

Can Technological Competence Enhance Caring In Nursing? Perceived Technological Competence Of Caring For Nurses Working With PLHIV

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Abstract : Despite the preventive drives initiated by the Department of Health (DOH) in thwarting HIV/AIDS transmission, the Philippines has dramatically increased its HIV/AIDS cases in 2019 with 38 newly diagnosed victims per day. Massive campaigns are being initiated by both public and private organizations to address this disturbing public concern and as front liners of healthcare; more nurses are being trained to become agents of positive change in HIV/AIDS prevention. Further cited, nurses need to become more caring and technologically competent with the right attitude and disposition because competence without compassion is brutal and compassion without competence is irresponsible (Roach, 1987). This study assessed the perceived technological competence for caring of nurses working with people living with human immunodeficiency virus (PLHIV) in treatment hubs and social hygiene clinics in the National Capital Region. The study was reviewed and approved by the Ethics Review Board of an accredited institution. The researchers took the Certificate of Good Clinical Practice provided by the NIDA Clinical Trials Network. Technological Competency as Caring in Nursing Inventory (TCCNI), an adapted and modified questionnaire was utilized from the study of Locsin in 2013. Research sites included 17 selected social hygiene clinics and treatment hubs in the National Capital Region which has 23 treatments hubs in total. This descriptive-correlational study involved 45 nurses working with people living with HIV in which most of them are female who belong to the millennial generation, who are considered to be proficient in their profession with more than 3 years of clinical experience. Cluster sampling implied that the respondents obtained a 42.85% retrieval rate due to some limitations and eventualities. The findings revealed that age, gender, years of working in HIV/AIDS counselling, presence of formal or non-formal education in technological competency as caring in nursing, attendance to training program in caring and the highest educational attainment showed no significant relationships to the technological competence of the nurses. Notably, the treatment hubs/social hygiene clinics affiliation of the nurses ominously linked to their technological competence. Treatment hubs or social hygiene clinics mattered among the nurses in employing their technological skills, basic foundation of caring, and factors that contribute to the nurses' rapport to patients as caring. Furthermore, it was found out that there were robust links between the three dimensions of the technological competency as caring in nursing namely the technological skills, basic foundation of caring, and factors that contribute to nurses' rapport to patients as caring. A policy recommendation was developed to assist treatment hubs and social hygiene clinics enhance the technological competence of their nurses to effect positive change in caring for PLHIV.

Index Terms : Technological competence, nursing, caring, PLHIV, policy recommendation

1 INTRODUCTION

Human immunodeficiency virus (HIV) is a type of life-threatening virus that destroys the immune system causing immune deficiency. The immune system is considered deficient once it is no longer able to accomplish its function of combating infection and disease. In the Philippines, the number of people diagnosed with HIV per day in selected years is progressing rapidly with two people per day in 2009, seven people per day in 2011, sixteen people per day in 2014, thirty two people per day in 2018 and thirty eight people per day in March 2019 [1]. In March 2019, there were 1,172 newly confirmed HIV-positive individuals reported to the HIV/AIDS & ART Registry of the Philippines (HARP). Ninety-four percent (1,106) of the newly diagnosed was male. The median age was twenty seven years old. Half of the cases (50% or 591) was 25-34 years old and 31% or 359 were 15-24 years old at the time of testing and 11 reported deaths due to any cause among people with HIV, and all were males. National Capital Region (NCR), Region 4A, Region 3, Region 11, and Region 6 comprised the top five regions with the most number of newly diagnosed cases for the month. HIV is a complex disease with extensive psychosocial consequences, physical disorder and symptoms, thus requiring specialized competencies in nurses caring for people living with HIV. Aside from doctors, nurses are the health care professionals who are most actively involved in HIV care. Early prevention, treatment and with the help of HIV/AIDS nurses working with PLHIV can minimize the spread of the disease. Caring is innate in a person. Regardless of age, gender, race,

