# Prevalence of Cigarette Smoking and Factors Associated with it Among Undergraduate Students of Jigjiga University

**Tadele Kinati Banti[1, \*], Desalegn Shiferaw Mengesha[2], Gamachu Fufa Mamade[3]**

[1]Department of Nursing, College of Medicine and Health Sciences, Jigjiga University, Jigjiga, Ethiopia

[2]Epidemiology and Biostatistics Unit, College of Medicine and Health Sciences, Jigjiga University, Jigjiga, Ethiopia

[3]Department of Sociology, College of Social Science and Humanity, Jigjiga University, Jigjiga, Ethiopia

**Email address:**

kinati2010@gmail.com (T. K. Banti)

[\*]Corresponding author

**Abstract:** Cigarette smoking is one of the public health problems which killed about 100 million people in the 20th century and supposed to kill about one billion people in the 21st century if the pattern of its consumption continues. Currently the prevalence of smoking is increasing at the global level and highly associated with increased rate of mortality and morbidity. The objective of this study was to assess the prevalence of smoking and its associated factors among undergraduate students of Jigjiga University. A descriptive institutional based cross sectional study design was employed on 648 students. Self-administered structured questionnaire which was adopted and developed from different previously conducted studies was used to collect data. Data were entered using epi data 3.1 and exported to SPSS version 16.0 for further analysis. Descriptive statistics were done in the form of graphs and tables to summarize data. Data were analysed through univariate for frequencies, and percentage; bivariate analysis to see association between dependent and independent variables and logistic regression to see the independent effect of selected variables on the status of substance using odds ratio. From the total study participants 87 (14.5%) of them smokes and 32 (36.8%) of them smokes greater 12 than cigarettes per week. students at 3$^{rd}$ year of study were at higher chance of smoking cigarette, AOR=17.89 (95% CI=5.21, 61.42), and the odds of smoking cigarette was higher among year 4 and above students comparing with those at year 2, AOR=30.08 (95% CI=6.56, 137.21). Similarly students who chew khat were about 27 times likely to smoke, AOR 27.23 (95% CI=9.47, 78.31) compared with those who didn't chew khat. Generally the prevalence of smoking among undergraduate Jigjiga university students was 14.5%. Student's cigarette smoking was significantly associated to year of study; students ever khat chewing habit, ever drinking alcohol and ever drug use.

**Keywords:** Cigarette Smoking, Prevalence, Factors

## 1. Introduction

Cigarette smoking is one of the public health problems which killed about 100 million people in the 20th century and supposed to kill about one billion people in the 21st century if the pattern of its consumption continues [1]. Currently the prevalence of smoking is increasing at the global level and highly associated with increased rate of mortality and morbidity. It also results in reduction of quality of life, life expectance, low academic performance and increased costs on the smokers, increased risk of acquiring HIV/AIDS, mental problems, behavioural changes [2, 3, 6]. About 20.5%

of patients attending Jimma University teaching hospital were known to be smokers [4].

According to the study conducted in Jordan most of the smokers started smoking after the age of fifteen. Peer pressure was found to be the leading reason to be involved in smoking followed by seeking pleasure [5]. During the transition to higher learning institutions young adults face many new sources of stress including separation from family, sharing close living quarters with strangers, the formation of new social groups, intense academic pressures and the

balancing of social engagements with academic and other life responsibilities which can lead them to get starting smoking [9]. Cigarette smoking gradually increased in the World because of its easy access at any place [12] and by the year 2025 there will be about 1.7 billion smokers across the globe [13]. According to study conducted Haramaya University 225 (22%) of the respondents smoked cigarettes at least once in their life time [7], at Aksum university 9.5% (8), at Calabar university Nigeria 55.8% of them smoke daily [10], in India 72.84% [11], in Rajasthan India 12.94% were current smokers [14], at Hawassa university 14.8% have ever cigarette used in their life time [15].

Individuals' 15-24 ages which are critical groups are mostly found in the university where they can be at the risk of developing smoking behaviours intentionally or unintentionally. Since they are going to be a productive age group major emphasize should be given to address this group. The objective of this study was to assess the prevalence of smoking and its associated factors among undergraduate students of Jigjiga University.

# 2. Methods and Materials

## 2.1. Study Design and Population

A descriptive institutional based cross sectional study design was employed at Jigjiga University which is the only university in Ethiopian Somali region and located at the distance of about 630 km from Addis Ababa in the east. The source population was all under graduate students of Jigjiga University during 2013/2014 academic year. The study population was under graduate students from the randomly selected departments during the academic year of 2013/2014.

