"A STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED ASSISTED TEACHING PROGRAMME ON KNOWLEDGE REGARDING BIOMEDICAL WASTE MANAGEMENT(BMW) AMONG HOUSE KEEPING STAFF OF SELECTED HOSPITALS OF HONAVAR UTTARA KANNADA"

By

Ms. ASHNA SEBASTIAN

Submitted to

Rajiv Gandhi university of health science, Bangalore, Karnataka.

Under short term Research Grants for Undergraduate Students of Institutions affiliated to RGUHS for the year 2020 – 21

and

in Partial fulfillment of the requirements for the degree of

Bachelor of Science in Nursing.

Under the guidance of

THANKAMMA M. S

St. Ignatius Institute of Health Sciences,

Honavar**, Uttara Kannada.**

2021

DECLARATION BY THE CANDIDATE

I hereby declare that this thesis titled **"A STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED ASSISTED TEACHING PROGRAMME ON KNOWLEDGE REGARDING BIOMEDICAL WASTE MANAGEMENT(BMW) AMONG HOUSE KEEPING STAFF OF SELECTED HOSPITALS OF HONAVAR UTTARA KANNADA"** is a bonafide and genuine work to carried out by I under the guidance of **THANKAMMA M. S**, Professor St. Ignatius Institute of Health Sciences, Honavar.

Date: **Ms. Ashna Sebastian**

Place: **Final year B.Sc. Nursing**

CERTIFICATE BY THE GUIDE

This is to certify that thesis **"A STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED ASSISTED TEACHING PROGRAMME ON KNOWLEDGE REGARDING BIOMEDICAL WASTE MANAGEMENT(BMW) AMONG HOUSE KEEPING STAFF OF SELECTED HOSPITALS OF HONAVAR UTTARA KANNADA"** is a bonafide research work done by **Ms. Ashna Sebastian** under Short term Research Grants for Undergraduate Students of Institutions affiliated to RGUHS for the year 2020 – 21.

Date :

Place: Honavar.

Signature of the guide

Thankamma.A. S
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ENDORSEMENT BY THE PRINCIPAL /HEAD OF THE INSTITUTION

This is to certify that the dissertation entitled **"A STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED ASSISTED TEACHING PROGRAMME ON KNOWLEDGE REGARDING BIOMEDICAL WASTE MANAGEMENT(BMW) AMONG HOUSE KEEPING STAFF OF SELECTED HOSPITALS OF HONAVAR UTTARA KANNADA"**is a bonafide research work done by **Ms. Ashna Sebastian** under Short term Research Grands for Undergraduate Students of Institutions affiliated to RGUHS for the year 2020 – 21under the guidance of **Thankamma M.S,** Professor, St. Ignatius Institute of Health Sciences, Honavar.

Date :

Place: Honavar.

Signature of the principal

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ST. IGNATIUS INSTITUTE OF HEALTH SCIENCES, HONAVAR.

SHORT-TERM RESEARCH GRANT FOR UNDERGRADUATE STUDENTS

2020-2021

FINAL REPORT

1.	**TITLE OF THE PROJECT**	**"A STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING BIOMEDICAL WASTE MANAGEMENT AMONG HOUSEKEEPING STAFF OF SELECTED HOSPITALS AT HONAVAR, UTTARA KANNADA."**
2.	**RGUHS PROJECT CODE**	**UG20NUR411**
3.	➢ **NAME OF THE STUDENT**	**MS. ASHNA SEBASTIAN**
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4.	• **NAME OF THE GUIDE**	**THANKAMMA M.S**
	• **DESIGNATION**	**Professor**
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	• **MOBILE NUMBER**	**9986473094**
5.	**NAME OF THE DEPARTMENT**	**NURSING**
6.	**DATE OF COMMENCEMENT OF THE RESEARCH ACTIVITY**	**5/3/21**
7.	**DATE OF COMPLETION**	**30/6/21**
8.	❖ **OBJECTIVES STATED**	1. To assess the pre- and post- test knowledge level of the house keeping staff on biomedical waste management. 2. To find the effectiveness of structured teaching programme on biomedical waste management among housekeeping staff. 3. To find the significant association between the pre-test knowledge score and selected demographic

		variables
	❖ **OBJECTIVES ACHIEVED**	1) Assessed the pre- and post- test knowledge level of the house keeping staff on biomedical waste management. 2) Structured teaching programme on biomedical waste management among housekeeping staff was found to be effective. 3) Significant association Found between the pre- test knowledge score and selected demographic variables

9. FIELD /EXPERIMENTAL WORK GIVING FULL DETAILS OF RESEARCH METHOD ADOPTED.

METHODOLOGY:

Methodology means the steps, procedure and strategies for gathering and analyzing data a research investigation. [36] It include description of research approach, research design, study setting, variables, target population, sample and sample size, sampling technique, sampling criteria, developmental and description of tools, data collection method and plan for data analysis.

RESEARCH APPROACH:

Research approaches are plans and the procedure for research. A quantitative evaluative research approach was adopted for the study[37]. As enable the investigator to "A study to assess the effectiveness of structured teaching programme on knowledge regarding biomedical waste management among housekeeping staff of selected hospitals at Honavar."

RESEARCH DESIGN:

According to Burns N, groove S K "A research design is a blue print for the conduct of the Study that maximizes control over factors that could interfere with the studies outcome"[38]. Keeping In view the objective of the study, the research design selected for the present study is pre-Experimental, one group pre and posttest design was adopted for the Study.

VARIABLES UNDER STUDY:

According to Polit & Hungler, (1999), variables are an attribute of a person or object that variable and taken on different value within the population under study.

- **Independent variable:** Structured Teaching Programme (STP) on Biomedical Waste Management (BMW)
- **Dependent variable:** Knowledge level on Biomedical Waste Management (BMW).
- **Demographic variables:** In the study, the demographic variables are Age, Gender, Educational status, Year of experience, areas of work, use of personal protective equipment's by the house keeping staff.

SETTING OF THE STUDY:

The study was conducted in St. Ignatius Institute Hospital Honavar, Uttara Kannada and Government Taluka hospital Honavar, Uttara Kannada.

POPULATION:

The population refers to the entire set of individual or subjects having common characteristics, sometimes referred to as universal. In this study the population housekeeping staff.

- **Target population:**

The target population consist of the total members of a define set of housekeeping staff from whom the data will be generalized. In the present study the target population was all housekeeping staff in selected hospitals at Honavar, Uttara Kannada.

- **Accessible population:**

In the study the accessible population was housekeeping staff in St. Ignatius Hospital, Honavar, Uttara Kannada.

SAMPLE:

A sample is a small portion of population selected to participate in the research study. The sample for this research is housekeeping staff in St. Ignatius Hospital, Honavar, Uttara Kannada.

SAMPLE SIZE:

The Sample size taken for this study is consisted of 30 housekeeping staff in St. Ignatius Hospital, Honavar, Uttara Kannada.

SAMPLING TECHNIQUE:

Sampling defines the process of selecting a group of people (or) other elements with which to conduct a study. In this study Non-Random sampling (purposive) was used to choose the subjects.

SAMPLING CRITERIA:

In sampling criteria, the researcher specifies the characteristic of the population under the study by dealing the inclusive and exclusive criteria are characteristics that each sample elements must possess to be including in the sample.

❖ **Inclusion criteria:**

- Both male and female
- Staff available and willing to be the part of this study

❖ **Exclusion criteria:**

- Staff from other settings

SELECTION & DEVELOPMENT OF TOOL:

Tool is a procedure or instrument used to assess awareness by the research to collect data. The tools were prepared on the basis of the objectives of the study.

The following steps were adopted in development of the tool.

The tool was developed after:

- An extensive review of research and non research literature.
- Based on consultation with experts in the field and related field.
- Based on opinion of the expert to ascertain for the clarity and appropriateness of the items of given structured questionnaire.
- Based on informal discussion with peer group.

DESCRIPTION OF THE TOOL:

Checklist was developed to assess the effectiveness of structured teaching programme on knowledge regarding biomedical waste management among housekeeping staff of selected hospitals at Honavar and the tool was translated into the local language Kannada.

It consist of two sections-

- Section I: It consists of sample characteristics (Demographic Variables)
- Section II: It consists of checklist regarding knowledge on Biomedical Waste Management.

SECTION-I:

This section consisted of 6 items obtaining information regarding subjects Age, Gender, Educational status, Year of experience, areas of work, use of personal protective equipments by the house keeping staff.

SECTION-II:

This section consists of 40 items, Each correct answer score "1" mark and incorrect answer scores "0" mark.

CRITERIAN MEASURES OF KNOWLEDGE SCORE:

Knowledge Level	Score Range	Percentage (%)
Poor	0-10	0-25
Average	11-20	26- 50
Good	21-30	51– 75
Excellent	31-40	76 – 100

- ❖ Score interpretation Total: 40 Minimum Score: 1

CONTENT VALIDITY:

To ensure the content validity of tool, the prepared tool along with problems statement, objectives, operational definition, hypothesis, self-structured booklet was submitted to 5 experts, in the field of biomedical waste management, Pediatrician, and Statistician. Expert requested to judge the items on the basis of their relevance, clarity, feasibility organization of the items included in the study.

