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"A study to assess the effectiveness of planned teaching on knowledge regarding health hazards of chewing tobacco product among the high school students in selected school of Wardha district".

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ABSTRACT

Tobacco is the leading preventable cause of death in the world. It is the only legal consumer product that kills one third to one half these who use it as intended by its manufactures with its victims dying on average 15 years premature. Use of tobacco may lead to disease conditions like heart disease, cancer, respiratory disease and dependence. **Methodology**: Descriptive exploratory research design was used in this investigation the data on 60 students were gathered. Data were collected using non-probability convenient sampling technique. A self-reporting and questioning technique were used as data collection technique. **Result**: The result indicates that students lack knowledge about health hazards of chewing tobacco in the pre-test. In pre-test 20% of sample show poor knowledge, 20% show satisfactory, 31.67% shows good knowledge, 8.33% indicates very good and 20% shows excellent knowledge. After the post-test there is significant increase in knowledge regarding the same topic. 8.33% shows poor knowledge, 11.67% shows satisfactory, 40% shows good knowledge, 40% shows excellent knowledge after the pre-test. In the same way pre-test knowledge shows the students are having less knowledge regarding sign and symptoms, complications of chewing tobacco products, After the planned teaching, in post-test their knowledge regarding sign and symptoms, complications of chewing tobacco products have been improved. **Conclusion**: The findings indicate that majority of students have lack of knowledge about health hazards, sign and symptoms and complications of chewing tobacco. But after the planned teaching their knowledge have been raised significantly. In the study the calculated 't' value is more than the table value so H1 is accepted and H0 is rejected, that means there is significant difference in pre & posttest knowledge which proves that our planned teaching on knowledge regarding health hazards of chewing tobacco products among high school childrens was effective and excellent. Health care providers should concentrate more on supplying information regarding health hazards of chewing tobacco products should be provided.

Keywords: Keywords: Planned teaching, Chewing tobacco, Health hazards, High school students, Knowledge assessment

INTRODUCTION

Tobacco use, particularly in the form of chewing tobacco products, remains one of the leading preventable causes of death worldwide. It is the only legal consumer product that, when used as intended, kills one-third to one-half of its users, with these deaths occurring on average 15 years prematurely. The global prevalence of tobacco use has become an alarming public health issue, especially among youth. According to WHO, tobacco use is responsible for over 8 million deaths annually, with a significant portion of these deaths attributed to smoking and smokeless forms such as chewing tobacco. While the problem is global, developing countries, including India, face a more acute challenge due to higher rates of use among adolescents and young adults.[1]

The youth, especially those between the ages of 10-24 years, are particularly vulnerable to the health risks posed by tobacco products. More than 1.8 billion young people reside globally, and over 85% of them are found in developing countries. The consumption of tobacco products among adolescents has been linked to various health issues, including respiratory diseases, cancers, heart disease, and dependence.[2] The pathophysiological consequences of tobacco use alter body tissues, contributing significantly to the development of chronic diseases. These disorders, while not inevitable, are strongly influenced by tobacco exposure. Tobacco use not only impacts physical health but also has long-term socio-economic consequences, affecting individuals' productivity and quality of life.[3]

The rising trend of tobacco use among high school students necessitates immediate attention, especially through educational interventions. School-based programs focused on the dangers of tobacco use can play a vital role in altering students' perceptions and behaviors toward tobacco.[4] Research has shown that effective education on the health hazards of chewing tobacco can increase awareness and reduce the likelihood of initiation or continuation of its use. This study aims to assess the effectiveness of a planned teaching intervention designed to improve the knowledge of high school students regarding the health hazards associated with chewing tobacco products. By enhancing students' awareness, the study aims to contribute to the reduction of tobacco consumption among the youth, promoting healthier lifestyles in the long run.[5]

NEED OF THE STUDY

Tobacco consumption is a significant public health concern globally, particularly in developing countries like India, where it is often consumed in both smoked and smokeless forms. According to WHO estimates, around 194 million men and 45 million women in India use tobacco. Studies highlight significant variation in tobacco use influenced by religion, social customs, gender, and the form of consumption. Tobacco is the second leading cause of death worldwide, and the toll is expected to double by 2025, reaching 10 million deaths annually. The Global Youth Tobacco Survey (GYTS), sponsored by the CDC and WHO, identifies tobacco use as a major preventable cause of death and disability, particularly among youth.[1]

