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A study to assess the effectiveness of structured teaching program on knowledge regarding Revised National Tuberculosis control program among paramedical 1st year students at IBN Sina College of nursing Ompora Budgam

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Abstract : **A study was conducted to assess the effectiveness of structured teaching program on knowledge regarding Revised National Tuberculosis Control program among paramedical 1st year students at IBN Sina College of nursing ompora Budgam.To assess the pre-test level of knowledge regarding revised national tuberculosis control program among paramedical 1st year students of IBN Sina College of nursing ompora Budgam. To assess the post-test level of knowledge regarding revised national tuberculosis control program among paramedical 1st year students of IBN Sina College of nursing ompora budgam. To compare pre-test and post-test level of knowledge regarding revised national tuberculosis control program among paramedical 1st year students in IBN SINA College of nursing ompora budgam. To associate the pre-test level of knowledge regarding revised national tuberculosis control program with its demographic variables(Age,Gender,Education of mother,Education of Father,Family income,Occupation of Father,Occupation of Mother,Type of Family,Dietary Pattern,Personal Habit). In the present study research design was pre-experimental one group pre-test post test research design. The study was conducted in IBN SINA College of nursing and Health Sciences. In this study target population is paramedical 1st year students of IBN SINA College. Sample consists of Paramedical students studying in IBN Sina College of nursing. The sample size of this study comprises of 60 students from ibn sina college of nursing.in this study sampling technique used was convenience probability sampling technique.the results shows that in pre test majority (46.67%) participants were having moderate knowledge,(41.67%) were having adequate knowledge and (11.67%) were having inadequate knowledge regarding tuberculosis control program and also it shows that in post test (51.67%)were having moderate knowledge ,(46.67%) were having adequate knowledge and (1.67%) were having inadequate knowledge.**

IndexTerms **-RNTCP, Tuberculosis,effectiveness**

I. INTRODUCTION

Pulmonary TB is marked by the formation of granuloma in infected lung tissues and by cell mediated hypersensitivity that also reduces the quality of life. Causes of TB are linked to a bacterium called mycobacterium tuberculosis this bacterium attacks the lungs but may also attack other parts of the body such as kidney brain and spine. TB may also be linked to certain risk factors including alcoholism, IV drug abuse and homeless[1]. TB is an infection caused by rod shaped, non-spore forming, slow growing aerobic bacterium "MYCOBACTERIUM TUBERCULOSIS". This bacterium is classified as acid fast bacilli usually attack the lungs and other parts of the body. If not treated properly, TB can be fatal. TB is caused by a group of five closed relayed species, which form the mycobacterium tuberculosis; Mycobacterium. Tuberculosis, M. BOVIS, M. AFRICANUM, M. MICROTI AND M. CANETTI. Certain factors are more likely to develop TB; Close contact with someone who has active TB, HIV, cancer transplanted organs, hemodialysis, treatment of rheumatoid arthritis or chrons disease. TB is spread through the air from one person to another by airborne droplet nuclei which are 1-5 micrometre particles containing 1-400 bacilli each. They are exploding in the air by coughing sneezing singing talking and remain suspended in the air for many hours. There are 3 stages of infection; TB –

PRIMARY latent and active diseaseGenerally, people only show symptoms of TB when they have the active form of the disease. Early TB symptoms may include fever, chills and loss of appetite. The more specific symptoms of TB include cough that lasts 3 weeks or longer pain in the chest and coughing up .Cough lasting more than 3 weeks is often a first symptom. It tends to continue for months and get worse .In latent Tuberculosis, The most people who breathe in the TB bacteria and become infected. The body is able to fight the bacteria to stop them from growing the bacteria becomes inactive, but they remain alive in the body and can become active later. People with latent TB have no symptoms of TB, do not feel sick, cannot spread TB to others. Specific symptoms of TB are; cough that lasts 3 weeks or longer.mucoid,pain in the chest ,breathing difficulty ,wheezing, coughing up blood or sputum,fever,chills, nightsweats,loss of appetite, clubbing of fingers or toes. A complete history, physical examination,tuberculin skin test, chest x ray, acid fast bacillus smear and sputum culture are used to diagnosis TB. Tuberculin skin test also known as Mantoux skin test . Pulmonary TB is treated primarily with chemotherapeutic agents for 6-12 months. Prolonged treatment duration is necessary to ensure eradication of the organism and to prevent relapse. FIRST LINE DRUGS; ISONIZED is the most potent bactericidal drug. It has good penetration of TB lesions and is execrated by the kidneys.RIFAMPCIN, PYRAZINAMIDE, ETHAMBUTOLSecond line drugs; are used by specialists in certain situations [example resistance and intolerance] and include; amikacin, capeomycin, cycloserine [azithromycin,] and levofloxacin [2]

