

Factors Influencing Tobacco Consumption Among 11th Grade Students At Nino Konis Santana Gleno Ermera General Secondary School In 2024

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Abstract

Introduction: Tobacco contains addictive and toxic substances, including tar, nicotine, and carbon monoxide, which adversely affect human health. Timor-Leste has a high prevalence of tobacco use, particularly among youth.

Objective: This study aimed to identify factors influencing tobacco use among 11th grade students at Nino Konis Santana General Secondary School, Gleno Ermera.

Method: A quantitative cross-sectional design was employed, with 52 students selected through systematic random sampling. Data were collected via questionnaires and analyzed using chi-square tests.

Result and Discussion: Univariate analysis showed that 61.5% of students had insufficient knowledge about tobacco, 59.6% held positive attitudes toward avoiding tobacco, 61.5% lived in supportive environments against tobacco use, and 59.6% were current smokers. Bivariate analysis revealed significant associations between tobacco consumption and knowledge ($X^2=0.000$), attitude ($X^2=0.001$), and environmental factors ($X^2=0.003$), all $p<0.05$. These findings indicate that knowledge, attitudes, and environmental factors significantly influence tobacco use.

Conclusion: Interventions should include school smoking policies, health education, and awareness campaigns

How to Cite

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Introduction

Tobacco is an addictive substance that consists of many toxins to have a negative impact on the organs of the individual, and addictive substances that the compounds in tobacco are: tar, nicotine, carbon monoxide and others (Ginting & Maulana, 2020); (Prihatiningsih, Devhy, Purwanti, Bintari, & Widana, 2020); (Siswanto & Yusuf, 2024)

Based on the report of the World Health Organization (WHO, 2020). report that the total number of smokers >15 years old in the world is 991 million. The number down to 3.41% or 35 million compared to 2018 and 2019 which is high with a total of 1.026 billion people. The World Health Organization (WHO) makes predicts that the total number of smokers will decrease to 35 million a year 2025 following the world population will increase steadily. This issue e caused by many countries that have reached the 9th global threat to control tobacco. Based on gender, more male smokers west pacific with total million 337. While in the region where there are more female to smokers in Europe reaching a total of 63 million (WHO 2021).

Percentage of ASEAN population that consumes tobacco, Indonesia 46.1%. Philippines 16.2%, Vietnam 14.11%, Myanmar 8.73%, Thailand 7.74%. Malaysia 2.90% Cambodia 2.07%, Laos 1.23% Singapore 0.30 and Brunei 0.04%. And according to (WHO, 2021); (Salsabila, Indraswari, & Sujatmiko, 2022) Indonesia has third position in the world with a total population of 60 million smoking and Timor-Leste has a high prevalence of tobacco smokers in Southeast Asia with its 66 percent for men who are smoker.

According to an official report from the Timor-Leste Tobacco Control Alliance (ANCT-TL, 2021) shows that Timor-Leste is a country with a high smoking is very high in the world. Approximately 60.7% of male adults and 9.4% of female adults consumed tobacco in 2020. Prevalence tobacco at a young age is also high is 42nd of young men 24th of young women who consume tobacco in 2021. Every year > 700 people in Timor-Leste died of tobacco-related illness Based on resolution of the National Parliament of the RDTL, the Government of Timor-Leste in Decree-LAW NO 14/2026. of June 8 talks about the regime to control tobacco. It is estimated that tobacco consumption for adolescents and young people in the proportion which is high and reaches a global level of 70% or more that can cause socio-economic and health, especially in countries that developed, and is directly reflected by the epidemiological framework in the country and is a leading factor of non-communicable diseases. So, there is Decree-LAW NO 14/2026 of 8 June chapter II in article 50 talks about limitation of tobacco consumption, and prohibition of tobacco consumption that is prohibited to smoke in public places such as, at work and in public transport in chapter V, article 150 talks about tobacco trading, that is prohibited to sell tobacco to children of under the age of 17 years. but people do not comply and continue to sell for minor ages.

Total of General Secondary Education Student Nino Konis Santana Gleno Ermera. year 2024, and out of 2591 student's majority with students with class 10th year CS with a total of 247 with its percentage (9.5%), and minor with class 120 years CN with a total of 195 with its percentage (7.5%). Follow researcher's observation that General Secondary School Nino Konis Santana school that disciplines in school according to regulations established in the school, but does not mean that students with 100% become disciplined for tobacco consumption that will be high in world especially in Timor-Leste.

