

A Study to Evaluate the Effectiveness of Multidimensional Approach on Awareness regarding Tobacco Chewing and Its Health Risk among Adolescent Boys Aged between 14 - 18 Years in Selected Schools of Rural Area of Indore District (M. P.)

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Abstract: *In India, tobacco is used in a variety of forms such as smoking, chewing, local applications, drinking and gargling, leading to detrimental health effects such as increased incidence of and mortality from cardiovascular diseases, cerebrovascular diseases, respiratory diseases and cancer, in addition to detrimental reproductive outcomes, dental and oral diseases. Tobacco use, in any form, is more popular in lower socio - economic groups. Betel - quid chewing—a mixture of areca nut, slaked lime, catechu, other spices and condiments rapped in a betel leaf—is a popular, socially accepted, ancient custom and the introduction of tobacco reinforced this practice. Chewing products are kept all day and sometimes even all night in the buccal sulcus or pouch; usually in the anterior part of the mouth in populations from North India, and in the posterior part among South Indians, colouring the mouth in red. The vast majority of people using tobacco today began doing so when they were adolescents. Prohibiting the sale of tobacco products to minors (less than 18 years) and increasing the price of tobacco products through higher taxes, banning tobacco advertising and ensuring smoke - free environments are crucial. Globally, at least 1 in 10 adolescents aged 13–15 years uses tobacco, although there are areas where this figure is much higher.*

Keywords: Socioeconomic Status, Smokeless Tobacco, World Health Organization, National Tobacco Control Program, Tobacco Cessation Counseling, Madhya Pradesh, Tobacco Use Cessation

1. Introduction

Chewing tobacco is a type of smokeless tobacco product consumed by placing a portion of the tobacco between the cheek and gum or upper lip and teeth, and then chewing. Unlike dipping tobacco, it is not ground and must be manually crushed with the teeth to release flavour and nicotine. Unwanted juices are then spat¹.

Chewing tobacco comes in a variety of forms, the most common of which are loose leaf (or scrap), pellets (tobacco "bites" or "bits"), and "plugs" (a form of loose - leaf tobacco condensed with a binding sweetener). Leaf drying, cutting, fermentation, and refining or sweetening are used to manufacture almost all modern chewing tobaccos. Many chewing tobacco products in the United States have a long history in the United States. Chewing tobacco is one of the earliest means of ingestion. Years before Europeans arrived in the Americas, indigenous peoples chewed the plant's leaves, often combined with the mineral lime, in the same way they chewed coca leaves¹.

The Southern United States was notable for its cigarette exports, which brought in high prices from all over the world. Many farmers grew a small amount for their own use or traded with neighbours who grew it. Commercial sales became significant in the late nineteenth century as major cigarette companies expanded in the South, being one of the biggest employers in Winston - Salem, North Carolina,

Durham, North Carolina, and elsewhere. Southerners dominated the cigarette industry in the United States; even the Helme Tobacco Company, based in New Jersey, was led by former Confederate officer George Washington Helme. R. J. Reynolds sold 84 chewing tobacco brands, 12 smoking tobacco brands, and the top - selling Camel cigarette brand in 1938. Reynolds made a lot of money from chewing tobacco.²

A historian of the American South in the late 1860s reported on typical usage in the region where it was grown, paying close attention to class and gender.³

2. Objective of the Study

- To assess the pre - test awareness score regarding tobacco chewing and its health risk among adolescent boys.
- To assess the post - test awareness score regarding tobacco chewing and its health risk among adolescent boys.
- To evaluate the effectiveness of multidimensional approach on awareness regarding tobacco chewing and its health risk among adolescent boys.
- To find out the association between pre - test awareness score with the selected demographic variables.

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3. Hypotheses

- H_0 (Null Hypothesis): there is no significant difference between the mean pre - test awareness score and mean post - test awareness score after administration of multi - dimensional approaches regarding tobacco chewing among adolescent boys.
- H_1 (Research Hypothesis): the mean post - test awareness score is a significantly higher than the mean pre - test awareness score among adolescent boys after administration of after administrating multi - dimensional approaches regarding tobacco chewing.
- H_2 : there is a significant association between pre - test awareness score with the selected demographic variables.

4. Methodology

The research design selected for the study was pre - experimental one group pre - test post - test design. This design was widely uses in educational research. This study intended to assess the effectiveness of multidimensional approach in enhancing awareness regarding Tobacco Chewing and its health risks among Adolescent Boys in Selected schools of rural Area of Indore district. Total 300 samples taken through non probability purposive sampling were selected from the accessible population. Structured awareness questionnaire and Multidimensional approach on Awareness regarding Tobacco Chewing and its health risk on the basis of the review of literature was prepared. The experts validated the tool; reliability of the tool was established before data collection. After sample selection pre - test was administered, the structured questionnaire to evaluate Awareness regarding Tobacco Chewing among and its health risk among Adolescent boys, After the Pre - test multi - dimensional approach was administered. After 7 day of pre - test, post - test was taken by same structured questionnaire. Analysis and Interpretation of the collected data was done with the help of descriptive and inferential statistics.

5. Data Analysis and Interpretation

5.1 Section - I: Description of sample characteristics according to the demographic variables.

This section deals with the data pertaining to the sample characteristics of adolescent boys. It is presented and analyzed in terms of frequency and percentage distribution of sample characteristics with respect age, class, type of family, father occupation, mother occupation, monthly income, family history of tobacco chewing, source of information.