among other things, caring can never be separated from being a person. Caring is an expression of humanness and expressed in many ways. In nursing, caring is a fundamental core of the profession. It is indeed the essence of nursing. There is no doubt that the first word that comes to mind when researchers think of the nursing profession is caring. Caring is the practice of looking after and showing kindness and concern to individuals who cannot perform self-care particularly because of aging or disease. Jean Watson, a nursing theorist who developed the Theory of Human Caring, describes caring as "the centrality of human caring and on the caring-to-caring transpersonal relationship and its healing potential for both the one who is caring and the one who is being cared for" [2]. A therapeutic nurse-patient relationship is characterized as a helping relationship that depends on shared trust and respect, the nurturing of faith and hope, being sensitive to self and others, and assisting with the gratification of the patient's physical, emotional, and spiritual needs through the nurse's knowledge and skills. This caring relationship develops when the patient and nurse understood each other that will later results to harmony and healing. Effective verbal and nonverbal communication is a vital piece of the nurse-patient relationship and in addition providing care in a way that empowers the patient to be an active accomplice in accomplishing health and wellness. The inspiration for this research is Locsin's Theory of Technological Competency as Caring in Nursing. His theory is focused on nurses' caring for their patients with the application of technology. Technologies of health and nursing are element

of caring [3]. Because of technology, medical instruments are being upgraded and are becoming more high-tech, not only for the better but for the best patient care. Locsin emphasized that nurses should be familiar with these technological advancements in the medical field because it will provide opportunities for the nurse to know the patient's uniqueness based on their own wholeness and completeness. Caring is helping the other grow in his own time and in his own way [4]. As a caring nurse, they may meet numerous patients with different stories, different diseases and different ways of caring for them. Nurses must establish rapport with our patient by getting their trust and provide care whole heartedly. Nurses working with PLHIV are those who voluntarily give their time to help people with HIV. They spend their life giving advices to help patients achieve a positive outlook in life and health. With the increasing rates of people diagnosed with HIV in a month, there is a dire need to cope with the challenges of counselors in dealing with their target clients' needs and concerns. With this, nurses working with PLHIV need adequate competencies to be able to cater the needs of their clients. Nurses working with PLHIV in treatment hubs are trained by the DOH or the Regional Institute of Tropical Medicine (RITM). In various treatment hubs, technological competence is indeed eminent. Nurses working with PLHIV need to be updated in all the technologies that they use to complement the care given to their clients or patients. Because of this, the researchers of this study focused on the assessment of the technological competency as a caring skill among nurses working with PLHIV of people living with HIV (PLHIV) in National Capital Region (NCR). It is the intention of this research to formally come up with caring program for the nurses working with PLHIV to be able to enhance caring through their technological competency in the care of PLHIV and other vulnerable groups. The researchers described the technological competence of nurses working with people living with HIV.

1. How are the nurses working with people living with HIV described in terms of their socio-demographic profile:
 - 1.1 age;
 - 1.2 gender;
 - 1.3 years of HIV/AIDS counseling;
 - 1.4 formal or non-formal education in technological competency as caring in nursing;
 - 1.5 training program in caring received;
 - 1.6 highest educational attainment; and
 - 1.7 treatment hubs/social hygiene clinics affiliation?
2. How do the nurses working with people living with HIV assess their perceived technological competence for caring in terms of:
 - 2.1 technological skills;
 - 2.2 basic foundation of caring; and
 - 2.3 factors that contribute to nurses' rapport to patients as caring?
3. If there are any, how significant are the relationships between the assessment of the perceived technological competence for caring of nurses working with people living with HIV and their socio-demographic profile?
4. If there are any, how significant are the relationships among the assessment of the nurses working with people living with HIV's technological skills, basic foundation of caring, and the factors that contribute to nurses' rapport to patients as caring?

5. What policy recommendation for administrators can be developed to enhance the perceived technological competence for caring of nurses working with people living with HIV?

Research Hypotheses

Significant relationships existed in the assessment of the perceived technological competence for caring of nurses working with people living with HIV when they are categorized according to their selected socio-demographic profile and was tested at α of .05 level of significance.

2 METHODOLOGY

2.1 Research Design

The researchers utilized quantitative research method. Specifically, the study employed Descriptive-Correlational design to achieve its purpose. Descriptive-Correlational research design is used to simply describe the relationship than to comprehend causal pathways and describe the relationship among variables than supporting inferences of causality [5].