Based on expert opinion, some of the questions were modified and some of the question has been deleted, arrangement of the option was done in proper way according to the suggestions given by experts, the tool was presented and finalized by the research committee of St. Ignatius institute, Honavar, Uttara Kannada.

RELIABILITY OF TOOL:

According to Wood & Haber, (1994) "Reliability is defined as the extent to which the instrument yields the same result on repeated measures. It is then concerned with consistency, accuracy, stability and homogeneity. Procedure used for calculating reliability of research instrument is Split Half method. The reliability co-efficient calculated using split half formula to determine Reliability co-efficient for self-structured knowledge questionnaire. Hence, r=0.79 the tool was found to be reliable.

PILOT STUDY:

The pilot study was conducted in Government Hospital Honavar, Uttara Kannada from 4/06/2021 to 11/06/2021.

The purpose of study was explained to 5 housekeeping staff who fill the sampling criteria, the purpose of the study was explained and confidentiality was assured to all subjects. The average time taken by each subject to attend the checklist and given answer was about 1 hour within a period of one week. The data analysis was done using descriptive and inferential statics. Pilot study confirmed practicability and provide confidence to the researcher for main study. After pilot study the tool was found to be feasible and acceptable.

The pilot study schedule is

Pre Test			**Post Test**		
Date	**No of sample**	**Duration**	**Date**	**No of sample**	**Duration**
4/06/21	05	5 hours	11/06/21	05	5 hours

DATA COLLECTION PROCESS

Data collection is precise, systematic method of gathering information relevant the research to conduct the main study at St. Ignatius Hospital Honavar. A formal written permission was obtained from concerned authorities before data collection from the hospital. Data collection period was from 10/06/2021 to 22/06/2021. The Procedure was the same as in the pilot study valid and reliable checklist was used for data collection. Self introduction and establishing rapport with the subject 30 housekeeping staff. Explained the importance of research study, the confidentiality of their responses was assured and consent was obtained from each Participant. Self administration and interview schedule for illiterate subjects was used.

The process used for data collection was as follows

- ❖ The research investigator introduced herself and explained the purpose of the study to the housekeeping staff.
- ❖ The written consent was obtained from the subjects.
- ❖ The checklist was used to assess the Knowledge Regarding Biomedical Waste Management (BMW).
- ❖ The participants were thanked for their co-operation.
- ❖ Data collected was then tabulated and analyzed.

Data collection process is scheduled as following:

Pre-Test				**Post Test**			
Date	**sample**	**Time**	**Area**	**Date**	**sample**	**Time**	**Area**
12/06/21	10	10-4pm	St. Ignatius Hospital Honavar	19/06/21	10	10-1pm	St. Ignatius Hospital Honavar
13/06/21	10	10-4pm		20/06/21	10	10-1pm	
14/06/21	10	10-4pm		22/06/21	10	10-1pm	

PLAN FOR DATA ANALYSIS:

Analysis of the data was planned on the basis of objective and hypothesis. The data plan to be analysis by using both descriptive and inferential statistics and the following plan for analysis would be worked out.

Descriptive statistics:

- Demographic data was analyzed in items of frequency and percentage.
- The knowledge and practice regarding Biomedical Waste Management (BMW).
- Mean, mean percentage and standard deviation was computed.

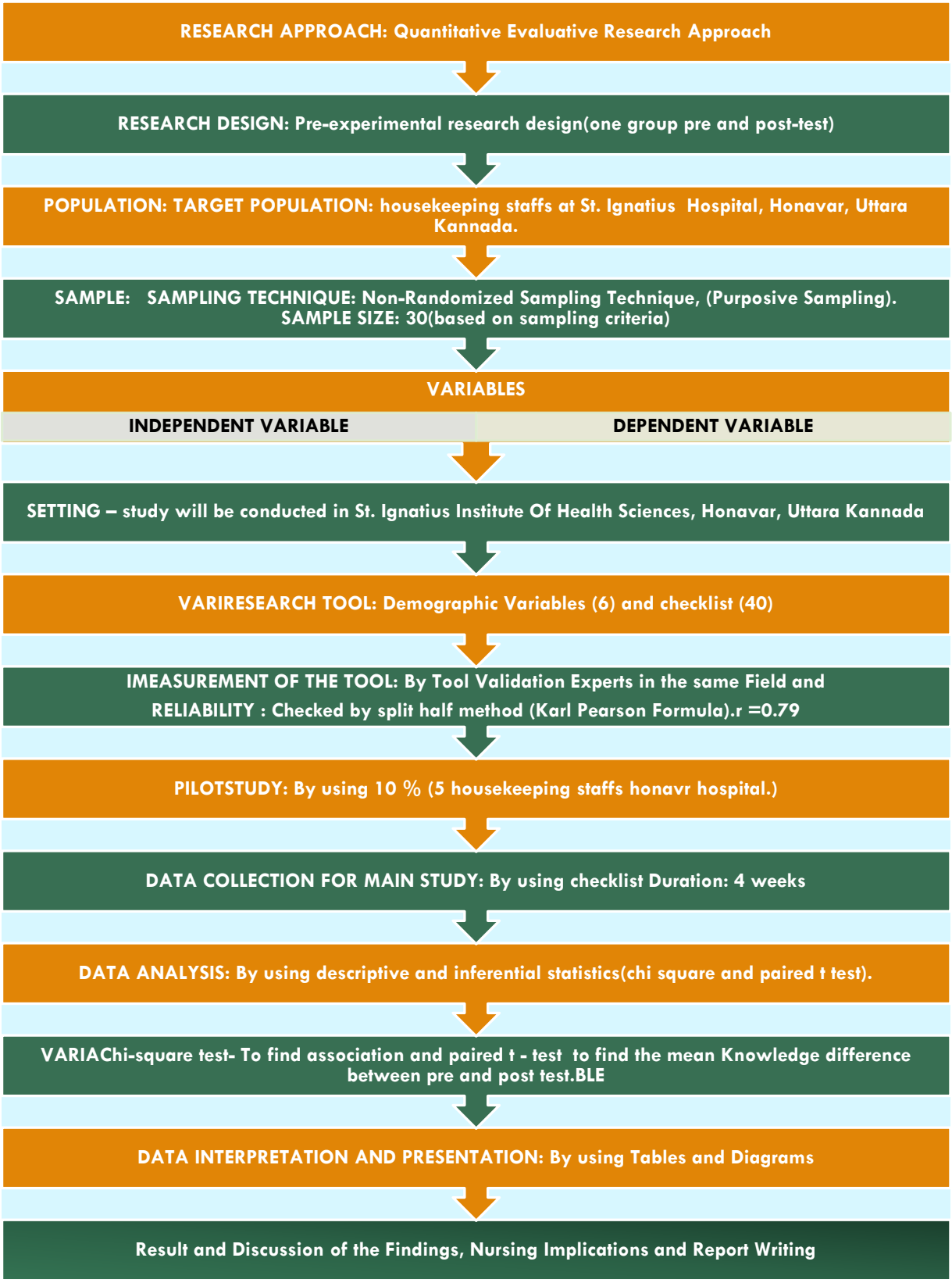
Inferential statistics:

- ❖ Chi-square test is to find out association between the selected demographic variables and level of knowledge regarding Biomedical Waste Management (BMW).
- ❖ Paired t-test to find the mean difference in the pre-test and posttest knowledge at 0.05 level.

ETHICAL CONSIDERATION:

- Permission was obtained from institutional ethical research committee of SIH ,Honavar
- Due permission from authorities was sought and obtained from the setting.
- Informed written consent was taken from participants.
- Anonymity of the participants was ensured.

FIGURE NO: 2- CHEMATIC PRESENTATION OF RESEARCH METHODOLGY



10: DETAILED DATA ANALYSIS.

Analysis and interpretation of data collected among housekeeping staff Regarding the Effectiveness of structured teaching Program on biomedical waste management. The purpose of this analysis is to reduce the data to a manageable and Interpretable form so that the research problem can be studies and tested the data were analyzed in according to the objectives and hypothesis of the study.

OBJECTIVES OF THE STUDY:

- To assess the pre test Knowledge and Attitude level of the housekeeping staff Regarding biomedical waste management.
- To Evaluate the Effectiveness of the structured Teaching Programme (STP) on biomedical waste management Among housekeeping staff at St. Ignatius Hospital, Honavar, Uttara Kannada.
- To determine the Significant Association Between the pre-test Knowledge and Attitude level of the House keeping staff with their selected Demographic Variables.

HYPOTHESIS:

- **H_1=**There will be significant difference between the pre-test and post test scores of House-keeping staff of selected Hospitals of Honavar regarding the knowledge on Biomedical waste management.
- **H_2=**There will be significant association between the post test knowledge score and selected demographic variable

ORGANIZATION AND PRESENTATION OF DATA:

Analysis and interpretation was done as per the objectives of the study and the hypothesis formulated. Descriptive and inferential statistics were used for the analysis of the data.