First Line Regimen for Drug Sensitive TB; Drugs are given daily.Dose of drugs are according to body weight, Fixed dose combination (FDC) tablets are used. No need for extension of intensive phase. Continuation phase may be extended by 12-24 weeks in certain focus of TB like CNS TB, skeletal TB and disseminated TB, etc based on clnical decision of the physician. Extension beyond 12 weeks should only be on recommendation of experts concerned of the concerned filed. No separate regimen for re-treatment cases. Follow up protocol for Drug Resistance TB; Sputum culture monthly during the intensive phase and every three months during the Continuation phase. Intensive phase is extended if culture is positive during intensive phase (IP).Drug sensitivity testing (DST) is repeated if culture is positive at the end of IP and extended.IP or any time during CP.Weight recording monthly.X-ray chest at the end of Intensive phase end of treatment or whenever clinically indicated.ECG once in a month in IP if moxifloxacin uses.[3] S.creatinine, liver function test, kidney function test monthly for first three months and Every three months during the CP.Management Protocol of MDR-TB and Pregnancy; Duration of pregnancy Less than 20 weeks or 20 weeks More than 20 weeks Advise MTP Start modified regimen• Omit kanamycin, add PAS (Para-Aminosalicylic acid) till delivery• Replace PAS (para-aminosalicylic acid) with kanamycin after delivery and continue till the end of IP (Intensive phase).After MTP Patient not willing for MTP Start or continue Treatment Start modified regimen• Less than 12 weeks, omit kanamycin and ethionamide. More than 12 weeks, omit kanamycinonly, add PAS(para-aminosalicylic acid). Replace PAS (para-amino salicylic acid) with {kanamycin after delivery and continue till the end of IP (intensive phase)[4]

According to world health organization (WHO) 2013 report, 8.6 million tuberculosis cases and 1.3 million deaths estimated in 2012 globally. Tuberculosis is a major public health problem in India. India accounts for 1/5th of global TB incident cases. Each year 2 million people in India develop the TB of which around 0.87 million are infectious cases. It is estimated that annually 330,000 Indian dies due to TB. We observed a poor performance in terms of case detection rate (CDR) in tribal and backward districts as compared with other districts in India. Among tribal districts 53 per cent in 2010, 45 per cent in 2011 and 56 per cent in 2012 had CDR of new smear positive <70%.it was also observed that 26% of tribal dominated districts had CDR of <51%in2012.More than 50% of tribal districts were not able to achieve more than 85% of cure rate.[5]

3.1Population and Sample

TARGET POPULATION:

In this study target population is paramedical 1st year students of IBN SINA College.

SAMPLE:

Sample consists of Paramedical students studying in IBN Sina College of nursing.

3.2 Data and Sources of Data

The present study aimed at assessing and comparing the knowledge regarding RNTCP among paramedical 1st year students of IBN SINA college of Nursing. The self structured knowledge questionnaire was developed in order to obtain data. Tool was prepared after reviewing the related literature and after consultation with the experts.

3.3 Theoretical framework

RESEARCH DESIGN:

In the present study research design was pre-experimental one group pre-test post test research design.

RESEARCH SETTING:

The study is conducted in IBN SINA College of nursing and Health Sciences.

TARGET POPULATION:

In this study target population is paramedical 1st year students of IBN SINA College.

SAMPLE:

Sample consists of Paramedical students studying in IBN Sina College of nursing.

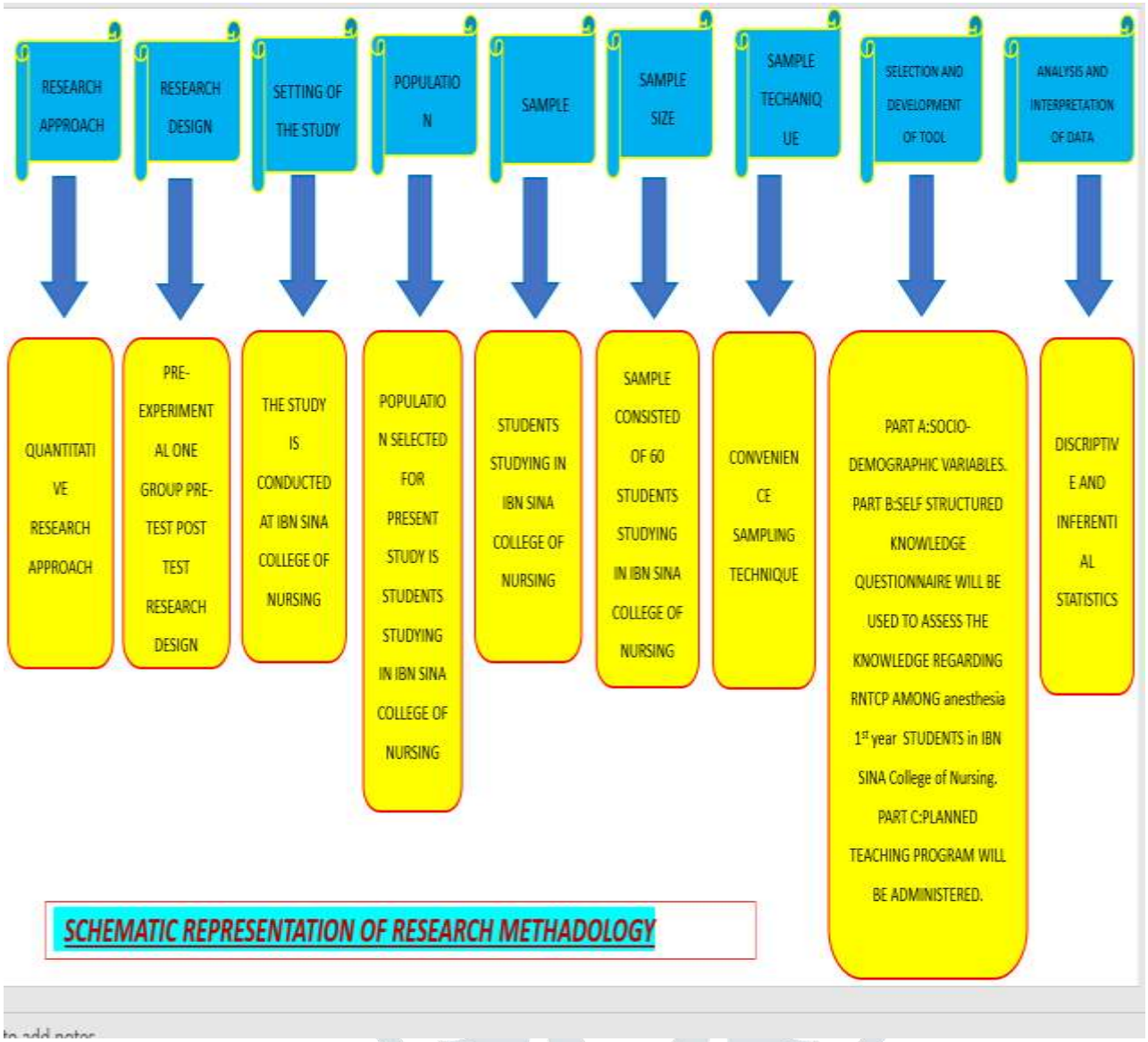
SAMPLE SIZE:

The sample size of this study comprises of 60 students from IBN Sina College of nursing.

SAMPLING TECHNIQUE:

In this study sampling technique used was convenience probability sampling technique.

I. RESEARCH METHODOLOGY



3.4Statistical tools and econometric models

Descriptive and inferential statistics was used to analyze the data.

IV. RESULTS AND DISCUSSION

SECTION 1

Finding related to demographic characteristics of paramedical 1st year students.

Table 1: shows Frequency distribution, percentage distribution of paramedical 1st year students according to their demographic characteristics.

n=60

Demographic variables	Categories	Frequency	Frequency Percentage %
Age in years	18-20	36	60
	20-22	21	35
	22-24	3	5
Gender	Male	19	31.67
	Female	41	68.33
Education of mother	Primary education	16	26.67
	Secondary education	14	23.33
	Sr secondary education	5	8.33
	Graduation	13	21.67
	No formal education	12	20
Education of father	Primary education	2	3.33

	Secondary education	16	26.67
	Sr secondary education	9	15
	Graduation	30	50
	No formal education	3	5
Family income	10000-20000	13	21.67
	20000-40000	17	28.33
	40000-50000	14	23.33
	50000-Above	16	26.67
Occupation of father	Private Employee	8	13.33
	Govt. Employee	23	38.33
	Self Employee	9	15
	Others	20	33.33
Occupation of Mother	Private Employee	0	0
	Govt. Employee	4	6.67
	Self Employee	0	0
	Other	56	93.33
Type of Family	Nuclear Family	39	65
	Joint Family	21	35
	Single Parent	0	0
Dietary Pattern	Vegetarian	0	0
	Non-Veg	0	0
	Both A and B	100	100
Personal Habit	Hygiene Habits	29	48.33
	Learning Habits	15	25
	Financial Habits	16	26.67

- Data presented in table 1 shows that as per age, out of 60 subjects majority of subjects belong to age group 18-20 36 i.e. 60% , 35% belong to the age group 20-22 and rest 5 % belong to the age group 22 -24.
- As per Gender, out of 60 subjects majority of subjects belong to females 41 i.e. 68.33%, 31.66 % belong to males.
- As per education of mother, out of 60 subjects majority of subjects belong to primary education 16 i.e. 26.67%,23.33% belongs to secondary education,21.67% belongs to graduation,20% belongs to no formal education and rest 8.33% belongs to sr secondary education.
- As per education of father, out of 60 subjects majority of subjects belong to graduation 30 i.e. 50%,26.67% belongs to secondary education,15% belongs to sr secondary education,5% belongs to no formal education and rest 3.33% belongs to primary education.
- As per family income, out of 60 subjects majority of subjects belong to income of 20000- 40000 17 i.e. 28.33%, 26.67% belongs to income 50000 above, 23.33% belongs to income of 40000-50000 and rest 21.67% belongs to income of 10000-20000.
- As per occupation of father, out of 60 subjects majority of the subjects belong to occupation of father as govt. employee 23 i.e. 38.33%, 33.33% belongs to other occupation,15% of self employed and rest 13.33% belong to private employee occupation.
- As per occupation of mother, out of 60 subjects majority of the subjects belong to occupation of mother as others 56 i.e. 93.33%, 6.67% belong from govt. employee occupation.
- As per type of family, out of 60 subjects majority of the subjects belong to nuclear family 39 i.e. 65%, 35% belong to the joint family.
- As per dietary pattern, out of 60 subjects all the subjects belongs to both vegetarian and non vegetarian 60 i.e. 100%.
- As per personal habit, out of 60 subjects majority of subjects have hygiene habits 29 i.e. 48.33%, 26.67% have financial habits and 25% have learning habits.