2.2 Population and Sample

The sample size for the survey was set according to the total population of the nurses working with people living with HIV from various social hygiene clinics, hospitals, and treatment hubs for PLHIV. Cluster sampling was utilized in the scientific selection of samples. Cluster sampling is the usual procedure for selecting a sample from a general population to specific population. In a large population, they usually rely on cluster sampling for the reason that it is impossible to get all the list of elements in a large-scale of population [5]. Cluster sampling tends to be less accurate than simple or stratified random sampling when particular of the cases were given but despite of that they stated that cluster sampling is more economical and practical than other types of probability sampling, particularly when the population is large and wide. This cluster sampling is a successive random sampling of units which composed of a large unit this successive stage was also called multistage sampling. Cluster sampling implied that the respondents obtained a 42.85% retrieval rate due to limitations. In a survey, having a 30% retrieval rate is acceptable.

2.3 Description of Respondents

The respondents in this study were nurses working with people living with HIV who are assigned in social hygiene clinics, hospitals, and treatment hubs caring for PLHIV in the National Capital Region. The respondents were selected based on the following criteria: 1.) must be a registered nurse; 2.) must have at least three months working experience as a nurse working with people living with HIV; 3.) must be either male or female, or member of the LGBT; 4.) must either be financially compensated or active volunteer; and 5.) must have undergone a training program for HIV/AIDS counseling.

2.4 Procedures

The researchers identified their target population, research locale and the date and time of data gathering. These are essential for the smooth data gathering procedures. The data collection was facilitated using an adapted and modified questionnaire written by Locsin [6]. Pilot testing was done to test the reliability and adaptability of the questionnaire, the Technological Competency as Caring in Nursing Inventory to

Filipino respondents [7]. The said respondents of the pilot testing were never included as respondents during the final data gathering. Some facilities were strict that they needed to get the approval from the city health officer before they can conduct the study. The researchers also struggled finding the location of some social hygiene clinics, treatment hubs, and hospitals. But nonetheless, the researchers had a great experience to have tried HIV testing and had a meaningful conversation with the nurses in various treatment hubs and social hygiene clinics.

2.5 Instrumentation

The Technological Competency as Caring in Nursing Inventory (TCCNI) was utilized from the study of Locsin entitled, "Technological Competency as Caring in Nursing" [7], to obtain information regarding the technological competency of nurses working with people living with HIV [7]. The questionnaire's content consists of two parts: Part I is the Socio-demographic Profile and Part II is the Technological Competence. Part II of the questionnaire is divided into three categories which are the technological skills which consist of questions number 1 to 7, the basic foundation of caring, questions number 8 to 11 and lastly, the factors that contribute to nurses' rapport to patients as caring that correspond to questions number 12 to 25. The questionnaire was validated by various nursing studies through a long series of research and discussion on how the tool will lead to its objective. The questionnaire is answerable by a 4-point Likert-type scale such as strongly agree (4), agree (3), disagree (2) and strongly disagree (1). The sets of questions determined their technological competence approach to caring to the PLHIV as mentioned above. The researchers conducted pilot testing of the questionnaire and was assessed for internal consistency using Cronbach alpha. The pilot testing was necessary to make sure that the questionnaires fit the Filipino culture of the respondents. The pilot testing was also done to determine the consistency of the items and ensured that these items can measure what is needed to be measured or quantified. The respondents during the pilot testing of the questionnaire were never considered as final respondents of this study. The final research instrument was floated via google forms and printed questionnaire to ensure that it is easy and the retrieval of the data is accurate and the utilization of excel was made for the tally sheets.

2.6 Ethical Considerations

A certificate of approval from an accredited Ethics Review Board of a University was provided to ensure rigor and legitimacy of the research undertaking. Ethical consideration was obtained by providing the respondents with an informed consent, a legal document which shows that the respondents are fully aware of what the study is all about, unveiling them the goal and the outcome of the research and giving them safety and assurance about the data gathered was kept confidential. In a demographic profile the participant only consisted of personal data.

2.7 Statistical Treatment

To describe the socio-demographic profile of registered nurses working or volunteering as HIV/AIDS change agents/counselors/life coaches according to their age, gender, years of HIV/AIDS counseling, formal or non-formal education in technological competency as a caring skill, training program on caring received, highest educational attainment and treatment hubs/social hygiene clinics affiliated with, frequency

and percentage distribution were used. To assess the technological competency as caring of registered nurses working or volunteering as HIV/AIDS change agents/counselors/life coaches, mean score and weighted means were obtained. To identify the significant relationships of the registered nurses' socio-demographic profile and technological competency as caring in nursing, Pearson Chi-square was utilized. To identify the significant correlations between the assessment results of registered nurses' technological skills, basic foundation of caring, and factors that contribute to nurses' rapport to patients as caring, Spearman's Rho was applied.