The data and finding have been organized and presented under the following sections.

- **SECTION: I-** Frequency and Percentage and Distribution of study subjects according to socio-demographic variables.
- **SECTION: II**- Analysis of overall pre and post-test knowledge regarding Biomedical waste management (BMW) among house keeping staff at St. Ignatius Hospital, Honavar, Uttara Kannada**.**
- **SECTION: III**- Analysis of effectiveness of structured teaching program by finding the mean difference in the pre and post test knowledge of housekeeping staff regarding Biomedical Waste Management(BMW).
- **SECTION: IV**- Analysis of finding association between the pre-test mean knowledge level of the subjects with their selected demographic variables.

SECTION -I

Frequency and percentage distribution of subjects according to socio demographic variables.

Table 1. Shows the demographic information of subjects those who are participated in the present study.

N=30

SL.NO	DEMOGRAPHICVARIABLES	FREQUENCY	PERCENTAGE
1.	**Age in years**		
	a.25-30 years	4	13%
	b.31-35years	1	4%
	c.36-40years	4	13%
	d. Above 40 years	21	70%
2.	**Gender**		
	a. male	5	17%
	b. female	25	83%
3.	**Educational status**		
	Literate	22	73%
	illiterate	8	27%
4.	**Year of experience**		
	a. <6 months	1	3%
	b.6-12 months	2	7%
	c.0-5 years	3	10%
	d.>5years	24	80%
5.	**Area of work**		
	a.OT/ICU	5	17%
	b.General ward	18	60%
	c.emergency	7	23%
	d.laboratory	-	-
6.	**(A)Do you wear PPE**		
	a. yes	30	100%
	b. no	-	-
	(B).If yes specify,		
	a.Gloves	-	-
	b.Mask	-	-
	c.Gown	-	-
	d.All of the above	30	100%

Table no-1: Shows the frequency and percentage distribution of subjects according to socio demographic variables such as age, gender, educational status, year of experience, areas of work, use of PPE among the subjects.

Table 1.1: Frequency and distribution of subjects according to Age in years

N=30

AGE IN YEARS	FREQUENCY	PERCENTAGE
a.25-30 years	4	13%
b.31-35years	1	4%
c.36-40years	4	13%
d.Above 40 years	21	70%

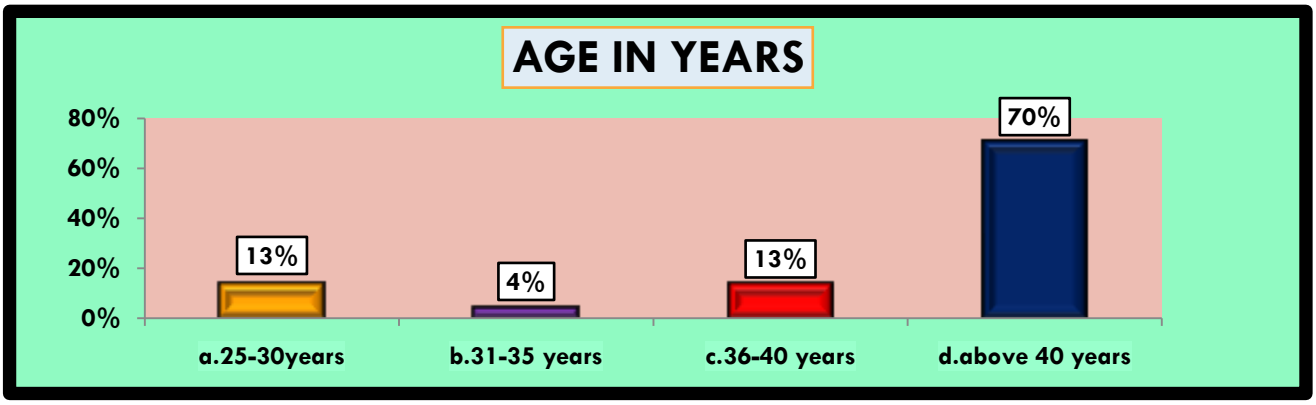


Figure no.3.1: Column diagram shows the percentage distribution of subjects according to the age of subjects.

Table1.1 (Fig.3) Depicts that according to the age of subjects the maximum number of subjects 21(70%) were above 40 and 4 (13%) were 36-40, and 1 (4%) were 31-35 years, and 4(13%) were 25-30 years**.**

Table 1.2 : frequency and distribution of subjects according to Gender

N=30

GENDER	FREQUENCY	PERCENTAGE
a. Male	5	17%
b. Female	25	83%
Total	**30**	**100%**

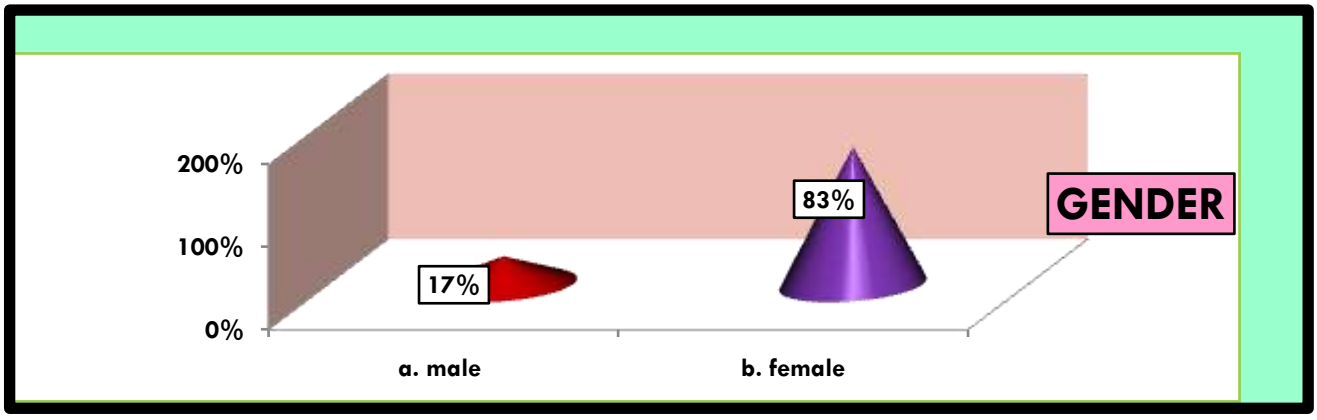


Figure 3.2 Cone graph shows the percentage of subjects according to gender of the subjects.

Table 1.2(fig.3.1) Depicts that according to gender of the subjects the maximum number of subjects 25(83%) were female and 5(17%).

Table 1.3 : Frequency and distribution of subjects according to educational status.

N=30

EDUCATIONAL STATUS	FREQUENCY	PERCENTAGE
a. Literate	22	73%
b.Illiterate	8	27%
Total	**30**	**100%**

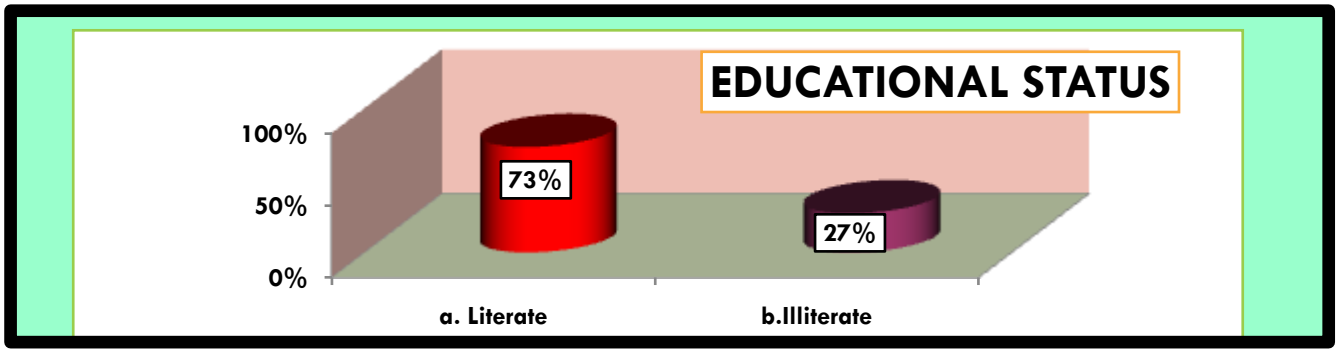


Figure 3.3 Cylindrical graph shows the percentage of subjects according to educational status of the subjects.

Table 1.3(Fig.3.2) Depicts that according to educational status of the subjects the maximum number of subjects 22(73%) were literate and 8(27%) were illiterate.

Table 1.4: Frequency and distribution of subjects according to year of experience.