Age wise distribution of study subjects.

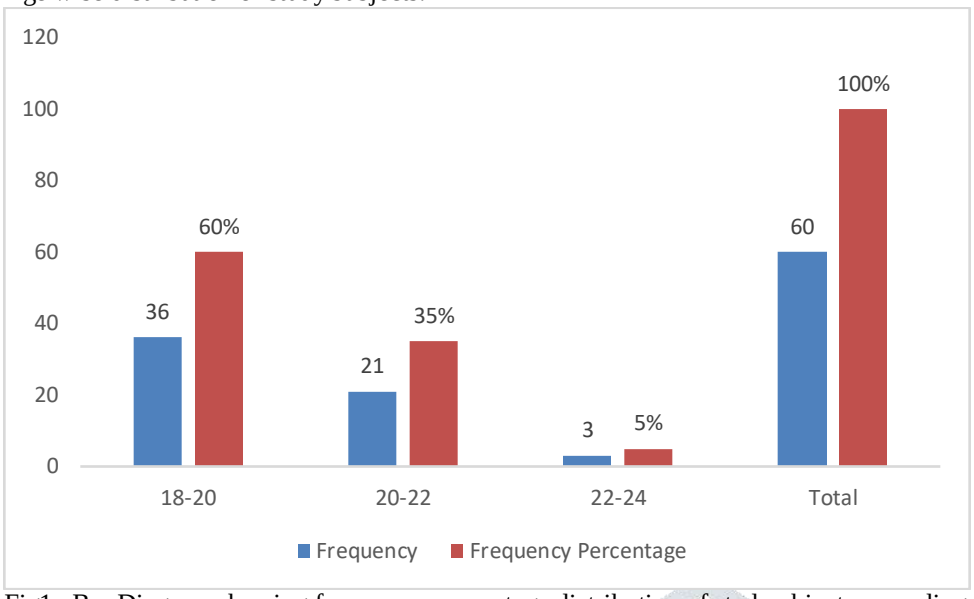


Fig1. Bar Diagram showing frequency, percentage distribution of study objects according to Age.

Gender wise distribution of study subjects.

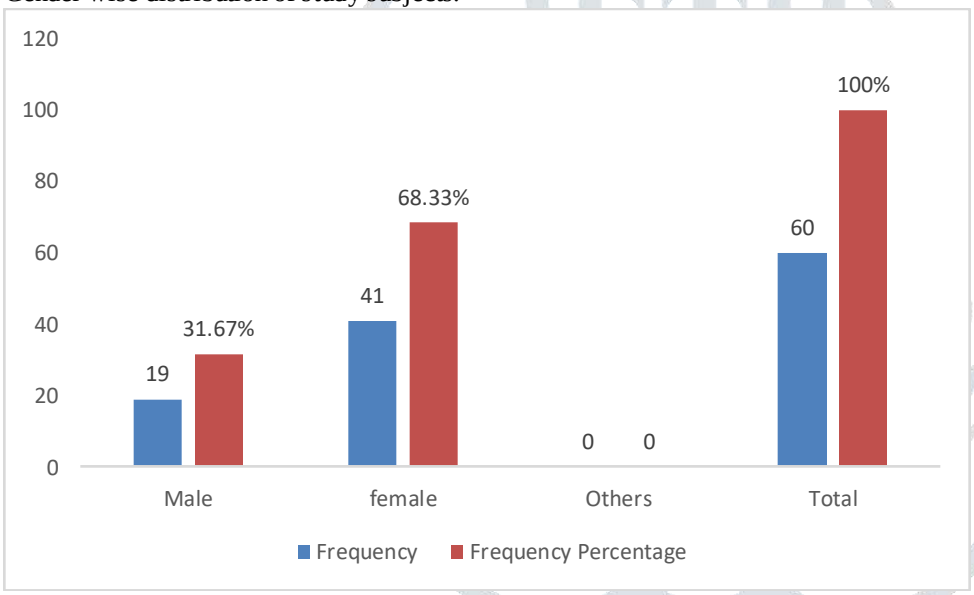


Fig2. Bar Diagram showing frequency, percentage distribution of study objects according to gender.

Distribution of study objectives according to education of mother.