## 2.2. Sample Size and Sampling Procedures

The required sample size was calculated using Epi info version3.1 computer statistical software package by considering the single population proportion formula with the assumption of 4% margin of error (d), 95% confidence level (zα/2 =1.96) and 22% proportion substance consumption taken from study conducted among medical students of AAU [16]. Using a design effect of 1.5, the calculated sample size with 10% contingency for non-response was 648. Amulti stage sampling procedure was applied to select sample of undergraduate students in the University (stratification in to colleges, Simple Random Sampling to select departments and stratify the department into batches and finally SRS was employed to recruit the required sample size from each department).

## 2.3. Data Collection Procedures

Self-administered structured questionnaire which was adopted and developed from different previously conducted studies was used to collect data related to the objective of the study questionnaire which was prepared in English and then it was translated to Amharic language and then re translated to English to check for consistency.

Data collection facilitators were experienced individuals and training was given by the principal investigators. Following an orientation respondents have filled the questionnaire in private by arranging their seat far apart from one another and not allowing their teachers to enter the room.

## 2.4. Data Analysis

The collected data were manually checked for completeness and consistency ahead of data entry. Data were entered using epi data 3.1 and exported to SPSS version 16.0 for further analysis**.** Data cleaning was done during and after data entry by simple frequency and cross tabulation and their consistency was checked. After data cleaning completed it was exported to SPSS version 16 for analysis. Descriptive statistics were done in the form of graphs and tables to summarize data. Data were analysed through univariate for frequencies, and percentage; bivariate analysis to see association between dependent and independent variables and logistic regression to see the independent effect of selected variables on the status of substance using odds ratio.

## 2.5. Ethical Considerations

The study was reviewed and approved by the JJU-DRCS and all responsible individuals in the faculties were informed about this study. Participation of the students in this study was voluntarily and written consent obtained from each participant before data collection. Students were informed that questionnaires are anonymous and confidential. Names of the students were not recorded anywhere on the questionnaire and measures taken to ensure the respect, dignity and freedom of each student participated in the study.

# 3. Results

### 3.1. Socio-demographic Characteristics of the Students

A total of 648 questionnaires were distributed and 600 of them were appropriately filled with the response rate of 92.3%. Data were collected from 2nd year and above students of three colleges namely college of Health sciences, college of social sciences and college of engineering and technology which were randomly selected from eight colleges. From the total of 600 study participants 281 (46.8%) were 2nd year, 411 (68.5) were in the age range of 22-25 years, 396 (66%) were male students. Majority of them were Muslim, 325 (54.2%), and 533 (88.8%) of them were single.

*Table 1. Socio demographic characteristics of the study participants at Jigjiga University (n = 600).*

| Variables | Number | Percent |
|---|---|---|
| Age | | |
| 18-21 | 176 | 29.3 |
| 22-25 | 411 | 68.5 |
| >25 | 13 | 2.2 |
| Year of study | | |
| 2nd | 281 | 46.8 |
| 3rd | 176 | 29.3 |
| 4th and above | 143 | 23.8 |
| Sex | | |
| Male | 396 | 66 |
| Female | 204 | 34 |
| Religion | | |
| Muslim | 325 | 54.2 |
| Orthodox | 160 | 26.7 |
| Protestant | 99 | 16.5 |
| Other | 16 | 2.7 |

## 3.2. Smoking Status Among the Study Participants

From the total study participants 87 (14.5%) of them smokes and 32 (36.8%) of them smokes greater 12 than cigarettes per week.

*Table 2. Prevalence of smoking among regular students of Jigjiga University, 2014, (n=600).*

| Variables | number | Percent |
|---|---|---|
| Ever tried smoking | | |
| Yes | 87 | 14.5 |
| No | 513 | 85.5 |
| How many cigarettes during last 30 days | | |
| 1-3 | 9 | 10.3 |

| Variables | number | Percent |
|---|---|---|
| 4-6 | 27 | 31 |
| 10-12 | 19 | 21.8 |
| >12 | 32 | 36.8 |
| How much you spent on cigarette | | |
| <20 birr | 35 | 40.2 |
| 20-50 | 42 | 48.3 |
| >50 | 10 | 11.5 |

## 3.3. Factors Associated to Cigarette Smoking Among Jigjiga University Students

According to this study Student's cigarette smoking was significantly associated to year of study; students ever khat chewing habit, ever drinking alcohol and ever drug use.