N=30

YEAR OF EXPERIENCE	FREQUENCY	PERCENTAGE
a.<6 months	1	3%
b.6-12 months	2	7%
c.0-5 years	3	10%
d.> years	24	80%
Total	**30**	**100%**

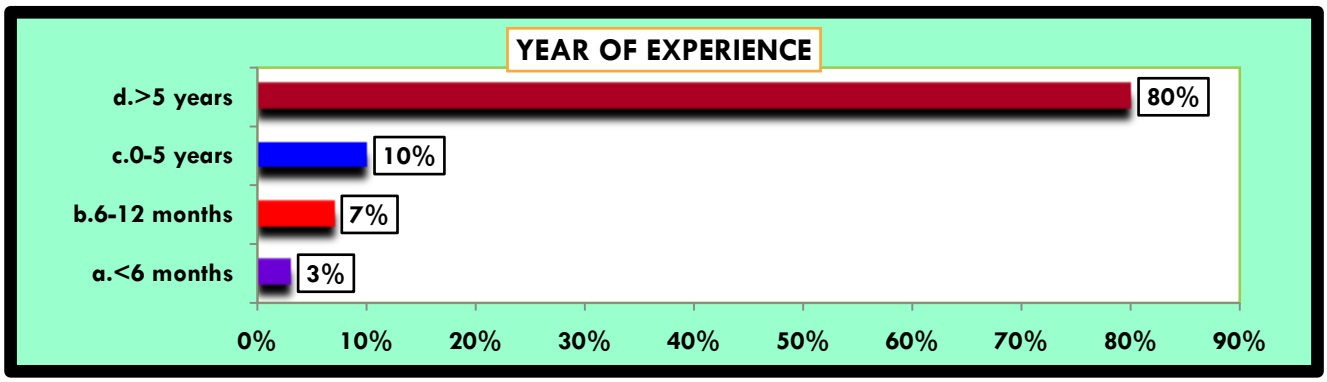


Figure 3.4: Bar graph shows the percentage of subjects according to year of experience of the subjects.

Table 1.4(fig.3.3) Depicts that according to year of experience of the subjects the maximum number of subjects 24(80%) were having experience more than 5 years ,3(10%) were having experience of 0-5 years,2(7%) were having experience of 6-12 months and 1(3%) were having experience less than 6 months.

Table 1.5 : Frequency and distribution of subjects according to area of work.

N=30

AREAS OF WORK	FREQUENCY	PERCENTAGE
a. OT/ICU	5	17%
b. General ward	18	60%
c. Emergency	7	23%
d. Laboratory	-	-
Total	**30**	**100%**

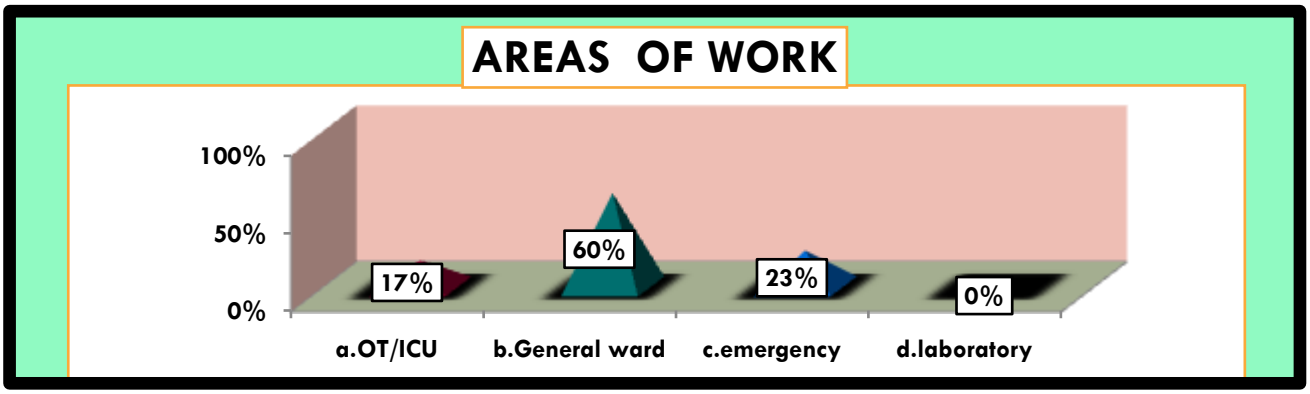


Figure 3.5: Pyramid graph shows the percentage of subjects according to year of experience of the subjects.

Table 1.4(fig.3.4) Depicts that according to area of work of the subjects the maximum number of subjects 18(60%) were working in general ward,7(23%) was working in emergency ,5(17%) were working in OT/ICU**.**

Table 1.6(A): Frequency and distribution of subjects according to use of personal protective equipment.

N=30

(A)do you wear ppe	Frequency	Percentage
a. yes	30	100%
b. No	-	-
Total	**30**	**100%**

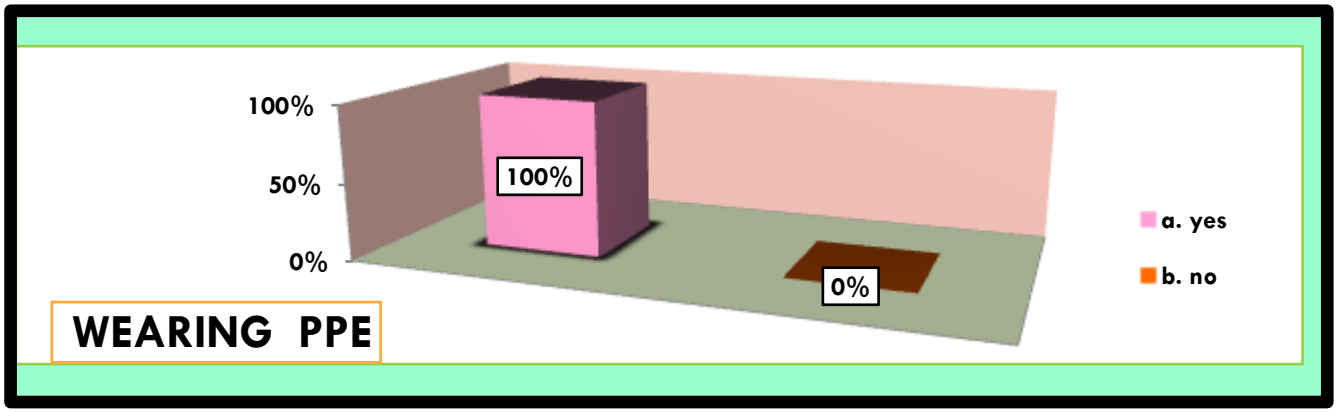


Figure 3.6(A): Column graph shows the percentage of subjects according to use of PPE by the subjects.

Table 1.5(fig.3.5) Depicts that according to use of PPE by the subjects the maximum number of subjects 30(100%) were using PPE.

Table 1.6 (B): Frequency and distribution of subjects according to type of personal protective equipment.

N=30

(B).If yes, specify,	**Frequency**	**Percentage**
a) A.gloves	-	0
b) B.mask	-	0
c) C.gown	-	0
d) D.all of the above	30	100%
Total	**30**	**100%**

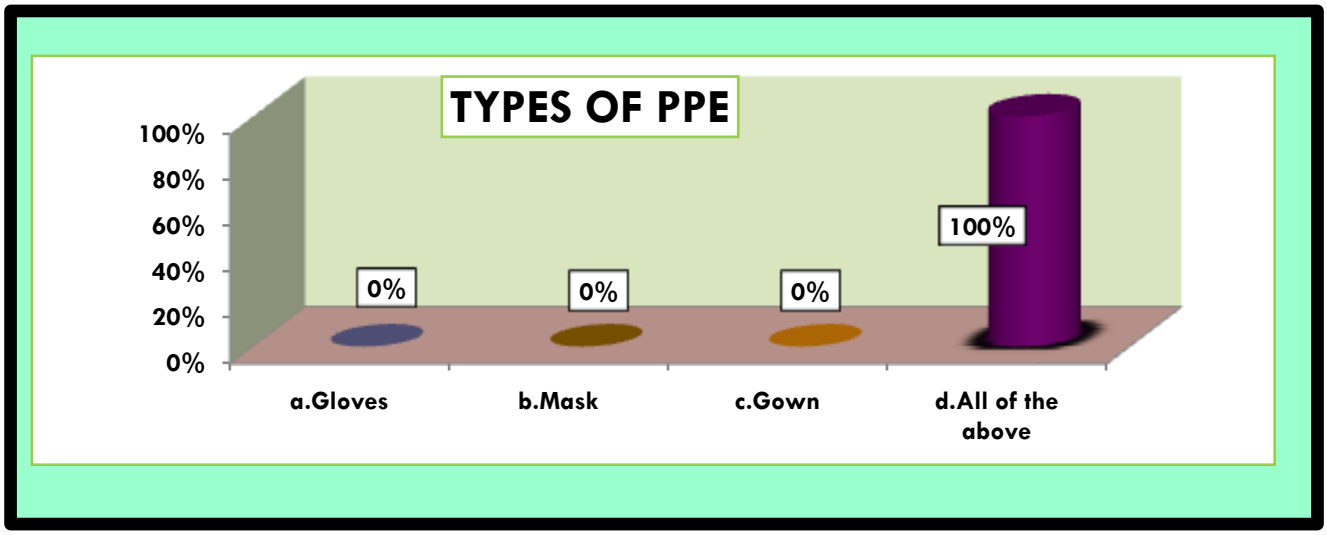


Figure 3.6(B): Cylindrical graph shows the percentage of subjects according to type of PPE by the subjects.