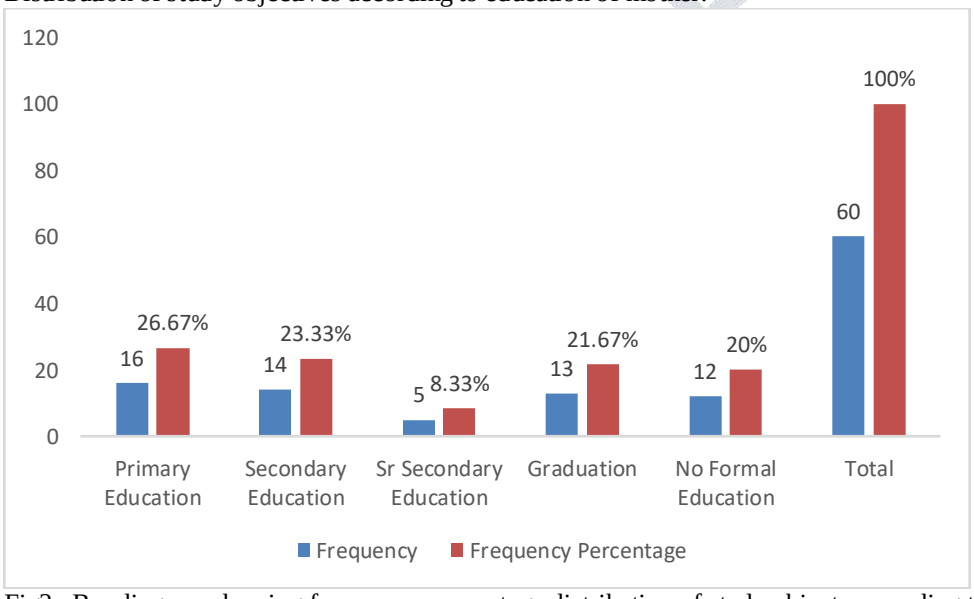


Fig3. Bar diagram showing frequency, percentage distribution of study objects according to Education of mother.

Distribution of study objectives according to education of mother.

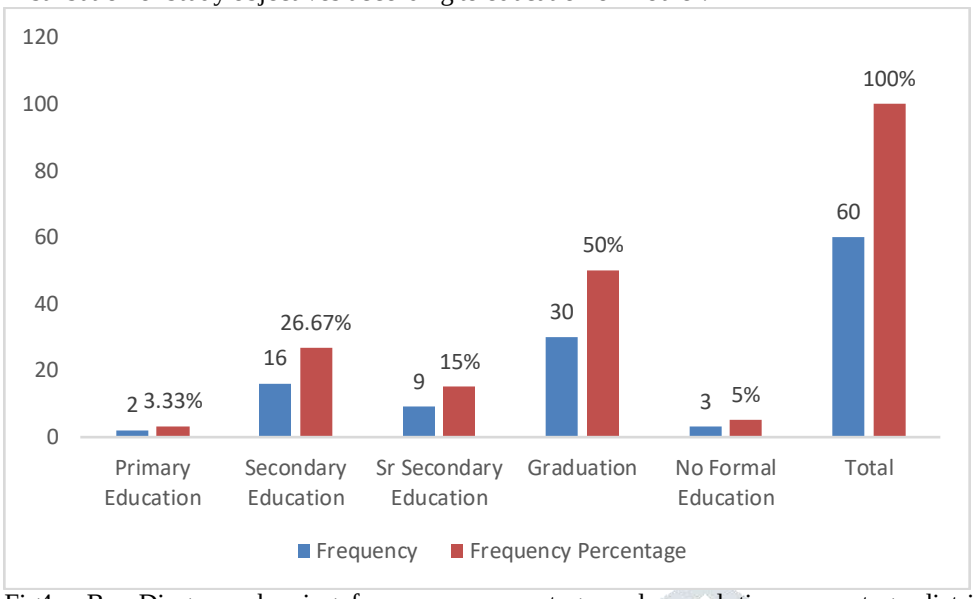


Fig4. Bar Diagram showing frequency, percentage and cumulative percentage distribution of study objects according to Education of father.

Distribution of study objectives according to family income.