3 RESULTS AND DISCUSSIONS

The following are the findings of this study:

1. Socio-demographic profile of the Nurses Working with People Living with HIV

Table 1.1 Frequency and Percentage Distribution of the Nurses Working with People Living with HIV according to Age

Age	Frequency	Percentage
20 to 25	4	8.9
26 to 30	15	33.3
31 to 35	15	33.3
36 to 40	5	11.1
41 to 45	4	8.9
46 to 50	2	4.4
Total	45	100

Table 1.1 presents that the majority of the respondents belong to the young professional group as per Department of Health classification of workers. Hospital chiefs of nurses reported that the majority of RNs in the Philippines employed in their hospitals are 40 years old and younger in age category [8]. Private hospitals are significantly more likely to have a younger workforce (under 25 years of age), while government hospitals employed a greater percentage of RNs age 41 years and older [8]. According to Staffing Industry Analysts, from 2000 to 2017, the median age of an employed RN rose from 42.4 to 43.5 years of age, an increase no doubt but not one that appears to be a major game changer at first glance [9]. However, the underwhelming increase in the median age belies a much starker change, in which the share of employed RNs that are 55 or older has increased [9]. The reason the median age has only increased by about one year over that time is because there has also been a major increase in RNs under the age of 35, driven by a surge in nursing school in graduates. The employers are gaining younger nurses (lacking experience) but losing older nurses (with necessary experience) [9]. Significantly, more young people are becoming registered nurses, turning around a 10-year decrease in the number of nurses entering the profession. Findings show an increase in the number of RNs ranging from 23 to 26 year olds. In addition, more individuals are becoming nurses in their late 20s or mid 30s or commonly known as the "millennial" generation. Millennials thrive most when they are kept engaged with new tasks and can discover meaning, purpose, and importance in their work. All things are considered, they tend to job hop as they continued looking for

satisfaction, fulfillment, self-improvement and personal growth. Lack of communication skills may be evident on the millennials, since their tech-savvy is innate, they grow up with text messaging and social media, however that is countered by their capability to perform multiple tasks and adjust to technology advancements with ease.

Table 1.2 Frequency and Percentage Distribution of the Nurses Working with People Living with HIV according to Gender

Gender	Frequency	Percent
Female	24	53.3
Male	21	46.7
Total	45	100

Table 1.2 shows that the respondents in this study was composed of 24 female nurses with 53.3%. Meanwhile, there were 21 male nurses which is equivalent to 46.7%. The data posit that the female nurses slightly dominate their gender counterpart in the field of HIV/AIDS care. Hospital RNs are predominantly female (85%). Private hospitals have significantly more male RNs (21%) than government hospitals. RNs in the Philippines are predominantly female. Historically, the majority of the nursing workforce has always been female [8]. However, the number of men who are choosing nursing as a career has been increasing in recent years. In addition, United States Census Bureau posited that healthcare is one of the fastest-growing industries in the country, but unfortunately, men still make up only a small percentage of nurses working in the United States [8]. The central themes and sub-themes highlighted were motivating factors (job opportunities, job flexibility, financial stability) breaking gender barriers (moving beyond gender barriers, making a difference, caring for female patients), and gendering (preferential privileges, maintaining masculinity) [10]. Men in nursing with their minority status continue to have advantages. Further investigation is needed to understand why more men, especially the younger male adults are not attracted to the nursing profession. Florence Nightingale considered nursing as a suitable job for women since it was part of their household jobs. Nightingale's image of nurses as a subordinate, nurture, care, humble, benevolent as well as not too educated became prevalent in the society. The social construction of what it means to be a nurse has typically meant a caring, hard working woman. Roles like nurturing, caring, dependency, submission given to her are opposite from the ones that are attributed to men in society [11]. Over all, men who enter nursing commonly face inquiries regarding their manliness or sexuality [12]. In patriarchal culture or a society or government controlled by men, the value given to women and her place in the society is normally reflected to the nursing profession. This also presents specific issues to the image of nursing as a vocation [13]. Although, negative image is nothing new to nurses and they have faced a negative image since the profession began, several journalists believed that women came a long way by being independent and not needing assistance from men.