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Method

The research method used for this study is a quantitative analytical approach with a cross-sectional procedure. The research was conducted in the at ESG-NCS Gleno-Ermera, year 2024”, with a population 11 th grade students at ESG-NCS Gleno-Ermera, year 2024. Random sampling technique with systematic random sampling approach, with the total sample for this research being 52. The independent variables for this study were Factors Influencing tabaco. The dependent variable tobacco consumption among. The data collection tools used were questionnaires. Analyzing bivariate data using the SPSS program to analyses chi square. This study used two ethical clearances from the Faculty of Medicine and Health Sciences, National University in East Timor, with approval numbers 49/FMCS/UNTL/I/2024 and 01/INSP-TL/DNPD/I/2024 by the National Institute of Public Health of Timor-Leste, National Directorate of Research and Development. Prior to the study, the teacher and headmaster provided students with informed consent through a clear protocol obtained from both parents and guardians, ensuring that ethical standards were met, and their participation was voluntary

Results and Discussion

1. Result

The respondents of this survey are students who are school in the NCS, year 2024, with a total of 52 respondents the sample was determined and based on the inclusive criteria that already exist, this research was conducted on July 17 to 28, 2024, a two-week research characteristic in this research are; age, gender, religion, education level at Nino Conis Santana School (NCS).

Data collected by the researcher at the research site according to general data are respondent characteristics based on gender, age level education, and profession that we can see in the table below:

Respondent Characteristics Based on Gender

Table 1

Frequency distribution of 52 students based on gender

No	Gender	Frequency	Percent (%)
1	Male	19	36.5
2	Female	33	63.5
Total		52	100

Based on table 1 frequency distribution of respondents based on gender in ESG Nino Konis Santana Gleno Ermera together in 52, of which the highest sex is female 33 people (63.5%) while the lowest sex was male a total of 19 people (36.5%).

Respondent Characteristics Based on Age

Table 2

Frequency distribution of 52 students based on age

No	Age	Frequency	Percent (%)
1	15-17	38	73.1
2	18-20	14	26.9
Total		52	100

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Based on table 2 frequency distribution of respondents based on age in ESG Nino Konis Santana Gleno Ermera together 52, of which the highest age group is 15-17 totaling 33 people (73.1%) while the age group is the youngest. is a group of 18-20 totaling 14 people (26.9%).

Respondent Characteristics Based on Religion

Table 3

Frequency distribution of 52 students based on religion

No	Religion	Frequency	Percent (%)
1	Catholic	50	96.2
2	Protestant	2	3.8
	Total	52	100

Based on table 3 frequency distribution of respondents based on religion in ESG Nino Konis Santana Gleno Ermera a total of 52, of which the highest religion is Catholic totaled 50 people (96.2%) while the religion that the smallest is Protestant with 2 people (3.8%).

Univariable Analysis (Specific Data)

The univariate analysis consisting of independent variables factor three are attitude, social environment and culture(X_{1-3}), and the variable the dependent is tobacco consumption (Y).

Frequency Distribution Based on Knowledge Factor (x1)

Table 4

Recurrence distribution of 52 students based on knowledge

No	Knowledge	Frequency	Percent (%)
1	Good	20	38.5
2	Less	32	61.5
	Total	52	100

Based on table 4 the frequency distribution of respondents for student knowledge in ESG Nino Konis Santana Gleno Ermera totaled 52, of the total available, majority 32 (61.5%) were with less knowledge while less than 20 (38.5%) have good knowledge.

Frequency Distribution Based on Attitude Factor (X2)

Table 5

Frequency distribution of 52 students based on attitude

No	Attitude	Frequency	Percent (%)
1	Positive	31	59.6
2	Negative	21	40.4
	Total	52	100

Based on table 5 the frequency distribution of respondents for attitude in ESG Nino Konis Santana Gleno Ermera totaled 52. from of the total, 31 (59.6%) were positive attitudes, while the lowest 21 (40.4%) had a negative attitude.

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Frequency Distribution Based on Environmental Factors (X₃)

Table 6

Frequency distribution of 52 students based on environment

No	Environment	Frequency	Percent (%)
1	No support	32	61.5
2	Support	20	38.5
	Total	52	100

Based on table 6 the frequency distribution of respondents for environment in ESG Nino Konis Santana Gleno Ermera total 52, of the total available, majority 32 (61.5%) were unsupportive environment, while the lowest 20 (38.5%) were supportive environments.