In India, over 8 lakh people die, and 123 million suffer from tobacco-related illnesses annually. Alarmingly, 5,500 adolescents initiate tobacco use every day, contributing to the 4 million young users under the age of 15 years. The high prevalence of chewing tobacco, especially among youth, underscores the need for targeted interventions to raise awareness about its health hazards, including cancer, cardiovascular diseases, and oral health issues.[6]

Research demonstrates the efficacy of educational interventions in reducing tobacco consumption among adolescents. For instance, a study by Narain et al. (2011) in North India revealed that awareness programs significantly decreased tobacco use among school-aged children. Another study by Sinha et al. (2016) highlighted the impact of school-based health education in reducing the initiation and prevalence of tobacco use among adolescents.[7]

Given the vulnerability of high school students to peer pressure and misinformation, this study aims to assess the effectiveness of planned teaching in enhancing knowledge about the health risks of chewing tobacco. Early education and intervention are crucial in equipping young individuals with the knowledge and motivation to make informed decisions, ultimately reducing the tobacco burden in society.[8]

AIM OF THE STUDY

The aim of the study to assess the effectiveness of planned teaching on knowledge regarding health hazards of chewing tobacco product among the high school students in selected school of Wardha district.

RESEARCH METHODOLOGY

The objectives of the study were to assess the existing knowledge regarding the health hazards of chewing tobacco products, provide planned teaching on the topic, evaluate the effectiveness of the planned teaching, and correlate knowledge with demographic variables. The research adopted a descriptive exploratory design, conducted in selected schools of Wardha district. The accessible population consisted of high school students, with a sample size of 60 participants selected through non-probability convenient sampling. A self-reported questionnaire was used as the data collection tool, comprising demographic variables and sections addressing common knowledge areas, habits, signs and symptoms, and complications of chewing tobacco use. Written informed consent was obtained from all participants prior to data collection. The reliability of the questionnaire was assessed, and a pilot study involving 10% of the sample was conducted, confirming the feasibility and accessibility of the study without requiring any changes to the methodology. Following this, the main data collection process was carried out.

RESULT

The result was divided into three section:

Section A- Distribution of samples in relation to their demographic variables

Section B- Assessment of knowledge level of students on health hazards of chewing tobacco products

Section C- Item wise (Percentage) distribution of students correctly responded to the knowledge in common

SECTION A

Distribution of samples in relation to their demographic variables

The distribution of the sample based on demographic variables shows that the majority (46.67%) of the participants are 14 years old. The sample is evenly split with 50% males and 50% females. A larger proportion of students (53.34%) are in the 8th standard, while 46.66%

are in the 9th standard. Regarding parental education, 51.66% of students' fathers have completed their graduation. Additionally, 50% of participants report an income between Rs 2000 and Rs 5000, 40% earn less than Rs 5000, and 10% earn more than Rs 2000, indicating that the sample primarily represents a lower to middle-income group

SECTION B

Assessment of knowledge level of students on health hazards of chewing tobacco products

Table 1: Area wise distribution of samples according to their level of pretest knowledge regarding health hazards of chewing tobacco products.

Tobacco Chewing	Poor		Satisfactory		Good		Very good		Excellent	
	No.	%	No.	%	No.	%	No.	%	No.	%
Common Area	**12**	**20.00**	**12**	**20.00**	**19**	**31.67**	**05**	**8.33**	**12**	**20.00**
Sign and Symptoms	**09**	**15.00**	**30**	**50.00**	**10**	**16.67**	**08**	**13.33**	**03**	**05.00**
Complication s	**06**	**10.00**	**22**	**36.67**	**04**	**6.66**	**19**	**31.67**	**09**	**15.00**
Overall	**09**	**15.00**	**20**	**33.33**	**13**	**21.67**	**15**	**25.00**	**03**	**05.00**

- Common Area: A large proportion of students (31.67%) had a "Good" understanding, but there was also a significant distribution in other levels, including 20% in both "Poor" and "Excellent" categories.

- Signs and Symptoms: The majority of students (50%) had a "Satisfactory" understanding, with smaller percentages in the "Good" (16.67%) and "Very Good" (13.33%) categories.

- Complications: The majority of students (36.67%) had a "Satisfactory" understanding, while 31.67% demonstrated a "Very Good" understanding, and 15% exhibited an "Excellent" level of knowledge.

