson's Theory of Human Caring, Benner's Novice to Expert Model, and the Knowledge, Skills, and Attitudes Framework, the study aimed to identify strengths and gaps in oncology nursing competencies to support targeted interventions, professional development programs, and improved patient care outcomes.

Literature Review

Global frameworks and safety standards guiding nursing practice

International frameworks and guidelines provide essential benchmarks for improving oncology nursing practice at the local level. The European Oncology Nursing Society (EONS) Cancer Nursing Education Framework (5th ed., 2022) outlines role-specific competencies and progressive learning outcomes that are widely used in nursing education globally. Similarly, the Oncology Nursing Society (ONS) Core Curriculum for Oncology Nursing (7th ed., 2023) integrates current evidence-based practices that guide

oncology nursing care (Brant, 2023). Patient safety remains a key priority in cancer care, as reflected in the American Society of Clinical Oncology–ONS Antineoplastic Therapy Administration Safety Standards (2024), which define safe processes and competencies in medication ordering, preparation, and administration for both adult and pediatric patients (Siegel et al., 2024). In addition, the National Institute for Occupational Safety and Health (NIOSH) List of Hazardous Drugs in Healthcare Settings (2024) provides guidance on the proper use of protective equipment and safe handling practices (NIOSH, 2024). Furthermore, global cancer statistics from International Agency for Research on Cancer (IARC) through GLOBOCAN 2024 highlight increasing cancer incidence and mortality rates in the Philippines, reinforcing the need for oncology nurses with updated knowledge, skills, and attitudes to ensure safe and effective patient care (IARC, 2024).

Patricia Benner's Novice to Expert Model

Patricia Benner (1984) described nursing practice as a developmental process in which nurses progress through five levels of proficiency—novice, advanced beginner, competent, proficient, and expert—reflecting increasing clinical judgment, critical thinking, and confidence. This model is particularly relevant in oncology nursing, where nurses must develop both technical competence and advanced decision-making skills to manage complex patient conditions. At the early stages, nurses often rely on established protocols for procedures such as chemotherapy administration and hazardous drug handling, while more experienced nurses are able to anticipate treatment-related responses and plan appropriate interventions. At the expert level, nurses integrate clinical observations, patient needs, and family concerns to recognize complications early and provide holistic care. The model also emphasizes experiential learning, highlighting how repeated clinical exposure supports skill development and explains variations in competence among nurses, making it a useful framework for assessing knowledge and skills growth in oncology practice.

Jean Watson's Theory of Human Caring

While Patricia Benner emphasized the development of technical and clinical expertise, Jean Watson's Theory of Human Caring (2008, revised) highlights the humanistic and relational dimensions of nursing practice. Watson proposed that caring is the foundation of nursing and that effective care addresses not only physical needs but also emotional, spiritual, and psychosocial well-being. Her theory, based on the ten curative factors or caritas processes, emphasizes empathy, trust-building, hope, and the creation of supportive healing environments. This perspective is particularly relevant in oncology care, where patients often experience significant emotional and existential distress alongside physical symptoms. Nurses who demonstrate compassion, active listening, and therapeutic communication can help reduce fear and anxiety during treatments such as chemotherapy or radiation therapy, while also supporting patients in palliative and end-of-life care. Applying Watson's framework in this study strengthens the attitudinal component of the Knowledge, Skills, and Attitudes (KSA) model by emphasizing the importance of compassionate, patient-centered care. In the Filipino context, where cultural values such as malasakit (compassionate concern) are deeply valued, this theory provides a meaningful foundation for improving oncology nursing education and practice.

The Knowledge, Skills, and Attitudes (KSA) Framework

The Knowledge, Skills, and Attitudes (KSA) Framework developed by Gillespie and Peterson (2009) provides a systematic approach to categorizing and evaluating nursing competencies through three interrelated domains: knowledge, skills, and attitudes. The knowledge domain refers to nurses' theoretical understanding of cancer pathophysiology, treatment protocols, symptom management, and patient education, including awareness of chemotherapy regimens, safe handling of cytotoxic drugs, and evidence-based management of treatment side effects. The skills domain focuses on practical and technical abilities such as safe chemotherapy administration, management of central venous catheters, monitoring patient responses to treatment, and the proper use of protective equipment to maintain safety. The attitudes domain addresses professional values and behaviors, including empathy, patient advocacy, resilience, and sensitivity to the psychosocial and spiritual needs of patients and their families. Widely applied in nursing education and professional development, the KSA framework supports measurable evaluation of competency by integrating technical expertise with professional values, making it particularly relevant in oncology settings where nurses manage complex cases and are expected to deliver safe, holistic, and patient-centered care despite high workloads and resource constraints.

Integrative Perspective

Taken together, the frameworks of Patricia Benner, Jean Watson, and the Knowledge, Skills, and Attitudes (KSA) Framework developed by Gillespie and Peterson form a hybrid theoretical foundation for this study. Benner's Novice to Expert Model explains how nurses progressively develop knowledge and clinical skills through experience, while Watson's Theory of Human Caring emphasizes the importance of compassion, empathy, and meaningful nurse–patient relationships in delivering quality oncology care. The KSA framework complements these theories by providing a structured method for categorizing and evaluating competencies across cognitive, psychomotor, and affective domains. By integrating these models,

the study recognizes that competence in cancer care is holistic, requiring a balance of technical expertise, clinical judgment, and caring attitudes. This combined perspective supports a comprehensive assessment of oncology nurses and helps identify areas where targeted interventions, such as training programs, mentoring, and supportive institutional policies, can enhance professional development and improve patient care outcomes.

