



A PRE - EXPERIMENTAL STUDY TO EVALUATE THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON THE KNOWLEDGE AND PRACTICE REGARDING BIOMEDICAL WASTE MANAGEMENT AMONG STAFF NURSES IN SLBSGMC & NERCHOWK MANDI (H.P.) 2022

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ABSTRACT

Biomedical waste (BMW) produced in our country on an everyday premise is tremendous and contains irresistible and dangerous materials. It is essential for health care providers to aware the health hazards of the biomedical waste in the workplace It tends to create serious problem to general well being and produces a huge effect on the earth if handle practice is to done in a wrong and deficient manner.

Hence the present study was on “A Pre-experimental study to evaluate the effectiveness of Structured Teaching Programme regarding knowledge and practices regarding Biomedical Waste Management among

Staff Nurses of SIBSGMC&H Nerchowk, Mandi.”. Study population was Staff Nurses working in SLBSGMC&H Nerchowk. Sample size was estimated about 30. Structured Questionnaire was used to assess knowledge regarding Biomedical Waste Management. Written permission was obtained from the Medical Superintendent of SLBSGMC&H Nerchowk and written consent was taken from the study subjects. After data collection Structured Teaching Programme regarding Biomedical Waste Management was provided to the study subjects. The data has compiled, tabulated and analyzed using appropriate statistical method.

Structured Questionnaire was used to assess the knowledge and checklist was used to assess regarding Biomedical Waste Management . The study showed the descriptive statistics score of Biomedical Waste Management as Mean 20.27, Median 20, SD 4.008%, Range 21, Mean% 61.40 with N=30.

The study showed the steps to find out the association between the knowledge and practice regarding Biomedical Waste Management with their selected demographic variables such as Age, Gender, Occupation, Education, Work experience, Income, Training.

The chi-square test was used to determine the association between the score levels and selected demographic variables. The calculated chi-square values were less than the table value at the 0.05% level of significant. Study showed that there was non-significant correlation between knowledge score and demographic variables like Age, Gender, Occupation, Education, Work experience, Income, Training during Pre test but there was significant association between Knowledge and Source of information during post test.

In Conclusion, majority of Staff Nurses {93.3% } were having average knowledge regarding Biomedical Waste Management, {6.7% } were having moderate knowledge and {0.0% } were having inadequate knowledge regarding Structured Teaching Programme regarding Biomedical Waste Management . At the end of study all study subjects were provided with Structured Teaching Programme regarding Biomedical Waste Management .

KEYWORDS:

Biomedical Waste, Biomedical Waste Management

INTRODUCTION

"Let the Wastes of "The Sick" Not Contaminate the Lives of "The Healthy".

The pioneer of modern Nursing, Ms. Florence Nightingale considers health is linked with environment factors like pure or fresh air, pure water, efficient drainage, cleanliness and light especially direct sunlight. Ms. Nightingale notes published in 1860 admonished nurses to “put the client in best condition for nature to act upon him” giving importance to environment. Now it is well established fact that there are many adverse and harmful effects to the environment. Since beginning the hospital are known for the environment include human beings which are caused by treatment of sick persons but we are unaware about the biomedical waste generated during patient care.^{1}

“Biomedical Waste” is any waste, which is generated during diagnosis, treatment or immunization of human beings. This waste is also generated during research activities or in the production or testing of biological material. Infectious waste risks the health of not only the hospitals staffs, patients and their relatives who are visiting or attending them but also the health of general public also.^{2}

According to WHO (World Health Organization) report 2013, around 85% of hospital waste is noninfectious, 10% is infective and remaining 5% is not infectious but hazardous. Biomedical waste should be managed through a pathway that includes point of generation, storage and segregation, collection, processing, transportation, treatment and disposal.^{3}

The BMW rule applies to all those who generate, collect, receive, store, transport, treat, dispose or handle BMW in any manner and also to every institution that generate BMW. The bio medical waste should be segregated at source into:

Color codes bags or containers:

Red bag: Infected plastics like infusion set, tubing's, catheters and microbiological waste.

Black Bag: All sorts of non-infected general waste in which food waste from wards, canteens and dining halls.

White/Blue bag: Glasses.

Yellow bag: Soiled waste items contaminated with blood, and body fluids, animal waste (animal tissues, organs, bleeding parts, fluids), microbiology & biotechnology waste.^{4}

Among all workers nurses spending more and long time in hospitals. It has been proved that the nurses are more victims of hepatitis B and HIV infection because not handling biomedical waste properly. For the prevention of infections, nurses should take precautions according to the Centre for Disease Control and Prevention and Occupational Safety and Health Administration. Universal precautions refer to an infection control system which assumes that any direct contact with patients particularly their body fluids have the potential for transmitting the diseases^{5}

NEED OF THR STUDY

BSc. Nursing 4th year students who does regular hospital training at SLBGMC&H Nerchowk, Mandi hospital are able to identify the needs and problems related to biomedical waste management. The present study is to improve the knowledge and practices of staff nurses related to biomedical waste management. The study does not want to highlight the lacking in biomedical waste management rather it will help improve its management

PROBLEM STATEMENT

A Pre - experimental Study to evaluate the effectiveness of Structured Teaching Programme on the Knowledge and Practice regarding Biomedical Waste Management among Staff Nurses in SLBSGMC& Nerchowk Mandi (H.P.) 2022.

OBJECTIVES:

- 1.To assess the knowledge regarding biomedical waste management among staff nurses of SLBSGMC&H Nerchowk Mandi H.P.2022
- 2.To assess the practice regarding biomedical waste management among staff nurses of SLBSGMC&H Nerchowk Mandi H.P.2022

- 3.To find the association of knowledge regarding biomedical waste management among staff nurses of SLBSGMC&H Nerchowk Mandi with its social-demographic variables
- 4.To find the association of knowledge and practice regarding biomedical waste management among staff nurses of SLBSGMC&H Nerchowk Mandi with its social-demographic variables.
- 5.To provide structured teaching programme regarding biomedical waste management to staff nurses of SLBSGMC&H Nerchowk Mandi.

OPERATIONAL DEFINITION:

- 1) **Evaluate:** It means to look and determine whether the purpose of information education communication package on bio medical waste management was achieved or not.
- 2) **Effectiveness:** It refers to the extent to which information education and communication package on bio medical waste management achieves the desired effect in improving the knowledge and Practice of staff nurses evidenced by gain in post test knowledge and practice scores.
- 3) **Structured Teaching Programme:** It is a highly visually based structured environment that promotes understanding of Biomedical waste management among staff nurses.
- 4) **Knowledge and practice:** In this study, it refers to the awareness of staff nurses regarding biomedical waste management.
- 5) **Staff Nurses:** It is a registered nurse who provides high quality care to employees of a company, residents of nursing homes or patients in hospital.
- 6) **Bio medical waste:** In this study, bio medical waste refers to the waste generated during the diagnosis, treatment or immunization of human being which include from categories I to categories X.
- 7) **Biomedical waste management:** In this study, bio medical waste management means a technique, of dealing with bio medical waste, from the point of generation to the disposal of waste.

ASSUMPTION:

1. Staff Nurses working in SLBSGMC&H have adequate knowledge about biomedical waste management among staff nurses
2. Providing a structured teaching programme to Staff Nurses working in SLBSGMC&H after assessing the knowledge and practices regarding biomedical waste management.

DELIMITATIONS:

The study is delimited to Staff Nurses in the SLBSMC&H, Nerchowk, Mandi H.P.

REVIEW OF LITERATURE

- **Studies and literature related to knowledge of biomedical waste management**
- **Review related practice of biomedical waste management.**

RESEARCH METHODOLOGY

Research Approach:

Pre-Experimental Research Approach

Research Design:

One group pretest post test research design

Research Setting:

The study is conducted SLBSGMC&H Nerchowk, Mandi

Target Population:

Staff Nurses working in SLBSGMC&H Nerchowk, Mandi

Sampling Technique:

Sampling technique for this study was convenient sampling

Sample Size:

Sample size for this study is 30

Criteria for Sample Selection:

Inclusion criteria:

1. Staff Nurses who are working in SLBSGMC&H
2. Staff Nurses who are available for study
3. Staff Nurses who are willing to participate in research
4. Staff Nurses who are not present at the time of research.
5. Staff Nurses who were not willing to participate in the research.

DEVELOPMENT OF TOOL

Tool was developed with the help of experts, guide, reviewing of literature. magazine, books, journals and news paper.

Tools are prepared on the basis of objectives of the study.

First draft is made by researcher with the help of guide.

Validity has been done by various experts before its application.

v.To check the validity, feasibility and reliability of the tool, pilot study is conducted. vi. After that the tool is used for final data collection.

DESCRIPTION OF TOOL

Section A: Social demographic Data like Age, Gender, Occupation, Education, Work experience, Income, Training

Section B: Self Structured Questionnaire to assess the knowledge of staff nurses regarding Biomedical Waste Management.

It includes:

- a. 33 questions related to knowledge regarding Biomedical Waste Management.
- b. Each question contains 4 options.
- c. Respondent is instructed to choose one right option
- d. They should attend all questions
- e. Every right answer is of 1 score.
- f. Maximum score is 33
- g. No negative marking is there.