Table 5.2: Frequency and Percentage Distribution of Participants according to age, (N=300)

Socio demographic variables	Categories	Frequency	Percentage
Age	13 - 14	71	23.0
	15 - 16	130	43.30
	17 - 18	99	33.00

Data presented in Table 5.2 depicts that majority 130 (43.30%) of boys were in the age group of 15 to 16 years.99 (33.00%) had under the age group of 17 to 18 years of age. And remaining 71 (23.0%) boys aged between 13 to 14 years of age.

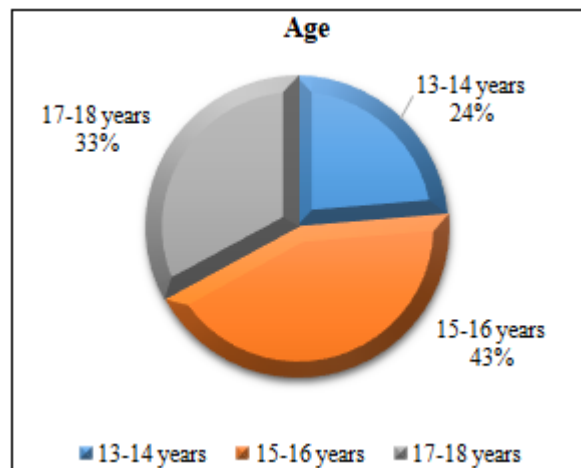


Figure 5.2: Pie diagram representing age distribution of participants

Table 5.3: Frequency and Percentage Distribution of Participants according to class in which adolescent boys study, (N=300)

Socio demographic variables	Categories	Frequency	Percentage
Class	9 th	91	30.33
	10 th	111	37.00
	11 th	98	32.67

Data presented in Table 5.3 depicts that most of the students were studying in class 10th e. g.111 (37.00%).98 (32.67%) boys were studying in class 10th And remaining 91 (30.33%) were studying in class 9th.

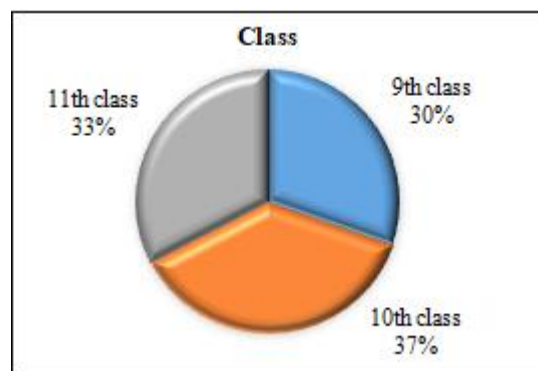


Figure 5.3: Pie diagram representing distribution of participants according to study class.

Table 5.4: Frequency and Percentage Distribution of Participants according to type of family, (N=300)

Socio demographic variables	Categories	Frequency	Percentage
Type of family	Joint family	228	76.00
	Nuclear family	72	24.00

Data presented in Table5.4 depicts that majority 228 (76.00%) belonged to joint family and remaining 72 (24.00%) belonged to nuclear family.

Table 5.5: Frequency and Percentage Distribution of Participants according to father occupation, (N=300)

Socio demographic variables	Categories	Frequency	Percentage
Father occupation	Unemployed	47	15.70 %
	Daily wage earner	109	36.30
	Self - employed	83	27.70
	Government	47	15.70
	Farmer	14	4.70

Data presented in Table 5.5 depicts that majority 109 (36.30%) participants' father were daily wage earner, 83 (27.70%) were self employed, 47 (15.70%) were employed and same part of their father were having government job.14 (4.70%) were farmers.

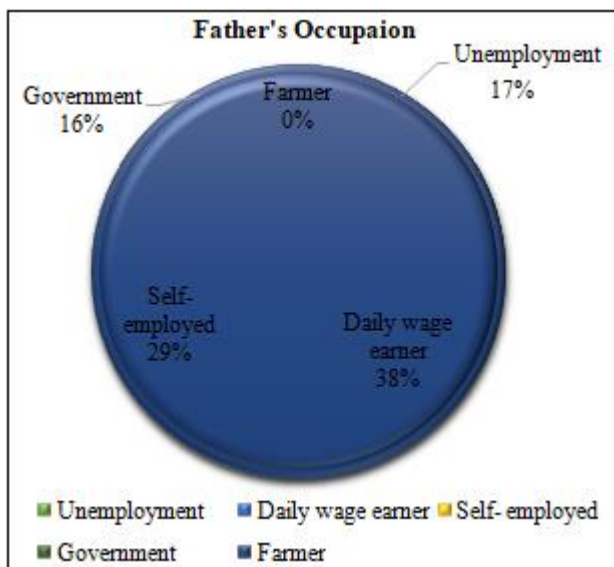


Figure 5.5: Pie diagram representing distribution of participants as per father's occupation

Table 5.6: Frequency and Percentage Distribution of Participants according to Mother occupation, (N=300)

Socio demographic variables	Categories	Frequency	Percentage
Mother occupation	Home maker	24	8.00
	Daily wage earner	192	64.00
	Self - employed	60	20.00
	Government	24	8.00

Data presented in Table 5.6 depicts that majority 192 (64.00%) mothers were into daily wages earning, 60 (20.00%) were self employed, 24 (8.00%) equally were in homemaker as well as were government employees.