Table 1.3 Frequency and Percentage Distribution of the Nurses Working with People Living with HIV according to Years of HIV/AIDS Counseling

Years of Counseling	Frequency	Percent
Less than 1 year	7	15.6
1 to 2 years	16	35.6
2 to 3 years	2	4.4
More than 3 years	20	44.4
Total	45	100

Years of Counseling	Frequency	Percent
Less than 1 year	7	15.6
1 to 2 years	16	35.6
2 to 3 years	2	4.4
More than 3 years	20	44.4
Total	45	100

Table 1.3 shows the frequency and percentage distribution of the nurses working with people living with HIV according to years of HIV/AIDS counseling. The majority of the nurses who are working or volunteering in treatment hubs/social hygiene clinics for more than three years are 20 respondents corresponding to 44.4% followed by those with 1 to 2 years with 16 respondents which is equivalent to 35.6%. Third are those who have less than 1 year with seven registered nurses tantamount to 15.6%. Those who are working or volunteering in HIV/AIDS counseling for 2 to 3 years got the lowest which comprised of only two registered nurses which is equivalent to 4.4%. The length of service in a particular field of specialization can be best explained or rationalized using Benner's Stages of Clinical Competence in 1984. According to this framework, there are five stages that nurses usually go through to become an expert [14]. The five stages are novice (less than 6 months' clinical experience), advanced beginner (6 to 12 months' clinical experience), competent (1 to 3 years' clinical experience), proficient (4 to 5 years' clinical experience), and expert (over 5 years' clinical experience) [14]. In this study, most of the nurses are considered proficient in their field of practice. Benner in 1984 posited that the proficient performer perceives situations as a whole rather than in terms of chopped up parts or aspects, and his performance is guided by maxims. Proficient nurses understand a situation as a whole because they perceive its meaning in terms of long-term goals. The proficient nurse learns from experience what typical events to expect in a given situation and how plans need to be modified in response to these events. The proficient nurse can now recognize when the expected normal picture does not materialize. This holistic understanding improves the proficient nurse's decision making; it becomes less labored because nurse now has a perspective on which of the many existing attributes and aspects in the present situation are the important ones. The relationship between the use of an educational intervention with nurses from several Asian countries and changes in knowledge, attitudes and willingness to care for patients with human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) [15]. It was stated that they were more willing to work with colleagues and patients with HIV/AIDS following the educational intervention, they said that they would continue to take additional precautions for fear of contracting HIV in the workplace.

Table 1.4 Frequency and Percentage Distribution of the Nurses Working with People Living with HIV according to Availability of Formal or Non-formal Education in Technological Competency as Caring in Nursing

Formal/ Non-formal education	Frequency	Percent
Yes	29	64.4
No	16	35.6
Total	45	100

Table 1.4 presents the frequency and percentage distribution of the registered nurses working with people living with HIV according to availability of formal or non-formal education in technological competency as caring in nursing. Majority of the respondents stated that they received formal or non-formal education in technological competency as caring in nursing with 29 respondents which is equivalent to 64.4%. On the other hand, there are about 16 registered nurses or 35.6% who did not have any formal or non-formal education in the said socio-demographic variable. There are eight nurse's leadership competencies and this include: (i) A global perspective or mindset regarding healthcare and professional nursing issues; (ii) Technology skills which facilitate mobility and portability of relationships, interactions, and operational processes; (iii) Expert decision-making skills rooted in empirical science; (iv) The ability to create organization cultures that permeate quality healthcare and patient/worker safety; (v) Understanding and appropriately intervening in political processes; (vi) Highly developed collaborative and team building skills; (vii) The ability to balance authenticity and performance expectations; and (viii) Being able to envision and proactively adapt to a healthcare system characterized by rapid change and chaos [16]. The study implied that to be an effective nurse's leader, it will require a formal education and training that are a part of most management development and to be a healthcare leaders nurses must have a sets of skills in order to be competent they must be proactively adapt to any situations.