Section C: Self Structured Checklist to assess the practice of staff nurses regarding Biomedical Waste Management.

It includes all the steps and procedure done in biomedical waste management: Yes or No.

VALIDITY:

- ✓ Structured Questionnaire and checklist is formulated and validated by various concerned experts before its application.

RELIABILITY :-

- ✓ Reliability of pilot study was 0.91766 for knowledge and 0.86603 for practice

DATA COLLECTION PROCEDURE

- Data was collected on 24 August, 2022 in Zonal Hospital, Mandi.
- Written permission was taken from the Medical Superintendent of the hospital ● Study subject was selected using Convenience Sampling Technique.
- Written consent was taken from the study participants.
- The purpose and details of the study was explained to the subjects.
- Self Structured questionnaire was given to subjects to collect socio demographic data and about the knowledge regarding BMW.
- Observation of the study subjects by checklist about practice of BMW management.
- Sample of 30 staff nurses were taken for the study.
- After the data collection, study subjects were thanked for their co-operation and support and for being a part of study and were also informed about the structured teaching programme and post test.
- On 26 August, 2022, Structured Teaching Programme related to BMW Management was given to study subjects.
- Then on 28 August, 2022, Post test was conducted on the same study subjects.
- At the end the study subjects were thanked for the co-operation and support and for being the part of the study.

ETHICAL CONSIDERATION

Written permission was taken from Medical Superintendent of SLBSGMC&H Nerchowk,

Mandi

- Consent was obtained from study subject.
- Confidentiality of information of all study subjects was maintained.
- Hospital Routine was not interrupted during the stud

PLAN OF DATA ANALYSIS

Analysis of data was done in accordance with the objectives. The data analysis was done by using the descriptive and inferential statistics by calculating the frequency, percentage, mean, median and standard deviation.

RESULTS:**SECTION 1- DESCRIPTION OF SOCIO DEMOGRAPHIC VARIABLES AMONG STAFF NURSES**

Table No. 1:

Frequency and percentage of social demographic variables

N=30

Variables	Opts	Percentage	Frequency
Age in the years	20-25 years	20.0%	6
	26-30 years	36.7%	11
	31-35 years	30.0%	9
	36 years or above	13.3%	4
Gender	Male	0.0%	0
	Female	100.0%	30
Occupation	Government Job	56.7%	17
	Private	0.0%	0
	Contract Basis	3.3%	1
	Outsource	40.0%	12
Professional Qualifications	GNM	53.3%	16
	BSc. Nursing	13.3%	4
	Post Basic Nursing	30.0%	9
	MSc. Nursing	3.3%	1
Work experience	Less than 5 years	50.0%	15
	5-10 years	36.7%	11

	10-15 years	3.3%	1
	Above 15 years	10.0%	3
Income	Less than 5000	0.0%	0
	5000--10000	10.0%	3
	10000--15000	33.3%	10
	More than 15000	56.7%	17
Source of information	Health care official	76.7%	23
	Research articles	3.3%	1
	Social media	16.7%	5
	Television	3.3%	1
Training related to biomedical Waste Management	Not done	30.0%	9
	1	50.0%	15
	2-3	6.7%	2
	More than 3	13.3%	4

Table 1 Showed that:

- ❖ **AGE in the year:** Majority of study subjects 36.7% were age group of 26-30 years where as 30% were 31-35 years of age, 20% were 20-25 years of age and 13.3% subjects were above 36 years.
- ❖ **GENDER:** Majority of study subjects were female 100% and 0% were male.
- ❖ **OCCUPATION:** 56.7% study subjects were in government job, 40% were from outsource, 3.3% were on contract job and private job were 0%.
- ❖ **PROFESSIONAL QUALIFICATION:** There were 53.3% GNM study subjects, 30% were post basic, 13.3% were BSc. Nursing and 3.3% were MSc. Nursing
- ❖ **WORK EXPERIENCE:** 50% study subjects has less than 5 years of experience, 36.7% subjects has 5-10 years of experience, 10% subjects has above 15 years experience and 3.3% subjects has 10-15 years of work experience.
- ❖ **INCOME:** 56.7% study subjects has more than 15000 income, 33.3% subject has income between 10000 and 15000, and 10% subject has 5000-10000 income, 0% has less than 5000 income.
- ❖ **SOURCE OF INFORMATION:** Health care officials are the source of information for 76.7% subjects, social media for 16.7%, research articles are for 3.3% subjects and television 3.3% subjects.
- ❖ **TRAINING RELATED BMW:** 50% study subjects has done any training related to BMW, 30% has done training for 1 time, 13.3% has done more than 3 training and 6.7% subjects have done training 2-3 time

SECTION 2: FINDINGS RELATED TO KNOWLEDGE REGARDING BIOMEDICAL WASTE MANAGEMENT

TABLE 2:

LEVEL OF SCORES

CRITERIA MEASURE OF PRETEST KNOWLEDGE SCORE	
SCORE LEVEL(N= 30)	PRE TEST f(%)
INADEQUATE KNOWLEDGE.(0-11)	1(3.3%)
MODERATE KNOWLEDGE.(12-22)	23(76.7%)
ADEQUATE KNOWLEDGE.(23-33)	6(20%)

Maximum Score=33 Minimum Score=0

TABLE 2: This table shows that 76.7% staff nurses has moderate knowledge, 20% has adequate knowledge and 3.3% has inadequate knowledge

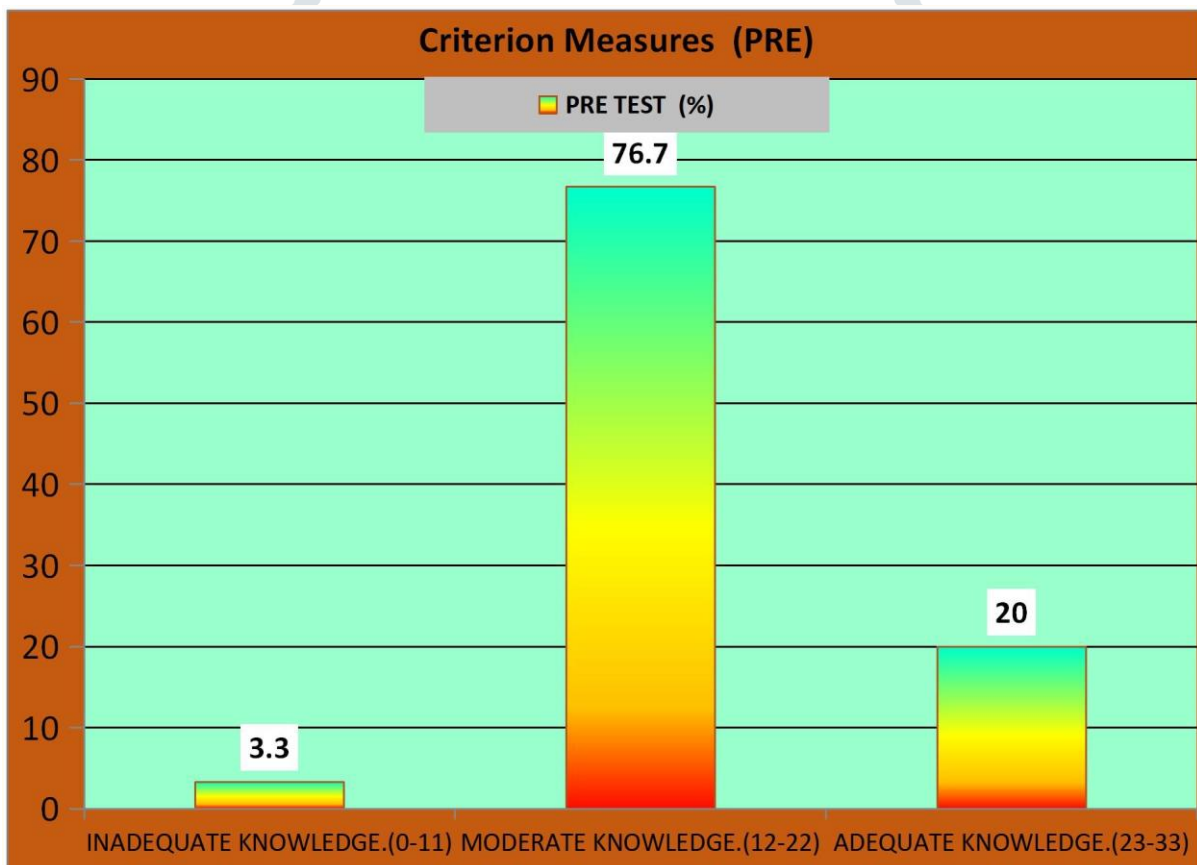


Figure No.11 :Level of pretest knowledge scores

TABLE NO. 3 DESCRIPTIVE STATISTICS TABLE OF PRE TEST SCORE

N=30

Descriptive Statistics	Mean	S.D.	Median ore	Maximum	Minimum	Range	Mean%
PRETEST NOWLEDGE	20.27	4.008	20	31	10	21	61.40
	Maximum = 33		Minimum= 0				

Table No. 3: knowledge score regarding BMW management.

