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A Descriptive Study to Assess the Attitude and Skill in Usage of Computer Among Registered Nurses in BMCH General Ward, Chennai

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ABSTRACT

In recent years, the use of computers in the healthcare system has become more important for easy retrieval of medical information. This advancement has a positive impact on patient care among health care providers. **Objectives:** To assess the level of attitude and skill in use of computer among the nurses, to find the correlation between attitude and skill in use of computer among the nurses, to find out the association between the level of attitude and skill in use of computers with the selected demographic variables. **Methodology:** An Exploratory Descriptive method was used and the study was conducted in General wards at BMCH, Chennai. 110 registered nurses were selected using convenient sampling technique. 3-point Likert's scale was used to assess the level of attitude and observational checklist for assessing the level of skill in use of computers among registered nurses. **Results:** The study revealed 68 (62%) had favourable attitude, 31(28%) had most favourable attitude and 11(10%) had unfavourable attitude, 53(48%) had adequate skill, 38(35%) had moderately adequate skill, 19 (17%) had inadequate skill in use of computer. There was a correlation between level of attitude and skill in use of computer at the significant level of p value 0.021. There was a significant association between age and educational qualification with level of attitude and there was a significant association between age, area of work and attended training programme. **Conclusion:** The study result showed that 62% of registered nurses favours using computers for patient care, 48% possessed adequate skills which revealed a gap of 14%. The study suggested to conduct in-service education and training program to promote the use of computers in patient care.

Keywords: Use of computer, Attitude, Skill

INTRODUCTION

In this era of technological advancement, the nursing profession must seamlessly integrate with the prevailing changes. Computers have been used by every corner of the globe and it is also incorporated into health care as well as in nursing practices to enhance the quality of patient care. Adapting to this digital age, nurses are called to proficiently merge their healthcare expertise with to computer proficiency, thereby adhering to a new era of improved health care delivery (Ramanadin et al., 2013). Nurses should be efficient in providing health care which requires skill in all aspects including computer application in nursing practice. In view of this the Indian Nursing Council introduced the subject of Computers in Nursing and made

it mandatory in all nursing courses enhance the Knowledge & Skill towards Computer application in the nursing profession. Nursing Informatics is the new emerging field in our profession which will prepare the nurses to use computers in our field effectively & efficiently. (Burkes M. 1991).

At International level a descriptive study was conducted at Beijing Medical University, China. A study was conducted to assess the computer knowledge, attitude and skills of nurses working in the hospital settings. The study concluded that the knowledge and skills of nurses are at a moderate level and they have a neutral level of attitude and there is positive correlation with both level of knowledge and attitude. The study concluded that the nurses should be trained to get adequate knowledge, attitude and skill (Liu, J et al., 2000)

At National level a study was conducted to assess the computer knowledge, attitude and skill among nurses in health care settings at Punjab, India. The study was conducted among 120 staff nurses. The result shows that 75% staff nurses had good knowledge. 100% of them are having positive attitudes and 50.8% and 30.8%had average and fair computer skills respectively. There is no significant correlation was found between knowledge, attitude and skills. (Raja, E. et al., 2004)

HYPOTHESIS

H1: There will be a significant association between level of attitude and skill in use of computer with selected demographic variables

METHODOLOGY

Research Approach

Quantitative research approach was used in this study

Research Design

A Non experimental descriptive research design was used to assess the level of attitude and Skill in Use of Computer among Registered Nurses in General Wards.

Study Settings

The study was conducted in General Wards (Medical, Surgical, Ophthalmology, Orthopaedic and Special wards) at Bhaarath Medical College and Hospital (BMCH), Chennai in the month of March 2023.

The Study variables

The study variables are attitude and Skill in use of computer among nurses in general wards

Extraneous Variables

The extraneous variables are age, gender, qualification, previous knowledge, work load of the nurses.