Table 1.6 (Fig.3.6) Depicts that according to type of PPE by the subjects the maximum number of subjects 30(100%) were using all kind of Personal Protective Equipment.

SECTION- II

Finding of overall Knowledge Level of housekeeping staff Regarding Biomedical Waste Management (BMW).

Table No.-2: Shows the frequency and percentage distribution of overall knowledge level of housekeeping staff Regarding Biomedical Waste Management (BMW).

N =30

SL. No.	**Knowledge Level**	**Pre test**		**Post test**	
		Frequency	**Percentage (%)**	**Frequency**	**Percentage (%)**
1.	Poor	0	0%	0	0%
2.	Average	5	17%	0	0%
3.	Good	8	27%	0	0%
4.	Excellent	17	56%	30	100%
Total		**30**	**100%**	**30**	**100%**

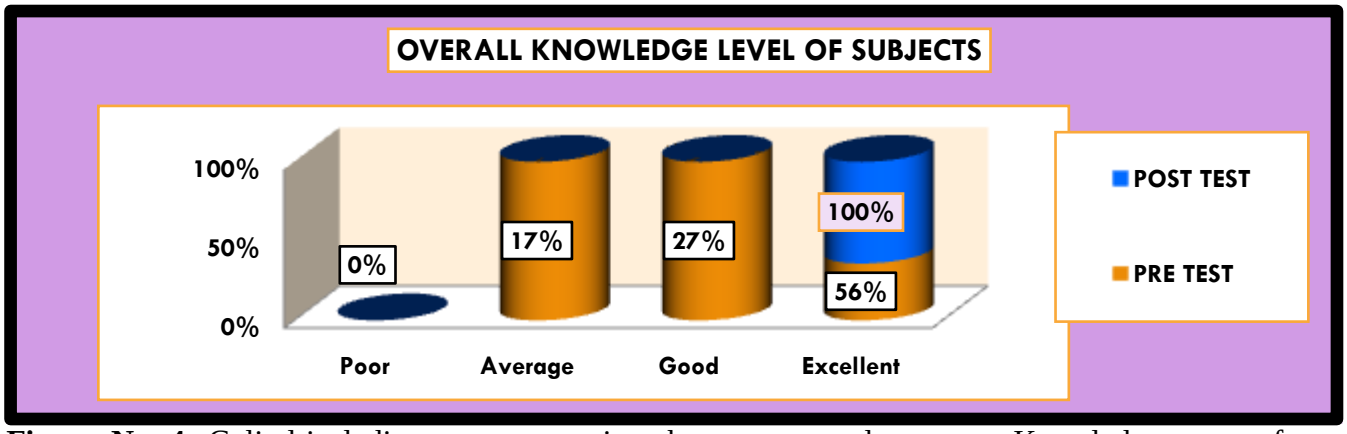


Figure No.-4: Cylindrical diagram representing the pre test and post test Knowledge score of pre experimental group regarding Biomedical Waste Management (BMW).

Table No.2 (Figure No.-4) Depict that only 17 (56%) had excellent knowledge, 8(27%) of subject had good knowledge,5 (17%) has average knowledge in pre-test whereas, in posttest everyone has excellent knowledge.

SECTION –III

Finding of mean difference in the pre and post test knowledge of house keeping staff Regarding Biomedical Waste Management (BMW).

Table No. -3: shows the mean difference in the pre test and post test knowledge regarding Biomedical Waste Management (BMW).

N=60

knowledge Level	Mean score	Mean percentage	Standard deviation	Mean percentage difference
Pre-test	29.7	74.25%	6.14	20%
Post-test	37.7	94.25%	0.8185	

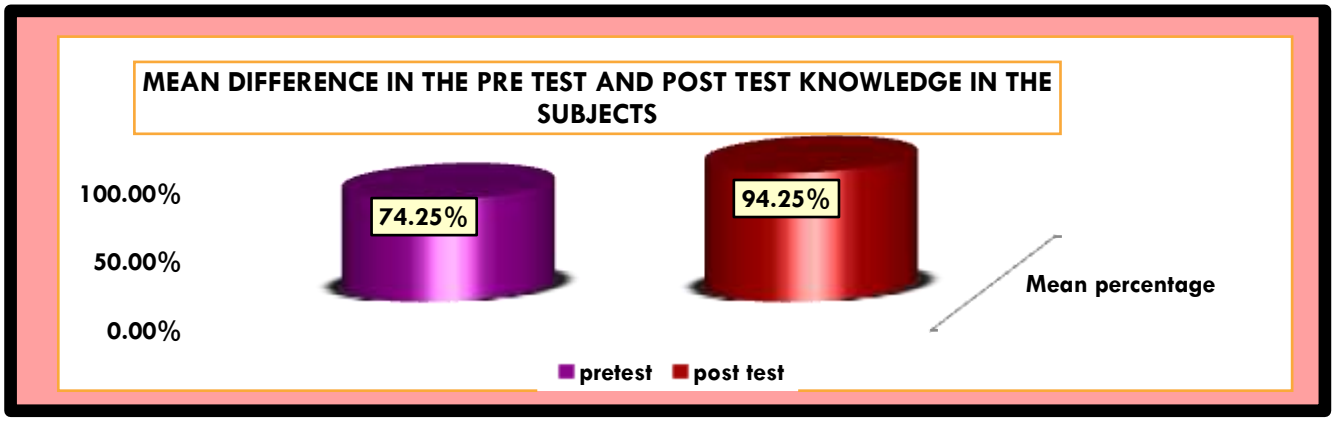


Figure No.-5. Cylindrical diagram shows the mean difference between pre-test and post-test knowledge scores

Table No.-3 (figure no. 5) Shows the pre-test mean knowledge score of subject was 29.7, mean percentage was 74.25% and SD was 6.14, where as in post-test mean knowledge score was 37.7, mean percentage was 94.25% and SD was 0.8185 percentage difference was (8) 20%

SECTION – IV

Paired T- Test finding for the effectiveness of structured teaching program on knowledge regarding Biomedical Waste Management (BMW).

Table No.- 4: Shows the Paired 'T' test finding the effectiveness of Structured Teaching Program on knowledge regarding Biomedical Waste Management (BMW).

N=30

Knowledge level	Mean	SD	SE	Paired T Test value		Inference
				P	T	
Pre-test	29.7	6.14	1.1313	2.05	-7.0715	P >0.05 significant
Post-test	37.7	0.8185				

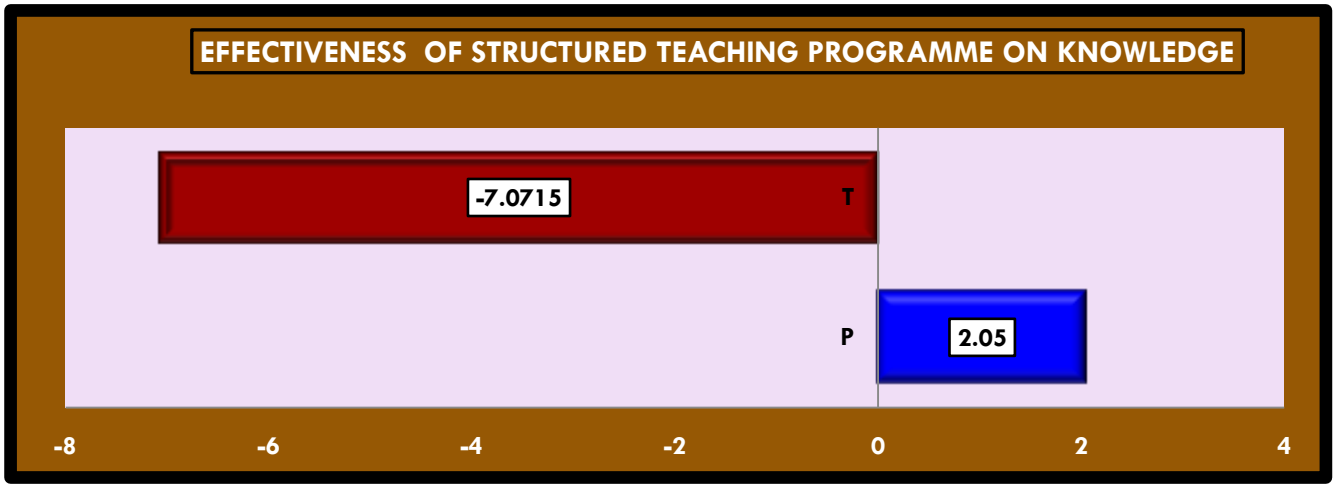


Figure No.-6 Bar diagram shows the effectiveness of structured teaching programme knowledge gain after teaching and pre-test and post-test knowledge score.