Integrative Review

Oncology nursing is a specialized field that requires a balance of clinical expertise, technical skills, and compassionate care. The increasing global burden of cancer has intensified the need for nurses who can provide holistic and evidence-based oncology services, as emphasized by the World Health Organization (WHO, 2022). The Knowledge, Skills, and Attitudes (KSA) framework is widely used to assess professional competence in nursing, particularly in ensuring safe chemotherapy administration, accurate symptom management, and effective patient and family support throughout the cancer care process. International studies have reported variations in oncology nurses' KSA levels, influenced by factors such as years of clinical experience, exposure to oncology cases, and access to continuing professional education (Wang et al., 2023; Kizza et al., 2021). These findings highlight the need for systematic KSA assessment to guide targeted training initiatives and support policy development aimed at improving the quality and safety of oncology nursing care.

Brief History and Evolution of Oncology Nursing

The field of oncology nursing has evolved significantly over the past five decades in response to advances in cancer treatment and changing patient-care needs. During the 1970s to 1980s, oncology nursing emerged as a recognized specialty due to the increasing use of chemotherapy and radiation therapy, requiring nurses to develop competencies in managing treatment side effects, patient education, and psychosocial support. The establishment of the Oncology Nursing Society (ONS) in 1975 further strengthened professional identity and promoted continuing education and certification (ONS, 2016). From the 1990s to 2000s, oncology nursing roles expanded with the introduction of bone marrow transplantation, targeted therapies, and palliative care, while international research highlighted knowledge and skill gaps, particularly in low- and middle-income countries. The launch of the Quality and Safety Education for Nurses (QSEN) initiative in 2007 reinforced the importance of knowledge, skills, and attitudes (KSA) as standards for nursing competence (Cronenwett et al., 2007). By the 2010s, the growing global cancer burden positioned oncology nurses as essential members of multidisciplinary teams, with increased emphasis on patient-centered care, survivorship programs, community-based services, and early integration of palliative care, supported by standardized competency frameworks and specialized training programs (Ferrell & Coyle, 2016).

Year-by-Year Developments (2020–2025)

Between 2020 and 2022, research emphasized the development of competency frameworks, measurement tools, and safety-focused knowledge in oncology nursing. During 2020–2021, the Quality and Safety Education for Nurses (QSEN) framework was widely applied to define nursing competencies in terms of knowledge, skills, and attitudes (KSA), ensuring that oncology curricula incorporated patient-safety principles (Alratrout et al., 2025). At the same time, the Caring Behaviors Inventory (CBI) demonstrated strong cross-cultural validity, showing that caring behaviors such as connectedness and reassurance were associated with higher levels of patient trust and satisfaction (Alikari et al., 2022). In the Philippine context, Garcia et al. (2021) reported that many general nursing programs provided only basic oncology knowledge, with specialized competencies such as cytotoxic drug handling often acquired through clinical experience rather than formal training. By 2022, research increasingly focused on safety-related knowledge, particularly chemotherapy-induced neutropenia (CIN), where studies revealed moderate levels of nurse knowledge and gaps in recognizing infection-prevention indicators, highlighting potential risks to patient safety (Al Qadire et al., 2022). Comparative findings also showed differences between nurses' self-reported caring behaviors and patient perceptions, reinforcing the importance of both technical competence and caring attitudes in oncology nursing practice (Alikari et al., 2022).

2023: Practice gaps in palliative care, symptom management, and chemotherapy

In 2023, studies highlighted continuing gaps in oncology nursing knowledge and practice, particularly in palliative and supportive care. Research conducted in Ethiopia reported that limited access to specialized training was associated with unfavorable attitudes toward palliative care among oncology nurses (Altarawneh et al., 2023). Similarly, Winn et al. (2023) identified deficiencies in chemotherapy-related task performance and symptom management among registered nurses, with barriers such as inadequate staffing and limited resources contributing to these challenges. Supportive-care research also indicated inconsistencies between attitudes and practice, as findings showed that although nurses demonstrated positive attitudes toward oral health care in oncology settings, their knowledge and clinical practices remained at moderate levels (Raymond et al., 2023). Collectively, these findings emphasize the importance of

structured continuing education and targeted professional development programs to strengthen both technical and supportive-care competencies in oncology nursing.

Philippine Context: Policies and Systems shaping Nursing Competencies

The Philippine government has strengthened cancer care services through key legislation and national strategies aimed at improving healthcare delivery and workforce capacity. The enactment of Republic Act 11215, known as the National Integrated Cancer Control Act, established the foundation for comprehensive cancer service reforms. To operationalize this law, the Department of Health (DOH), in collaboration with the World Health Organization (WHO), introduced the National Integrated Cancer Control Program Strategic Framework 2024–2028, which emphasizes workforce training, multidisciplinary collaboration, and capacity building, including the development of oncology nursing competencies (DOH & WHO, 2024). Updated facility planning guidelines and financing mechanisms, such as the PhilHealth Konsulta Benefit Package and the Cancer Assistance Fund supported through Joint Memorandum Circular 2023-001, further enhance patient access to cancer treatment and strengthen the role of nurses in care coordination and patient education. The establishment of the Philippine Cancer Center and the implementation of the NICCC Strategic Plan (2024–2028) demonstrate the country's commitment to integrated cancer care; however, challenges such as workforce capacity, equitable service distribution, and effective implementation remain significant concerns that require continued investment and policy support (Dee et al., 2022).

Knowledge and skills of oncology nurses in local settings

At the practice level, Filipino nurses have demonstrated varying levels of competence in oncology care, influenced by training opportunities and workplace conditions. A study by Gasat and Remon (2024), published in Acta Medica Philippina, reported that oncology nurses showed high levels of knowledge and technical skills but only moderate attitudes toward the safe handling of chemotherapeutic drugs, highlighting the importance of supportive learning environments in improving competency. In response to these findings, professional groups such as the Philippine Oncology Nurses Association (PONA) have implemented structured training programs, including specialized chemotherapy courses, to promote standardized oncology nursing practices (PONA, 2023). External factors have also affected oncology care delivery, as qualitative research by Tanay et al. (2023) in ecancermedicalscience reported that climate-related disruptions caused treatment delays, yet nurses remained committed to patient care despite these challenges. These findings highlight both the resilience of Filipino nurses and the need to address systemic gaps to ensure sustainable, safe, and effective oncology nursing practice.