Table 1.5 Frequency and Percentage Distribution of the Nurses Working with People Living with HIV according to Training Program on "Caring" Received

Training program for Caring	Frequency	Percent
Yes	34	75.6
No	11	24.4
Total	45	100

Table 1.5 reveals the frequency and percentage distribution of the nurses working with people living with HIV according to training program in caring received. The majority of the respondents confirmed that they have a training program on caring with 34 nurses who responded corresponding to 75.6%. Meanwhile, those who did not receive a training program on caring is comprised of 11 registered nurses which is equivalent to 24.4%. Integrated decentralized training for health professions education is tested in a certain study. It concluded that a combination of decentralized training and the school of health sciences collaboration will not only serve a good interpersonal cooperation but it will benefit the service in healthcare effectively [17]. Another study determined the impact of an education program on HCWs (Health care workers) practices to prevent needlestick and sharp injury. They conducted a hospital pre- and post-interventional study in cardiosurgical hospital they included 14% physicians, 64% nurses, 3% laboratory technicians, 15% health assistants and 4% of other workers [18]. There were three session of education program which they separate from first session, second and a post test at the last session. In about six months of education/ intervention the NSI were less often happen because they have been properly trained and guided. The study implied that it is significant to have a training program in order to reduce the Needle stick injury (NSI) accident they need to adhere in the standards of care.

Table 1.6 Frequency and Percentage Distribution of the Nurses Working with People Living with HIV according to Highest Educational Attainment

Highest Educational Attainment	Frequency	Percent
Bachelor's Degree	42	93.3
Master's Degree	2	4.4
Doctorate Degree	1	2.2
Total	45	100

Table 1.6 showcases the frequency and percentage distribution of the nurses working with people living with HIV according to their highest educational attainment. The majority of the respondents has a bachelor's degree with 42 registered nurses which is equivalent to 93.3%. There are two registered nurses who finished a master's degree and only one who finished a doctorate degree corresponding to 4.4% and 2.2%, respectively. A study identified how nurses with associate degrees returning for a BSN degree experience professional identity development [19]. If BSN programs are considered the first level of professional education in nursing, then it makes sense that when ADN nurses return to school for a BSN, the nurses undergo a change in their professional identity. Nurse leaders play an important role. The results of a study suggested that nurse characteristics, such as main working time and total work experience, were related to the perception of collaboration [20]. The subscales with the highest scores in both countries were professionalism, shared process and communication. Factors such as conflict management and coordination are areas which should be emphasized to achieve good collaboration between nurses. It is an important part in assessing and improving RN-RN collaboration. Accordingly, many nurses are trained inadequately in emergency preparedness (EP), preventing them from effectively executing response roles during disasters, such as chemical, biological, radiological, nuclear, and explosive (CBRNE) events, participating in nursing CBRNE training, nurses increased their knowledge of and preparedness to respond to disasters [21].

Table 1.7 Frequency and Percentage Distribution of the Nurses Working with People Living with HIV according to Treatment Hubs/Social Hygiene Clinics Affiliation

Treatment Hubs/Social Hygiene Clinics	Frequency	Percent
LoveYourself Anglo (Mandaluyong City)	4	8.9
Mandaluyong Social Hygiene Clinic (Mandaluyong City)	3	6.7
Pasig City Treatment Hub (Pasig City)	4	8.9
Manila Social Hygiene Clinic (Sta. Cruz, Manila)	5	11.1
Pasig Social Hygiene Clinic (Pasig City)	4	8.9
San Juan Social Hygiene Clinic (San Juan City)	3	6.7
Makati Social Hygiene Clinic (Makati City)	2	4.4
Pasay Social Hygiene Clinic Bahay L.I.N.G.A.D.	3	6.7
DOH-affiliated treatment hubs/social hygiene clinics not named	1	2.2
Sustained Health Initiatives of the Philippines (S.H.I.P.) (Mandaluyong City)	5	11.1
Taguig Social Hygiene Clinic (Taguig City)	1	2.2
Research Institute for Tropical Medicine (RITM)	2	4.4
Caduceus Medica STD/Infectious Disease	1	2.2
Paranaque Social Hygiene Clinic and Wellness Center (Paranaque City)	2	4.4
Healthway Medical	2	4.4

Las Pinas Social Hygiene Clinic (Las Pinas City)	2	4.4
Total	45	100

Table 1.7 presents the frequency and percentage distribution of the nurses working with people living with HIV according to treatment hubs/social hygiene clinics affiliation.