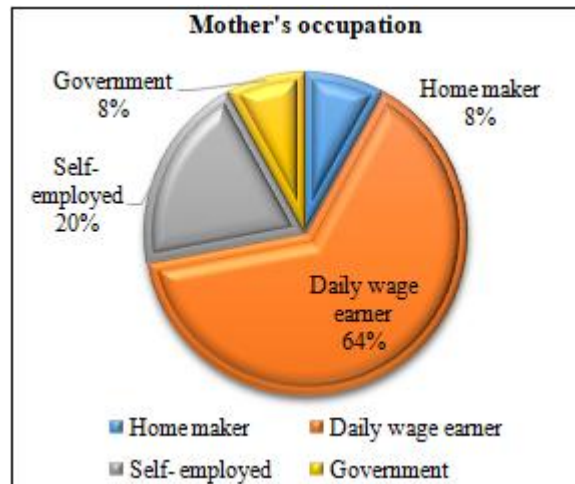


Figure 5.6: Pie diagram representing distribution of participants as their mother's occupation

Table 5.7: Frequency and Percentage Distribution of Participants according to monthly family income, (N=300)

Socio demographic variables	Categories	Frequency	Percentage
Monthly family income	5000 - 10000	143	47.70
	10001 - 15000	36	12.00
	Above 20001	121	40.30

Data presented in Table 5.7 depicts that majority 143 (47.70%) of boy's family income was between 5000 to 10000 rupees per month, 121 (40.30%) of participants' family income was above 20001 rupees per month and 36 (12.00%) of boys' family income was between 10001 to 15000 rupees.

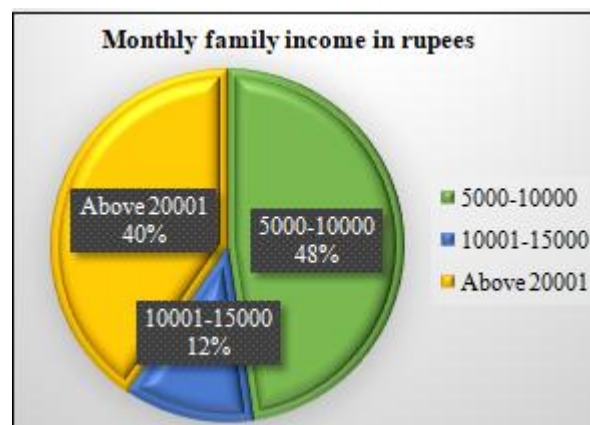


Figure 5.7: Pie diagram representing distribution of participants as per monthly family income

Table 5.8: Frequency and Percentage Distribution of Participants according to family history of tobacco chewing, (N=300)

Socio demographic variables	Categories	Frequency	Percentage
Family history of tobacco chewing	Yes	96	32.00
	No	204	68.00

Data presented in Table 5.8 depicts that majority 204 (68.00%) of adolescent boys had no family history of tobacco chewing and remaining 96 (32.00%) of adolescent boys had family history of tobacco chewing.

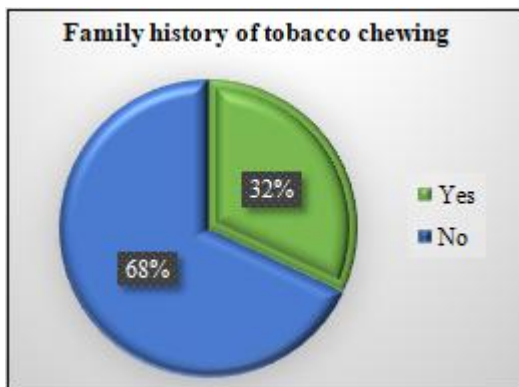


Figure 5.8: Pie diagram representing distribution of participants according to family history of tobacco chewing

Table 5.9: Frequency and Percentage Distribution of Participants according to source of information (N=300)

Socio demographic variables	Categories	Frequency	Percentage
Source of information	Television	88	29.30
	Friends/relatives	158	52.70
	Health worker	34	11.30
	If any other	20	6.70

Data presented in Table 5.9 depicts that majority 158 (52.70%) of boys had got information regarding tobacco chewing and its ill effects through family and relatives. 88 (29.30%) of boys had taken information through television,

34 (11.30%) had got information through health workers and remaining 20 (6.70%) had any other source of information regarding tobacco chewing and its ill effects.

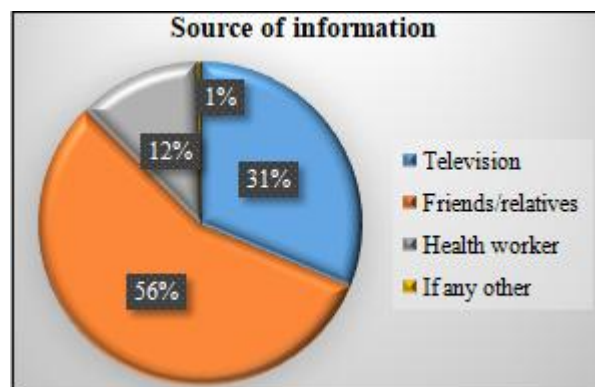


Figure 5.9: Pie diagram representing distribution of participants as per source of information

5.2 Section II: Findings related to awareness score of adolescent boys described under three parts.

Part - A: Description of awareness score in pretest and posttest. (Objective 1 and 2)