- Overall: The distribution shows a mix of levels, with the majority (33.33%) in the "Satisfactory" category, followed by 25% in "Very Good", and smaller percentages in other categories.

This distribution reflects varied levels of knowledge among students on the health hazards of chewing tobacco products, with a larger proportion having either satisfactory or good knowledge in different areas.

Table 2: Area wise distribution of samples according to their level of post-test knowledge regarding health hazards of chewing tobacco products.

Tobacco Chewing	Poor		Satisfactory		Good		Very good		Excellent	
	No.	%	No.	%	No.	%	No.	%	No.	%
Common area	**05**	**8.33**	**07**	**11.67**	**24**	**40.00**	**00**	**00**	**24**	**40.00**

Sign& Symptoms	**01**	**1.67**	**18**	**30.00**	**08**	**13.33**	**10**	**16.67**	**22**	**36.67**
Complication	**02**	**3.33**	**17**	**28.33**	**00**	**00**	**11**	**18.33**	**30**	**50.00**
Overall	**02**	**3.33**	**07**	**11.67**	**09**	**15.00**	**17**	**28.33**	**26**	**43.33**

- Common Area: The post-test results show significant improvement, with 40% of students achieving "Good" and another 40% attaining "Excellent" levels of knowledge. The number of students in the "Poor" and "Satisfactory" categories decreased drastically.

- Signs and Symptoms: There is also a marked improvement in knowledge, with 36.67% of students achieving an "Excellent" level, and 16.67% in the "Very Good" category. However, a small percentage (1.67%) still had "Poor" knowledge.

- Complications: The most significant improvement is seen in this area, with half of the students (50%) achieving an "Excellent" level of knowledge, and 18.33% in the "Very Good" category. Only a few students (3.33%) remained in the "Poor" category.

- Overall: The overall improvement is substantial, with 43.33% of students achieving an "Excellent" score, and 28.33% in the "Very Good" category. The number of students in the "Poor" and "Satisfactory" categories dropped significantly.

These results indicate that the planned teaching was highly effective in enhancing students' knowledge regarding the health hazards of chewing tobacco products, particularly in the areas of complications and common areas.

Area wise mean, standard deviation and mean percentage of pre-test knowledge score of samples on chewing tobacco products.

The area-wise analysis of pre-test knowledge scores on chewing tobacco products reveals the following:

- In the **Common Area**, the mean score was 3.51 out of 6, with a standard deviation of 1.09, resulting in a mean percentage of 58.88%.

- For **Signs & Symptoms**, the mean score was 5.51 out of 10, with a standard deviation of 2.22, yielding a mean percentage of 53.83%.

- Regarding **Complications**, the mean score was 3.11 out of 5, with a standard deviation of 1.43, resulting in the highest mean percentage of 63.67%.

Overall, the total mean score was 12.13 out of 21, with a standard deviation of 4.74, reflecting a mean percentage of 58.79%. These results indicate that while participants have moderate knowledge on the health hazards of chewing tobacco, there is considerable variation in their understanding across different areas.

Area wise mean, standard deviation and mean percentage of posttest knowledge score of samples on chewing tobacco products.

The area-wise analysis of post-test knowledge scores on chewing tobacco products shows the following:

- In the **Common Area,** the mean score was 4.15 out of 6, with a standard deviation of 1.03, resulting in a mean percentage of 69.16%.

- For **Signs & Symptoms**, the mean score was 7.46 out of 10, with a standard deviation of 2.02, yielding a mean percentage of 74.17%.

- Regarding **Complications**, the mean score was 4.03 out of 5, with a standard deviation of 1.13, resulting in the highest mean percentage of 81.00%.

Overall, the total mean score was 15.64 out of 21, with a standard deviation of 4.18, reflecting a mean percentage of 74.77%. These results indicate a significant improvement in participants' knowledge across all areas after the intervention.

SECTION C

Item wise (Percentage) distribution of students correctly responded to the knowledge in common area

There is a notable increase in the percentage of correct responses from pre-test to post-test across all items. For example, the percentage of students correctly identifying that tobacco chewing is more common in males/females rose from 70% to 83.34%, and the knowledge of whether Gutkha contains tobacco improved from 53.34% to 71.67%. However, misconceptions still persist, such as the belief that tobacco chewing is good for health, which decreased from 88.34% in the pre-test to 81.67% in the post-test. This suggests that while the teaching intervention was effective in improving knowledge, some areas still need further focus.