MATERIALS & METHODS

Data was collected for 4 weeks during the month of March 2023. Participatory observational technique was used to collect data to assess the skill in use of computer. Per day 3 to 5 Registered Nurses were observed for 3 times in use of computers. In 25days 110 Registered Nurses were observed. The average of 3 observations was taken for the analysis. After completing the observation from the entire study participant, a participant information sheet was provided, the purpose and procedure was explained clearly and informed consent was obtained from the study participants to assess the level of attitude in use of computer. The self-administered questionnaires which consist of demographic variables and 3-point Likert's scale to assess the level of attitude were given to the study participants and information was obtained from them. Each study participant was given 15 minutes to answer the questions. The data was collected from the study participants within 5 days to minimize the biases. Data was analyzed for frequency, percentage, mean and standard deviation. Correlation between level of attitude and skill in use of computer was analyzed by using Spearman's correlation coefficient. Association between the demographic variables and level of knowledge and attitude was analyzed by using Fisher's exact test.

Sample and sampling technique

The sample size was calculated with precision 5% and confident level 90%. It

was calculated using power analysis formula. The sample size calculated 110 Registered Nurses were selected by using convenient sampling techniques.

Tool for data collection

A structured questionnaire has 3 section was developed from literature and expert opinion to collect data.

Section: I

This section consists of demographic variables like age, gender, educational qualification, designation, years of experience, area of work and attended training programme.

Section: II

This section consists of structured 3-point Likert's scale which has 11 positive statements and 9 negative statements concerning to assess the level of attitude among nurses in use of computers for clinical practice and patient care.

Section: III

This section contains an observational checklist with statements evaluating the utilization of the Hospital Information System. It assesses its use for admitting inpatients, transferring patients, discharging patients, medication indenting, registering lab investigations, viewing reports, and maintaining nurses notes for individual patients.

Scoring and Interpretation

Section: II Structured 3-point Likert's scale

This tool consists of 11 positive statements and 9 negative statements with 3 responses.

Attitude score

The total score was converted into percentage and interpretations are as follows.

S.No	Score	Percentage	Interpretation
	31 to 40	77 to 100 %	Most favorable attitude
	16 to 30	40 to 76%	Favorable attitude
	0 to 15	0 to 39%	Unfavorable attitude

Scoring the statement

RESPONSES	Agree	Neutral	Disagree
Positive Response	2	1	0
Negative Response	0	1	2

Section: III Observational Checklist

This tool consists of 30 statements about the use of computer. One mark was given if the nurses perform that particular task and zero marks was given if they do not.

Scoring

The total score was converted into percentage and interpretations are as follows.

S.No	Score	Percentage	Interpretation
	21 to 30	70 to 100 %	Adequate skill
	11 to 20	37 to 69%	Moderately adequate skill
	0 to 10	0 to 36%	Inadequate skill

Validity of the Tool

Content validity was obtained from 2 Medical and Surgical nursing experts, 1 Nurse manager and administrative officers. Their valid suggestions were considered in formation of tool.

Ethical Considerations

The study proposal was approved by the institution review board.

1. The procedure was explained to the study participant and as well as the explanation was given for utilization of the data for publication and feedback of the results to higher authority for the purpose of improvement.
2. Written informed consent was obtained from the study participants of those who were willing to participate in the study.
3. Confidentiality of information was maintained by utilizing code number for the study participant

RESULT

The study result show that majority of 54 (49%) of Registered Nurses belongs to age group of 21-25 years. Majority of them 83 (75%) were Females. Majority 64 (58%) of the participants had completed B.Sc. Nursing. Majority 74(67%) of them are Nursing officer. Majority 48(44%) of them had 0 to 2 years of working experience. Majority 89 (81%) of them were attended training programme in computer conducted by the hospital management. According to level of attitude 31(28%) of Registered Nurses had most favourable attitude, 68(62%) of them had favourable attitude and 11 (10%) of them had unfavourable attitude towards the use of computer for clinical practice and patient care.