Table 5.2.1: Grade wise distribution in pre assessment score and post assessment score, N=300

Pre test			Post test		
Level of awareness	Frequency	Percent	Level of awareness	Frequency	Percent
Inadequate level	170	56.7	Moderate level	140	46.7
Moderate level	130	43.3	Adequate level	160	53.3
Total	300	100	Total	300	100

Data presented in Table 5.2.1 depicts that in pre assessment phase 170 (56.7%) of boys had inadequate level of awareness regarding tobacco chewing and its ill effects and remaining 130 (43.3%) has moderate level of awareness about it. After administration of multidimensional intervention package, majority 160 (53.3%) of boys had got adequate level of awareness and only 140 (46.7%) had moderate level of awareness which revealed that interventional package was effective in improving awareness on tobacco chewing and its ill effect upon adolescent boys.

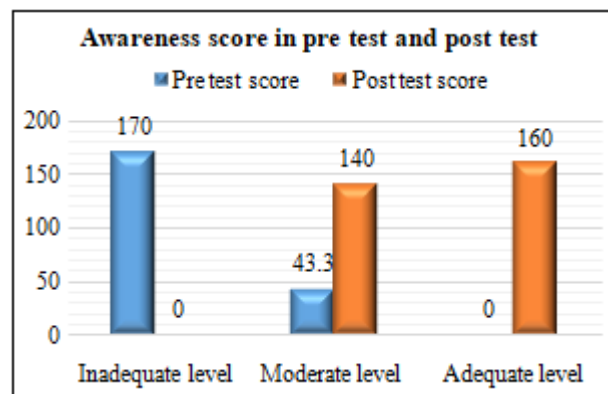


Figure 5.2.1: Bar diagram representing grade wise distribution of awareness level in pretest and post test

Part - B: Paired comparison of awareness score in pretest and posttest.

Table 5.2.2: Descriptive statistics of pre assessment score and post assessment score, N=300

		Post test score		Total
		Moderate level of awareness	Adequate level of awareness	
Pre test score	Inadequate level of awareness	Count	70	170
		% within post score	43.80%	56.70%
	Moderate level of awareness	Count	90	130
		% within post test score	56.30%	43.30%
Total		Count	160	300
		% within post test score	100.00%	100.00%

Data presented in Table 5.2.2 depicts further in descriptive statistics as presented as metrics. It focused on pretest assessment and post test assessment on awareness summarized in table 9.

Part - C: Assessing the effectiveness of multidimensional approach by comparing pretest and post test mean and applying paired z - test.

(Objective 3 and Hypothesis 1)

Table 5.2.3: Mean, standard deviation and z - value calculation of pre assessment score and post assessment score, N=300

Descriptive Statistics									z value	p - valve
Time point	N	Mean	Std. Deviation	Minimum	Maximum	Percentile				
						25 th	50 th (median)	75 th		
Pre assessment score	300	9.13	2.55	6	15	7	8	11	15.06*	<0.001
Post assessment score	300	17.63	2.51	14	22	15	17	20		

Data presented in Table 5.2.3 depicts that the mean in pre test was 9.13 with standard deviation 2.55 and the mean value in post test was 17.63 with standard deviation 2.51 and calculated 'z' value 15.06 was greater than table value at 0.001 level of significance (0.05 level of significance) and df = 299, hence significance difference is found between awareness score in tests among adolescent boys. This proves effectiveness of multidimensional approach. Hence Hypothesis H₁ is accepted.

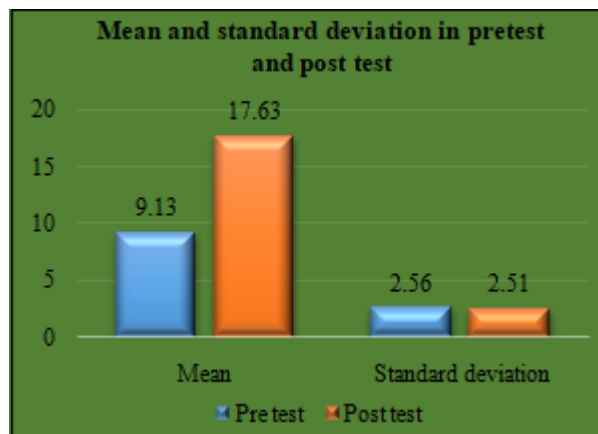


Figure 5.2.3: Bar diagram representing mean and standard deviation in pretest and post test awareness score

5.3 Section III: Description regarding association between pretest awareness score with selected demographic variables.

(Objective 4 and Hypothesis 2)

Table 5.3.1: Chi square calculation for determining association between pretest awareness score and selected demographic variable age, N=300

Variables	Categories	Total	Pre score		df	Chi square test value	p - value
			Inadequate	Moderate			
Age	13 - 14	71 (23.7%)	38 (22.4%)	33 (25.4%)	2	3.86	0.145*
	15 - 16	130 (43.3%)	68 (40%)	62 (47.7%)			
	17 - 18	99 (33.0%)	64 (37.7%)	35 (27.0%)			

*Not significant

Data presented in table 5.3.1 shows the calculated chi - square value obtained is 3.86 which is lower than chart value at df 2 which is 5.991, p value >0.05, which is statistically non - significant. Hence, it is interpreted that the demographic variable age is none associated with pre - test awareness score.