Table No.-4 (figure No.6) Depict that the pre test mean knowledge score of subject is ±29.7, SD was 6.14 whereas in post-test mean knowledge score is37.7, SD is 0.8185 SE was 1.1313. The calculated T-test value is -7.0715 (p> 0.05) was greater than table value 2.05 at 0.05 level of highly significance.

SECTION-V

Chi square test finding of association between the pre test and post test knowledge regarding Biomedical Waste Management (BMW).

Table No.-5.1: Shows the chi square test value of association between the pre test knowledge regarding Biomedical Waste Management (BMW) with Age of the subject.

N=30

S. No.	Demographical variables	Pre-test knowledge score				Chi-square		DF	inference
		P	A	G	E	P	$\chi 2$		
1.									
a)	**25-30**	**00**	**02**	**02**	**00**	**16.92**	**20.071**	**09**	**P<0.05 NS***
b)	**31-35**	**00**	**1**	**00**	**00**				
c)	**36-40**	**00**	**1**	**02**	**01**				
d)	**>40**	**00**	**1**	**04**	**16**				

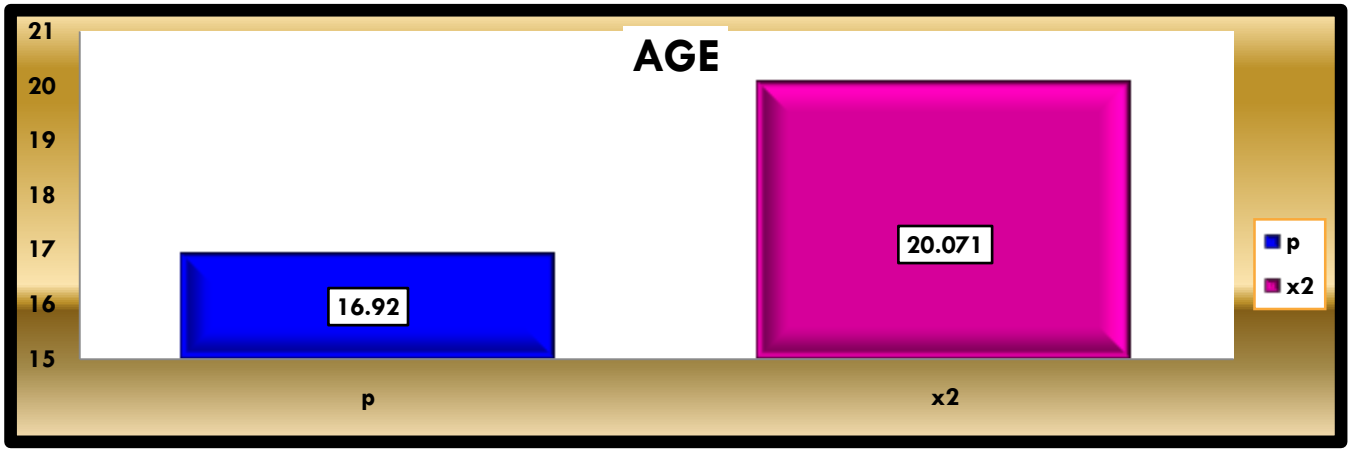


Figure No.-7.1: Column diagram shows the chi-square test value of association between pre-test knowledge regarding Biomedical Waste Management (BMW) with age of the subject.
Table No.-5.1: Depict that the association between pre-test knowledge regarding age of the subject. Hence the chi-square value is 20.071(P<0.05 NS*) at 0.05 level of significance, it shows that there is no significant association with age of subject.

Table No.-5.2: Shows the chi square test value of association between the pre test knowledge regarding Biomedical Waste Management (BMW) with gender of the subject.

N=30

S. No.	Demographical variables	Pre-test knowledge score				Chi-square		DF	Inference
		P	A	G	E	P	$\chi 2$		
gender									
a)	**male**	**00**	**2**	**1**	**02**	**7.82**	**9.37**	**03**	**P<0.05 NS***
b)	**female**	**00**	**3**	**07**	**15**				

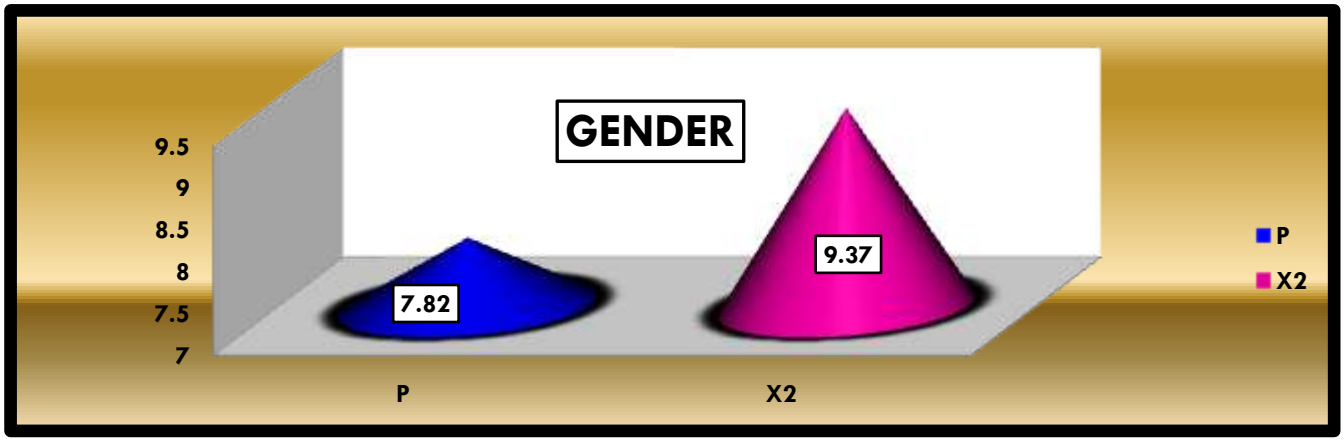


Figure No.-7.2: Cone diagram shows the chi-square test value of association between pre-test knowledge regarding Biomedical Waste Management (BMW) with gender of the subject.

Table No.-5.1: Depict that the association between pre-test knowledge regarding Biomedical Waste Management (BMW) with gender. Hence the chi-square value is 9.37 (P<0.05 NS*) at 0.05 level of significance, it shows that there is no significant association with gender of subject.

Table No.-5.3: Shows the chi square test value of association between the pre test knowledge regarding Biomedical Waste Management (BMW) with their educational status.

N=30

Sl. No.	Educational status	Pre-test knowledge score				Chi-square		DF	Inference
		P	A	G	E	P	χ^2		
a)	literate	00	4	4	14	7.82	2.98	03	P>0.05 S*
b)	Illiterate	00	01	04	03				

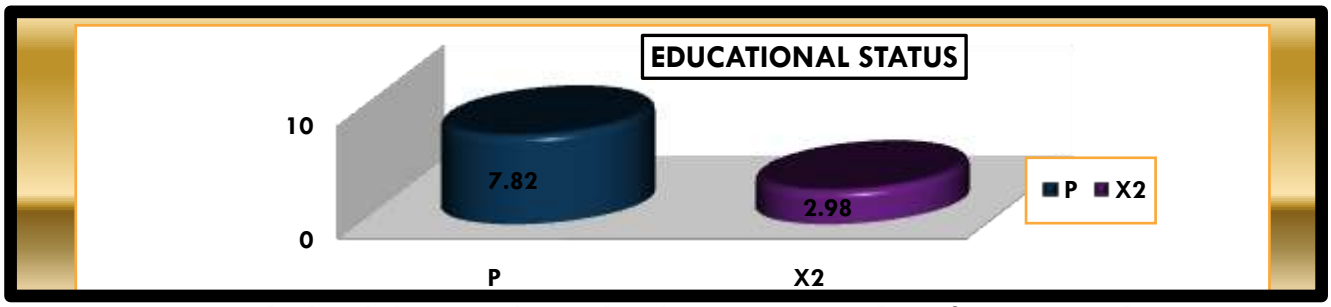


Figure No.-7.3: Cylindrical diagram shows the chi-square test value of association between pre-test knowledge regarding biomedical waste management with their educational status.

Table No.-5.1: Depict that the association between pre-test knowledge regarding biomedical waste management (BMW) with their educational status. Hence the chi-square value is 2.98 (P>0.05 S*) at 0.05 level of significance, it shows that there is a high significant association with their educational status.

Table No.-5.4: Shows the chi square test value of association between the pre test knowledge regarding Biomedical Waste Management (BMW) with year of experience.