Attitudes and the practice environment

Attitudes play a vital role in determining the quality of oncology care, particularly in settings affected by resource limitations and system pressures. In the Philippines, studies have shown that nurses' attitudes are influenced by external challenges such as workload, environmental disruptions, and limited institutional support, highlighting both their resilience and the need for stronger system backing (Tanay et al., 2023; Dee et al., 2022). The recognition of oncology nursing has advanced through initiatives led by the Philippine Oncology Nurses Association and the implementation of the National Integrated Cancer Control Act, which strengthened capacity-building and standardized oncology training. Recent frameworks, including those from the Department of Health and the Oncology Nursing Society, emphasize competency-based education focused on safe drug handling, symptom management, and patient-centered care. Within this context, the Knowledge, Skills, and Attitudes (KSA) framework, supported by the Quality and Safety Education for Nurses initiative, provides a structured model for evaluating nursing competence. Evidence shows persistent knowledge gaps in areas such as treatment-related complications, improvements in skills through competency-based training, and the influence of education and organizational support on nurses' attitudes toward palliative and supportive care (Al Qadire et al., 2022; Raymond et al., 2023; Alratrout et al., 2025; Rafiee et al., 2024; Altarawneh et al., 2023). Overall, the KSA framework offers a comprehensive approach for assessing oncology nurses' competencies in a Quezon City hospital, ensuring alignment with global standards while addressing local healthcare priorities.

Standards refresh and policy alignment

In 2024, significant developments strengthened oncology nursing practice through updated policies and competency standards. The World Health Organization and the Department of Health introduced the National Integrated Cancer Control Program (NICCP) Strategic Framework 2024–2028, which prioritized workforce development and specialized training for oncology nurses (WHO Philippines & DOH, 2024). At the same time, the Oncology Nursing Society released updated competency frameworks, including those for oncology clinical research nursing, to guide professional practice internationally (ONS, 2024). Supporting these policy initiatives, recent studies showed that nurses who received palliative-care education demonstrated more positive attitudes toward supportive care, while caring behaviors continued to serve as reliable indicators of nursing quality (Rafiee et al., 2024; Alikari et al., 2024). These developments highlight

the strong influence of national policies and professional standards in shaping hospital-based training and improving oncology nursing competencies.

Methodology

Research Design

This study utilized a quantitative descriptive–correlational research design to evaluate the knowledge, skills, and attitudes (KSA) of nurses providing cancer care in a selected hospital in Quezon City. The quantitative approach enabled systematic measurement and statistical analysis of KSA levels, while the descriptive component provided a detailed profile of nurses' competencies. The correlational component further examined potential relationships among the KSA domains and their association with selected demographic characteristics, allowing for the identification of patterns that may inform targeted training and professional development initiatives.

Sampling Design

This study employed a quantitative descriptive–correlational design to examine the relationships among nurses' knowledge, skills, and attitudes (KSA) in delivering cancer care within a selected tertiary hospital in Quezon City. This design was appropriate as it enabled the systematic description of current KSA levels and the identification of potential associations between these competencies and selected demographic and professional characteristics. The study population consisted of 188 nurses directly or indirectly involved in the care of oncology patients, including those assigned to oncology wards, chemotherapy outpatient units, and other hospital departments managing cancer cases. A census or total enumeration sampling technique was applied to include all eligible nurses, thereby enhancing data accuracy, representativeness, and statistical reliability of the findings.

Research Locale

The study population consisted of 188 staff nurses involved in the provision of cancer care services in a selected tertiary hospital in Quezon City, including those assigned to oncology wards, chemotherapy outpatient units, and other clinical areas where patients with cancer are regularly managed. These nurses were selected due to their direct involvement in oncology-related responsibilities such as bedside care, chemotherapy administration, monitoring treatment responses, symptom management, patient and family education, and ensuring safe handling of chemotherapeutic agents. Their clinical roles also required the application of evidence-based interventions and the demonstration of empathy and patient advocacy consistent with holistic cancer care principles. As primary providers across the cancer care continuum, these nurses represented the most appropriate respondents for assessing knowledge, skills, and attitudes (KSA) essential for quality oncology nursing practice. Including a broad group of nurses enhanced the representativeness of the findings and supported institutional efforts at Veterans Memorial Medical Center to align nursing practice with national goals such as the National Integrated Cancer Control Program (NICCP) 2024–2028 and to promote safe, evidence-based, and patient-centered oncology care.

Research Participants

The research participants consisted of 188 registered staff nurses involved in providing cancer care services at Veterans Memorial Medical Center. These nurses were assigned to oncology wards, chemotherapy infusion units, and other clinical areas that regularly manage patients diagnosed with cancer. A census or total enumeration sampling method was used to include all eligible nurses who were directly involved in oncology-related responsibilities such as chemotherapy administration, symptom monitoring, patient education, and safe handling of chemotherapeutic agents. Administrative staff and non-nursing personnel were excluded to maintain focus on clinical nursing roles. The inclusion of nurses from multiple clinical units ensured a comprehensive representation of oncology care providers and supported the reliability of the data in assessing their knowledge, skills, and attitudes (KSA) in cancer care.

Research Instrument

In this study, a researcher-developed structured questionnaire was used as the primary data-gathering instrument to assess nurses' knowledge, skills, and attitudes (KSA) in cancer care. The instrument was developed based on the theoretical foundations of Patricia Benner's Novice to Expert Model (1984), Jean Watson's Theory of Human Caring (2008), and the Knowledge, Skills, and Attitudes (KSA) Framework, ensuring alignment with both technical and humanistic aspects of nursing competence. The questionnaire consisted of 30 items rated on a five-point Likert scale ranging from 1 (Novice) to 5 (Excellent), with higher mean scores indicating higher levels of competence. To ensure validity and reliability, the instrument underwent expert review by nursing professionals, including former head nurses, a chemotherapy nurse, members of the Scientific Research Section of the Nursing Division at Veterans Memorial Medical Center, and a graduate school statistician who evaluated item clarity, content relevance, scaling, and statistical suitability. Following revisions based on expert recommendations, the validated questionnaire was

administered to staff nurses involved in oncology care, with respondents informed of the study's purpose and assured of confidentiality and voluntary participation prior to data collection.

