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A Descriptive Study to assess the Knowledge Regarding Aseptic Techniques among 3rd Year GNM Students of Manikaka Topawala Institute of Nursing, CHARUSAT, Changa

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ABSTRACT

Infections are leading cause of death in the United States and are associated with significant morbidity. The rate of hospital acquired infections has increased by 36% in the last 20 years, and 25% of the clients developed a nosocomoal infection. Infections present or incubating at the time of admission to the hospital are referred to as community acquired. The source of nosocomial pathogens in health care facilities varies, but both health care workers and clients are reservoirs in most instances. The most common sites of infection in clients are the urinary tract, lower respiratory tract, surgical wound, and the blood stream. Prevention of nosocomial infections through hand washing, combined with principles of asepsis and proper use of gloves[3]. Asepsis is freedom from infection or prevention of contact with microorganisms. Medical asepsis practices are used to protect the clients and the environment from the transmission of disease producing organisms. Medical asepsis is a '' Clean technique''. It consist of Sterilization of articles, Hand washing, Gown technique, Wearing gloves and face mask. Surgical aseptic procedures are used to keep objects or areas Sterile or completely free from microorganisms. Surgical asepsis is a ''Sterile technique''[5]. The effectiveness of infection control practices depends on nursing students conscientiousness and consistency in using effective aseptic technique. It is human nature to forget key procedural steps, or when hurried, to take short cuts that break aseptic procedures. However, failure to comply with basic procedures places the client at risk for an infection that can seriously impair recovery or lead to death[6]. There is evidence indicating that improvements in infection control practice can reduce the incidence of healthcare-associated infection. This article explores the evidence base for glove use and aseptic technique. There is a lack of evidence regarding the influence of sterile versus clean gloves in clinical care. Therefore, in practice, clean and aseptic techniques are often used interchangeably. Nurses must learn to select clean or aseptic technique, and therefore clean or sterile gloves, using a risk assessment protocol. Regular audits of aseptic technique and education are needed to improve care[9].

KEYWORDS

Effectiveness, Descriptive study, Assess, Aseptic Technique

INTRODUCTION

"Prevention is better than cure'' - Indian Proverb

The World Health Organization (WHO) defined health in its broader sense in its 1948 constitution as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity [2,3]." Infection is the attack on body by pathogenic microorganism or the entry of any disease producing factor in the body, developing and causing damage to the body[2].

The fact that there is a relationship between the standards of aseptic technique performance and the rise in hospital infection rates has been suggested by the Department of Health's (DoH's, 2004) 'Winning Ways' document. This literature review considers how the aseptic technique

is performed in the UK, and examines the nature of ritualistic and evidence-based practice underpinning this skill-based procedure. The source of nosocomial pathogens in health care facilities varies, but both health care workers and clients are reservoirs in most instances. The most common sites of infection in clients are the urinary tract, lower respiratory tract, surgical wound, and the blood stream. Aseptic technique is a set of specific practices and procedures performed under carefully controlled conditions with goal of minimizing contamination by pathogens[4].

Material and Method: The research approach adopted for this study was quantitative research approach. The sampling technique used in present study is all available population. In present study the researcher design selected is a descriptive design. The sample of the present study comprises of 33 students of 3rd year GNM from Manikaka Topawala Institute of Nursing, CHARUSAT, Changa. The final tool consists of three sections, Section-1: information on socio-demographic variables of respondents containing 4 questions.

Section-2: information on knowledge regarding aseptic techniques which contains 10questions. Section-3: information on knowledge regarding the prevention and management of the aseptic techniques. A score of '1' was given to all correct answers while a score '0' was given to all incorrect answer. The validity of the study was taken from the expert.