N=30

S. No.	Year of experience	Pre-test knowledge score				Chi-square		DF	inference
		P	A	G	E	P	χ^2		
a)	<6 months	00	00	01	00	16.92	9.67	09	P>0.05 S*
b)	6-12 months	00	01	00	01				
c)	0-5 years	00	01	02	00				
d)	>5years	00	03	05	16				

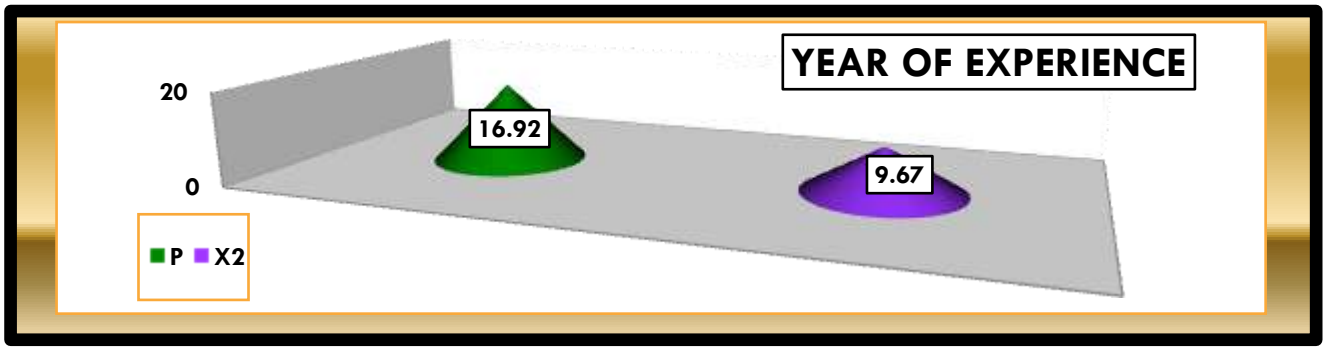


Figure No.-7.4: Cone diagram shows the chi-square test value of association between pre-test knowledge regarding biomedical waste management with year of experience.

Table No.-5.1: Depict that the association between pre-test knowledge regarding biomedical waste management (BMW) with year of experience. Hence the chi-square value is 9.67 (P>0.05 S*) at 0.05 level of significance, it shows that there is a high significant association with year of experience

Table No.-5.5: Shows the chi square test value of association between the pre test knowledge regarding Biomedical Waste Management (BMW) with their respective areas of work.

N=30

S. No.	Demographical variables	Pre-test knowledge score				Chi-square		DF	inference
		P	A	G	E	P	$\chi 2$		
Area of work									
a)	OT/ICU	00	01	01	03	16.92	3.13	09	P<0.05 NS
b)	General ward	00	02	04	12				
c)	Emergency	00	02	03	02				
d)	Laboratory	00	00	00	00				

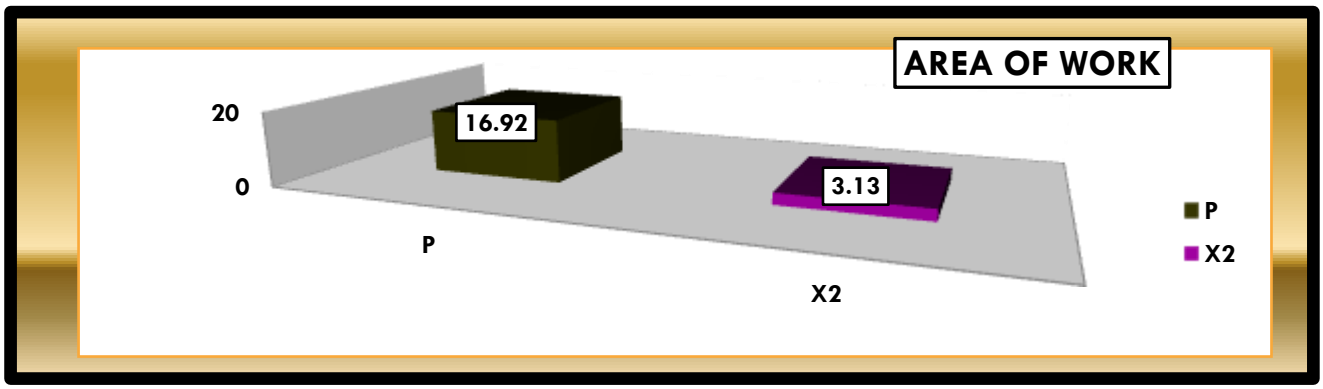


Figure No.-7.5: Column diagram shows the chi-square test value of association between pre-test knowledge regarding Biomedical Waste Management (BMW) with their respective areas of work.

Table No.-5.1: Depict that the association between pre-test knowledge. Hence the chi-square value is 3.13 (P>0.05 S*) at 0.05 level of significance, it shows that there is a high significant association with their respective areas of work.

Table No.-5.6: Shows the chi square test value of association between the pre test knowledge regarding Biomedical Waste Management (BMW) with use of PPE using by the staff while handling of waste.

N=30

S. No.	Do you wear PPE	Pre-test knowledge score				Chi-square		DF	Inference
		P	A	G	E	P	$\chi 2$		
a)	Yes	00	05	08	17	7.82	0	03	P>0.05 S*
b)	No	00	00	00	00				

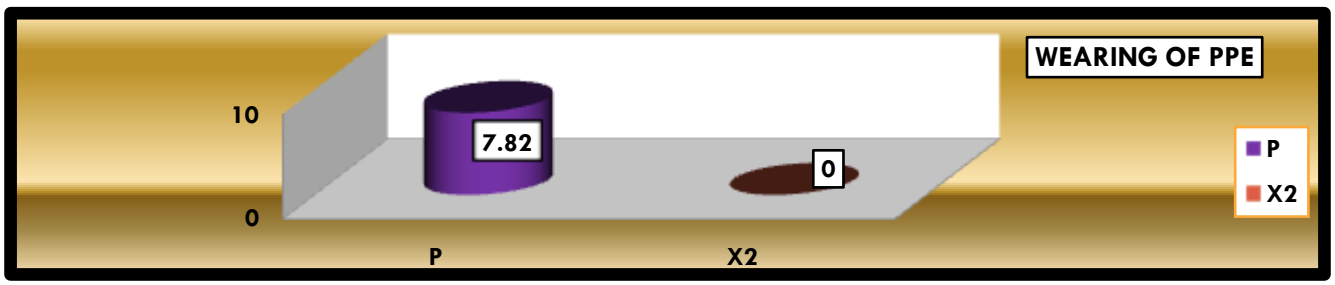


Figure No.-7.6: Cylindrical diagram shows the chi-square test value of association between pre-test knowledge regarding biomedical waste management with use of PPE using by the staff while handling of waste

Table No.-5.1: Depict that the association between pre-test knowledge) with PPE using. Hence the chi-square value is 0 (P>0.05 S*) at 0.05 level of significance, it shows that there is a high significant association with use of PPE using by the staff while handling of waste.

Table No.-5.7: Shows the chi square test value of association between the pre-test knowledge regarding Biomedical Waste Management (BMW) with type of PPE using by the staff while handling of waste.

N=30

S. No.	Demographical variables	Pre-test knowledge score				Chi-square		DF	inference
		P	A	G	E	P	$\chi 2$		
(B).If yes specify,									
a)	a. Gloves	00	00	00	00	16.92	0	09	P>0.05 S*
b)	b. Mask	00	00	00	00				
c)	c. Gown	00	00	00	00				
d)	d. All of the above	00	05	08	17				

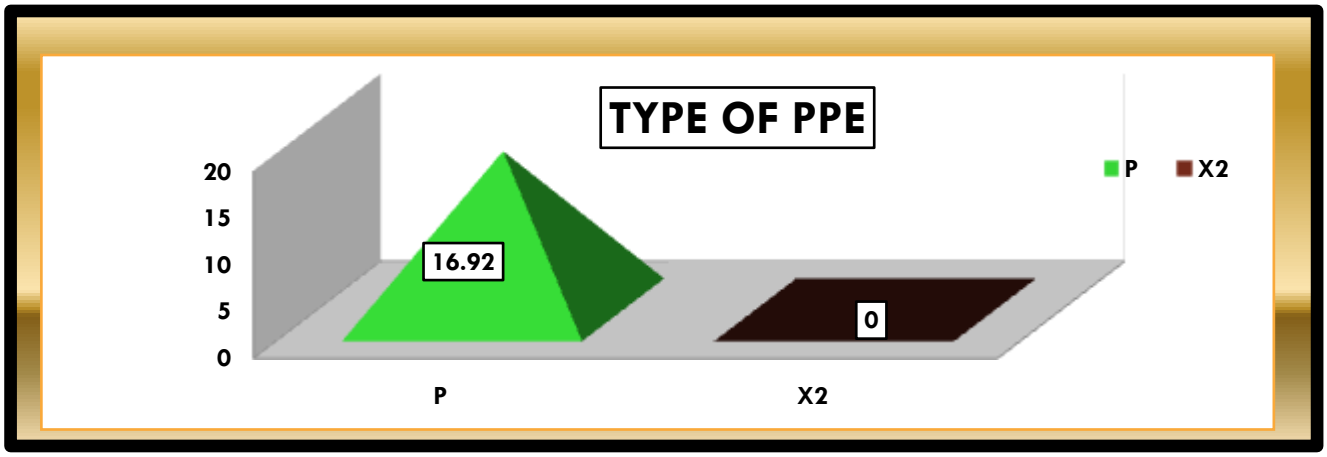


Figure No.-7.7: Pyramid diagram shows the chi-square test value of association between pre-test knowledge regarding biomedical waste management with type of PPE using by the staff while handling of waste.