Frequency Distribution Based on the Tobacco Consumption factor(Y₁)

Table 7

Frequency distribution of 52 students based on tobacco consumption

No	Consumption tobacco	Frequency	Percent (%)
1	No smoking	21	40.4
2	Smoking	31	59.6
	Total	52	100

Based on table 7 the frequency distribution of respondents for consumption tobacco in ESG Nino Konis Santana Gleno Ermera together 52, of the total available, majority 31 (59.6%) were smoking students while the lowest 21(40.4%) were non-smoking students.

Bivariate Analysis

Chi-Square correlation analysis among knowledge factors with tobacco consumption.

Table 8

Crosstabulation analysis with Chi-Square correlation test table enfre student knowledge factors with tobacco consumption

Knowledge		Tobacco Consumption			X ²	α
		No smoking	smoking	total		
Good	N	17	3	20	0.000	0.05
	%	85	15	100		
Less	N	4	28	32		
	%	12.5	87.5	100		
Total	N	21	31	52		
	%	40.4	59.6	100		

Based on table 8, the results of crosstabulation analysis, showed that the less knowledge group of 32 of the totals, mostly 87.5% smoke while the good knowledge of 20 of the totals, mostly 85% do not smoke, After statistical analysis Correlations Chi-Square showed a significant value of less than 000 X = 000%. α=0.05 (0.000<0.05) means the factor of students' knowledge has an influence on tobacco consumption in Nino Konis Santana General Secondary School Gleno Ermera.

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Chi-Square correlation analysis between attitude factors and consumption Tobacco.

Table 9

Crosstabulation analysis with Chi-Square correlation test table under attitude factors and tobacco consumption

Attitude		Consumption tobacco			X ²	α
		No smoking	smoking	Total		
Positive	n	18	13	31	0.001	0.05
	%	58.1	41.9	100		
Negative	n	3	18	21		
	%	14.3	85.7	100		
Total	n	21	31	52		
	%	40.4	59.6	100		

Based on table 9, the crosstabulation analysis results, shown that positive attitude groups amounted to 31 of the total available., most 58.1% were non-smokers while negative attitudes accounted for 21 of the totals of which 85.7% are smokers. After statistical analysis Chi-Square correlations showed a low significant level value of X=0.001 of -0.05 (0.001<0.05) means students' attitude factor has an influence on tobacco consumption in Nino General Secondary School Konis Cemetery Gleno Ermera.

Chi-Square correlation analysis between environmental factors and consumption Tobacco.

Table 10

Crosstabulation analysis with Chi-Square correlation test between environmental factors and tobacco consumption

Environment		Consumption tobacco			X ²	α
		No smoking	smoking	Total		
Support	n	18	14	32	0.003	0.05
	%	56.3	43.8	100		
No support	n	3	17	20		
	%	15	85	100		
Total	n	21	31	52		
	%	40.4	59.6	100		

Based on table 10, the crosstabulation analysis results, shown that the environment for the unsupportive group accounted for 32 of the total available, majority 56.3% were non-smokers while the environment for the joint support group 20 of the total, most 85% smoke. After analyzing the Correlations Chi-Square statistic showed a significant level value X-0.003 smaller than a-0.05 (0.003<0.05) means environment factors for students influence tobacco consumption in High School General Nino Konis Santana Gleno Ermera.

2. Discussion

General Data Discussion

Based on table 1 frequency distribution of respondent based on gender in ESG Nino Konis Santana Gleno Ermera total 52. from the total of the highest gender is female with 33 people (63.5%) while the lowest gender is male with four people 19 (36.59%). Table 2 shows the highest age group 15- 17 totaling 33 people (73.1%) and the smallest is the

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age group 18-2 a total of 14 people (26.9%). Table 3 High religions most are Catholics with 50 (96.27%) the least are Protestants a total of 2 people (3.8%).

According to the research of Nizamie & Kautsar (2021), it was shown that people that with a high level of education will decrease the probability of smoking with 2.52%, people with higher incomes will increase the probability smoking by 3.74%, people with informal work status will reduce likelihood of smoking by 1.9%, people of increasing age will raise the probability of smoking is 1.35%, and the male gender is higher. increased the odds of smoking by 13.22. Unmarried status is significant for cigarette consumption (Nizamie & Kautsar, 2021)

It is therefore concluded that when many men are likely to increase the number of smokers is high compared to female scksu with small number. A person who has entered adolescence or young adulthood in greater risk of adapting to smoking compared to people with age young.

