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Original Research Article

Prevalence and Factor Influencing Tobacco Smoking Behavior among Adult Women in Urban Squatter Settlement of Kathmandu

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ABSTRACT

Background: Non Communicable Disease Risk Factors Survey in Nepal conclude that age, area of residence, and education level were significant socio-demographic predictors for smoking use among women in Nepal. Objectives: To assess the prevalence and factor influencing tobacco smoking behavior among adult women.
Materials and Methods: A descriptive cross-sectional study design was carried out with the sample of 185 young women interviewed through Systematic Random sampling technique in Manohara squatter settlements of Kathmandu valley. Multivariable Logistic regression analyses were carried out to determine predictors of tobacco smoking among adult women.
Results: The prevalence of Current tobacco smokers was 57.8% and current tobacco daily smokers, 35.5%. As compared to 20-29 years women, 50-59 years women were 1.1 times (AOR:1.1, CI 95% -0.3-3.4) more likely to be smoker, Similarly as compared to divorced women married women were 3.2,(AOR: 3.2, CI 95% 0.2-41.6) never married women were 2.3(AOR: 0.2-19.1) times more likely to be smoker. Likewise, as compared to student as occupation, service holder 12.5(AOR: 12.5, CI 1.0-151.7), labor 8.5(AOR: 8.5, CI 2.7-26.4), Farmer 5.4 (AOR: 5.4 CI 1.7-16.8) times more likely to smoke. As compared to Buddhist, Christian and Hindu were 2.5 (AOR: 2.5, CI 0.8-8.1) and 2 (AOR: 2.0, CI 0.7-5.4) times more likely to be smoker. Similarly as compared to relatively upper caste ethnic group disadvantage and other ethnic group were 2.6(AOR: 2.6, CI 0.8-8.8) and 1.9(AOR: 1.9, CI 0.8-4.6) times more likely to smoke.
Conclusion: The study concluded that Age, Marital status, occupation, ethnicity, income and religion are associated factors for female smoking.

Key words: Adult women; Cigarette smoking; Urban Squatter settlement

INTRODUCTION

Smoking is a practice in which a substance is burned and the resulting smoke breathed in to be tasted and absorbed into the bloodstream. Most commonly the substance is the dried leaves of the tobacco plant which have been rolled into a small square of rice paper to create a small, round cylinder called a cigarette. Smoking is primarily practiced as a route of administration for recreational drug use because the combustion of the dried plant leaves vaporizes and delivers active substance into the lungs where they are rapidly absorbed into the bloodstream and reach bodily tissue. The practice was believed to begin as early as 5000–3000 BC. [1] Globally smoking tobacco is a major risk factor for mortality with an estimated five million people killed every year. Smoking is known to cause mortality due to cardiovascular diseases, cancer and

respiratory conditions. Nearly 80% of the more than 1 billion smokers worldwide live in low- and middle-income countries, where the burden of tobacco-related illness and death is heaviest. [2] It is estimated that one-third of the world's adults population, of whom 200 million female are smokers. Approximately, 22% of women in developed countries and 9% of women in developing countries smoke, but because most women live in developing countries, there are numerically more women smokers in developing countries. [3] Just as global tobacco consumption is shifting between industrialized and developing countries, the tobacco pandemic is spreading to women in a variety of settings. Historically, smoking by women in industrialized countries increased during the last century, lagging behind the rise in men by about 20 to 30 years. Today, the prevalence of smoking among women in some countries remains high, while surveillance data from other countries provide warning of increasing use among youth, particularly girls. [4] Non Communicable Disease Risk Factors STEPS Survey Nepal conclude that age, area of residence, and education level were significant socio-demographic predictors for smoking use among women in Nepal. As compared to 15-29 years women, 45-69 years age groups were 5 times more likely to smoke tobacco. Similarly, urban women were 40% less vulnerable than rural women.5 addition higher education women were found to be at 1% less risk of being tobacco user. [5] More research is merited on how women view triggers that could lead to smoking adoption, such as peer pressure and role models, lone motherhood, stress, double or triple workload, how addiction develops in female smokers, and how they weigh the costs and benefits of smoking. About 17 percent of the total Nepalese population live in urban areas. [6] At present, there are 63 slum and squatter settlements in Kathmandu, and their population is estimated to be growing by 25 percent per year. [6]