Table No.-5.1: Depict that the association between pre-test knowledge regarding biomedical waste management with type of PPE using by the staff while handling of waste. Hence the chi-square value is 0 (P>0.05 S*) at 0.05 level of significance, it shows that there is a high significant association with the type of PPE using.

11: CONTRIBUTIONS MADE TOWARDS INCREASING THE STATE OF KNOWLEDGE LEVEL IN THE SUBJECT

Administered structured teaching programme among the house keeping staff in St Ignatius hospital, Teaching aids are made such as leaflets, pamphlet, slides, informational booklets and handout on Biomedical Waste Management. It was effective in enhancing their knowledge level.

FLASH CARDS

LEAFLET

PAMPHLET

12.CONCLUSIONS SUMMARIZING THE ACHIEVEMENTS AND INDICATION OF SCOPE FOR FUTURE.

The heart of the research project lies in reporting the finding. This is the most creative and demanding part of the study. This chapter gives a brief according of the present study, suggestions of the study and the nursing implication. The present study was indented to analyze the effectiveness of structured teaching programme on knowledge regarding Biomedical Waste Management (BMW).

SUMMARY:

The present study was to assess the effectiveness of structured teaching program on knowledge regarding Biomedical Waste Management (BMW).

CONCLUSION:

Structured teaching program is necessary to educate the house keeping staff in area about proper handling of Biomedical Waste Management. The study was undertaken to Evaluate the Effectiveness of Structured Teaching Programme (STP) on Knowledge Regarding Biomedical Waste Management (BMW) among housekeeping staff at St. Ignatius Hospital, Honavar, Uttara Kannada. The study was conducted in a sample of 30 housekeeping staff. Among In pre-test, only 17 (56%) had excellent knowledge, 8(27%) of subject had good knowledge,5 (17%) have average knowledge in pre test whereas in post test everyone has excellent knowledge. It shows that maximum number of subject had excellent knowledge in the study after post test.. Research Hypothesis (H_1) is accepted.

RESEARCH OBJECTIVE:

- To assess the pre and post- test knowledge level of the house keeping staff on biomedical waste management.
- To find the effectiveness of structured teaching programme on biomedical waste management among house keeping staff.
- To find the significant association between the pre- test knowledge score and selected demographic variables.

HYPOTHESIS:

H_1=There will be significant difference between the pre-test and post test scores of House-keeping staff of selected Hospitals of Honavar regarding the knowledge on Biomedical waste management.

H_2=There will be significant association between the post test knowledge score and selected demographic variable.

MAJOR FINDING OF THE STUDY:

The present study to evaluate the effectiveness of structured teaching program on biomedical waste management among housekeeping staff at St. Ignatius Hospital, Honavar. The major findings shows that evaluate Effectiveness of structured teaching program in improving knowledge regarding biomedical waste management among housekeeping staff at St. Ignatius Hospital Honavar, Uttara Kannada. The pre-test knowledge score of subject was 29.7, mean percentage was 74.25% and SD was ± 6.14 Where in post-test mean knowledge score was 37.7, mean percentage was 94.25 and SD was 0.8185 and the mean percentage difference was 20%. The calculated 'T' test value is -7.0715($p>0.05$) was greater than the value of 2.05 at 0.05 level of highly significance. So that, there is an effectiveness of structured teaching program regarding biomedical waste management and the research hypothesis (H_1) significant.

Finding of association between the pre-test Knowledge regarding biomedical waste management With demographic variables Chi-square ($\chi 2$) test showing analysis of association between pre-test knowledge score of subjects and their selected demographic variables. Third objective was to find out association between knowledge level and demographic variables of subjects. Hence the calculated Chi-square value are lesser than table value ($P >0.05$). It shows there is no significant association with Age of subjects 20.071 (P=16.92), gender of subjects 9.37(P=7.82), and it shows significant association with educational status 2.98(P=7.82),years of experience 9.67(P=16.92),area of work 3.13(P=16.92),wearing of PPE 0(P=7.82) ,type of PPE 0 (P=16.92).

NURSING IMPLICATION:

- **Nursing Education:**
  - The nursing curriculum should consist of knowledge related to biomedical waste management and their effective implementation.
  - Nurses at the post-graduate level need to develop skills in preparing health teaching material in various health aspects in Immunization, newer techniques have to be used for motivating staff participation. Emphasis should be made on in service education and training programmes in the department to increase the knowledge of staff nurses**.**

❖ **Nursing Practice:**

- Nurses have a vital role in proper biomedical waste management.
- Nurses should enhance their professional knowledge.
- The finding of the study can be used to bring about awareness among the housekeeping staff knowledge on biomedical waste management which will help in the improvement in the handling of biomedical waste.
- Nurses can also plan teaching in clinical setting.

❖ **Nursing Administration:**

- The finding of the study reveals the need to conduct an ongoing training program for the housekeeping staff who are working in the clinical settings. The training program should include both theoretical and practical input. This can also bring awareness among nurse administrators of the need to provide training to new staff regarding biomedical waste management. Nurse administrators can prepare a new protocol about the teaching.
- Nurses can also teach to student nurses about the same. She/he should be able to plan and organize Programs. Taking in to consideration the cost effectiveness and carry out successful educational Programs.

❖ **Nursing research**:

- The finding of the study can be utilized for conducting research on the knowledge regarding Biomedical Waste Management (BMW) among house keeping staff.
- Future investigators can use the finding and the methodology as reference material. It highlights the area, which requires future exploration.
- The suggestion and the recommendation can be utilized by other researchers for conducting further studies in the same field.

LIMITATION:

- This study is limited to those housekeeping staff who are readily available.
- Purposive sampling was done which restrict the generalization of the study.
- The assessment of effect of structured teaching is limited to one post test conducted on the eighth day of structured teaching Program.
- Since the study was mainly based on the responses of the subjects through checklist, and no other tool was undertaken for the generalization of the finding remains limited.
- The study is limited to population that understands kannada.
- The study will be limited to housekeeping staff the study was limited to the experience level of the investigator.

RECOMMENDATION:

Measures which can be implemented for housekeeping staff in order to improve their knowledge regarding biomedical waste management (BMW):

- A similar study can be replicated for longer samples, in different setting for making broad generalization.

- A similar study can be done in the form of a descriptive study.
- The biomedical waste management guidelines should include current and more information to update the knowledge regarding biomedical waste management.
- A similar study can be conducted in various health care settings through various audio –visual aids.
- A study can be done on association between various demographic variables which were significant on longer sample.

INDICATION OF SCOPE FOR FUTURE:

Findings of this particular study will be an initiation for the future nurse researchers to develop various teaching modules and programs to update and evaluate the house keeping staff and even nursing personnel on the same.

13. ABSTRACT

BACKGROUND: *Bio-medical waste (BMW) means any solid or liquid waste including its container and any intermediate product; this is generated during the diagnosis, treatment or immunization of human beings or animals'. Biomedical waste management is the precise name for the collection, transportation, disposal or recycling and monitoring of biomedical waste. This term is assigned to the material, waste material that is produced through human being activity. This material is managed to avoid its adverse effect over human health and environment.*

OBJECTIVES: *To find the effectiveness of structured teaching programme on biomedical waste management among housekeeping staff.*

METHODOLOGY: *A pre-experimental method with one group pre and post-test design is used for the present study. The subject consisted of 30 housekeeping staff in St. Ignatius Hospital Honavar selected by non-random sampling (purposive) method. Data was collected through administering Checklist. Data analysed by descriptive and statistical methods (chi-square and paired t-test).data interpreted effectively through tables and diagrams.*

RESULTS: *The pre-test knowledge score of subjects was 29.7, mean percentage was 74.25% and SD was ± 6.14 were in post-test mean knowledge score was 37.7, mean percentage was 94.25 and SD was 0.8185 and the mean percentage difference was 20%. The calculated 'T' test value is -7.0715($p>0.05$)*

was greater than the value of 2.05 at 0.05 level of highly significance. So that, there is an effectiveness of structured teaching program regarding biomedical waste management and the research hypothesis (H_1) significant. Chi-square ($\chi 2$) test showing analysis of association between pre-test knowledge score of housekeeping staff and their selected demographic variables... Hence the calculated Chi-square value are lesser than table value (P >0.05). It shows significant association with educational status 2.98(P=7.82), years of experience 9.67(P=16.92), area of work 3.13(P=16.92), wearing of PPE 0(P=7.82), type of PPE 0 (P=16.92), and Age of subjects 20.071 (P=16.92), gender of subjects 9.37(P=7.82).

CONCLUSION: *The finding of the study showed that there was deficit knowledge regarding biomedical waste management among housekeeping staff before administration of health education. The result indicate that the health education intervention is effective in increasing the knowledge of housekeeping staff on biomedical waste management.*

*(**Key words:** Effectiveness, STP, Biomedical Waste Management, Knowledge.)*

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