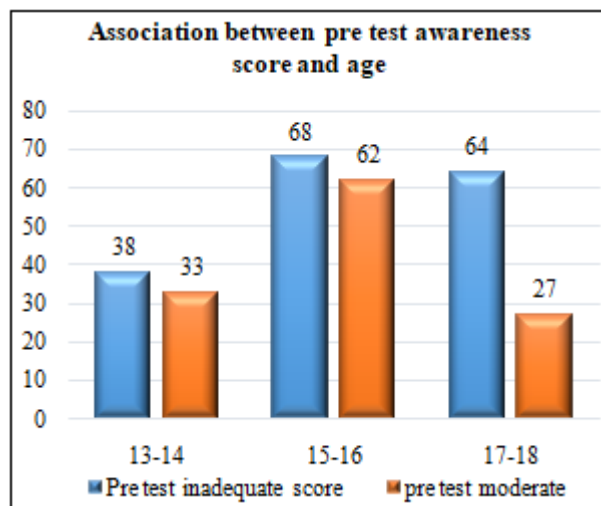


Figure 5.3.1: Bar diagram representing association of pre assessment awareness score and age

Table 5.3.2: Chi square calculation for determining association between pretest awareness score and selected demographic variable Class, N=300

Variables	Categories	Total	Pre score		df	Chi square test value	p - value
			Inadequate	Moderate			
Class	9 th	91 (30.33%)	58 (63.7%)	33 (36.3%)	2	1.098	0.597*
	10 th	111 (37%)	63 (37.1%)	48 (36.9%)			
	11 th	98 (33.00)	60 (60.6%)	38 (39.4%)			

*Not significant

Data presented in table 5.3.3 shows the calculated chi - square value obtained is 1.098 which is lower than chart value at df 2 which is 5.991, p value >0.05, which is statistically non - significant. Hence, it is interpreted that the demographic variable class is none associated with pre - test awareness score.

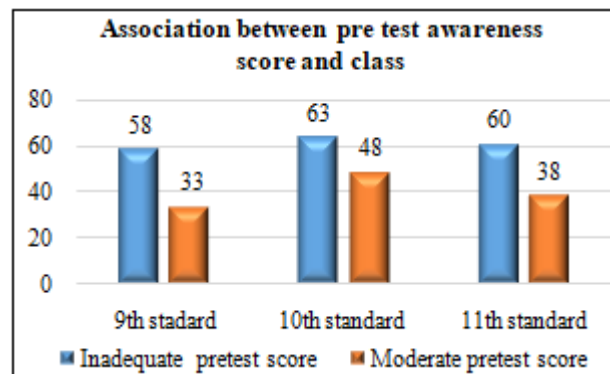


Figure 5.3.3: Bar diagram representing association of pre assessment awareness score and class of study

Table 5.3.4: Chi square calculation for determining association between pretest awareness score and selected demographic variable type of family, N=300

Variables	Categories	Total	Pre score		df	Chi square test value	p - value
			Inadequate	Moderate			
Family type	Joint family	228 (76%)	123 (72.4%)	105 (80.8%)	1	2.861	0.091
	Nuclear family	72 (24%)	47 (27.6%)	25 (19.2%)			

*Not significant

Data presented in table 5.3.4 shows the calculated chi - square value obtained is 2.861 which is lower than chart value at df 1 which is 3.841, p value >0.05, which is statistically non significant. Hence, it is interpreted that the demographic variable family type is none associated with pre - test awareness score.

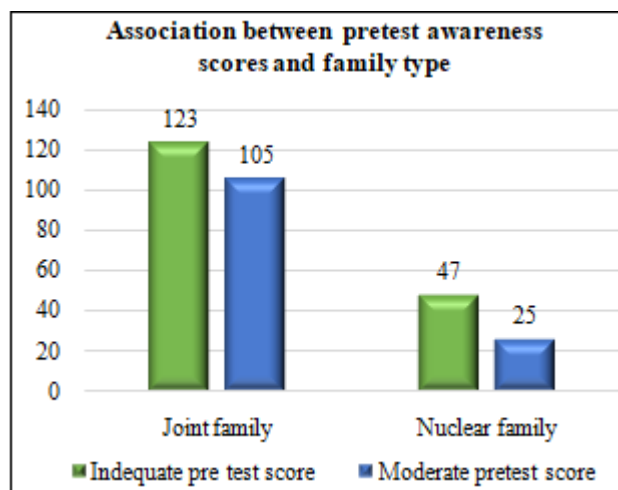


Figure 5.3.4: Bar diagram representing association of pre assessment awareness score and family type

Table 5.3.5: Chi square calculation for determining association between pretest awareness score and selected demographic variable father occupation, N=300

Variables	Categories	Total	Pre score		df	Chi square test value	p - value
			Inadequate	Moderate			
Father occupation	Unemployed	47 (15.7%)	24 (14.1%)	23 (17.7%)	4	2.546	0.636
	Daily wage earner	109 (36.3%)	58 (34.1%)	51 (39.2%)			
	Self - employed	83 (27.7%)	50 (29.4%)	33 (25.4%)			
	Government	47 (15.7%)	30 (17.6%)	17 (13.1%)			
	Farmer	14 (4.7%)	8 (4.7%)	6 (4.6%)			

*Not significant

Data presented in table 5.3.5 shows the calculated chi - square value obtained is 2.546 which is lower than chart value at df 4 which is 9.488, p value >0.05, which is

statistically non significant. Hence, it is interpreted that the demographic variable father occupation is none associated with pre - test awareness score.