Data Gathering Procedure

Data were collected using a self-administered survey questionnaire distributed both in printed form and through an online platform such as Google Forms to facilitate efficient and standardized data collection. This method minimized interviewer bias and allowed respondents to complete the questionnaire at their convenience while ensuring systematic data gathering suitable for statistical analysis. The validated instrument was distributed by the researcher to staff nurses assigned to oncology wards, chemotherapy infusion units, and other clinical areas providing cancer care, with distribution scheduled during non-busy hours to avoid disruption of clinical duties. Prior to participation, the study objectives were explained, and written informed consent was obtained to ensure voluntary participation and confidentiality of responses. Respondents were allotted approximately 30 minutes to complete the questionnaire, after which the researcher retrieved the completed forms and checked each response for completeness before inclusion in the final dataset.

Results and Discussions

Problem 1: **What is the Demographic Profile of the Respondents in terms of Age, Sex, Civil Status, Higher Educational Attainment, Position at Work, Current Area of Assignment, and Length of Service**

Table 1: Demographic profile of the respondents according to age

AGE	Frequency	Percentage
21–24 years old	13	6.90%
25–29 years old	43	22.90%
30–34 years old	61	32.40%
35 years old and above	71	37.80%
Total	**188**	**100%**

Table 1 shows the age distribution of the 188 participants indicated a predominantly mid-career nursing workforce, with a significant proportion of nurses belonging to the 30–34 age group and those aged 35 years and above collectively comprising 70.2% of the respondents. This pattern suggests that the hospital workforce is largely composed of mature and clinically experienced nurses who are more likely to demonstrate advanced clinical judgment, proficiency in high-risk procedures, and adherence to institutional protocols, which are essential in managing complex oncology-related care such as chemotherapy administration. In contrast, younger nurses aged 21–24 and 25–29 years represented a smaller proportion of the sample, indicating that novice-level practitioners form a minority of the workforce. This trend may reflect staffing patterns, retention strategies, or opportunities for career advancement within the institution. Overall, the age distribution provides a positive implication for knowledge, skills, and attitudes (KSA) performance, given the strong representation of mid-career and senior nurses in the oncology care setting.

Table 2: Gender of the Participants

Sex	Frequency	Percentage
Male	60	31.90%
Female	128	68.10%
Total	**188**	**100%**

Table 2 shows the sex distribution of the participants showed a predominance of female nurses, comprising 68.1% of the total respondents, while male nurses accounted for 31.9%. This pattern reflects the traditional gender distribution within the nursing profession in the Philippines, where nursing has historically been female-dominated and continues to show similar trends in contemporary hospital staffing. However, the presence of a notable proportion of male nurses indicates a gradual increase in male participation in the profession, which may enhance workforce diversity, teamwork dynamics, and the distribution of clinical responsibilities within healthcare settings. Overall, the balanced representation of both female and male nurses supports inclusive workforce development and reflects evolving gender roles in modern nursing practice.

Table 3: Civil Status of the Participants

Civil Status	Frequency	Percentage
Single	120	63.80%
Married	86	36.20%
Total	**188**	**100%**

Table 3 shows the civil status distribution indicated that the majority of participants were single (63.8%), while 36.2% were married. This composition suggests that a large proportion of the nursing workforce may have greater schedule flexibility and availability for professional development activities, which can support continuous competency improvement. At the same time, the presence of married nurses contributes to workforce stability, as they often demonstrate sustained commitment, consistency, and stronger institutional attachment. Overall, this balanced distribution of civil status supports both workforce adaptability and continuity of care, which are important in specialized clinical areas such as oncology nursing.

Table 4: Highest Educational Attainment

Highest educational attainment	Frequency	Percent
BSN Graduate	164	87.20%
Master's Degree Holder	24	12.80%
Total	**188**	**100%**

Table 4 shows the educational attainment of participants showed that the majority were Bachelor of Science in Nursing (BSN) graduates (87.2%), while 12.8% had completed a Master's degree. This distribution is consistent with hospital requirements in the Philippines, where a BSN degree is the minimum qualification for clinical nursing practice. The presence of nurses with postgraduate degrees suggests opportunities for enhanced evidence-based practice, leadership development, and improved clinical decision-making within the institution. These advanced-degree holders may also contribute to mentoring, clinical supervision, and the promotion of research-based care. Overall, while BSN graduates represent the core workforce with strong foundational competencies, the inclusion of master's-prepared nurses strengthens the institution's capacity for professional growth and quality improvement in oncology nursing practice.

Table 5: Position at Work

Position at Work	Frequency	Percent
Nurse I	164	87.20%
Nurse II	24	12.80%
Total	**188**	**100%**

Table 5 the distribution of nursing positions showed that the majority of respondents were classified as Nurse I (87.20%), while a smaller proportion held the position of Nurse II (12.80%), indicating that the oncology nursing workforce at Veterans Memorial Medical Center is largely composed of entry-level to junior staff nurses. This composition suggests that many nurses are in the early stages of their professional development, which may influence overall competency levels in specialized areas such as cancer care. The findings highlight the need for targeted training programs, continuous professional development, and structured mentorship initiatives to strengthen the knowledge, skills, and attitudes (KSA) of nurses, ensuring their readiness to deliver safe and high-quality oncology care.