Maximum Score= 31

Minimum Score= 10

Mean= 20.27

S.D.=4.008

Median score= 20

Range = 21

Mean%= 61.40

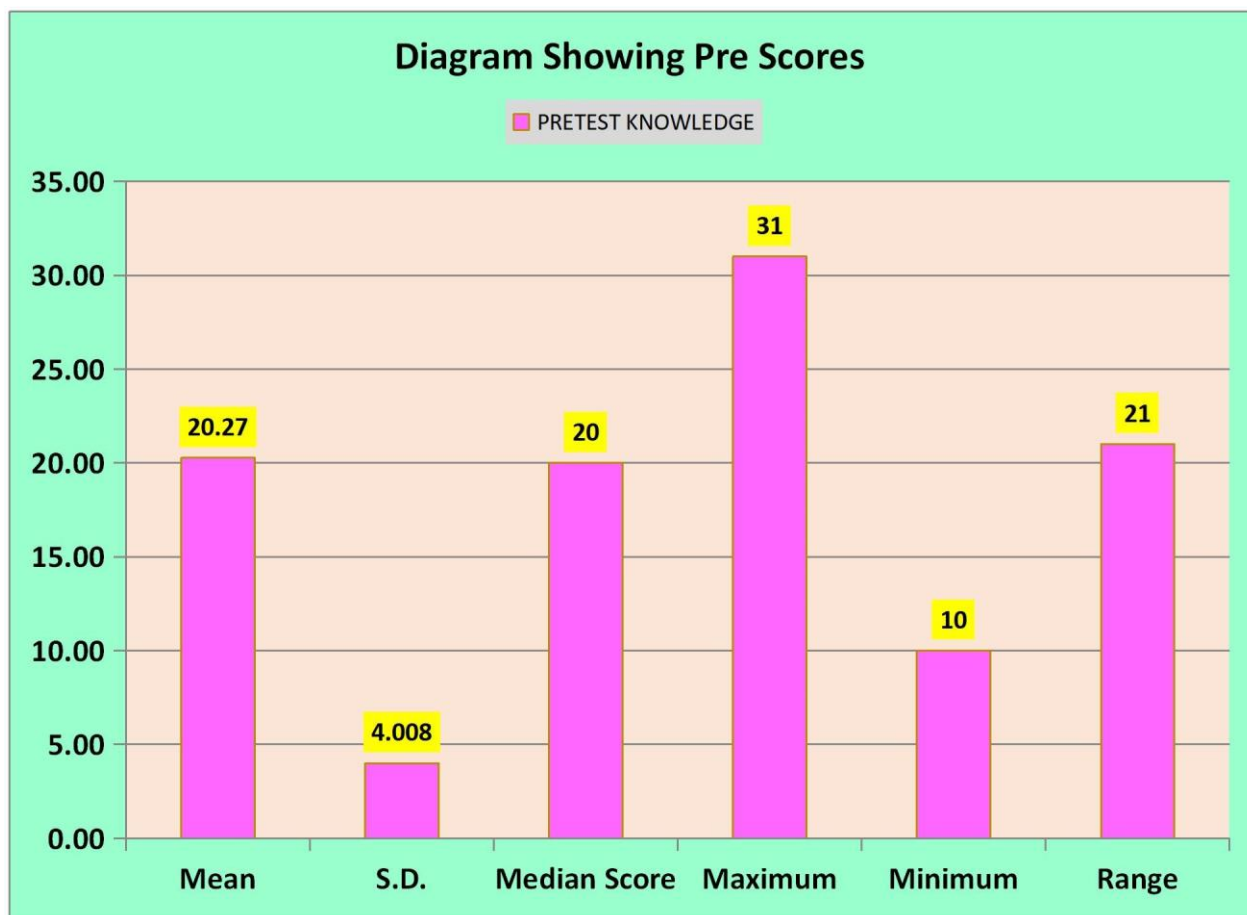


Figure No. 12: Descriptive statistics table of pre test score Table No. 4:

Level of post test Scores

CRITERIA MEASURE OF POSTTEST KNOWLEDGE SCORE	
SCORE LEVEL(N= 30)	POST TEST f(%)
INADEQUATE KNOWLEDGE.(0-11)	0(0%)
MODERATE KNOWLEDGE.(12-22)	2(6.7%)
ADEQUATE KNOWLEDGE.(23-33)	28(93.3%)
Maximum Score=33 Minimum Score=0	

Table No.9: Majority of Staff Nurses had 93.3% Adequate Knowledge, 6.7% had Moderate Knowledge and no one had inadequate knowledge.

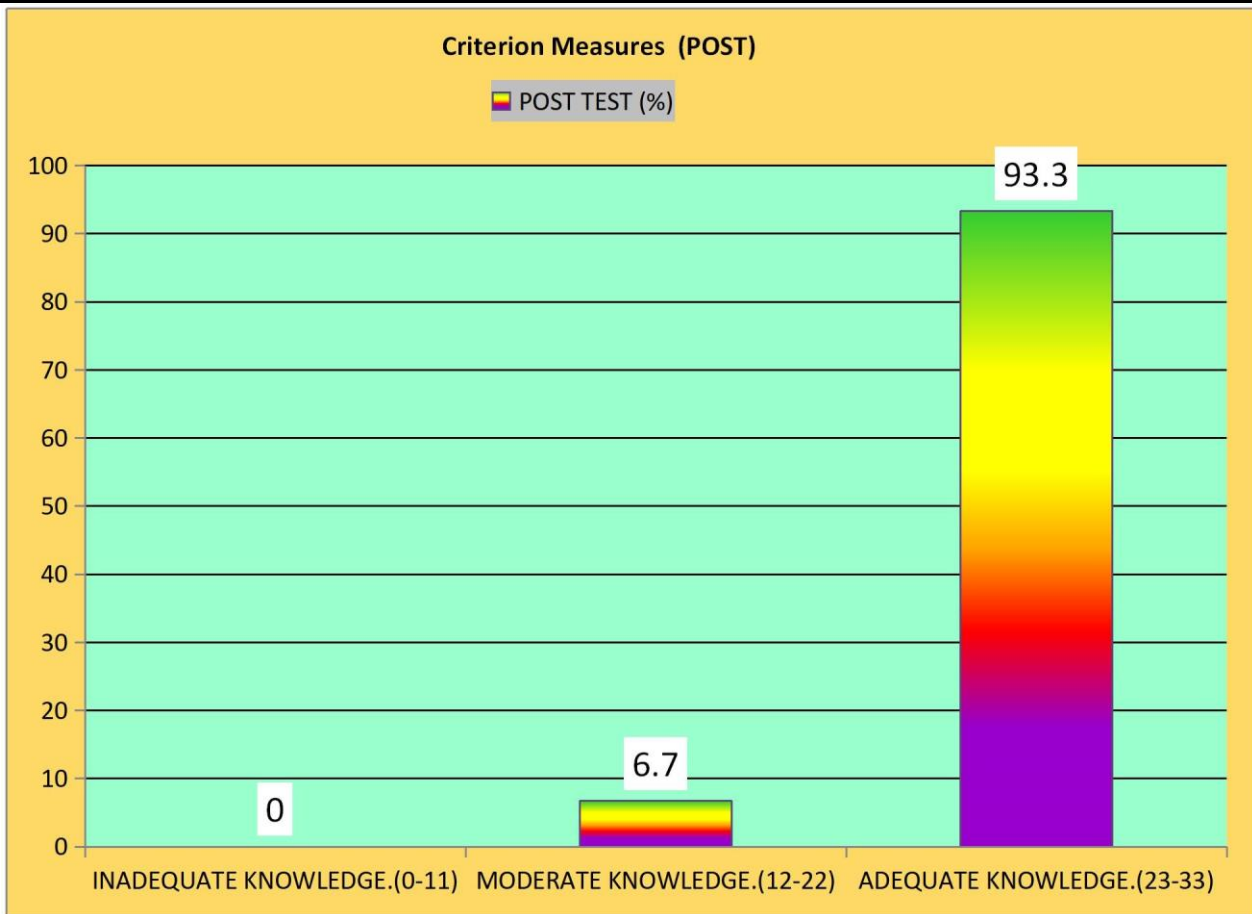


Figure No.13: Level of post test

Table No 5:
Descriptive Statistics table of post test knowledge score

N=30

Descriptive statistics	Mean	S.D.	Median score	Maximum	Minimum	Range	Mean%
POSTTEST KNOWLEDGE	29.47	3.288	31	32	19	13	89.30
	Maximum=	33	Minimum=	0			

TABLE 12 shows:

Mean = 29.47

S.D. =3.288

Median =31

Maximum =32

Minimum =19

Range =13

Mean% =89.30

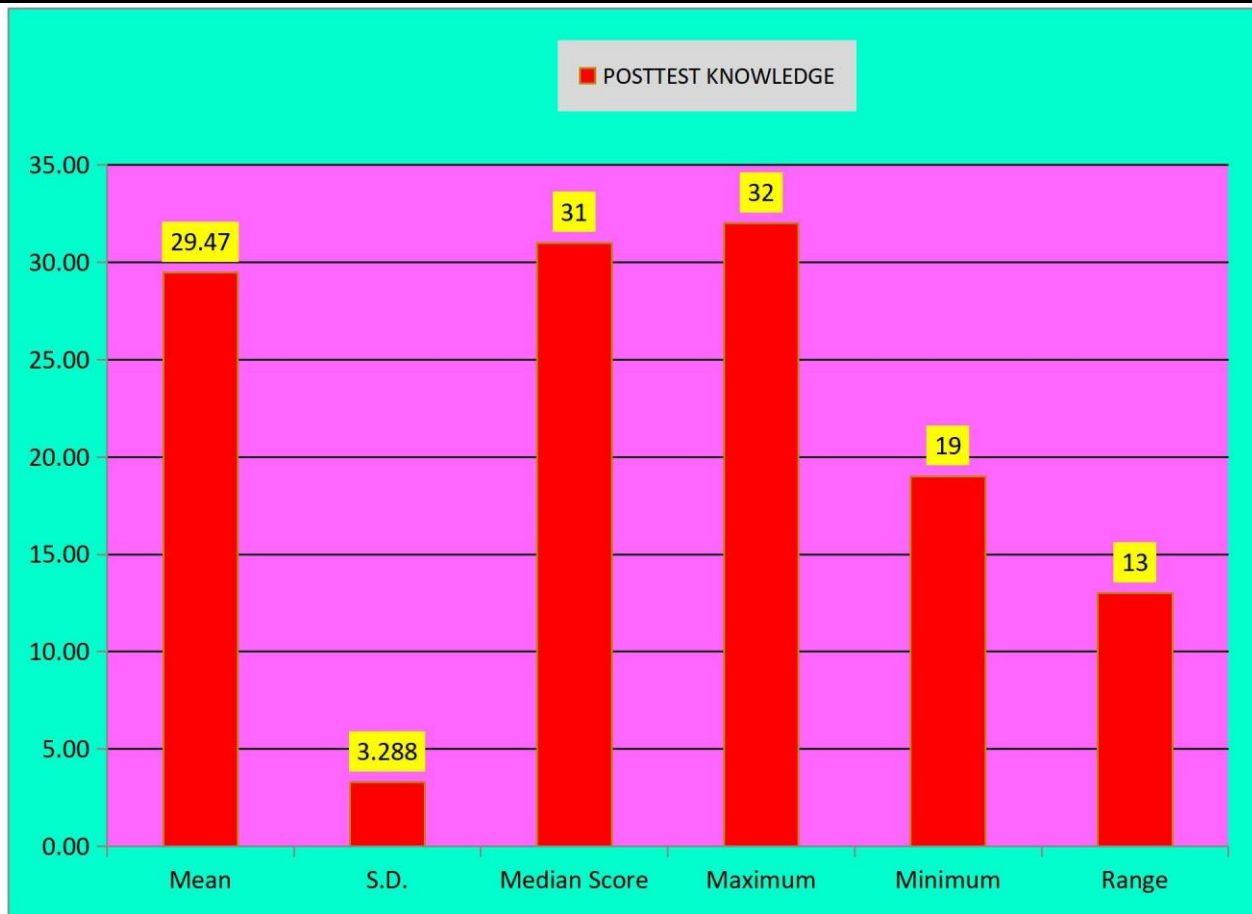


Figure No. 14: Descriptive Statistics of Post Test Knowledge

Table no. 6:
Item Wise analysis of knowledge score

Item wise Analysis	PRE CORRECT (%)	POST CORRECT (%)	PRE CORRECT (f)	POST CORRECT (f)
Qno.1	100.0%	86.7%	30	26
Qno.2	96.7%	100.0%	29	30
Qno.3	63.3%	100.0%	19	30
Qno.4	3.3%	100.0%	1	30
Qno.5	40.0%	100.0%	12	30
Qno.6	93.3%	96.7%	28	29
Qno.7	100.0%	100.0%	30	30
Qno.8	93.3%	90.0%	28	27
Qno.9	96.7%	93.3%	29	28
Qno.10	90.0%	100.0%	27	30
Qno.11	73.3%	93.3%	22	28
Qno.12	96.7%	96.7%	29	29
Qno.13	50.0%	90.0%	15	27
Qno.14	26.7%	96.7%	8	29

Qno.15	60.0%	70.0%	18	21
Qno.16	20.0%	96.7%	6	29
Qno.17	40.0%	93.3%	12	28
Qno.18	30.0%	96.7%	9	29
Qno.19	83.3%	90.0%	25	27
Qno.20	30.0%	70.0%	9	21
Qno.21	46.7%	70.0%	14	21
Qno.22	40.0%	83.3%	12	25
Qno.23	26.7%	83.3%	8	25
Qno.24	76.7%	90.0%	23	27
Qno.25	23.3%	46.7%	7	14
Qno.26	63.3%	76.7%	19	23
Qno.27	23.3%	66.7%	7	20
Qno.28	76.7%	90.0%	23	27
Qno.29	26.7%	93.3%	8	28
Qno.30	70.0%	96.7%	21	29
Qno.31	86.7%	96.7%	26	29
Qno.32	93.3%	93.3%	28	28
Qno.33	86.7%	100.0%	26	30

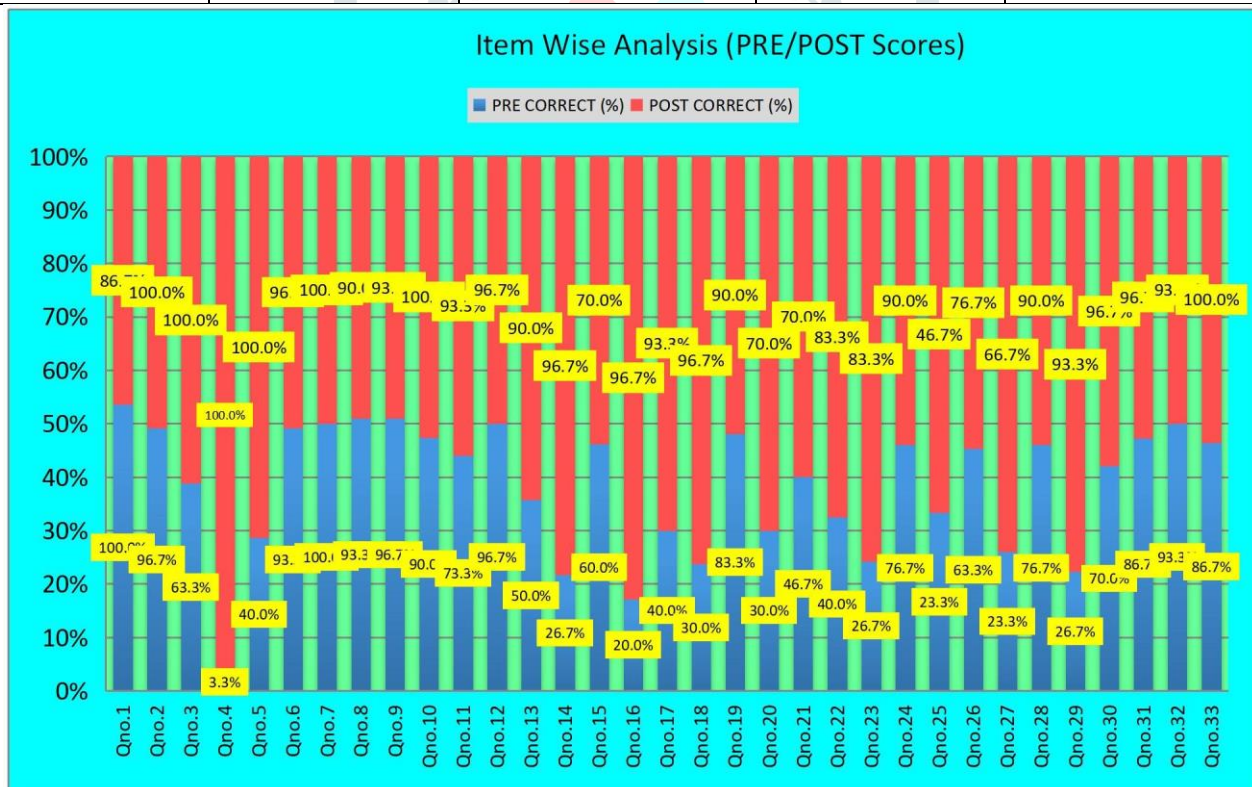


Figure No. 15: Item Wise analysis of knowledge score

SECTION 3: FINDINGS RELATED TO PRACTICE REGARDING BIOMEDICAL WASTE

MANAGEMENT

Table No. 7:

Level of Practice Scores

CRITERIA MEASURE OF PRACTICE SCORE		
LEVEL OF SCORES N= 30	PERCENTAGE	FREQUENCY
ADEQUATE PRACTICE.(19-26)	93.3%	28
MODERATE PRACTICE.(10-18)	6.7%	2
INADEQUATE PRACTICE.(0-9)	0.0%	0
Maximum =26 Minimum=0		

TABLE No. 7: Majority of Staff Nurses had 93.3% Adequate Practice, 6.7% had Moderate Practice and no one had inadequate Practice.