Percentage of samples correctly responded to the item on the knowledge on sign & symptoms of chewing of tobacco products.

The post-test results show a significant improvement in knowledge regarding the signs and symptoms of chewing tobacco products compared to the pre-test. For example, the percentage of students correctly identifying that tobacco chewing leads to dental caries increased from 68.31% to 85%, and the awareness of yellow discoloration of teeth rose from 71.67% to 91.67%. However, some items like "difficulty in food chewing" showed no improvement (61.67% in both pre-test and post-test), suggesting a need for further emphasis in this area. Overall, the planned teaching was effective in enhancing the students' understanding of the signs and symptoms of chewing tobacco.

Percentage of samples correctly responded to the item on the knowledge on complications of chewing of tobacco products.

The post-test results demonstrate a significant increase in the percentage of correct responses compared to the pre-test, indicating that the intervention effectively improved students' knowledge about the complications of chewing tobacco. For instance, the percentage of students correctly identifying the link between tobacco consumption and heart attacks rose from 55% to 93.34%. Similarly, knowledge about the impact of tobacco on lung cancer increased from 71.67% to 86.67%. However, the item regarding the adverse effects of tobacco on a fetus showed the most improvement, from 43.34% in the pre-test to 70% in the post-test, highlighting the positive impact of the planned teaching.

't' VALUE TABLE:

- The mean difference (D) between pre-test and post-test scores is 3.6.
- The standard deviation (SDD) of the differences is 2.78.
- The standard error of mean difference (SEMD) is 0.3591.
- The calculated t-value is 10.0278, which is much higher than the table value of 2.00 at a significance level of 0.05.

Since the calculated t-value is greater than the table value, we can reject the null hypothesis and conclude that there is a statistically significant difference between the pre-test and post-test knowledge scores. This suggests that the planned teaching was effective in improving the students' knowledge on the health hazards of chewing tobacco products.

DISCUSSION

Most children begin using tobacco at an early age. This early initiation of substance abuse is usually associated with a poor prognosis. Hence, this study focused on the lower age group of 8–14 years in order to assess the prevalence and pattern of tobacco consumption and its influencing factors associated with this age group. The prevalence of tobacco consumption among students in this study was found to be 16.4%. This was slightly lower than the prevalence of tobacco consumption reported by Thakor and Prajapati (2014) among 5–19 years of school children in Gujarat where the prevalence was 18.6%.9 Studies done by Rattan et al. (2014) in Haryana and Narain et al. (2011) in Noida reported lower prevalence of tobaccouse, 5.1% and 11.2%, respectively.10

In this study, the result indicates that students lack knowledge about health hazards of chewing tobacco in the pre-test. In pre-test 20% of sample show poor knowledge, 20% show satisfactory, 31.67% shows good knowledge, 8.33% indicates very good and 20% shows excellent knowledge. After the post-test there is significant increase in knowledge regarding the same topic. 8.33% shows poor knowledge, 11.67% shows satisfactory, 40% shows good knowledge, 40% shows excellent knowledge after the pre-test. In the same way pre-test knowledge shows the students are having less knowledge regarding sign and symptoms, complications of chewing tobacco products, After the planned teaching, in post-test their knowledge regarding sign and symptoms, complications of chewing tobacco products have been improved.

CONCLUSION

This study is descriptive study to assess the effectiveness of planned teaching on knowledge regarding health hazards of chewing tobacco product among high school students of Yashwant Vidyalaya, Sevagram, Wardha District. From 200 students, 60 students were selected by non-probability convenient sampling is accepted for the study. Experimental one group pretest and posttest analysis was done for the study. The data was collected by questionnaire which include demographic variables, multiple choice questions in order to assess the knowledge. The questionnaire includes 6 questions regarding demographic data, questions on common area or on general knowledge, 6 questions regarding habit related, questions are of sign and symptoms, 5 questions are of complications of chewing tobacco products. In the present study pretest is taken for 30 minutes soon after the pretest planned teaching was given to the selected samples and on 7th day posttest is conducted.

The content validity of tool is obtained by various expert from community health department, community health nursing department. The baseline data is tabulated by formulating frequency table. The level of knowledge is assessed by using descriptive statistics. Comparison of knowledge pretest and posttest is done. It is found that there is no acceptance of using tobacco in the students and they are lacking in knowledge before significant difference in knowledge after giving planned teaching.

Conflict of interest: The authors certify that they have no involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this paper.

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