According to level of skill 53(48%) of Registered Nurses were having adequate skill in use of computer for clinical practice and patient care, 38(35%) had moderately adequate skill and 19 (17%) had inadequate skill in use of computer. There was a correlation between the level of attitude and skill in use of computer among registered nurses and p-value was 0.021 which was statistically significant. There was significant association between level of Attitude with Age and Educational Qualification of registered nurses. There was significant association between level of skill in use of computer with Age, area of work and training programme attended by Registered Nurses

Table 1: Frequency and Percentage Distribution of Registered Nurses According to Demographic Variables. n=110

Sl. No.	Demographic variables	Categories	Frequency (f)	Percentage (%)
	Age	21 - 25 years	54	49
		26 - 30 years	38	35
		31-35 years	18	16
	Gender	Male	27	25
		Female	83	75
	Educational Qualification	B.Sc. (N)	64	58
		P.B.B.Sc. (N)	27	25
		M.S.c. (N)	19	17
	Designation	Nursing officer	74	67
		Ward Incharge	36	33
	Years of Work Experience	0-2 years	48	44
		3-5 years	41	37
		6-8 years	21	19
	Area of work	Medical ward	28	25
		Surgical ward	22	20
		Ophthalmology ward	16	15
		Orthopaedic ward	32	29
		Special ward	12	11
	Attended Training Programme	Yes	89	81
		No	21	19

Table: 1 show that majority of 54 (49%) of Registered Nurses belongs to age group of 21-25 years. Majority of them 83 (75%) were Females. Majority 64 (58%) of the participants had completed B.Sc. Nursing. Majority 74(67%) of them are Nursing officer. Majority 48(44%) of them had 0 to 2 years of working experience. Majority 89 (81%) of them were attended training programme in computer conducted by the hospital management.

Distribution of Registered Nurses According to Level of Attitude on Use of Computer

Figure 1, shows that, 31(28%) of Registered Nurses had most favourable attitude, 68(62%) of them had favourable attitude and 11 (10%) of them had unfavourable attitude towards the use of computer for clinical practice and patient care.

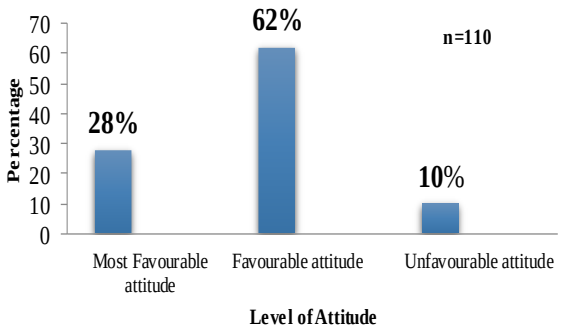

Figure 1: Level of Attitude on Use of Computer among Registered Nurses

Distribution of Registered Nurses According to Level of Attitude on Use of Computer

Figure 2, shows that, shows that 53(48%) of Registered Nurses were having adequate skill in use of computer for clinical practice and patient care, 38(35%) had moderately adequate skill and 19 (17%) had inadequate skill in use of computer.

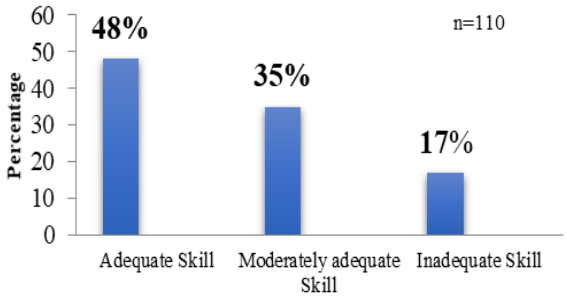

Figure 2: Level of Skill in Use of Computer among Registered Nurses

CORRELATION BETWEEN ATTITUDE AND SKILL IN USE OF COMPUTER AMONG REGISTERED NURSES

Table 2: Correlation between Level of Attitude and Skill in use of computer among Registered Nurses n=110

The study variables	Mean	SD	r VALUE	p-VALUE
Level of Attitude	20.12	1.27	-0.185	0.021* S
Level of Skill	18.34	2.28		

S = Statistically Significant (<0.05 p value)

Table 2 shows that there was a correlation between the level of attitude and skill in use of computer among registered nurses and p-value was 0.021 which was statistically significant.