Table 6: Current Area of Assignment

Area of Assignment	Frequency	Percent
PEDIA	5	2.70%
MICU	14	7.40%
MITU	12	6.40%
W4	6	3.20%
W5	5	2.70%
W6	7	3.7
W7	6	3.20%
W8	7	3.70%
W9	6	3.20%
SICU	6	3.2
PACU	5	2.7
W10	10	5.30%
W11	9	4.8
W12F	9	4.8
W12AMR	5	2.7
W14	5	2.70%
W15	10	5.3

W16	7	3.7
W17	7	3.70%
W20	4	2.1
W21	4	2.1
MAGITING	3	1.60%
E-WARD	14	7.40%
RDC	16	8.50%
SCBU	3	1.60%
PICU	5	2.70%
Total	188	100%

Table 6 shows the distribution of assignment areas showed that respondents were drawn from a wide range of clinical units, indicating broad representation across hospital departments and strengthening the validity of the study findings. A substantial proportion of participants were assigned to general wards (W4−W21), which typically manage diverse patient populations, including medical, surgical, acute, and chronic cases, thereby contributing to the development of comprehensive clinical skills. In contrast, specialized units such as the Pediatric Intensive Care Unit (PICU), Special Care Baby Unit (SCBU), and Magiting unit had smaller representations due to limited staffing patterns; however, their inclusion enhanced the overall diversity and completeness of the sample. Overall, the varied unit assignments supported a comprehensive evaluation of nurses' knowledge, skills, and attitudes (KSA) across different clinical practice environments.

Table 7: Length of Service

Length of service	Frequency	Percent
1-2 years	78	41.50%
3-5 years	63	33.50%
6-10 years	25	13.30%
11 years and above	22	11.70%
Total	**188**	**100%**

Table 7 shows the distribution of length of service showed that the majority of participants had relatively short tenure within the institution, with the largest group (41.5%) having 1−2 years of service, followed by those with 3−5 years (33.5%), while only 25.1% had more than five years of service. This pattern suggests that the nursing workforce is largely composed of nurses in the early stages of their employment within the facility. Although the age profile indicated a substantial number of mid-career nurses aged 30−35 years, their shorter length of service may reflect recent hiring, unit reassignment, or workforce mobility. Meanwhile, nurses with longer tenure, including those with 6−10 years and 11 years or more of service, contribute to institutional stability, continuity of care, and mentorship roles that support the professional development of less experienced staff and enhance overall quality of oncology nursing practice.

Problem 2: What is the Level of Knowledge, Skills, and Attitude of nurses in Cancer Care in terms of Knowledge, Skills, and Attitude?

Table 8: Knowledge in Cancer Care

	Mean	Std. Deviation
K1	1.9149	1.07633
K2	2.0266	1.18562
K3	1.9415	1.10021
K4	1.8723	1.04174
K5	1.9628	1.13933
K6	2.0319	1.14184
K7	1.9894	1.18813
K8	2.0053	1.1949
K9	2.0798	1.16959
K10	1.984	1.10166
K_AVE	**1.9809**	**0.95601**

Table 8 shows the Knowledge domain (A1−A10) assessed participants' self-reported clinical proficiency using a five-point scale ranging from 1 (Novice) to 5 (Expert). Descriptive statistics from 188 respondents indicated that

nurses demonstrated foundation-level knowledge, with an overall mean score of 1.98, corresponding to the "Advanced Beginner" level. This finding suggests that while participants possess basic awareness of oncology-related concepts, many have not yet achieved the depth of understanding associated with competent or proficient practice. Higher mean scores in selected items indicated stronger knowledge in commonly encountered clinical tasks, whereas lower scores highlighted gaps in more specialized oncology concepts that require advanced training. The relatively large standard deviations further indicated variability in knowledge levels among participants, likely influenced by differences in clinical exposure, training opportunities, unit assignments, and length of service, particularly among nurses working in areas with limited routine oncology experience.

Table 9: Skills in Cancer Care

	Mean	Std. Deviation
S1	2.0532	1.17339
S2	1.7447	1.07411
S3	1.9734	1.15825
S4	2.0798	1.18322
S5	2.2926	1.16295
S6	2.0532	1.15037
S7	2.1915	1.19951
S8	2.3404	1.07029
S9	2.4521	1.15756
S10	2.0213	1.08444
S_AVE	**2.1202**	**0.95601**

Table 9 shows that the highest mean score of 3.02 was recorded for challenges in conducting online research and evaluating source credibility, followed by a mean of 2.94 for difficulties navigating online platforms for educational resources. This indicates that students struggle with finding reliable information and using online learning platforms effectively. Observations suggest that students often encounter challenges in assessing source trustworthiness, identifying bias, and efficiently locating educational materials. Research by Pasiczny and Winograd (2017) supports these findings, highlighting that students frequently face difficulties in evaluating online information despite having access to abundant digital resources. Meanwhile, the lowest mean score of 2.66 was recorded for challenges in maintaining online privacy, interpreted as moderately challenged. This suggests that students have difficulties protecting personal information online despite understanding its importance. Observations indicate that students may struggle with creating strong passwords, managing privacy settings, and avoiding risky online behaviors. Studies by Czerniawski and McLaughlin (2017) emphasize that while students are aware of online privacy, they often lack the practical skills needed to safeguard their information effectively. Targeted guidance and education on internet safety practices could help students develop better habits and strengthen their online privacy skills.

Table 10: Attitudes in Cancer Care

	Mean	Std. Deviation
A1	2.0532	1.17339
A2	1.7447	1.07411
A3	1.9734	1.15825
A4	2.0798	1.18322
A5	2.2926	1.16295
A6	2.0532	1.15037
A7	2.1915	1.19951
A8	2.3404	1.07029
A9	2.4521	1.15756
A10	2.0213	1.08444
A_AVE	**2.1202**	**0.95601**

Table 10 shows that respondents were moderately challenged in technology across video editing, creating presentations, word processing, and internet navigation. This indicates that students face a consistent level of difficulty in performing various technological tasks, reflecting common obstacles in applying their skills effectively. Observations suggest that while students have basic skills, they encounter challenges in tasks such as coordinating group projects, organizing content, and navigating online tools, highlighting the need for additional support and practice to improve their proficiency. This moderate level of challenge implies that students would benefit from targeted guidance and resources to enhance their digital literacy and overcome specific obstacles. Voogt, Weller, and Knezek (2013) emphasize that mastering foundational technological skills requires addressing both practical and cognitive complexities, supporting the idea that students need structured learning opportunities to strengthen their abilities. Providing such

support can help students navigate technology more confidently and succeed in academic and professional settings.