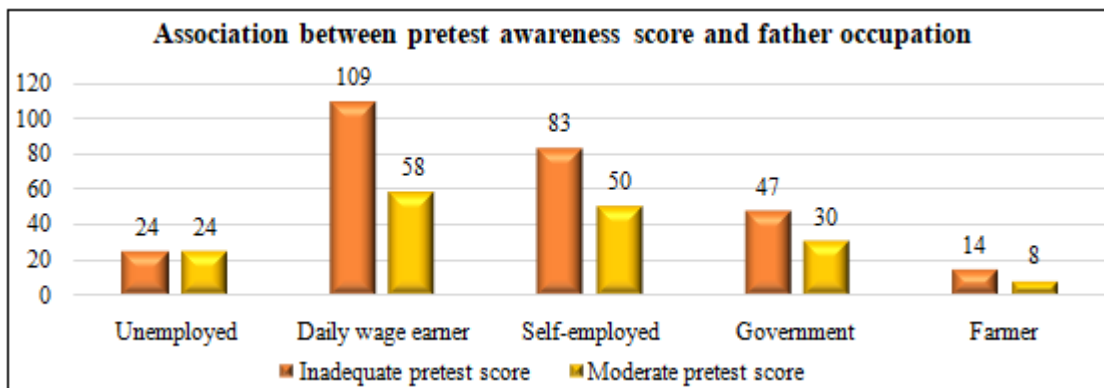


Figure 5.3.5: Bar diagram representing association of pre assessment awareness score and father occupation

Table 5.3.6: Chi square calculation for determining association between pretest awareness score and selected demographic variable mother’s occupation, N=300

Variables	Categories	Total	Pre score		df	Chi square test value	p - value
			Inadequate	Moderate			
Mother occupation	Home maker	24 (8%)	17 (10%)	7 (5.4%)	3	2.223	0.527
	Daily wage earner	192 (64%)	106 (62.4%)	86 (66.2%)			
	Self - employed	60 (20%)	33 (19.4%)	27 (20.8%)			
	Government	24 (8%)	14 (8.2%)	10 (7.7%)			

*Not significant

Data presented in table 5.3.6 shows the calculated chi - square value obtained is 2.223 which is lower than chart value at df 3 which is 7.815, p value >0.05, which is statistically non significant. Hence, it is interpreted that the demographic variable mother’s occupation is none associated with pre - test awareness score.

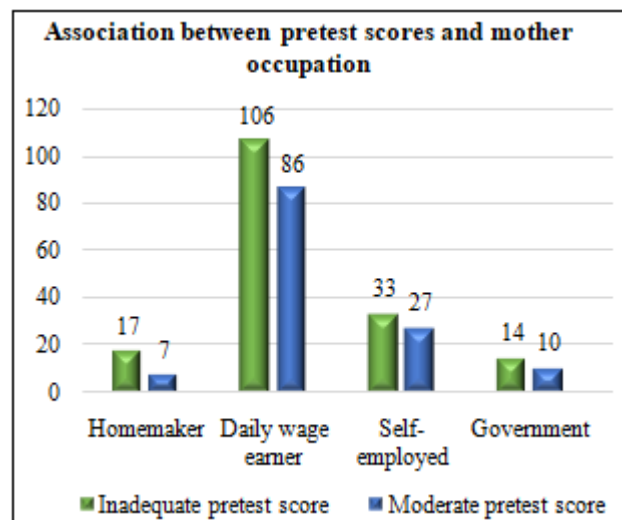


Figure 5.3.6: Bar diagram representing association of pre assessment awareness score and mother occupation.

Table 5.3.7: Chi square calculation for determining association between pretest awareness score and selected demographic variable monthly family income, N=300

Variables	Categories	Total	Pre score		df	Chi square test value	p - value
			Inadequate	Moderate			
Monthly income	5000 - 10000	143 (47.7%)	76 (44.7%)	67 (51.5%)	2	1.408	0.495
	10001 - 15000	36 (12%)	22 (12.9%)	14 (10.8%)			
	above 20, 001	121 (40.3%)	72 (42.4%)	49 (37.7%)			

*Not significant

Data presented in table 5.3.7 shows the calculated chi - square value obtained is 1.408 which is lower than chart value at df 2 which is 5.991, p value >0.05, which is statistically non significant. Hence, it is interpreted that the

demographic variable monthly income is none associated with pre - test awareness score.

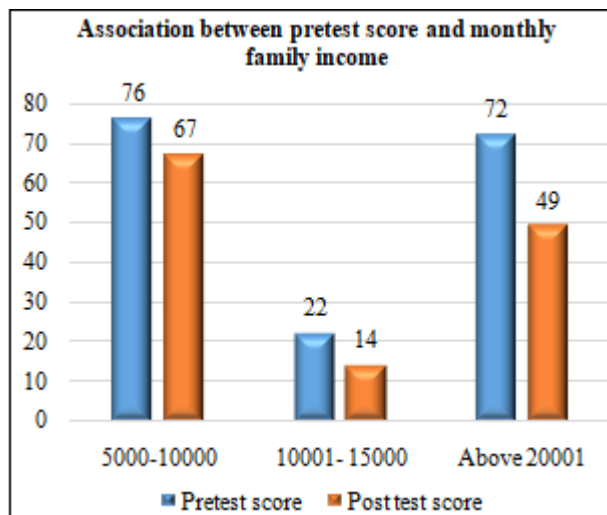


Figure 5.3.7: Bar diagram representing association of pre assessment awareness score and monthly family income