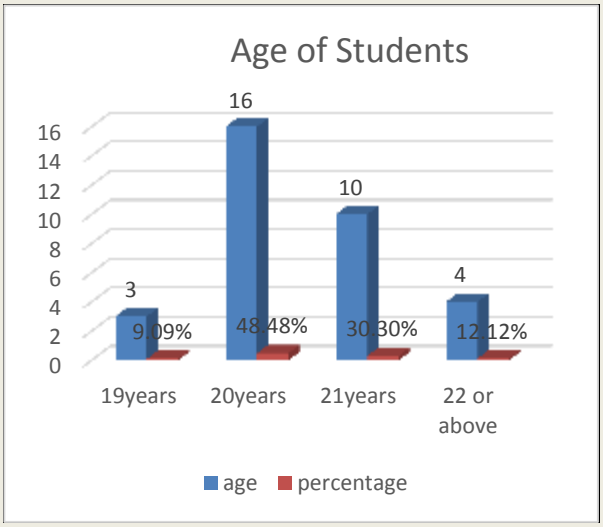
MAJOR FINDINGS OF THE STUDY

Table 1 Section-1: Findings Related to socio demographic variables

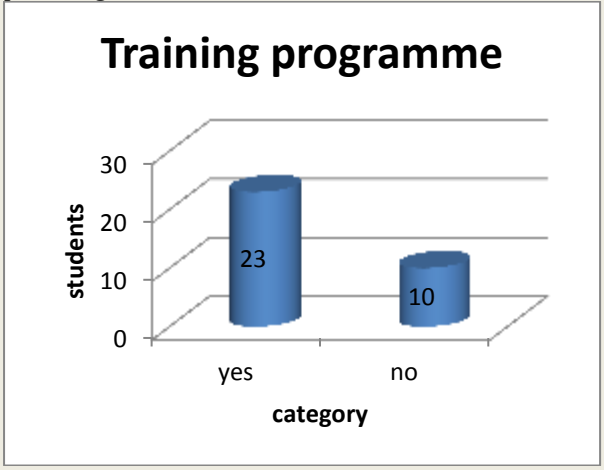
Socio demographic variables	Category	Frequency	percentage	Number
Age	19 year	3	9.09%	33
	20 years	16	48.48 %	
	21 years	10	30.30%	
	22 years or above	4	12.12%	
Attained training programme	Yes	23	69.69%	33
	No	10	30.30%	
Gender	male	05	15.15%	33
	female	28	84.84%	
Source of health information	books	13	39.39%	33
	Clinical prectice	11	33.33%	
	lecture	02	6.06%	
	Mass media	07	21.21%	

The data present in the table 1 indicates that majority of students 20(48.48%) belonged to the age of 20 years,and minimum 3(9.09%) belonged to the age 19 years. Majority of samples 23(69.69%) have attained training programme. Or minimum samples 10(30.30%) have not attained any training programe. Majority of samples are female28(84.84%) and minimum samples are male 5(15.15%).13(39.39%) sample get

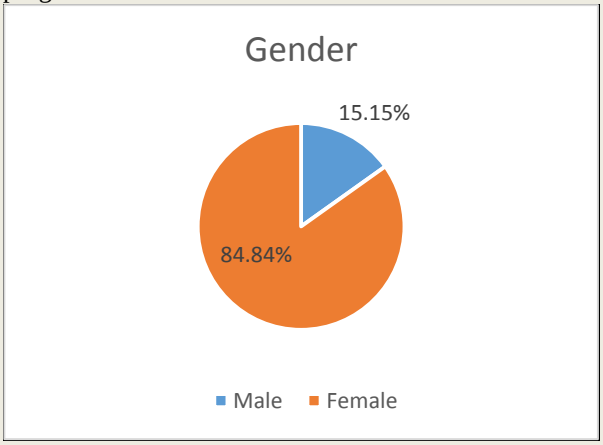
source of health information from the books. Or 11(33.33%) get sources of health information from clinical practice.



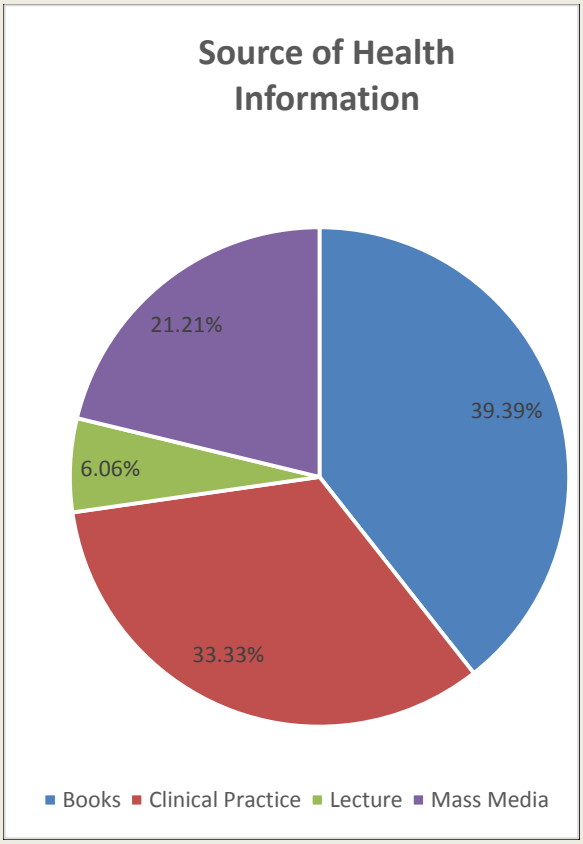
Graph 1 Graph showing the age of students and percentage