*Table 3. Factors associated to smoking cigarette among Jigjiga University students, 2014.*

| characteristic | Number | Smoking cigarette (%) | COR (95% CI) | AOR(95%CI) |
|---|---|---|---|---|
| Year of study | | | | |
| 2nd | 281 | 38(13.50) | 1 | 1 |
| 3rd | 176 | 33(18.75) | 3(2.76,3.32) | 17.89(5.21,61.42) |
| 4th and above | 143 | 16(11.20) | 2(1.68,3.74) | 30.08(6.56, 137.21) |
| Sex | | | | |
| Male | 396 | 46(11.6) | 2.22(1.37,3.60) | 0.60(0.28,1.31) |
| Female | 204 | 41(20) | 1 | 1 |
| Religion | | | | |
| Orthodox | 160 | 32(20) | 1 | |
| Muslim | 325 | 22(6.80) | 5.28(2.63,10.57) | |
| Protestant | 99 | 33(33) | 0.60(0.33,1.09) | |
| Marital status | | | | |
| Single | 533 | 71(13.30) | 1 | 1 |
| Married | 38 | 10(26.30) | 2.80(1.36,5.77) | 3.61(0.85,15.35) |
| Divorced | 16 | 6(37.50) | 1.67(0.61,4.59) | 0.30(0.03,2.48) |
| Widow | 0 | 0(0) | | |
| Ever drink alcohol | | | | |
| Yes | 164 | 48(29.30) | 2.42(1.73,3.38) | 6.60(2.15,20.32) |
| No | 436 | 39(8.90) | 1 | 1 |
| Ever chew khat | | | | |
| Yes | 200 | 64(32) | 1.974(1.34,2.92) | 27.23(9.47,78.31) |
| No | 400 | 23(5.80) | 1 | 1 |
| Ever take any drug | | | | |
| Yes | 76 | 51(67) | 13.56(9.66,19.02) | 30.29(11.69,78.52) |
| No | 524 | 36(6.9) | 1 | 1 |

## 4. Discussion

This study tried to assess the magnitude of cigarette smoking and factors associated with among undergraduate students of Jigjiga University, eastern Ethiopia.

The current prevalence of cigarette smoking in this study was 14.5% which was almost similar with the study conducted at Hawassa University, of which 14.8% of students have ever cigarette used in their life time [15]. But it was higher than the study conducted at Aksum University which was 9.5% [8]. This slight variation could be due to difference in sample size.

The results of this study which is 14.5% is much lower than the results different studies conducted at Calabar university Nigeria 55.8% of them smoke daily [10] and in India of which 72.84% of them were smokers [11]. The difference might be due to geographical difference, difference cultural practice and difference in time of study.

Student's cigarette smoking was significantly associated to year of study; students ever khat chewing habit, ever drinking alcohol and ever drug use. Accordingly, students at $3^{rd}$ year of study were at higher chance of smoking cigarette, AOR=17.89 (95% CI=5.21, 61.42), and the odds of smoking cigarette was higher among year 4 and above students comparing with those at year 2, AOR=30.08 (95% CI=6.56, 137.21). Similarly students who chew khat were about 27 times likely to smoke, AOR 27.23 (95% CI=9.47, 78.31) compared with those who didn't chew khat. The chance of smoking was about 6 times higher among who drink alcohol, AOR= 6.60 (95% CI=2.15, 20.32), compared with those didn't drink alcohol. Using different drugs was another factor significantly associated with smoking, AOR=30.29 (95% CI=11.6978.52).

As the year the students spent within the university increases, for instance from $3^{rd}$ year to forth year according our study, the prevalence of smoking is increasing. For this peer pressure, need to get relaxed from tension and aim to improve results than the previous semesters were the possible reasons for the increment. Most students also imitate what their seniors doing as if it is an indication of modernization.

## 5. Conclusions

Generally the prevalence of smoking among undergraduate Jigjiga university students was 14.5%. Student's cigarette smoking was significantly associated to year of study; students ever khat chewing habit, ever drinking alcohol and ever drug use. Cigarette smoking prohibiting policy should be applied for undergraduate students within the University. Health education and information about the health effect, psychological effect and economical effect of the smoking cigarette should be given to students within the university on regular basis. Establishing clubs which works on the substance abuse within the university and improving the availabilities of recreational facilities within the university.

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