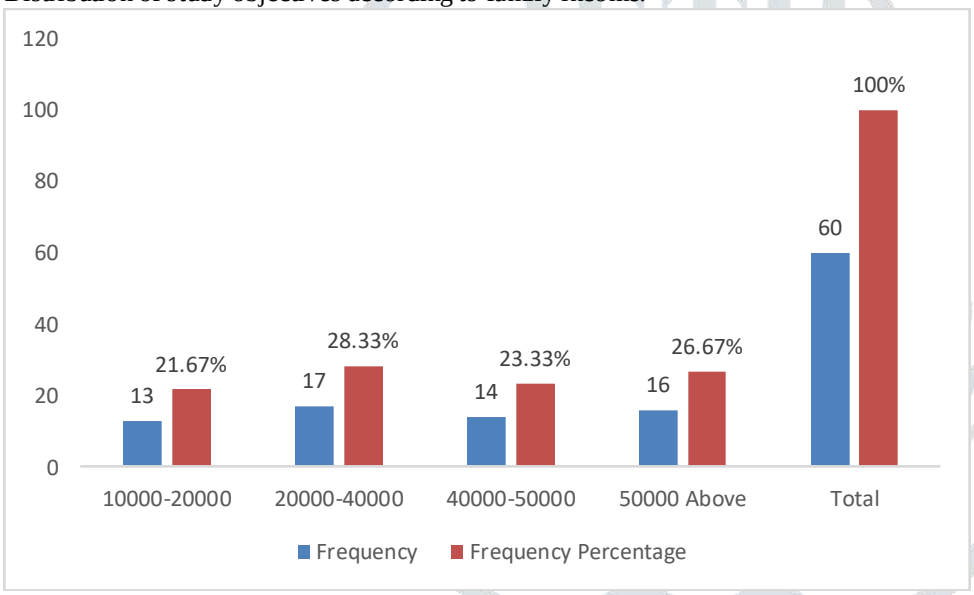


Fig5. Bar Diagram showing frequency, percentage and cumulative percentage distribution of study objects according to Family income (in Rupees).

Distribution of study objectives according to occupation of father.

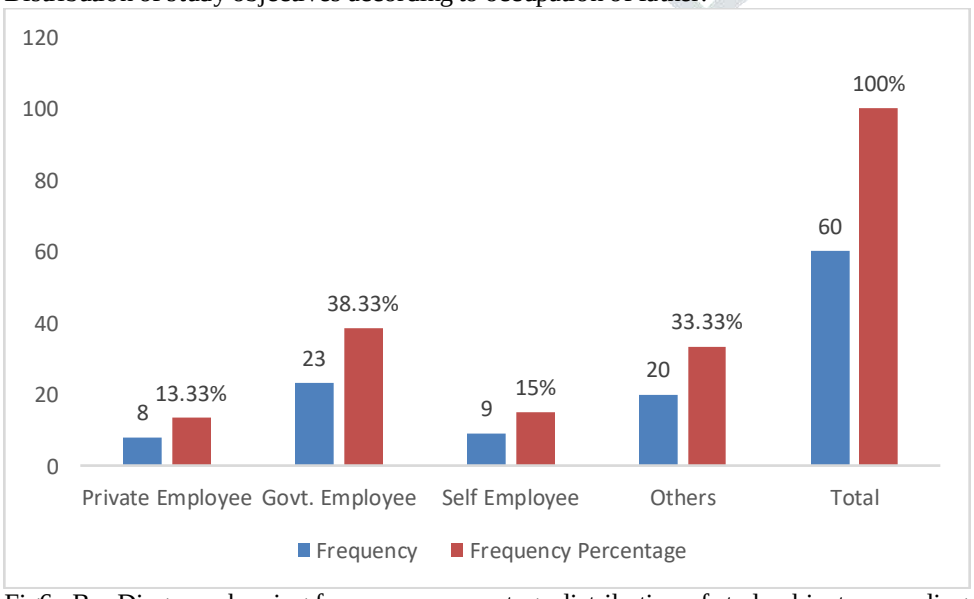


Fig6. Bar Diagram showing frequency, percentage distribution of study objects according to occupation of father.

Distribution of study objectives according to occupation of mother.

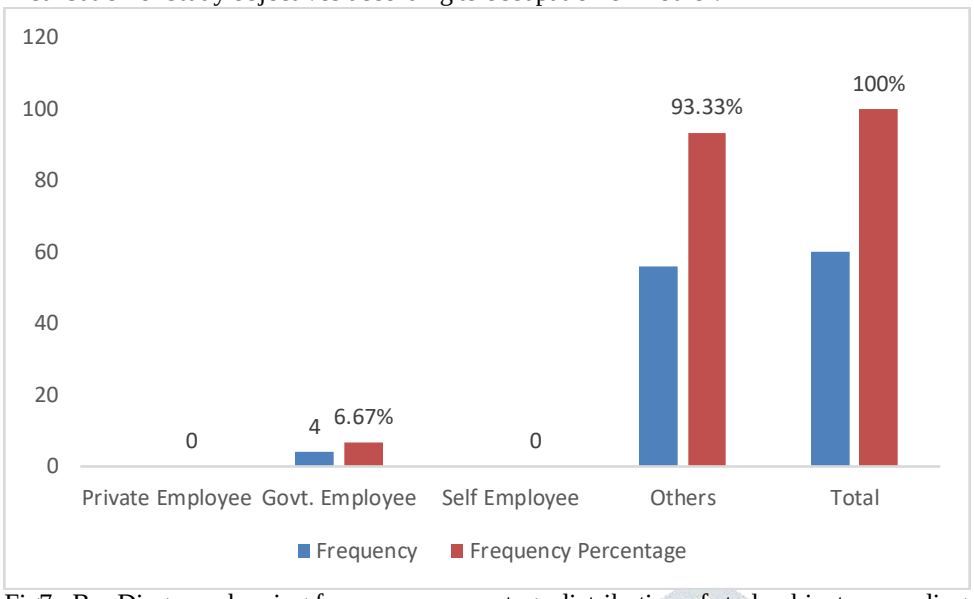


Fig7. Bar Diagram showing frequency, percentage distribution of study objects according to occupation of mother.

Distribution of study objectives according to type of family.