Knowledge Factor

Based on table 4 distribution of frequency of respondents for student knowledge in ESG Nino Konis Santana Gleno Ermera amounted to 52, of the total, the majority 32 (61.5%) have less knowledge while the least 20 (38.5%) have good knowledge. The research results of Simon et al (2023), showed the results of frequency distribution of student knowledge with a sample of 90, of the total, the majority 56 (62.2%) are with less knowledge while the lowest 34 (37.8%) are with good knowledge (Astuti & Limbu, 2023). Also, the results of research by Widyawati & Sihite (2025) showed that the majority 19 (54.2%) had low knowledge and 1 (2.9%) had low knowledge (Widyawati & Sihite, 2025). The results of Kurniawan & Ayu (2023) research showed that the majority of 74 (92.6%) had good knowledge and the lowest 13 (7.4%) had poor knowledge (Kurniawan & Ayu, 2023)

According to Notoatmodjo, knowledge is the number of facts and theories that solve the problem we face, knowledge comes from direct experience or experience from others. Knowing that remembering material that has been studied, including at this level of knowledge is remembering what has been studied or stimulus that has been received. One factor that can influence people's knowledge is that information obtained from various sources will influence a person's level of knowledge. The information that is known about the impact of smoking is not to take action to smoke.

Based on the data results and data analysis conducted by the researcher himself, it was concluded that students in ESG Nino Konis Santana Gleno-Ermera have less knowledge about the impact of smoking. From the results shown above means that students with good knowledge of the health impact of smoking will reduce the number of smokers but students with less knowledge about the impact of tobacco consumption or smoking will increase the number of smokers.

Attitude Factors

Based on table 5, the frequency distribution of respondents for attitudes in ESG Nino Konis Santana Gleno Ermera amounted to 52, of the total, the majority 31 (59.6%) have positive attitudes, while the lowest 21 (40.4%) have negative attitudes.

According to research by Julaecha & Wuryandari (2021) conducted on students in MNKN Jambi with a sample of 49 showed the results of most positive attitude to the impact of smoking with 59.1% while the lowest 40.8% is negative attitude to the impact

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of smoking (Julaecha & Wuryandari, 2021). In similar research by Simon et al (2023) conducted on young people SMP PGRI Sorong City with a sample of 90 showed the results of most students with negative attitudes amounting to 54 (60%) and a minority of students with positive attitudes amounting to 36 (40%). Attitude is an expression of a person's feelings that reflect his like or dislike, evaluation of an object or idea (Astuti & Limbu, 2023)

Based on the results of data and data analysis conducted by the researcher himself, concluded that students in ESG Nino Konis Santana Gleno-Ermera have a positive attitude about the impact of smoking, because some students in the school do not smoke and avoid cigarettes because they know the negative impact of cigarettes and know their components. With this, students with a positive attitude to avoid smoking although there are some factors that influence them to smoke but they have a good positive attitude.

Environmental Factors

Based on table 6, the frequency distribution of respondents to the environment in ESG Nino Konis Santana Gleno Ermera amounted to 52, of the total, the majority 32 (61.5%) are unsupportive environment, while the lowest 20 (38.5%) are supportive environment.

According to research by Windahsari et al (2017) showed that there is a relationship between social environment factors and smoking habits with the result that 68% of young people have a negative environment that can influence their behavior to smoke (Windahsari, Candrawati, & Warsono, 2017). Research by Febrianika (2016) showed results on four environmental social influences as follows: first family environment with 82.8% caused by parents who smoke and work as cigarette workers. The second peer environment with 57%, which is almost caused by 96.8% of respondents whose peers smoke and often their peers force them to smoke. Third, the school environment with 51.6% caused by his colleagues who smoke secretly in school without the teacher knowing, and finally the community environment with 78.5% caused by many neighbors who smoke and many kiosks and shops that sell cigarettes freely (Febrianika, Widjanarko, & Kusumawati, 2016). While the research by Anwar et al (2022), that environmental influence is also a factor for young people to smoke. The practice of smoking is hidden and the money used to buy cigarettes comes from the rest of the money that parents give to use for school, every 1-2 days always smoke cigarettes (Anwar, Nababan, & Tarigan, 2022).

Social environmental factors related to youth smoking behavior include fathers who smoke, siblings who smoke and peers who smoke, kiosks/shops that sell a lot of cigarettes. Smoking behavior can affect the social relationships and social status of young people. In some cultures, smoking is considered a sign that the young person has entered the age of maturity which can reinforce negative cultural norms (Ramadhini, Etrawati, Rahmawaty, & Afifah, 2025)

Based on the results of data and data analysis conducted by the researcher himself, it is concluded that students in ESG Nino Konis Santana Gleno-Ermera have an environment that supports and has an environment that does not support tobacco consumption or cigarette smoking. When the environment is strongly supportive there will be a high risk of smoking but when the support is not supportive the number of smokers is low.