Table 5.3.8: Chi square calculation for determining association between pretest awareness score and selected demographic variable family history of tobacco chewing, N=300

Variables	Categories	Total	Pre score		df	Chi square test value	p - value
			Inadequate	Moderate			
family history of tobacco chewing	Yes	96 (32%)	53 (31.2%)	43 (33.1%)	1	0.122	0.727
	No	204 (68%)	117 (68.8%)	87 (66.9%)			

*Not significant

Data presented in table 5.3.8 shows the calculated chi - square value obtained is 0.122 which is lower than chart value at df 1 which is 3.841, p value >0.05, which is statistically non significant. Hence, it is interpreted that the demographic variable family history of tobacco chewing is none associated with pre - test awareness score.

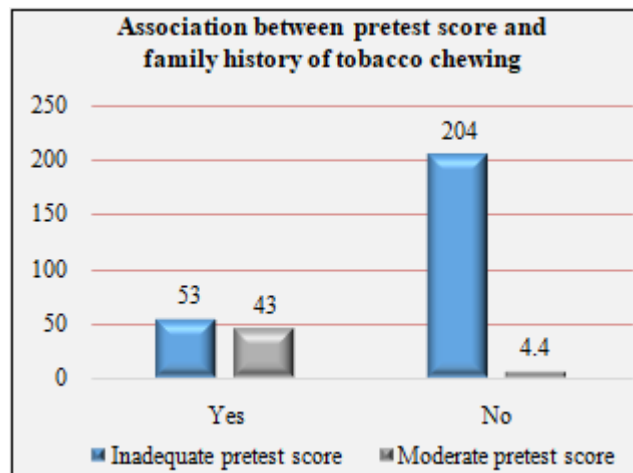


Figure 5.3.8: Bar diagram representing association of pre assessment awareness score and family history of tobacco chewing

Table 5.3.9: Chi square calculation for determining association between pretest awareness score and selected demographic variable source of information, N=300

Variables	Categories	Total	Pre score		df	Chi square test value	p - value
			Inadequate	Moderate			
Source of information	Television	88 (29.3%)	50 (29.4%)	38 (29.2%)	3	0.730	0.866
	Friends / relative	158 (52.7%)	89 (52.4%)	69 (53.1%)			
	Health worker	34 (11.3%)	21 (12.4%)	13 (10%)			
	If any other	20 (6.7%)	10 (5.9%)	10 (7.7%)			

*Not significant

Data presented in table 5.3.9 shows the calculated chi - square value obtained is 0.730 which is lower than chart value at df 3 which is 7.815, p value >0.05, which is statistically non significant. Hence, it is interpreted that the demographic variable source of information about tobacco chewing and its ill effects is none associated with pre - test awareness score.

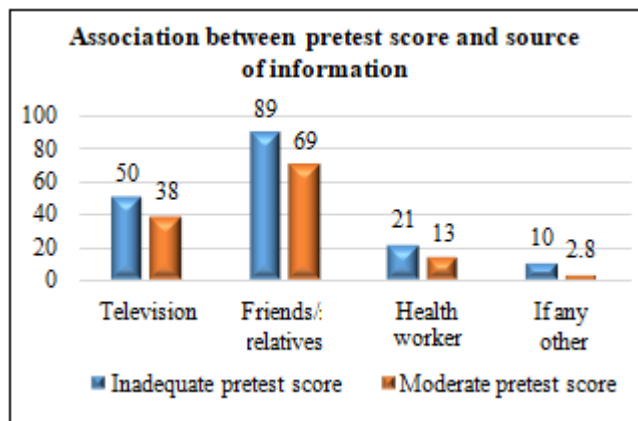


Figure 5.3.9: Bar diagram representing association of pre assessment awareness score and source of information

6. Results

The data findings have been organized and presented under following sections.

Section I: Description of sample characteristics according to the demographic variables. Frequency and percentage distribution of participants according to selected socio demographic variables such as age, class, type of family, father occupation, mother occupation, monthly income, family history of tobacco chewing, source of information. majority 130 (43.30%) of boys were in the age group of 15 to 16 years. 99 (33.00%) had under the age group of 17 to 18 years of age. And remaining 71 (23.00%) boys aged between 13 to 14 years of age. majority 228 (76.00%) belonged to joint family and remaining 72 (24.00%) belonged to nuclear family. majority 109 (36.30%) participants' father were daily wage earner, 83 (27.70%) were self - employed, 47 (15.70%) were employed and same part of their father were having government job. 14 (4.70%) were farmers. majority 192 (64.00%) mothers were into daily wages earning, 60 (20.00%) were self - employed, 24 (8.00%) equally were in homemaker as well as were government employees. majority 143 (47.70%) of boy's family income was between 5000 to 10000 rupees per month, 121 (40.30%) of participants' family income was above 20001 rupees per month and 36 (12.00%) of boys' family income was between 10001 to 15000 rupees. majority 204 (68.00%) of adolescent boys had no family history of tobacco chewing and remaining 96 (32.00%) of adolescent boys had family history of tobacco chewing. Majority 158 (52.70%) of boys had got information regarding tobacco chewing and its ill effects through family and relatives. 88 (29.30%) of boys had taken information through television, 34 (11.30%) had got information through health workers and remaining 20 (6.70%) had any other source of information regarding tobacco chewing and its health risk.