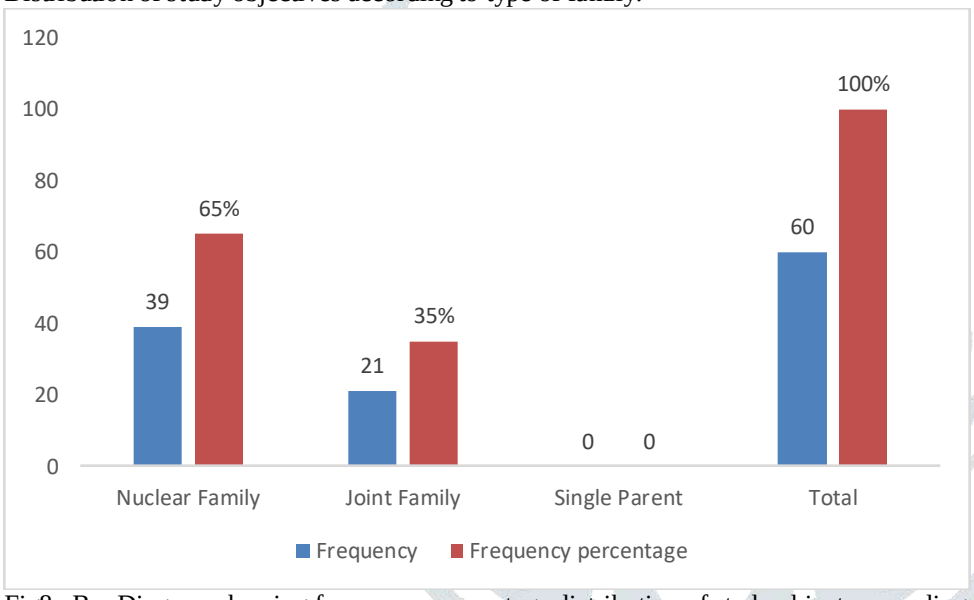


Fig8. Bar Diagram showing frequency, percentage distribution of study objects according to type of family.

Distribution of study objectives according to dietary pattern.

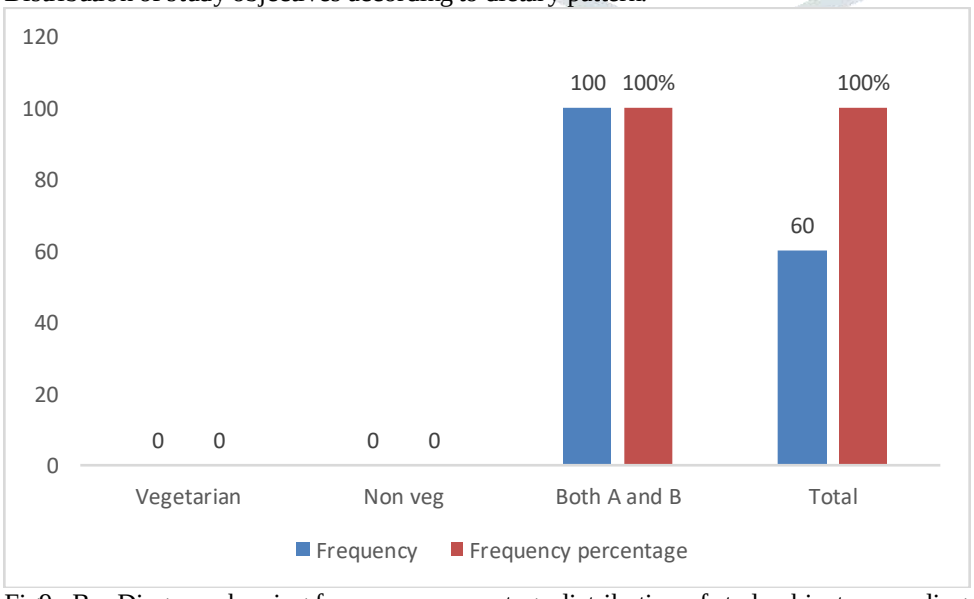


Fig9. Bar Diagram showing frequency, percentage distribution of study objects according to Dietary Pattern.

Distribution of study objectives according to personal habit.