Graph 2 Cylinder graph showing the distribution of students according to attained any training programme



Graph 3 The pie chart showing the distribution of gender



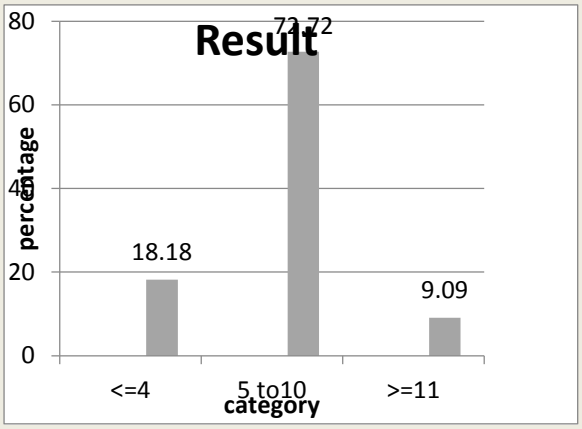
Graph 4 The pie chart showing the student's source of Health information

Section 2: Distribution of knowledge of 3rd year GNM Students regarding aseptic techniques

Table 2: Frequency and percentage distribution of knowledge scores of 3rd year GNM students regarding aseptic techniques

Level of knowledge	Score range	Frequency	Percentage
Adequate knowledge/good	<11marks	3	9.09%
Moderate knowledge/ average	5-10 marks	24	72.72%
Inadequate knowledge/ poor	>4marks	6	18.18%

Table 2 depicts that majority of 3rd year GNM students 24(72.72%) had average knowledge, 6(18.18%) had poor knowledge and 3(9.09)% had good knowledge regarding aseptic techniques.



Graph 5 Column graph showing the result of students regarding aseptic techniques according to above category with percentage

Section 3: Data describing association between knowledge regarding aseptic techniques and selected socio Demographic variables of participants.

H1: there is a statistically significant association between the knowledge regarding aseptic techniques and selected socio demographic variables.

Table 3 Association between knowledge of students regarding aseptic techniques and there selected socio Demographic variables of participants

Table of Score by Age Gender: Female						
Score(Score)	**Age(Age)**					
FrequencyExpected	19	20	21	22	34	Total
High	1 0.2143	0 1	1 0.5714	0 0.1429	0 0.0714	2
Low	0 0.5357	4 2.5	1 1.4286	0 0.3571	0 0.1786	5
Moderate	2 2.25	10 10.5	6 6	2 1.5	1 0.75	21
Total	3	14	8	2	1	28

Statistics for Table of Score by Age

Table 4 Shows the score by source

Table of Score by Source					
Score(Score)	**Source(Source)**				
Frequency Expected	**Books**	**Clinical Practice**	**Lecture**	**Mass Media**	**Total**
High	1 0.7143	0 0.7857	0 0.1429	1 0.3571	2
Low	2 1.7857	2 1.9643	0 0.3571	1 0.8929	5
Moderate	7 7.5	9 8.25	2 1.5	3 3.75	21
Total	10	11	2	5	28

Statistics for Table of Score by Source			
Statistic	**DF**	**Value**	**Prob**
Chi-Square	6	3.0145	0.8070
Likelihood Ratio Chi-Square	6	3.8964	0.6907
Mantel-Haenszel Chi-Square	1	0.1544	0.6943
Phi Coefficient		0.3281	
Contingency Coefficient		0.3118	
Cramer's V		0.2320	

WARNING: 83% of the cells have expected counts less than 5. Chi-Square may not be a valid test.			

Table 5 shows the score by training

Table of Score by Training			
Score(Score)	**Training(Training)**		
Frequency Expected	**No**	**Yes**	**Total**
High	**1 0.7143**	**1 1.2857**	**2**
Low	**0 1.7857**	**5 3.2143**	**5**
Moderate	**9 7.5**	**12 13.5**	**21**
Total	**10**	**18**	**28**

Statistics for Table of Score by Training			
Statistic	**DF**	**Value**	**Prob**
Chi-Square	**2**	**3.4222**	**0.1807**
Likelihood Ratio Chi-Square	**2**	**5.0436**	**0.0803**
Mantel-Haenszel Chi-Square	**1**	**0.6127**	**0.4338**
Phi Coefficient		**0.3496**	
Contingency Coefficient		**0.3300**	
Cramer's V		**0.3496**	
WARNING: 67% of the cells have expected counts less than 5. Chi-Square may not be a valid test.			