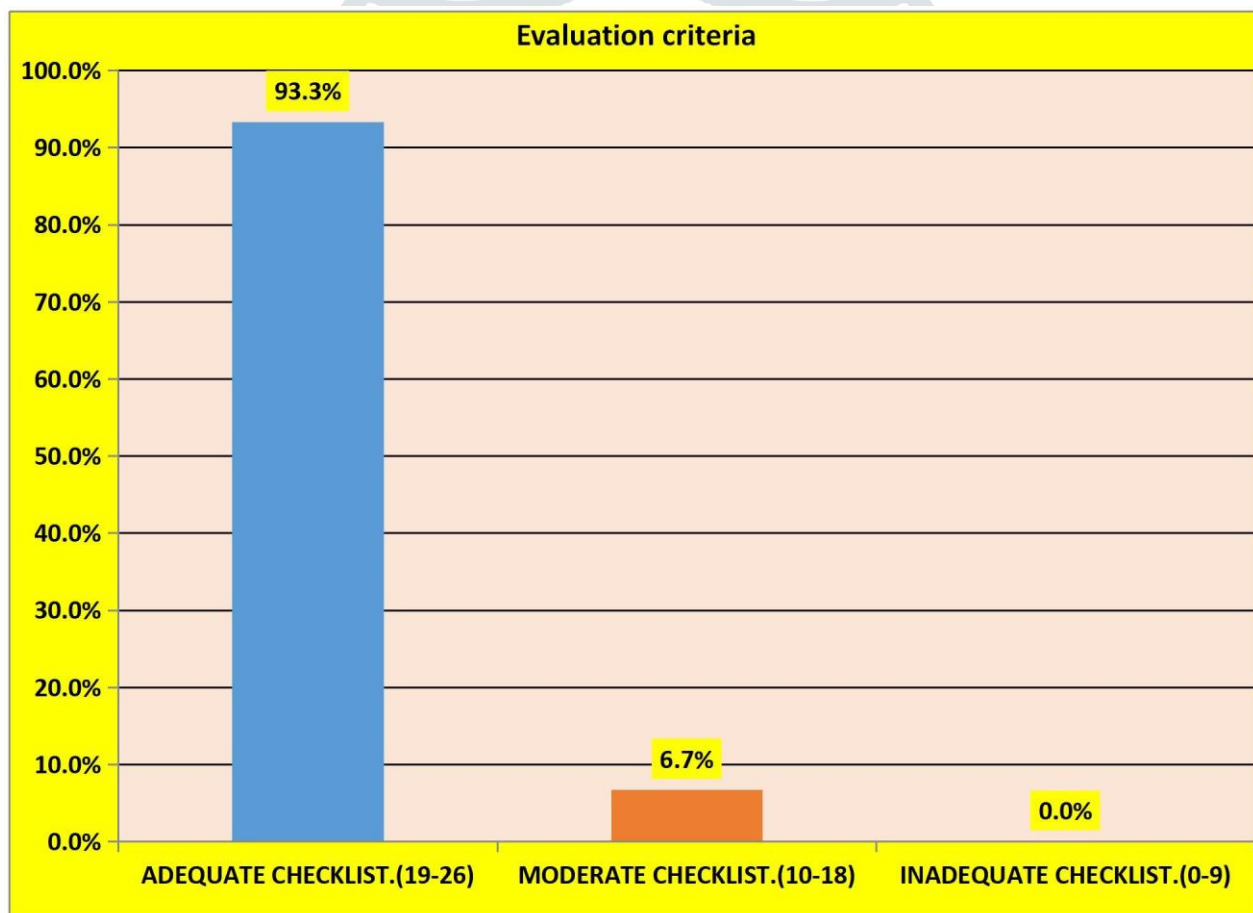


Figure No 16: Level of Practice Scores

Table No 8:
Descriptive Statistics of practice score

N=30

Descriptive statistics	Mean	Median	S.D.	Maximum	Minimum	Range	Mean %
PRACTICE CORE	23.33	23.5	2.09	26	17	9	89.74
Maximum=26 Minimum=0							

Table No. 8:
Mean: 23.33

Median: 23.5
S.D.: 2.09
Maximum: 26
Minimum: 17
Range: 9
Mean%:89.74

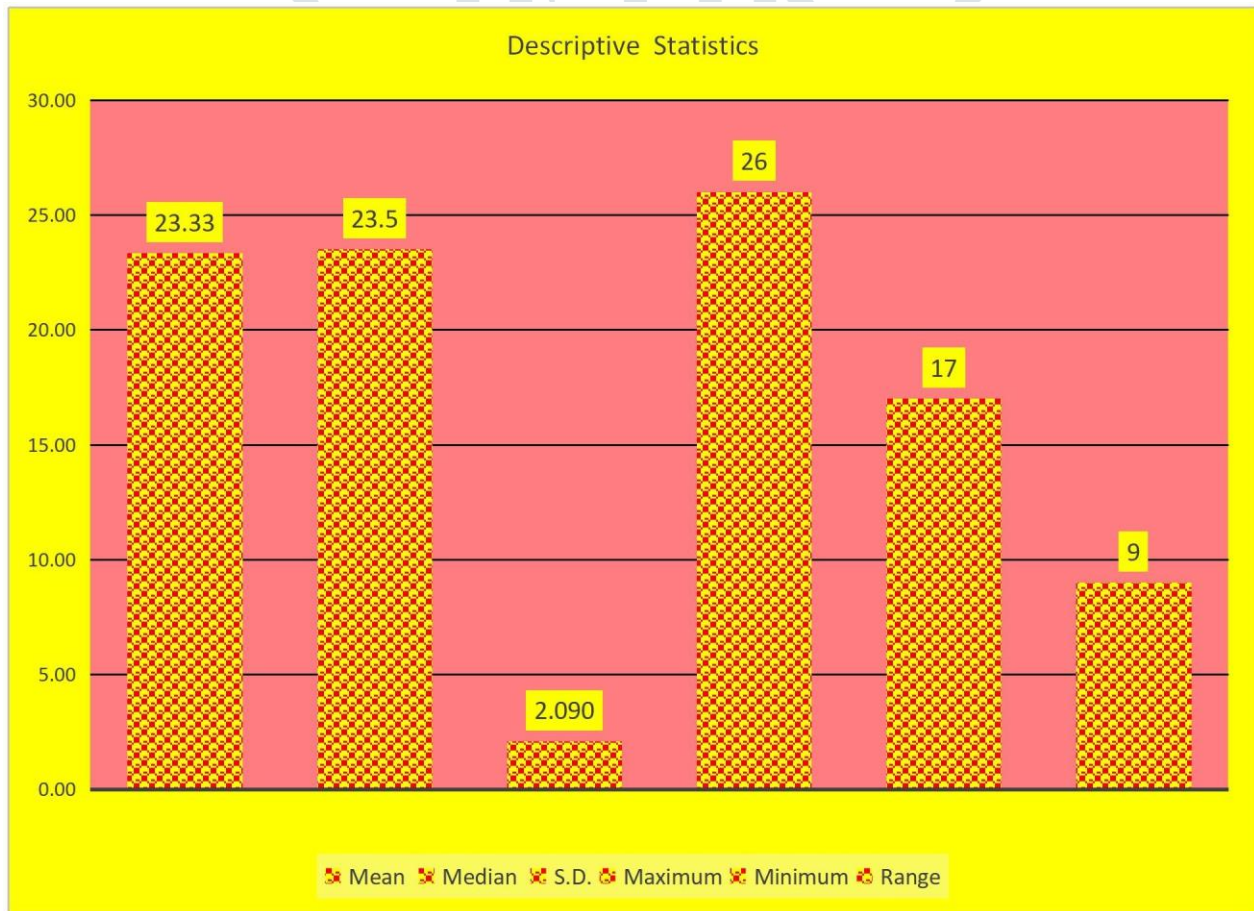


Figure 17:Descriptive Statistics of practice

Table No 9:

Item wise analysis (Table Showing Response in frequency percentage of Subjects according to each question)

Area	QUESTION	YES (%)	NO (%)	YES (F)	NO (F)
PART - B - CHECKLIST	Qno.1	63.3%	36.7%	19	11
	Qno.2	73.3%	26.7%	22	8
	Qno.3	96.7%	3.3%	29	1
	Qno.4	100.0%	0.0%	30	0
	Qno.5	100.0%	0.0%	30	0
	Qno.6	100.0%	0.0%	30	0
	Qno.7	86.7%	13.3%	26	4
	Qno.8	96.7%	3.3%	29	1
	Qno.9	96.7%	3.3%	29	1
	Qno.10	96.7%	3.3%	29	1
	Qno.11	100.0%	0.0%	30	0
	Qno.12	96.7%	3.3%	29	1
	Qno.13	96.7%	3.3%	29	1
	Qno.14	100.0%	0.0%	30	0
	Qno.15	53.3%	46.7%	16	14
	Qno.16	96.7%	3.3%	29	1
	Qno.17	93.3%	6.7%	28	2
	Qno.18	100.0%	0.0%	30	0
	Qno.19	83.3%	16.7%	25	5
	Qno.20	50.0%	50.0%	15	15
	Qno.21	90.0%	10.0%	27	3
	Qno.22	90.0%	10.0%	27	3
	Qno.23	90.0%	10.0%	27	3
	Qno.24	83.3%	16.7%	25	5
	Qno.25	100.0%	0.0%	30	0
	Qno.26	100.0%	0.0%	30	0



Figure No. 18: Item wise analysis of practice score **SECTION 4: Findings related to Association between knowledge scores and selected demographic Variables.**

Table 10

ASSOCIATION OF PRETEST KNOWLEDGE SCORES OF SELECTED SOCIAL DEMOGRAPHIC VARIABLES.