Section II: Findings related to awareness score of adolescent boys described under three parts.

Part - A: Description of awareness score of adolescent boys in pre test and post test. (Objective 1 and 2): **that** in pre assessment phase 170 (56.7%) of boys had inadequate level of awareness regarding tobacco chewing and its health risk and remaining 130 (43.3%) has moderate level of awareness

about it. After administration of multidimensional intervention package, majority 160 (53.3%) of boys had got adequate level of awareness and only 140 (46.7%) had moderate level of awareness which revealed that interventional package was effective in improving awareness on tobacco chewing and its health risk upon adolescent boys.

Part - B: Paired comparison of awareness score in pre test and post test: in descriptive statistics as presented as metrics. It focused on pretest assessment and post test assessment on awareness summarized in table 9.

Part - C: Assessing the effectiveness of multidimensional approach by comparing pretest and posttest mean and applying paired t - test. (Objective 3): the mean in pre test was 9.13 with standard deviation 2.55 and the mean value in post test was 17.63 with standard deviation 2.51 and calculated 'z' value 15.06 was greater than table value at 0.001 level of significance (0.05 level of significance) and $df = 299$, hence significance difference is found between awareness score in tests among adolescent boys. This proves effectiveness of multidimensional approach. Hence Hypothesis H_1 is accepted.

Section III: Description regarding association between pretest awareness score with selected demographic variables. (Objective 4): calculated chi - square value obtained is 3.86 which is lower than chart value at $df 2$ which is 5.991, p value >0.05 , which is statistically non - significant. Hence, it is interpreted that the demographic variable age is none associated with pre - test awareness score.

The calculated chi - square value obtained is 3.86 which is lower than chart value at $df 2$ which is 5.991, p value >0.05 , which is statistically non - significant. Hence, it is interpreted that the demographic variable age is none associated with pre - test awareness score.

The calculated chi - square value obtained is 1.098 which is lower than chart value at $df 2$ which is 5.991, p value >0.05 , which is statistically non - significant. Hence, it is interpreted that the demographic variable class is none associated with pre - test awareness score.

The calculated chi - square value obtained is 2.861 which is lower than chart value at $df 1$ which is 3.841, p value >0.05 , which is statistically non - significant. Hence, it is interpreted that the demographic variable family type is none associated with pre - test awareness score.

The calculated chi - square value obtained is 2.546 which is lower than chart value at $df 4$ which is 9.488, p value >0.05 , which is statistically non - significant. Hence, it is interpreted that the demographic variable father occupation is none associated with pre - test awareness score.

The calculated chi - square value obtained is 2.223 which is lower than chart value at $df 3$ which is 7.815, p value >0.05 , which is statistically non - significant. Hence, it is interpreted that the demographic variable mother's occupation is none associated with pre - test awareness score.

The calculated chi - square value obtained is 1.408 which is lower than chart value at df 2 which is 5.991, p value >0.05, which is statistically non - significant. Hence, it is interpreted that the demographic variable monthly income is none associated with pre - test awareness score.

The calculated chi - square value obtained is 0.122 which is lower than chart value at df 1 which is 3.841, p value >0.05, which is statistically non - significant. Hence, it is interpreted that the demographic variable family history of tobacco chewing is none associated with pre - test awareness score.

The calculated chi - square value obtained is 0.730 which is lower than chart value at df 3 which is 7.815, p value >0.05, which is statistically non - significant. Hence, it is interpreted that the demographic variable source of information about tobacco chewing and its ill effects is none associated with pre - test awareness score. Hence Hypothesis H₂ is rejected and interpreted as there is no association between awareness score in pre assessment phase and their selected socio demographic variables.

7. Discussion

The mean in pretest was 9.133 with standard deviation 2.55 and the mean value in post test was 17.633 with standard deviation 2.51 and calculated 'z' value 15.064 was greater than table value at 0.001 level of significance (0.05 level of significance) and df = 299, hence significance difference is found between awareness score in tests among adolescent boys. This proves effectiveness of multidimensional approach. Hence Hypothesis H₁ is accepted.

8. Conclusion

Teaching on tobacco chewing and its health risk is a much needed and acceptable way that should be made part of school and college curriculum. Tobacco chewing and its health risk acts as a crisis manager. Young adults are rising up in a world in which they will have to make more decisions for themselves compared to previous generations. They tend to experiment more with their life, make choices and take risks and learn through their own experiences rather than through those of others. This can lead to confusion, frustration, despair and risk taking of a kind which is ultimately self - destructive. So educational interventions regarding tobacco chewing and its health risk has a significant role to play in order to help people avoid all sorts of crisis.

Educating about tobacco chewing and its health risk provides skills for preventive action and knowledge for decision making particularly in the middle of adulthood. Very often youth find themselves under strong peer pressure to engage in high risk behaviour like drug and alcohol abuse and sometimes sexual abuse which can have serious implications on their lives. These issues should be addressed to the young and adolescents through multidimensional approach. Education regarding tobacco chewing and its health risk helps in understanding one's own role with the changing family structure and functions. The rate of social

change in mainly societies needs to redefine the role of adult family members.

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