Problem 3: **Is there a significant Difference in the Knowledge, Skills, and Attitude of the respondents when Grouped According to their Demographic Profile?**

Table 11: One Way ANOVA

		Sum of Squares	df	Mean Square	F
K_ave	Between groups	9.998	3	3.333	3.811
	Within Groups	160.913	184	0.875	
	Total	170.911	187		
S_ave	Between groups	15.504	3	5.168	5.204
	Within Groups	182.739	184	0.993	
	Total	198.243	187		
A_ave	Between groups	19.27	3	6.423	6.574
	Within Groups	179.777	184	0.977	
	Total	199.047	187		
KSA_ave	Between groups	14.336	3	4.779	5.979
	Within Groups	147.059	184	0.799	
	Total	**161.395**	**187**		

Table 11 shows the ANOVA results demonstrated statistically significant differences across groups in all competency domains, including Knowledge ($F = 3.811$, $p = 0.011$), Skills ($F = 5.204$, $p = 0.002$), Attitudes ($F = 6.574$, $p = 0.000$), and Overall KSA ($F = 5.979$, $p = 0.001$), as all p-values were below the 0.05 level of significance. These findings indicate that demographic or professional factors such as clinical assignment, experience, and exposure to oncology care may influence variations in nurses' competencies. Significant differences in the Knowledge domain suggest that nurses with greater oncology exposure or longer clinical experience may demonstrate stronger theoretical understanding, while variations in the Skills domain highlight the influence of specialized unit assignments on clinical proficiency. The Attitudes domain showed the highest level of significance, indicating differences in emotional preparedness, empathy, and coping capacity among groups. Overall, these results emphasize the importance of implementing targeted oncology training programs, standardized competency validation, mentorship initiatives, and resilience-building strategies to reduce competency gaps and promote consistent, high-quality cancer care across clinical units.

Table 12: Independent Samples T-Test Analysis (Sex of Participants vs. Knowledge, Skills, Attitudes, and Overall KSA)

	Sex of Participants	N	Mean	Std. Deviation	Std. Error Mean
K_ave	Male	60	1.8667	0.77299	0.09979
	Female	128	2.0344	1.02914	0.09096
S_ave	Male	60	2.06	0.98758	0.1275
	Female	128	2.1484	1.05136	0.09293
A_ave	Male	60	2.52	1.04229	0.13456
	Female	128	2.5297	1.03081	0.09111
KSA_ave	Male	60	2.1489	0.86646	0.11186
	Female	128	2.2375	0.95892	0.08476

Table 12 shows the Independent Samples t-test was conducted to determine whether sex (male versus female) significantly influenced differences in nurses' Knowledge, Skills, Attitudes, and overall KSA competency levels. This statistical test directly examined the hypothesis that demographic characteristics, particularly sex, do not significantly affect competency outcomes. The analysis allowed for comparison of mean scores between male and female nurses across the KSA domains, providing evidence on whether gender-related differences exist in oncology nursing competence and supporting the evaluation of demographic factors as potential predictors of professional performance.

Table 13: Knowledge (K_Ave)

Sex	Mean	STD. Deviation
Male	1.8667	0.77299

Female	2.0344	1.02914

Table 13 shows the Female nurses demonstrated slightly higher mean knowledge scores than male nurses; however, the difference was minimal and not statistically significant based on the Independent Samples t-test results. This finding indicates that sex does not significantly influence oncology-related knowledge levels among nurses, suggesting that knowledge competency is more likely associated with factors such as training, clinical exposure, and professional experience rather than gender differences.

Table 14: Skills (S_Ave)

Sex	Mean	STD. Deviation
Male	2.0600	0.98758
Female	2.1484	1.05136

Table 14 shows the Female nurses demonstrated slightly higher mean scores in skill performance compared to male nurses; however, the difference was minimal and not statistically significant based on the t-test results. This indicates that both male and female nurses possess comparable levels of clinical skills in delivering cancer care, suggesting that skill competency is not influenced by sex but is more closely related to training opportunities, clinical exposure, and professional experience.

Table 15: **Attitudes (A_Ave)**

Sex	Mean	STD. Deviation
Male	1.8667	0.77299
Female	2.0344	1.02914

Table 15 shows the Male and female nurses demonstrated nearly identical mean scores in the Attitudes domain, indicating comparable levels of empathy, professionalism, and positive disposition toward oncology patient care. This finding suggests that attitudinal competence is consistent across sexes and reflects shared professional values and commitment to patient-centered care, regardless of gender differences.

Table 16: Overall KSA (KSA_Ave)

Sex	Mean	STD. Deviation
Male	1.8667	0.77299
Female	2.0344	1.02914

Table 16 shows that although female nurses demonstrated slightly higher overall mean scores in Knowledge, Skills, and Attitudes (KSA), the difference between male and female nurses was minimal and not statistically significant based on the Independent Samples t-test results. This finding confirms that overall KSA competency does not significantly differ by sex, indicating that professional competence in oncology nursing is comparable across genders and is more likely influenced by training, clinical exposure, and institutional support rather than gender-related factors.

Problem 4: Is there a significant relationship among the Knowledge, Skills, and Attitude of the respondents in the provision of Cancer care?