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Tobacco Consumption

Based on table 7 distribution of frequency of respondents for tobacco consumption in ESG Nino Konis Santana Gleno Ermera amounted to 52, of the total, the majority 31 (59.6%) are smoking students while the lowest 21 (40.4%) are non-smoking students.

Research results from Sutha (2016), people who smoke 15%, research results from Simon et al (2023), showed people who smoke 56.7%, research Kurniawan & Ayu (2023) showed people who smoke 37.9%. The habit of smoking by young people is a symbolic behavior to show maturity, strength, leadership and attractiveness to gender, in addition to the objective to calm down because smoking can reduce pressure and facilitate or facilitate our concentration (Maseda, Suba, & Wongkar, 2013)

Young people who smoke because they have many peers/friends who also smoke, and vice versa (Pratama, Triana, & Martini, 2021). Smoking behavior is usually stimulated by knowing, a desire to pass the time, or a desire to escape physical or emotional stress. Young people also consider that smoking becomes like we have entered the age of maturity, self-confidence, and confidence in colleagues or organizations (AMALIZAR, AFRIDAH, & SETIANTO, 2023)

Bivariate Discussion

Chi-square correlation between knowledge factors and tobacco consumption, based on table 8 the results of crosstabulation analysis, showed that the low knowledge group amounted to 32 of the totals, mostly 87.5% smoked while the good knowledge group amounted to 20 of the totals, mostly 85% did not smoke. After statistical analysis Correlations Chi-Square showed a significant level value $X^2=0.000$ less than $\alpha=0.05$ ($0.000<0.05$) means students' knowledge factor has an influence on tobacco consumption in Nino Konis Santana Gleno Ermera General Secondary School.

Research by Simon et al (2023), showed the results of chi-square statistical test, which found a value of $p = 0.000 < \alpha = 0.05$ means there is a relationship between attitude and smoking behavior of young people in pre-secondary schools in Sorong City. The results of the study are similar to the research conducted by Sembiring, I. B. (2020) showed that there is a relationship between knowledge and smoking behavior for young people (Sembiring, 2020). Research by Widyawat & Sihite (2025) results showed statistical test using Chi Square test p-value $0.002 < 0.05$ means there is a significant relationship between the level of knowledge about the dangers of cigarettes and smoking behavior for pre-secondary students Nasrani 3 West Medan (Widyawati & Sihite, 2025). A study also like the research of Umari et al (2020) showed p-value= $0.017 < \alpha 0.05$, meaning that there is a significant relationship between knowledge and students' smoking behavior. A study also similar to the research of Widyawati et al (2022) showed a p-value= $0.000 < \alpha 0.05$, meaning that there is a significant relationship between knowledge and smoking behavior (Widyawati, Rahmini, & Dhamayani, 2022)

Good knowledge should prevent smoking habit, but many young people still smoke because of the free ransu factor that shows that if we do not smoke then we are not men, so young people still smoke (Alamsyah, 2017). Peer habits have a strong influence on attracting an individual to smoke very much, because an individual who smokes can attract young people with a sufficient level of knowledge of bad things including smoking (Villela, 2018).

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Based on the data results and data analysis conducted by the researcher himself, it was concluded that students in ESG Nino Konis Santana Gleno-Ermera have a significant influence between student knowledge and tobacco consumption or smoking. Because when young people with good knowledge the number of people smoking is low compared to young people with less knowledge shows that people smoke very high.

Chi-square correlation between attitudinal factors and tobacco consumption, based on table 9 the results of crosstabulation analysis showed that 31 positive attitude groups out of the total, mostly 58.1% do not smoke while 21 negative attitudes out of the total, mostly 85.7% smoke. After statistical analysis Correlations Chi-Square showed a significant level value $X^2=0.001$ less than $\alpha=0.05$ ($0.001<0.05$) means students' attitude factors have an influence on tobacco consumption in Nino Konis Santana Gleno Ermera General Secondary School.