Demographic Data		Levels			Association with KNOWLEDGE Score				
Variables	Opts	ADEQUATE KNOWLEDGE	MODERATE KNOWLEDGE	INADEQUATE KNOWLEDGE	Chi Test v	P Value	df	Table Value	Result
Age in the years	20-25 years	1	5	0	4.53	0.604	6	12.592	Not Significant
	26-30 years	2	8	1					
	31-35 years	1	8	0					
	36 years or Above	2	2	0					
Gender	Male	0	0	0	N.A				
	Female	6	23	1					
Occupation	Government Job	4	13	0	6.45	0.167	4	9.488	Not Significant
	Private	0	0	0					

	Contract Basis	1	0	0					
	Outsource	1	10	1					
Professional Qualifications	GNM	3	12	1	1.23	0.975	6	12.592	Not Significant
	BSc. Nursing	1	3	0	9				
	Post Basic Nursing	2	7	0					{N=30}
	MSc. Nursing	0	1	0					
Work experience	less than 5 years	2	12	1	5.68	0.460	6	12.592	Not Significant
	5-10 years	2	9	0	4				
	10-15 years	1	0	0					
	Above 15 years	1	2	0					
Income	Less than 5000	0	0	0	5.37	0.251	4	9.488	Not Significant
	5000--10000	1	2	0	3				
	10000--15000	0	9	1					
	More than 15000	5	12	0					
Source of information	Health care official	5	17	1	5.95	0.428	6	12.592	Not Significant
	Research articles	0	1	0	5				
	Social media	0	5	0					
	Television	1	0	0					
Training related to Biomedical Waste Management	Not done	1	8	0	5.14	0.526	6	12.592	Not Significant
	1	2	12	1	3				
	2-3	1	1	0					
	More than 3	2	2	0					

Table No..10: Association between the knowledge regarding BMW Management among Staff Nurses of SLBSGMC&H Nerchowk with their selected demographic variables such as Age, Gender, Occupation, Education, Work experience, Income, Training.

The chi-square test was used to determine the association between the score levels and selected demographic variables. The calculated chi-square values were less than the table value at the 0.05% level of significant. Study showed that there was non significant co-relation between associations with knowledge score and demographic variables like Age, Gender, Occupation, Education, Work experience, Income, Training

Table No 11

Descriptive score according to Demographic variables. (POST SCORE)

Variables	Opts	KNOWLEDGE			Chi Test	P Value	df	Tabl Value	Result
		ADEQUATE KNOWLEDGE	MODERATE KNOWLEDGE	INADEQUATE KNOWLEDGE					
Age in the years	20-25 years	6	0	0	3.701	0.296	3	7.815	Not Significant
	26-30 years	9	2	0					
	31-35 years	9	0	0					
	36 years or above	4	0	0					
Gender	Male	0	0	0	N.A				
	Female	28	2	0					
Occupation Job	Government	16	1	0	0.142	0.932	2	5.991	Not Significant
	Private	0	0	0					
	Contract Basis	1	0	0					
	Outsource	11	1	0					
Professional	GNM	16	0	0	5.000	0.172	3	7.815	Not
Qualifications	BSc. Nursing	4	0	0					Significant
	Post Basic Nursing	7	2	0					
	MSc. Nursing	1	0	0					
Work experience	less than 5 years	14	1	0	0.390	0.942	3	7.815	Not Significant
	5-10 years	10	1	0					
	10-15 years	1	0	0					
	Above 15 years	3	0	0					

Income	Less than 5000	0	0	0	1.639	0.441	2	5.991	Not Significant
	5000--10000	3	0	0					
	10000--15000	10	0	0					
	More than 15000	15	2	0					
Source of information	Health care official	22	1	0	14.627	0.002	3	7.815	Significant
	Research articles	0	1	0					
	Social media	5	0	0					
	Television	1	0	0					
Training related to Biomedical Waste Management	Not done	8	1	0	0.714	0.870	3	7.815	Not Significant
	1	14	1	0					
	2-3	2	0	0					
	More than 3	4	0	0					

Table No.11: Association of post test knowledge scores of selected social demographic variable .The Chi-square value shows that there is non-significance association between the score level and demographic variables such as Age in the years, Gender, Occupation, Professional Qualification, Work experience, Income, Source of Information, and Training related to Biomedical Waste Management and only Source of income had significant association with the knowledge score . The calculated chi-square values were more than the table value at the 0.05 level of significance. There is no significance association between the level of scores and other demographic variables. The calculated chi-square values were less than the table value at the 0.05 level of significance.

Section 5 : Findings related to the association between Practice score and selected**Demographic variables.**

Table 12:

Association of Practice score and selected Demographic variables.

DEMOGRAPHIC DATA		LEVELS OF CHECKLIST(N=30)			ASSOCIATION WITH CHECKLIST SCORE				
Variables	Opts	ADEQUATE CHECKLIST	MODERATE CHECKLIST	INADEQUATE CHECKLIST	Chi Test	P Value	df	Table Value	Result
Age in the years	20-25 years	5	1	0	2.321	0.508	3	7.815	Not Significant
	26-30 years	11	0	0					
	31-35 years	8	1	0					
	36 years or above	4	0	0					
Gender	Male	0	0	0	N.A				
	Female	28	2	0					
Occupation	Government Job	17	0	0	3.214	0.200	2	5.991	Not Significant
	Private	0	0	0					
	Contract Basis	1	0	0					
Professional Qualifications	Outsource	10	2	0	0.647	0.886	3	7.815	Not Significant
	GNM	15	1	0					
	BSc. Nursing	4	0	0					
	Post Basic Nursing	8	1	0					

	MSc. Nursing	1	0	0						
Work experience	Less than 5 years	13	2	0	2.143	0.543	3	7.815	Not Significant	
	5-10 years	11	0	0						
	10-15 years	1	0	0						
	Above 15 years	3	0	0						
Income	Less than 5000	0	0	0	4.821	0.090	2	5.991	Not Significant	
	5000--10000	2	1	0						
	10000--15000	9	1	0						
	More than 15000	17	0	0						
Source of information	Health care official	21	2	0	0.652	0.884	3	7.815	Not Significant	
	Research articles	1	0	0						
	Social media	5	0	0						
	Television	1	0	0						
Training related to Biomedical Waste Management	Not done	9	0	0	2.143	0.543	3	7.815	Not Significant	
	1	13	2	0						
	2-3	2	0	0						
	More than 3	4	0	0						

Table No. 12: that there is no significance association between the level of scores and other demographic variables (Age in the years, Gender, Occupation, Professional Qualification, Work Experience, Income, Source of Information, and Training related to Biomedical Waste Management). The calculated chi-square values were less than the table value at the 0.05 level of significance

Section 6: Findings related to effectiveness of structured teaching programme

Table No.13:

Criteria Measure of Pre and Post Knowledge Score

SCORE LEVEL(N= 30)	PRE TEST f(%)	POST TEST (%)
INADEQUATE KNOWLEDGE.(0-11)	1(3.3%)	0(0%)
MODERATE KNOWLEDGE.(12-22)	23(76.7%)	2(6.7%)
ADEQUATE KNOWLEDGE.(23-33)	6(20%)	28(93.3%)
Maximum Score=33 Minimum Score=0		

Table No. 13: Majority of Staff Nurses 23(76.7%) had moderate knowledge,6(20%)had Adequate Knowledge and 1(3.3%) had inadequate knowledge