ASSOCIATION BETWEEN ATTITUDE AND SKILL IN USE OF COMPUTER WITH SELECTED DEMOGRAPHIC VARIABLES

Table 3: Association between Level of Attitude in use of computer with selected demographic variables n=110

Sl. No.	Demographic variables	Categories	P Value
1.	Age	21 - 25 years	0.049*s
		26 - 30 years	
		31-35 years	
2.	Gender	Male	0.54NS
		Female	
3.	Educational Qualification	B.Sc. (N)	0.012*S
		P.B.B.Sc. (N)	
		M.S.c. (N)	
4.	Designation	Nursing officer	0.52NS
		Ward Incharge	
5.	Years of Work Experience	0-2 years	0.34NS
		3-5 years	
		6-8 years	
6.	Area of work	Medical ward	0.67NS
		Surgical ward	
		Ophthalmology ward	
		Orthopaedic ward	
		Special ward	
7.	Attended Training Programme	Yes	0.23 NS
		No	

NS = Statistically Not Significant (>0.05 p value), S = Statistically Significant (< 0.05 p value)

Table 3, Shows that there was significant association between level of Attitude with Age and Educational Qualification of registered nurses

Table 4: Association between Level of Skill in use of computer with selected demographic variables

Sl. No.	Demographic variables	Categories	P Value
	Age	21 - 25 years	0.032*s
		26 - 30 years	
		31-35 years	
	Gender	Male	0.89NS
		Female	
	Educational Qualification	B.Sc. (N)	0.76NS
		P.B.B.Sc. (N)	
		M.S.c. (N)	
	Designation	Nursing officer	0.41NS
		Ward Incharge	
	Years of Work Experience	0-2 years	0.56NS
		3-5 years	
		6-8 years	
	Area of work	Medical ward	0.023*s
		Surgical ward	
		Ophthalmology ward	
		Orthopaedic ward	
		Special ward	
	Attended Training Programme	Yes	0.037*s
		No	

NS = Statistically Not Significant (>0.05 p value), S = Statistically Significant (< 0.05 p value)

Table 4, Shows that there was significant association between level of skill in use of computer with Age, area of work and training programme attended by Registered Nurses.

DISCUSSION

A descriptive cross-sectional study was conducted among middle and functional level nurse managers at Kenya's Kenyatta National Hospital. Using a purposive sample of 107 nurse managers from various hospital departments, data was collected through a self-administered questionnaire. The findings indicated remarkably positive attitudes among nurse managers toward utilizing computers in healthcare provision. Interestingly, accessibility to a computer or previous computer training did not significantly impact their attitudes (p=0.05). However, longer nursing practice and older age correlated negatively with these attitudes (p=0.05). Notably, 85% (n=91) of nurse managers lacked computer studies in their basic nursing training, with only 51% (n=55) receiving computer training post their initial nursing education.

An exploratory study was carried out to evaluate the Computer Knowledge, Attitude, and Skill among nurses within a healthcare setting at a selected hospital in Ludhiana, Punjab, India. Using systematic random sampling, 120 staff nurses participated in the survey. Assessments were conducted through a self-structured questionnaire focusing on Computer Knowledge, Attitude, and Skill using a scale. Analysis revealed that a significant majority, approximately 75% of staff nurses, possessed commendable computer knowledge. Surprisingly, all nurses demonstrated positive attitudes toward computer utilization. However, only 50.8% displayed average skills, while 30.8% had fair computer skills. Interestingly, no substantial correlation was found among the nurses' computer knowledge, attitude, and skills.

IMPLICATIONS

Nursing Practice

- In service education can be planned for staff nurses to update their knowledge in

the use of computer and hospital information system
- The new employees can be oriented during induction about Hospital information system.

Nursing Administration
- The nurse administrator can encourage the registered nurses to use computer for patient care.
- Policy/ protocol to be made for credit-based learning on use of computer.

Nursing Research
- This study can serve as a further reference for nursing personnel

RECOMMENDATIONS
- On the basis of the finding of the study the following recommendation were made-
- A similar study can be done in critical care units where the nurses are having increased workload when compare with general wards.
- A comparative study can be done among nurses in critical care units and in general wards.
- The study can be replicated with a large number of staff nurses for generalization.

CONCLUSION
The study result showed that 62% of registered nurses favor's using computers for patient care, only 48% poses adequate skills which revealed a gap of 14%. To address these variations the study suggested to conduct in-service education and training program to promote the use of computers in patient care.

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