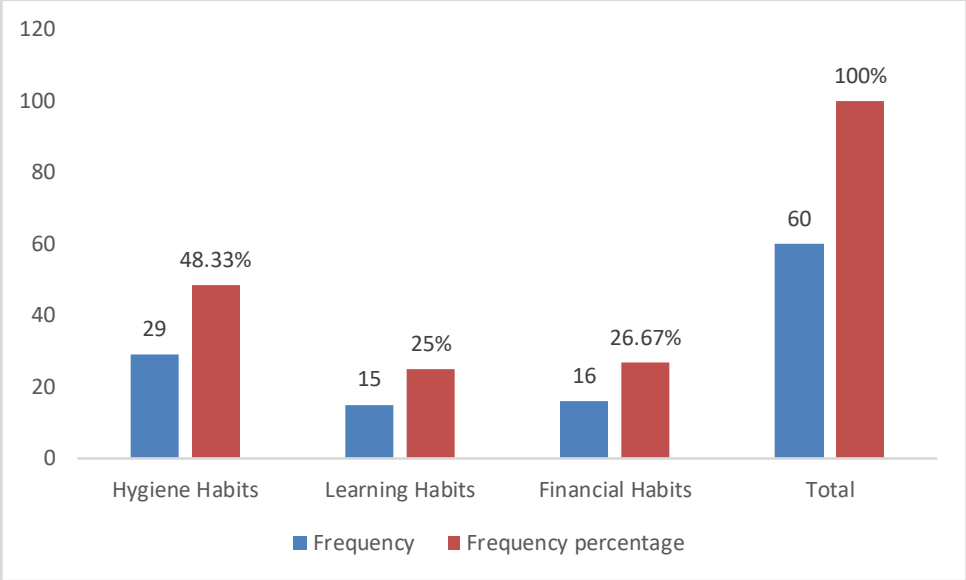


Fig10 shows Frequency distribution, percentage and of study objects according to Personal Habit.

SECTION-2

This section deals with the findings related to mean pre-test and post test knowledge scores in pre experimental group.

H^1: There will be a significant difference between mean pre-test and post test knowledge score among paramedical 1st year students in pre experimental group using structured teaching program related to RNTCP.

H^0: There will be no significant difference between mean pre-test and post test knowledge among paramedical 1st year students in pre experimental group using structured teaching program related to RNTCP.

Table 2: Findings related to compare the mean pre test and post test knowledge scores in experimental group among paramedical students.

n=60

Categories of knowledge	**Pre test**	**Pre-test**	**Post test**	**Post test**
	F	%	F	%
Inadequate knowledge	7	11.67	1	1.67
Moderate knowledge	28	46.67	31	51.67
Adequate knowledge	25	41.67	28	46.67
Total	60	100	60	100

This table 2 shows that in pre test majority (46.67%) participants were having moderate knowledge,(41.67%) were having adequate knowledge and (11.67%) were having inadequate knowledge regarding tuberculosis control program and also it shows that in post test (51.67%)were having moderate knowledge ,(46.67%) were having adequate knowledge and (1.67%) were having inadequate knowledge.

Table 3

Mean SD and T value of pre-test and post test knowledge scores in pre experimental group. n=60

	N	**Mean**	**St. Deviation**	**Median**	**t-value**	**significance**
Pre test	60	11.46667	4.28425	12	3.67	.000
Post test	60	23.78	2.80	24		

***Significant at 0.05 level

The data presented in table 3 shows that the mean post test knowledge scores 23.78% of pre experimental group was higher than the mean pre test knowledge scores (11.46667%). The "t" value of 3.67 was found to be statistically significant at 0.05 level.

Therefore, the null hypothesis H01 is rejected.

Thus, it can be inferred that the structured teaching program on RNTCP in Paramedical students was effective in enhancing the knowledge of students in pre experimental group.

Table 4

Association of pre-test knowledge score of study subjects with their selected demographic variables (age, gender, education of mother, Education of father, Family income, occupation of father, occupation of mother, type of family, dietary pattern and personal habit). For this study we use chi square test.

n=60

DEMOGRAPHIC VARIABLES						
	Poor	**Average**	**Good**	**$\chi 2$**	**P-value**	
Age (in years)						
18-20	12	8	1			
20-22	13	5	1	0.951	0.917	Insignificant
22-24	11	8	1			
Gender						
Male	5	5	9			
Female	16	17	11	2.494	0.287	Insignificant
Education of mother						
Primary	7	4	5			
Secondary	8	3	3	8.334	0.402	Insignificant
Sr secondary	1	3	1			
Graduation	2	5	6			
No formal Education	3	4	5			
Education of Father						
Primary	1	0	1			
Secondary	8	3	5	9.650	0.290	Insignificant
Sr secondary	3	3	3			
Graduation	9	10	11			
No formal Education	0	3	0			
Family Income						
10k -20k	4	6	3			
20-40k	8	5	4	6.695	0.570	Insignificant
40-50k	5	4	6			
Above 50k	3	4	8			
Occupation of Father						
Private	6	2	0			
Govt.	5	7	11	12.388	0.04*	**Significant**
Self-Employee	5	3	1			
Others	5	7	8			

Occupation of Mother **Govt.** **Home maker**	 2 19	 1 18	 1 19	 0.425	 0.809	 Insignificant
Type of family **Nuclear** **Joint**	 14 7	 14 5	 11 9	 1.535	 0.464	 Insignificant
Dietary Pattern **Veg** **Both**	 0 21	 0 19	 1 19	 2.034	 0.036*	 **Significant**
Personal Habit **Hygienic** **Learning** **Financial**	 9 4 8	 7 9 3	 13 2 5	 9.591	 0.048*	 **Significant**

Data presented in the table 4 shows that there is significant association of pre-test knowledge score of study subjects with their selected demographic variables i.e. Occupation of father, Dietary pattern and Personal habit. The result of the study reveals that majority of subjects were having moderate knowledge (46.67%), followed by subjects were having adequate knowledge (41.67%) and rest of the subjects were having inadequate knowledge (11.67%).

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