Fisher's Exact Test	
Table Probability (P)	0.0448
Pr <= P	0.2294

Findings of Table 3, 4 and 5 is showing the knowledge of students is associated with Age, Gender, any attained training programme and source of health information.

DISCUSSION

The present study focused on the assessment of knowledge regarding aseptic techniques among 3rd year GNM students of Manikaka Topawala Institute of Nursing. The findings of study are discussed under the following headings:

1) findings related to socio Demographic variables.

2) findings related to knowledge score of 3rd year GNM students regarding aseptic techniques.

3) findings on association of knowledge scores,with socio Demographic variables.

1. Findings related to socio- demographic variables:

In the present study, samples of 33students of 3rd year GNM were taken. Findings showed that majority of them 16(48.48%) belonged to the age of 20years and 10(30.30%) belonged to the age of 21years.

In terms of attained any training programs,23(69.69%) of students are attained training program and 10(30.30%) had not attained any training programs for aseptic techniques.

In terms of gender, majority seen in 28(84.84%) female and 5(15.15%) are male.

In terms of sources of health information about aseptic techniques,13(39.39%) students are getting information from books,11(33.33%) students are getting information from clinical practices,2(6.06%)students getting information from lectures and 7(21.21%) getting the information about aseptic techniques from mass media.

2. Findings related to knowledge scores of 3rd year students regarding aseptic techniques.

In the present study, findings related to knowledge scores showed the 6(18.18%) students had poor knowledge regarding aseptic techniques. While 24(72.72%) had average knowledge and rest of 3(9.09%) students had good or adequate knowledge regarding aseptic techniques.

Belkin NL did study on the aseptic technique as an aggregation of reasonable practices performed in the surgical suite as part of the overall methodology in controlling or minimizing the possibility of infection. The key words in this definition are aggregation and reasonable. The real question is whether the surgical nursing community is prepared to reconsider and reassess the importance of a theoretical and reasonable, but not proven, practice that it has been advocating for almost two decades. From the evidence, it appears that a departure from the universal application of the barrier principle would not compromise the quality of care rendered to the surgical patient while at the same time prove to be economically and environmentally advantageous[11] .

3. Findings on association of knowledge scores, with selected socio-demographic variables.

Analysis was done for identifying association between knowledge and selected demographic variables by computing chi-square test.

The study findings showed that there is a significant association between age in years, attained any training programs, gender,sourceof health information about aseptic techniques.

CONCLUSION

Based on the analysis of the findings of the study,the following inferences were drawn.Majority of the study sample lacked the adequate knowledge regarding aseptic techniques.

NURSING IMPLICATIONS:

The findings of the study have implications for nursing practice,nursing education,nursing administration and nursing research.

NURSING PRACTICE:

1) Information regarding aseptic techniques among 3rd year GNM students will be useful to the nurses for prevention of infection.

2) As the nurse-play a very vital role in health promotion, the nurse can educate the students regarding aseptic techniques and thereby reducing infection.

3) Educative teaching by nurses may motivate students to practice self-management measures about aseptic techniques.

4) The information collected through this study will be not only useful in college level only but it helpful in future in hospital set up.

NURSING EDUCATION:

1) This study highlights the knowledge level of 3rd year GNM students regarding the aseptic techniques which will help nursing students and staffs to understand the need of society in better way.

2) Reinforcement of known ideas and impartation of new ones, will allow the students to take good knowledge regarding aseptic techniques.

The tool and findings of the study will provide as a guideline to develop teaching and education programmes for students as well as nursing staff.

1) It is through nursing education only, that the nurses impart knowledge and provide information to budding nurses who in turn will share this information not only in hospital settings but also in institutions providing education to students regarding aseptic techniques.

2) various seminars or hand on skill training workshops can be conducted on topics related to aseptic techniques for staffs as well as for students, thereby increasing their knowledge,skills and attitude towards the knowledge of aseptic techniques.

NURSING ADMINISTRATION:

1) Nurse administration can plan and organize programs and make use of information guidelines regarding aseptic techniques.

2) The nurse administrator should take intrest in disseminating the information through instructional materials such as pamphlets, posters, modules, that impart health information to students.

NURSING RESEARCH:

1) The findings and results of this research will motivate all nurses to take up similar studies in different settings or take more non experimental approach and this can serve as a guideline for further research.

2) The outcome of the study can be evaluted and reports can be submitted to statutory bodies like Indian Nursing Council, TNAI etc. Who can utilize this evidence-based data for developing effective teaching and educational materials

for benefits of nursing professionals as well as hospital nursing staff.

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