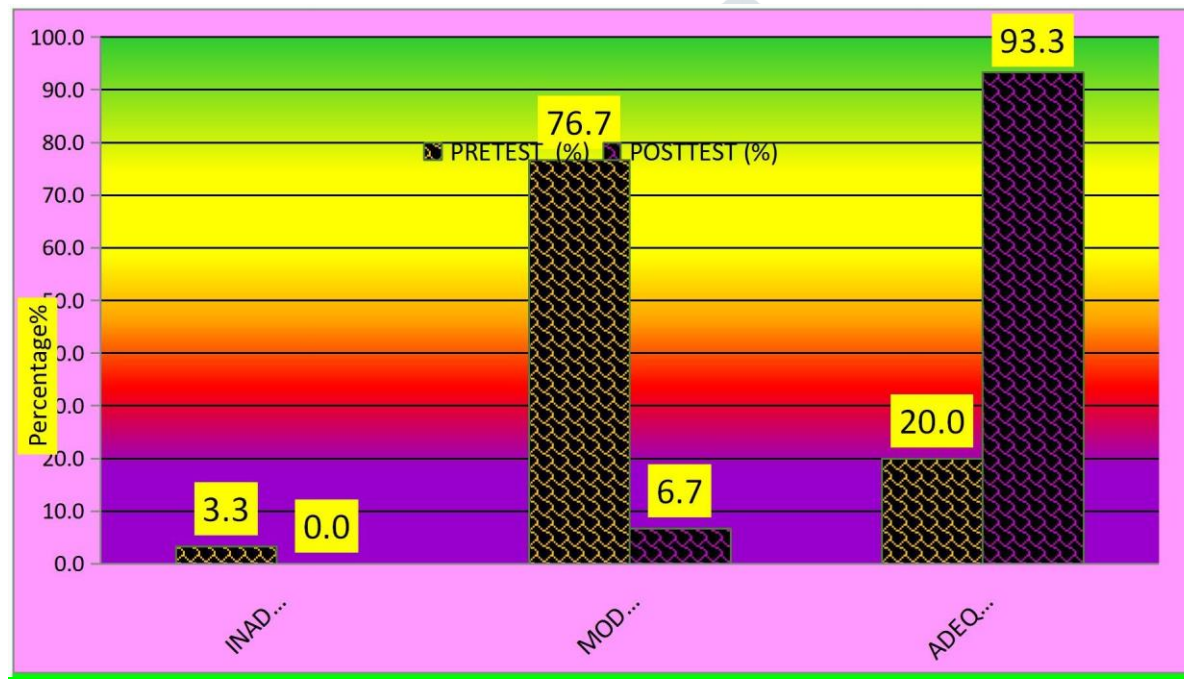


Figure No. 19: Criteria Measure of Pre and post test Scores

Table No.14

Comparison of PRE and POST Scores

							N=30
Paired T Test	Mean±S.D.	Mean%	Range	Mean Diff.	Paired T Test	P value	Table Value at 0.05
PRETEST KNOWLEDGE	20.27±4.008	61.40	10-31	9.200	12.925 *Sig	<0.001	2.05
POSTTEST KNOWLEDGE	29.47±3.288	89.30	19-32				
Maximum=33 Minimum=0							

Table No. 14 :Comparison of pre and post test scores

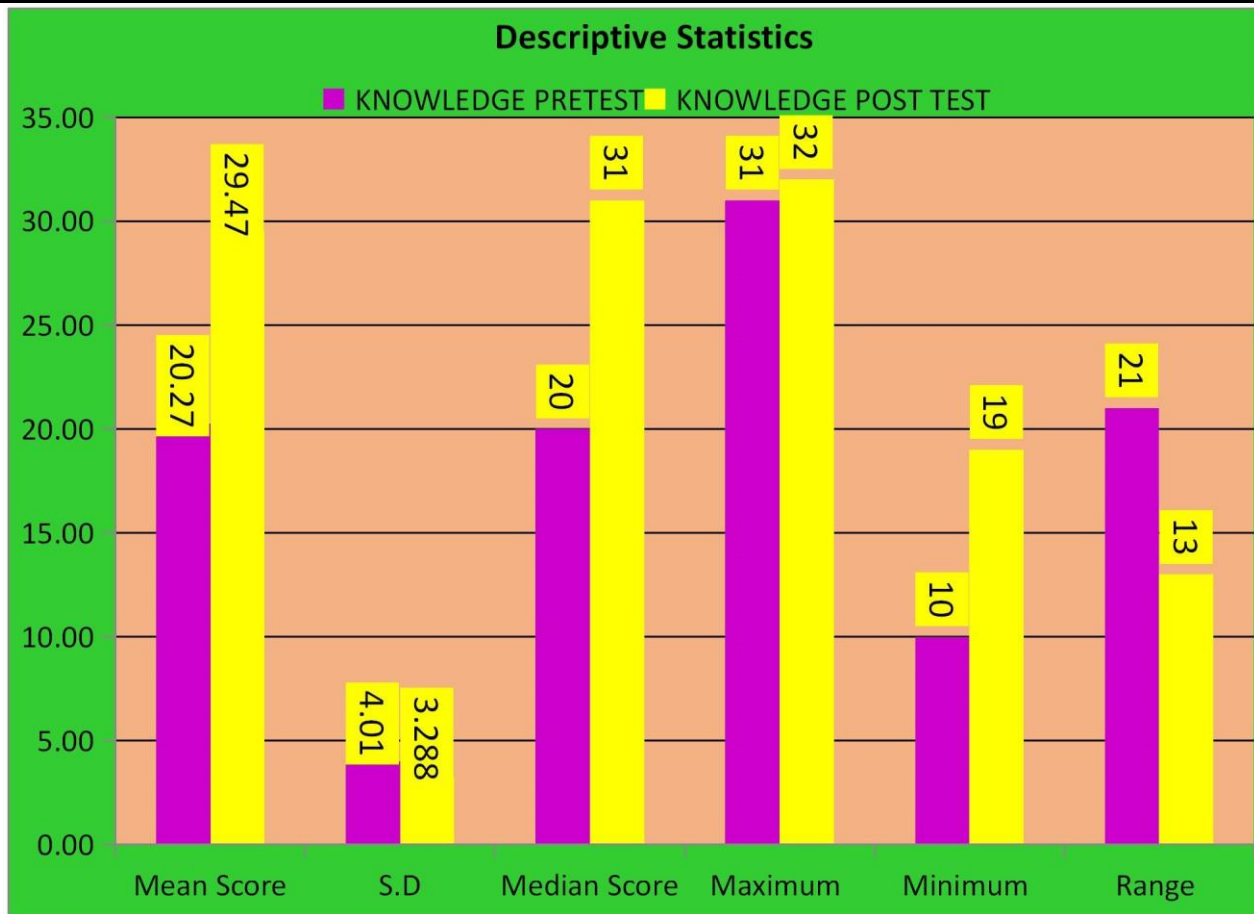


Figure No. 20: Descriptive Statistics of Pre and post test knowledge Table No. 15: Individual score gain (effectiveness)

Mean%	PRE TEST KNOWLEDGE	POST TEST KNOWLEDGE	DIFFERENCE	PRE TEST KNOWLEDGE SCORE %	POSTTEST KNOWLEDGE SCORE %	DIFFEREN CE%
Average	20.27	29.47	9.20	61.41	89.29	27.88

Table No. 15 : Difference between pre and post test knowledge score is 9.20(27.88%)