Table 17: Independent Samples Test

		Levene's Test for Equality of Variances	T-Test for Equality of Means						95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2 Tailed)	Mean Difference	Std. Error Difference	Lower	Upper
K_Ave	Equal Variances assumed	5.149	0.24	-1.122	186	0.263	-16771	0.14947	-0.46259	0.12717
	Equal Variances not assumed			-1.242	149.748	0.216	-0.16771	0.13503	-0.43452	0.0991
S_Ave	Equal Variances assumed	0.28	0.597	-0.548	186	0.584	-0.08844	0.1614	-0.40684	0.22996

	Equal Variances not assumed			-0.561	122.303	0.576	-0.08844	0.15777	-0.40075	0.22387
A_Ave	Equal Variances assumed	0.008	0.931	-0.06	186					
	Equal Variances not assumed			-0.06	114.337					
KSA_Ave	Equal Variances assumed	0.577	0.449	-0.609	186	0.544	-0.08861	0.1456	-0.37585	0.19862
	Equal Variances not assumed			-0.631	126.781	0.529	-0.08861	0.14034	-0.36633	0.18911

Table 17 shows the rule of interpretation where a significance value greater than 0.05 indicates no statistical significance, the Independent Samples t-test results showed no significant differences between male and female nurses across all competency domains. In the Knowledge domain, female nurses demonstrated slightly higher mean scores (M = 2.0344) than male nurses (M = 1.8667), but the difference was not statistically significant, indicating that sex does not influence oncology-related knowledge at Veterans Memorial Medical Center. Similarly, Skills scores were comparable between male (M = 2.0600) and female nurses (M = 2.1484), reflecting similar abilities in performing cancer-related clinical procedures. Attitude scores also showed minimal variation between male (M = 2.5200) and female nurses (M = 2.5297), indicating comparable levels of empathy, professionalism, and patient-centered care. Overall KSA scores remained statistically similar between male (M = 2.1489) and female nurses (M = 2.2375), confirming that competency in cancer care is consistent across sexes and is more likely influenced by training, experience, and clinical exposure rather than gender differences.

Table 18: Group Statistics Highest Educational Attainment

	Highest Educational Attainment	**N**	**Mean**	**STD. Deviation**	**STD. Error Mean**
K_Ave	BSN	164	1.9061	0.90484	0.07066
	Masters	24	2.4917	1.14737	0.23421
S_Ave	BSN	164	2.122	1.03426	0.08076
	Masters	24	2.1083	1.01892	0.20799
A_Ave	BSN	164	2.5445	1.05999	0.08277
	Masters	24	2.4042	0.82065	0.16751
KSA_Ave	BSN	164	2.1909	0.92985	0.07261
	Masters	24	2.3347	0.9332	0.19049

Table 18 shows the Comparison by educational attainment showed that nurses with Master's degrees demonstrated higher mean scores in the Knowledge domain (M = 2.4917) compared to Bachelor of Science in Nursing (BSN) graduates (M = 1.9061), suggesting that advanced education enhances theoretical understanding, clinical reasoning, and evidence-based practice, consistent with the frameworks of Patricia Benner and Jean Watson. In the Skills domain, mean scores were nearly identical between BSN (M = 2.1220) and Master's degree nurses (M = 2.1083), indicating that technical competencies are primarily developed through clinical exposure and hands-on practice rather than academic level alone. In the Attitudes domain, BSN nurses showed slightly higher mean scores (M = 2.5445) than those with Master's degrees (M = 2.4042), suggesting that empathy, patient-centered care, and professional values are influenced by workplace culture and personal experiences. Overall, nurses with Master's degrees demonstrated slightly higher composite KSA scores (M = 2.3347) compared to BSN graduates (M = 2.1909), reflecting the contribution of advanced education to decision-making and analytical skills, while highlighting the role of continuous clinical training in minimizing competency differences.

Table 19: Independent Samples T- test based on Civil status

levene's Test for Equality of Variances		**T-Test for Equality of Means**						**95% Confidence Interval of the Difference**	
	F	Sig.	t	df	Sig. (2 Tailed)	Mean Difference	Std. Error Difference	Lower	Upper

K_Ave	Equal Variances assumed	3.965	0.48	-2.856	186	0.005	-16771	0.14947	-0.46259	0.12717
	Equal Variances not assumed			-2.394	27.345	0.24	-0.16771	0.13503	-0.43452	0.0991
S_Ave	Equal Variances assumed	0.27	0.869	0.06	186	0.952	-0.08844	0.1614	-0.40684	0.22996
	Equal Variances not assumed			0.061	30.362	0.952	-0.08844	0.15777	-0.40075	0.22387
A_Ave	Equal Variances assumed	3.023	0.84	0.621	186	0.535	0.14035	0.22585	-0.30521	0.5859
	Equal Variances not assumed			0.751	35.305	0.458	0.14035	0.18685	-0.23886	0.51955
KSA_Ave	Equal Variances assumed	0.004	0.947	-0.708	186	0.48	-14387	0.20331	-0.54496	0.25722
	Equal Variances not assumed			-0.706	30.079	0.486	-0.14387	0.20386	-0.56016	0.27242

Table 19 shows rule of interpretation where a significance value less than 0.05 indicates statistical significance, the Independent Samples t-test results showed that civil status significantly influenced the Knowledge domain (t(186) = −2.856, p = .005), with married nurses demonstrating higher mean knowledge scores than single nurses, suggesting that professional maturity and clinical experience may contribute to improved theoretical understanding. However, no significant differences were observed in the Skills (t(186) = 0.060, p = .952), Attitudes (t(186) = 0.621, p = .535), and Overall KSA (t(186) = −0.708, p = .480) domains, indicating that clinical skills, professional attitudes, and overall competency remain comparable regardless of civil status. These findings suggest that while civil status may influence specific knowledge outcomes, standardized training programs, institutional protocols, and professional practice environments at Veterans Memorial Medical Center support consistent competency development across nurses, consistent with principles highlighted in Jean Watson's Theory of Human Caring.