2. Perceived Technological Competence for Caring of Nurses Working with PLHIV

Table 2 Perceived Technological Competence for Caring of Nurses Working with People Living with HIV (Technological Skills, Basic Foundation of Caring, and Factors that Contribute to the Nurses' Rapport to Patients as Caring)

Item Statement	MS	SD	Description	Interpretation
Technological Skills	3.42	.424	Agree	Competent
Basic Foundation of Caring	3.60	.349	Strongly Agree	Highly Competent
Factors that Contribute to the Nurses' Rapport to Patients as Caring	3.52	.404	Agree	Competent

The technological skills of the nurses has a weighted mean of 3.42. This means that the nurses are competent in the dimension of technological skills. One study concluded that attitudes to caring attributes of nurses might affect their opinion regarding influences of technology on nursing care [22]. In terms of the basic foundation of caring of the nurses has a weighted mean of 3.60. This means that the nurses are highly competent in the dimension of basic foundation of caring. Physicians, nurses and allied health staff play a very vital role in addressing palliative care (PC) needs of people living with HIV/AIDS (PLWHA) [23]. The challenges of caring for people living with HIV (PLWH) in a low-resource setting has had a negative impact on the nursing profession, resulting in a shortage of skilled nurses [24]. Furthermore, the nurses' rapport to patients as caring has a weighted mean of 3.52. This means that the nurses are highly competent in the dimension of factors that contribute to nurses' rapport to patients as caring. Persons with HIV infection may be an ideal population to study the drivers of a positive initial patient-provider relationship, as it is a chronic and serious condition that requires a reliable, ongoing relationship with a provider [25]. This signifies that a nurse with a better rapport will be able to render care in an efficient manner that will ensue the patient to feel at ease due to a better establishment of trust that makes them satisfied to the care they received and has been introduced.

3. SIGNIFICANT RELATIONSHIPS BETWEEN THE PERCEIVED TECHNOLOGICAL COMPETENCE FOR CARING OF NURSES WORKING WITH PEOPLE LIVING WITH HIV AND THEIR SOCIO-DEMOGRAPHIC PROFILE

Table 3 Significant Relationships Between the Perceived Technological Competence for Caring of Nurses Working with People Living with HIV and Their Socio-demographic Profile

Tech. competence	Chi-square	df	p-value	Decision	Remark
Age	14.9320	10	0.135	Fail to Reject H_0	Not Significant

Gender	1.244a	2	0.537	Fail to Reject H_0	Not Significant
Years of working and volunteering in HIV/AIDS counseling	5.146a	6	0.525	Fail to Reject H_0	Not Significant
Formal or non-formal education in technological competency as caring in nursing	2.135a	2	0.344	Fail to Reject H_0	Not Significant
Attended training program in caring	.608a	2	0.738	Fail to Reject H_0	Not Significant
Highest educational attainment	3.673a	4	0.452	Fail to Reject H_0	Not Significant
Treatment hubs/social hygiene clinics affiliation	57.205a	32	0.004	Reject H_0	Significant

Table 3 shows that the findings reveal that the technological competence of the nurses significantly correlate to the treatment hubs or social hygiene clinics where they are affiliated. This implies that the treatment hubs or social hygiene clinics matter in employing the technological skills, basic foundation of caring, and factors that contribute to the nurses' rapport to patients as caring. Most of the socio-demographic variables do not correlate to the technological competence of the nurses and these include their age, gender, years of working and volunteering in HIV/AIDS counseling, formal or non-formal education in technological competency as caring in nursing, whether or not they have attended training program in caring, as well as their highest educational attainment. All nurses demonstrated high mean scores for technological competency as caring. Asians reported that the highest mean scores are Asian nurses also have the largest proportion in the 6-10 year categories for overall experience and experience in current practice area [26].