Research by Simon et al (2023), showed the results of chi-square statistical test, which found a value of $p = 0.000 < \alpha = 0.05$ means there is a relationship between attitude and smoking behavior of young people in pre-secondary schools in Sorong City (Astuti & Limbu, 2023). Similarly, the results of the study conducted by Handayani (2019), showed that there is a significant relationship between attitudes and smoking behavior of young people. Similar research by researchers Julaecha & Wuryandari (2021) showed that statistical test analysis using chi square p-value <0.05 means there is a significant relationship between attitude and smoking behavior (Julaecha & Wuryandari, 2021). An attitude is a reaction or response that remains closed by a person to a stimulus or object. In some studies, it has been shown that there will be some young people who have a positive attitude to face the dangers or impacts of smoking but continue to smoke, this is not because of attitude factors but because of the influence of experience factors, environment, mass media, educational institutions, religion, and the influence of emotional factors (Wawi & Dewan 2010).

Based on the data results and data analysis conducted by the researcher himself, it was concluded that students in ESG Nino Konis Santana Gleno-Ermera have a significant influence between attitude and consumption or smoking cigarettes. Because when young people with positive attitudes will reduce the probability of smoking, while young people with negative attitudes have a strong influence to increase the number of smoking by young people.

Chi-square correlation between environmental factors and tobacco consumption, based on table 10 the results of crosstabulation analysis showed that the environment for the non-support group amounted to 32 of the totals, mostly 56.3% did not smoke while the environment for the support group amounted to 20 of the totals, mostly 85% smoked. After statistical analysis Correlations Chi-Square showed a significant level value $X^2=0.003$ lower than $\alpha=0.05$ ($0.003<0.05$) means environmental factors for students have an influence on tobacco consumption in Nino Konis Santana General Secondary School Gleno Ermera.

According to the research of Sutha (2016) data analysis using Chi Square results showed that social environment has a significant relationship with smoking behavior such as family environment, peers, teachers, idols, and cultural environment with its p-value lower than $\alpha = 0.05$ (Sutha, 2016). Similarly, research by Windahsari et al (2017), Spearman rho test found p-value = $0.005 < \alpha = 0.05$ means there is a relationship between

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environmental factors and smoking habits for young men in Mojokerto post (Windahsari et al., 2017). Research by Febrianika (2016) shows that the factors that influence smoking come from 4 social environment factors such as family environment factors caused by parents who smoke and work as cigarette workers. Peer environment factors caused by peers who smoke and often forced by peers to smoke, school environment factors caused by peers who smoke hidden in school without teachers knowing and finally community environment factors caused by many neighbors who smoke and many kiosks and shops that sell cigarettes freely (Febrianika et al., 2016).

According to research by Ramadhini et al (2025) said that smoking to interact with many colleagues even though they know its negative impact, in others smoking as a private need to reduce stress, feel comfortable when smoking, increase feelings of self-confidence as a young person. In addition, smoking can also be an alternative for young people to express themselves or feel more mature (Ramadhini et al., 2025).

Based on the data results and data analysis conducted by the researcher himself, it was concluded that students in ESG Nino Konis Santana Gleno-Ermera have a significant influence between the environment and tobacco consumption or smoking. Because when young people live in a good environment or do not support smoking, the number of smokers is also low compared to young people who live in a bad environment or support to smoke, the number of smokers is very high. One cause of various environmental factors that come from family, neighbors, schoolmates, and good friends can influence an individual to smoke.

Conclusion

This cross-sectional study conducted among 52 eleventh-grade students at Nino Konis Santana General Secondary School in Gleno Ermera provides significant evidence regarding the multifactorial nature of tobacco consumption among adolescents in Timor-Leste. The research successfully identified three critical determinants that substantially influence smoking behavior in this population. The study's primary findings demonstrate that knowledge deficiency serves as a substantial predictor of tobacco use, with 87.5% of students with poor knowledge engaging in smoking behavior compared to only 15% among those with adequate knowledge ($X^2=0.000$, $p<0.05$). This finding establishes a clear inverse relationship between health literacy and tobacco consumption, suggesting that educational interventions targeting knowledge enhancement could significantly reduce smoking prevalence among adolescents.

Attitudinal factors emerged as equally influential determinants, with negative attitudes toward tobacco strongly correlating with smoking behavior. The research revealed that 85.7% of students with negative attitudes were active smokers, while only 41.9% of those with positive attitudes engaged in tobacco use ($X^2=0.001$, $p<0.05$). This finding underscores the importance of attitude modification as a crucial component of tobacco prevention programs. Environmental influences demonstrated the strongest impact on smoking initiation and maintenance, with 85% of students in supportive environments engaging in tobacco use compared to 43.8% in non-supportive environments ($X^2=0.003$, $p<0.05$).

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