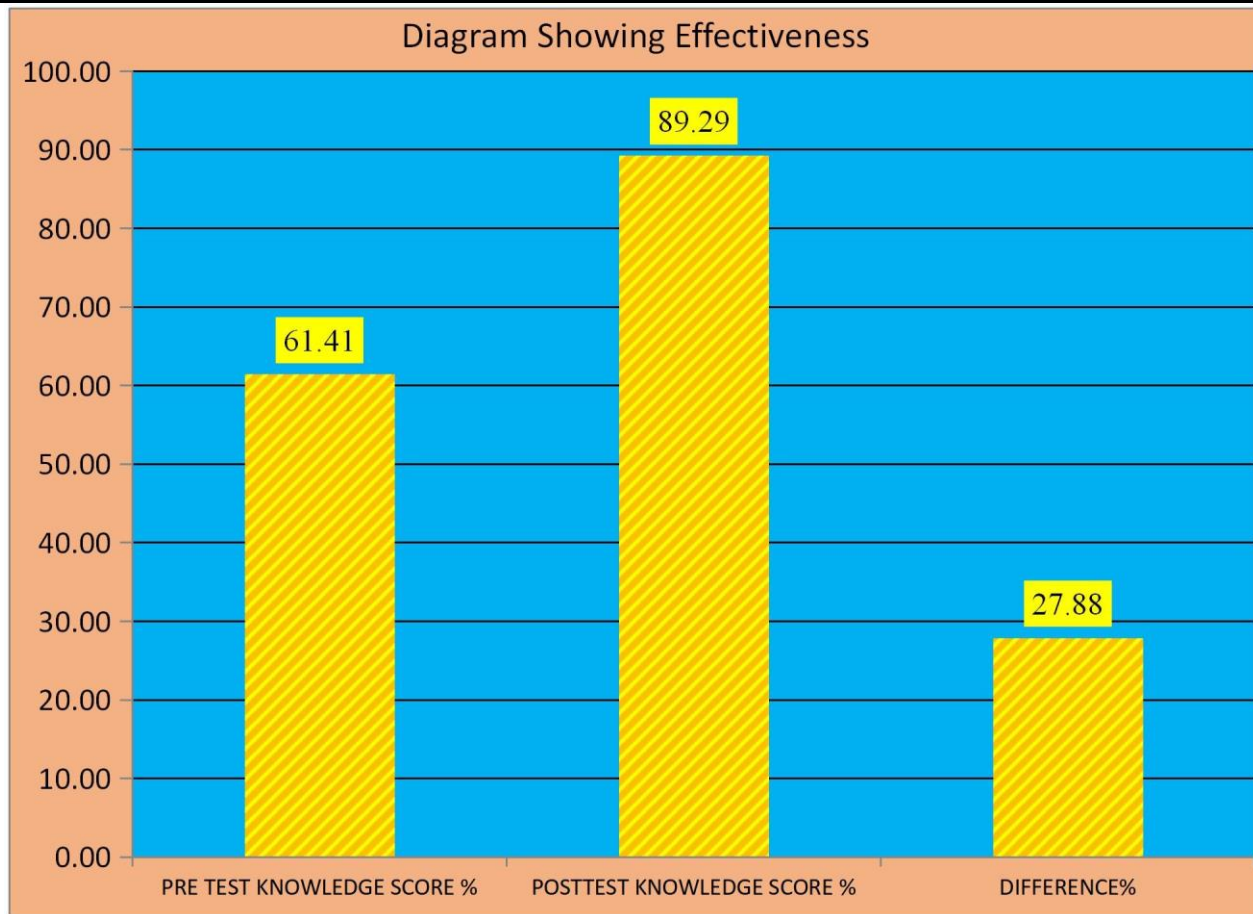


Figure No. 21: Individual score gain

Table No. 16: Item Wise Analysis {Pre and Post}

Item wise Analysis	PRE CORRECT (%)	POST CORRECT (%)	PRE CORRECT (f)	POST CORRECT (f)
Qno.1	100.0%	86.7%	30	26
Qno.2	96.7%	100.0%	29	30
Qno.3	63.3%	100.0%	19	30
Qno.4	3.3%	100.0%	1	30
Qno.5	40.0%	100.0%	12	30
Qno.6	93.3%	96.7%	28	29
Qno.7	100.0%	100.0%	30	30
Qno.8	93.3%	90.0%	28	27
Qno.9	96.7%	93.3%	29	28
Qno.10	90.0%	100.0%	27	30
Qno.11	73.3%	93.3%	22	28
Qno.12	96.7%	96.7%	29	29
Qno.13	50.0%	90.0%	15	27
Qno.14	26.7%	96.7%	8	29

Qno.15	60.0%	70.0%	18	21
Qno.16	20.0%	96.7%	6	29
Qno.17	40.0%	93.3%	12	28
Qno.18	30.0%	96.7%	9	29
Qno.19	83.3%	90.0%	25	27
Qno.20	30.0%	70.0%	9	21
Qno.21	46.7%	70.0%	14	21
Qno.22	40.0%	83.3%	12	25
Qno.23	26.7%	83.3%	8	25
Qno.24	76.7%	90.0%	23	27
Qno.25	23.3%	46.7%	7	14
Qno.26	63.3%	76.7%	19	23
Qno.27	23.3%	66.7%	7	20
Qno.28	76.7%	90.0%	23	27
Qno.29	26.7%	93.3%	8	28
Qno.30	70.0%	96.7%	21	29
Qno.31	86.7%	96.7%	26	29
Qno.32	93.3%	93.3%	28	28
Qno.33	86.7%	100.0%	26	30

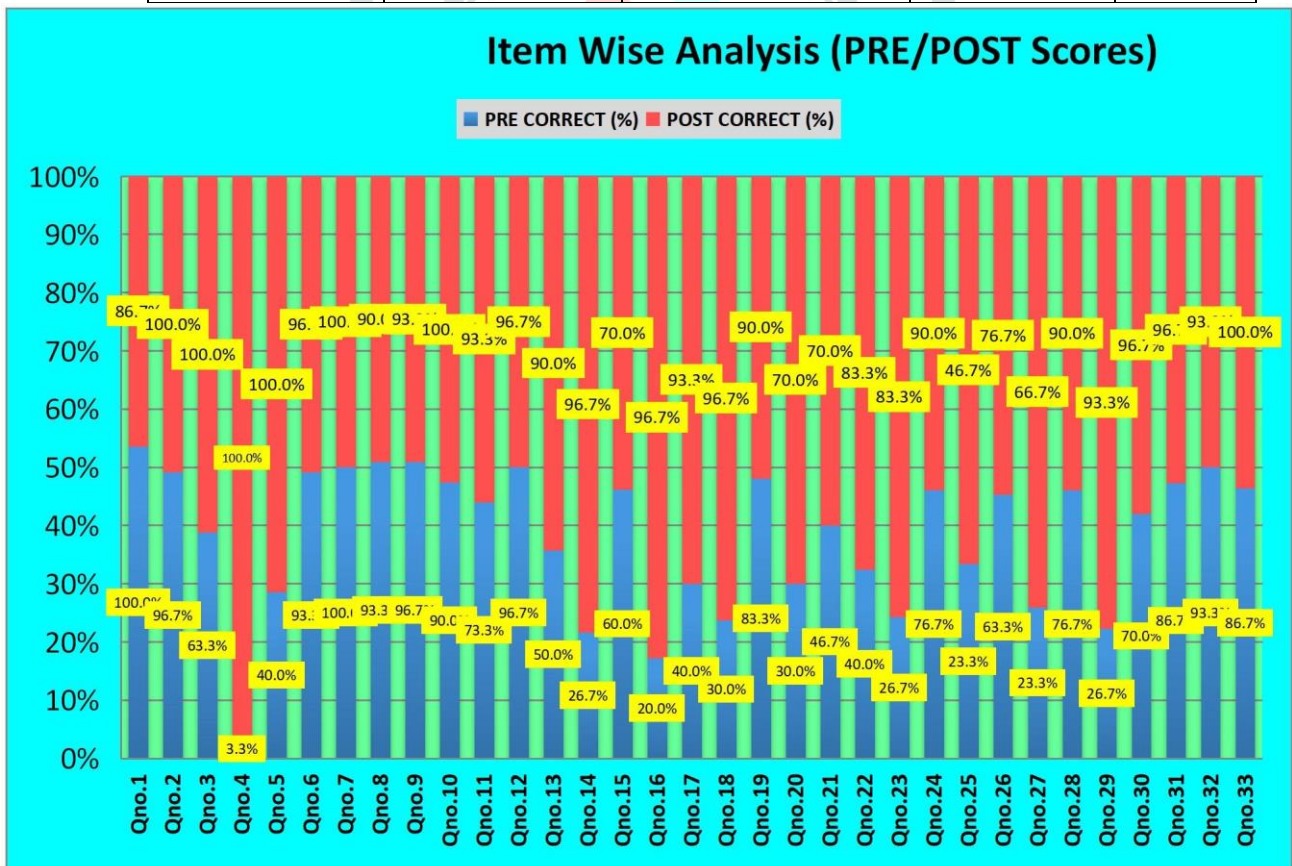


Figure 22: Item Wise Analysis (PRE/POST Score)

DISCUSSION

1. Assess the knowledge regarding Bio Medical Waste Management among Staff Nurses at SLBSGMC Mandi . Pre test Results showed that: 76.7% staff nurses has moderate knowledge, 20% has adequate knowledge and 3.3% has inadequate knowledge. Maximum Score= 31, Minimum Score= 10, Mean= 20.27, S.D.=4.008, Median score= 20, Range = 21, Mean%= 61.40

2. Assess the practice regarding Bio Medical Waste Management among Staff Nurses at SLBSGMC Mandi . Majority of Staff Nurses had 93.3% Adequate Practice, 6.7% had Moderate Practice and no one had inadequate Practice. Mean: 23.33 Median: 23.5, S.D.: 2.09, Maximum: 26, Minimum: 17, Range: 9, Mean %: 89.74

3. To find out the association between the knowledge regarding Bio Medical Waste Management among Staff Nurses at SLBSGMC&H Mandi with their selected demographic variables The chi-square test was used to determine the association between the score levels and selected demographic variables. The calculated chi-square values were less than the table value at the 0.05% level of significant. Study showed that there was non significant co-relation between associations with knowledge score and practice score with demographic variables like Age, Gender, Occupation, Education, Work experience, Income, Training. But there was a significant association Between Source of information and Post test knowledge of Staff Nurses

4. Structured Teaching Programme was provided for improving Knowledge and Practice regarding Biomedical waste Management of Staff Nurses in SLBSGMC&H Nerchowk Post test results showed that:

Majority of Staff Nurses had 93.3% Adequate Knowledge, 6.7% had Moderate Knowledge and no one had inadequate knowledge Mean= 20.27, S.D.=4.008, Median score= 20, Range = 21, Mean%= 61.40, Maximum = 31, Minimum = 10, Out of 33 score. The difference between pre and post test knowledge score is 9.20(27.88%

CONCLUSION

The present study was aimed to assess on knowledge regarding. The relevant data was collected and analyzed statistically based on the objectives of the data. The following conclusion is drawn by this study. In Conclusion, majority of Staff Nurses 93.3% F= 28 were having average knowledge regarding were having 6.7% F=2 moderate knowledge and 0% F=0 were having Inadequate knowledge regarding At the end of study all study subjects were provided with. In the present study total 30 study subjects participated, Out of 33 score, Mean, 29.4%, Median 31, SD3.288, Ranges 13, Mean% 89.30, Maximum = 33 Minimum = 0.

Study showed that there was non significant co-relation between associations with practice score and demographic variables like Age, Gender, Occupation, Education, Work experience, Income, Training. But there was a significant association Between Source of information and Post test knowledge of Staff Nurses

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