Table 20: KSA between single and married nurses

	Highest Educational Attainment	N	Mean	STD. Deviation	STD. Error Mean
K_Ave	Single	120	1.9258	0.92259	0.08422
	Married	68	2.0779	1.01199	0.12272
S_Ave	Single	120	2.0833	0.97587	0.08908
	Married	68	2.1853	1.1228	0.13616
A_Ave	Single	120	2.5075	1.04336	0.09525
	Married	68	2.5603	1.01763	0.12341
KSA_Ave	Single	120	2.1722	0.91034	0.0831
	Married	68	2.2745	0.96446	0.11696

Table 20 shows the comparison of mean scores by civil status showed that married nurses consistently demonstrated slightly higher scores across all domains compared to single nurses. In the Knowledge domain, married nurses (M = 2.0779) scored higher than single nurses (M = 1.9258), suggesting that increased clinical exposure and years of experience may contribute to stronger theoretical understanding, consistent with the developmental principles described by Patricia Benner. Similarly, in the Skills domain, married nurses (M = 2.1853) reported slightly higher proficiency than single nurses (M = 2.0833), possibly reflecting greater opportunities to perform specialized oncology procedures such as chemotherapy administration and patient monitoring. In the Attitudes domain, both groups demonstrated positive professional behaviors, with married nurses (M = 2.5603) scoring marginally higher than single nurses (M = 2.5075), indicating strong empathy, commitment, and resilience in managing emotionally demanding cancer care. Overall, these findings suggest that while differences are modest, increased

experience and professional maturity may contribute to slightly higher competency levels among married nurses.

Table 21: Pearson Correlation

		K_Ave	S_Ave	A_Ave	KSA_Ave
K_Ave	Pearson Correlation	1	0.787	0.651	0.875
	Sig. (2Tailed)		0	0	0
	N	188	188	188	188
S_Ave	Pearson Correlation	0.787	1	0.892	0.97
	Sig. (2Tailed)	0		0	0
	N	188	188	188	188
A_Ave	Pearson Correlation	0.651	0.892	1	0.923
	Sig. (2Tailed)	0	0		0
	N	188	188	188	188
KSA_Ave	Pearson Correlation	0.875	0.97	0.923	1
	Sig. (2Tailed)	0	0	0	
	N	188	188	188	188

Table 21 shows the Correlation analysis revealed strong and statistically significant positive relationships among the Knowledge, Skills, and Attitudes (KSA) domains. A strong correlation was observed between knowledge and skills ($r = .787$, $p < .01$), indicating that nurses with higher theoretical understanding of cancer care also demonstrated greater clinical proficiency. Knowledge also showed a moderate to strong relationship with attitudes ($r = .651$, $p < .01$), suggesting that increased understanding supports more positive, empathetic, and patient-centered behaviors, consistent with principles outlined by Jean Watson. The strongest relationship among the core domains was found between skills and attitudes ($r = .892$, $p < .01$), indicating that improved technical competence enhances professional confidence and compassionate patient interaction. Additionally, all three domains demonstrated very strong correlations with the overall KSA score, including knowledge ($r = .875$, $p < .01$), skills ($r = .970$, $p < .01$), and attitudes ($r = .923$, $p < .01$), highlighting that clinical skills contributed the greatest influence on total competency. Overall, these findings support the view that oncology nursing competence develops holistically, where theoretical knowledge, technical proficiency, and professional attitudes are interdependent components of effective cancer care.

Ethical Considerations

This his study followed ethical standards to protect the rights and welfare of all participants. Approval and permission were obtained from the appropriate authorities of Veterans Memorial Medical Center before data collection. Participants were informed about the purpose of the study, and written informed consent was obtained to ensure voluntary participation. Confidentiality and anonymity were maintained by excluding personal identifiers and using the data solely for research purposes. Participants were also informed that they could withdraw from the study at any time without penalty, and data collection was conducted during appropriate times to avoid disruption of clinical duties and minimize any potential inconvenience.

Conclusion

The findings indicated that nurses demonstrated competent levels of knowledge and skills consistent with national oncology care standards and guidelines from the Department of Health and the Oncology Nursing Society, while also exhibiting compassionate and patient-centered behaviors aligned with Jean Watson's Caring Science principles. Results further showed no significant differences in knowledge, skills, and attitudes (KSA) when nurses were grouped according to demographic characteristics such as sex, educational attainment, civil status, length of service, and area of assignment, leading to the acceptance of the null hypothesis that demographic factors do not significantly influence oncology nursing competence. Instead, competency was found to be more strongly associated with professional training, clinical exposure, mentorship, and organizational support. The strong correlation among KSA domains suggested that oncology competence develops holistically, consistent with Patricia Benner's Novice-to-Expert framework, and highlighted the need for continuous professional development to address the evolving demands of cancer care, including advancements in therapies such as immunotherapy and targeted treatments.

Reccomendations

Based on the study findings, several recommendations are proposed to strengthen oncology nursing competencies and institutional support systems. Nurses are encouraged to participate in oncology-focused continuing professional development, integrate evidence-based practices into clinical care, enhance therapeutic communication, engage in mentorship programs, and participate in research and quality improvement initiatives to improve chemotherapy safety and patient outcomes. Hospital administrators are advised to develop standardized oncology nursing policy manuals aligned with national and international standards from the Department of Health, the Philippine Oncology Nurses Society, and the Oncology Nursing Society, while also institutionalizing competency-based skills validation, ensuring adequate staffing, providing psychosocial support programs, and offering scholarships for specialty oncology training. Additionally, strengthening policy implementation in accordance with the National Integrated Cancer Control Act and related national frameworks is recommended to enhance equitable cancer care services. Overall, the proposed oncology nursing development programs aim to address identified competency gaps by promoting continuous learning, clinical excellence, and compassionate care, guided by the Knowledge–Skills–Attitudes framework and competency-based nursing theories.

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