4. SIGNIFICANT RELATIONSHIPS AMONG THE NURSES WORKING WITH PEOPLE LIVING WITH HIV'S TECHNOLOGICAL SKILLS, BASIC FOUNDATION OF CARING AND FACTORS THAT CONTRIBUTE TO NURSES' RAPPORT TO PATIENTS AS CARING

Table 4 Significant Relationships among the Nurses Working with People Living with HIV's Technological Skills, Basic Foundation of Caring and Factors that Contribute to Nurses' Rapport to Patients as Caring

Technological Competence Dimensions	Spearman rho	p-value	Decision	Remarks
Technological Skills and Basic Foundation of Caring	.673**	0.000	Reject H_0	Significant
Technological Skills	.805**	0.000	Reject H_0	Significant

<i>and Factors that Contribute to Nurses' Rapport to Patients as Caring</i>				
<i>Basic Foundation of Caring and Factors that Contribute to Nurses' Rapport to Patients as Caring</i>	.706**	0.000	Reject Ho	Significant

Table 4 shows that there are significant relationships between the three dimensions of the technological competency as caring in nursing namely, technological skills, basic foundation of caring, and factors that contribute to nurses' rapport to patients as caring, hence, there is rejection of the null hypothesis in this study. HIV counseling is a challenging as well as a skilled job. The counselor has to be very dynamic and sensitive to cater to different client types [27]. HIV counseling involves dealing with people with variety of behavioral practices, that is HIV low risk individuals, high risk groups such as Female Sex Workers (FSWs), Men having Sex with Men (MSMs), Intravenous Drug Users (IDUs), clients of sex workers etc. HIV counselors need to deal with people of all ages, education levels, occupations, socio-economic strata, and different socio cultural backgrounds. Their risk levels, vulnerabilities might be different. Various environmental, socio-economic factors might shape their behaviors, and their coping mechanisms. Counseling in HIV/AIDS is a core element of the holistic approach to health care. During the process of counseling psychological aspects are identified, counseling enables frank discussion of sensitive issues in the client's life. HIV/AIDS counseling is a dynamic process [28].

4 CONCLUSION

Caring must be explicitly articulated into commitment, conscience, competence, compassion, and confidence according to Simone Roach in 1987. Caring as an art and a science is the ultimate language of nursing and that it has to be practiced with mindfulness at all times. With the advent of advanced technology, nurses need to become adept with its utilization to be able to influence humane care. Technological competency as caring in nursing is the skilled demonstration of intentional, deliberate, and authentic activities by nurses who practice in environments requiring technological expertise [29]. Technology has the potential to bring the patient closer to the nurse by enhancing the nurses' ability to know the person more fully. It can be gleaned that technology is the bridge between nurses and the improvement of their caring capabilities. In the light of the findings of this study, it is hereby recommended that social hygiene clinics and treatment hubs utilize unique techniques that will make diagnosing of HIV faster, less expensive and less threatening, and will be more accessible to People Living with HIV. They must blend well with the caring practices of the nurses in treatment hubs and social hygiene clinics. Secondly, reinforce use of tablets instead of the traditional printed information or data sheets in obtaining patient's information and medical history. Thirdly, Treatment hubs and social hygiene clinics need to utilize technology-aided tools as part of revitalizing their technological competence to complement their plan and provide of care to People Living with

HIV. Fourthly, sustain the levels of cognitive and psychomotor skills, as well as the carative abilities of the nurses working with People Living with HIV. Moreover, Nurses working with People Living with HIV must undergo various training programs in caring to enhance their caring abilities. Nurses need to reinforce their assessment skills because assessment is the foundation of basic nursing care. This includes history taking and knowing the patient as a whole. Nurses must continuously empower themselves in establishing trust and rapport with People Living with HIV to promote their sense of healing and achieve optimum patient health through religious compliance for the treatment regimen. Nurses should establish a shared sense of safety and security, responsibility and commitment to care with People Living with HIV. A professional relationship between the nurses and PLHIV is founded on trust, interdependence, confidence, reliance and empathy. Nurses need to become patient advocates. Furthermore, treatment hubs and social hygiene clinics must do capacity building to help nurses improve, affirm and apply their optimum technological competence as this is essential in caring for People Living with HIV. Nurses must enhance their technological skills to improve their foundation on caring and vice versa. Nurses need to undergo continuous professional development through a more focused training-workshop on technological competence and utilize their learned skills to the ways they execute their caring practices toward People Living with HIV. Nurses should revisit the basic foundations of caring and its relation to several factors contributory to the establishment of the nurses' rapport to People Living with HIV. Finally, adopt and utilize the policy recommendation on technological competence of nurses working with People Living with HIV.

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