MATERIALS AND METHODS

This is a descriptive cross sectional study carried out on Manohara squatter settlements of Kathmandu valley conducted on 2016 December to January 2017. A Sample size is 185 calculated using a prevalence of 14% smoking among adult women in Nepal. [7] Error was set in 5% and confidence interval was set in 95%.At Present there are 5 slums and 40 squatter settlements in Kathmandu Valley. Manohara squatter settlements is situated in Kathmandu valley, Bhaktapur district which is one of the largest urban squatters of Kathmandu valley where approximately 600 household live. The area was selected purposively and the respondent's house hold was selected using Systematic random sampling technique. It was very difficult to know the exact household and population of urban squatter settlement but luckily researcher got a household frame from local office called a "Manohara Pragatinagar Sudhar Samaj". But researcher doesn't know the exact female Young Adult population. So we choose first household by using Lottery methods of simple random sampling technique after that each household was choosen on regular third interval using systematic random sampling technique. Female household member of young adult (20-59) was interviewed using semi structured questionnaire from sampled household. Young adult was defined by WHO as 20-59 Year. [8] So the respondent's age group was limited to 20-59 years in this study. Pre testing of questionnaire was done in Mandikhatar slum. Necessary modification was done after that. For the validity of the questionnaire, it was partially adopted from WHO's Global Adult Tobacco Survey (GATS) to calculate the prevalence of smoking. For the Prevalence of smoking we adopt and calculate three indicators of smoking from GATS that is current tobacco smokers, Current daily Tobacco Smokers and Former daily Tobacco smokers. Verbal consent was taken from respondents prior to the study.

Statistical Analysis

Statistical analysis was done using statistical software SPSS Version 17. Simple mean age of starting smoking was calculated. For factors influencing smoking we use bivariate and Multivariate analysis with 95% CI. We calculate adjusted and unadjusted Odds Ratio.

RESULTS

A total of 185 young adult women were included in this study, out of them Current tobacco smokers was 57.8%, similarly current tobacco daily smokers, 35.5% and Former daily tobacco smokers was 28%.The majority of currently smoking women belongs to age group 40-49 (34%).Among the current tobacco smoker the mean age of starting tobacco was 15.4 years. Approximately one in two respondents who are currently smoking the main motivating factors behind smoking is curiosity (45%) followed by peer pressure (24%). Forms of smoking among current smokers were pipes (cigarette) 82.2%. Among the respondents who are currently smoking, they smoke for the first time with their friend 56% (Table 1).

Table 1: Descriptive Statistics of different pattern and form of tobacco smoking

Variables	Frequency	Percentage
Current tobacco Smoking among women	107	57.8
Never smoking	78	42.2
Current daily tobacco Smoking among women	38	35.5
Former daily tobacco Smokers	30	28.1
Forms of tobacco smoking among current smokers		
Pipes(cigarette)	89	82.2
Bidis	14	13.3
Hukka	4	3.7
Age group among tobacco current Smokers		
20-29 years	20	18.7
30-39 years	26	24.3
40-49 years	34	31.8
50 up to 59 years	27	25.2
Mean age= 42 years		
Age when they first experience tobacco smoking among current smokers		
Below 10 years	16	15
11-21 years	64	59.8
22-32 years	27	25.2
Mean age=15.4 years		
Motivating factors for tobacco smoking among current smokers		
Curiosity	48	44.9
Peer Pressure	26	24.3
Parent smoking	25	23.4
Relieve stress	8	7.5
Person with whom the first puff was taken by current tobacco smokers		
Friend	60	56.1
Alone	32	30
Family Members	11	10.3
Neighbor	4	3.7

Table 2: Reason behind continuity of smoking among current tobacco smokers

Variables	Frequency	Percentage
Continuity of smoking		
Give pleasure	69	64.5
Relieve stress	19	17.8
To be energetic	19	17.8
Among the current smokers who say they smoke for pleasure		
For fun	49	71.0
Oral Pleasure	20	29.5
Among the current tobacco smokers who say they smoke to relieve stress was		
Work related stress	21	77.8
Family related stress	6	22.2
Family smoker among current tobacco smokers		
Yes	106	57.3
No	79	42.7

Out of 107 current female smoker, the main reason behind continuity of smoking was nearly 65% said that it gives pleasure to them and the main pleasure was fun, and other response was to relieve stress, who said they smoke to relieve stress, the source of stress was work related stress followed by family stress. More than half (57%) of the current smokers had history of family smoking

Bivariate analysis of sociodemographic variables with current tobacco smoking found significant with age and occupation of female smokers. Taking reference to age group 20-29 years, age group 30-39 less likely to be current daily smoker(OR:0.4,CI 95%-0.2-0.7) which conclude that respondents of age group 30-39 years less likely to smoke than age group 20-29 years. Similarly, respondents of age group 50-59 years found to be four times more likely to smoke than age group 20-29 years (OR:4.2,CI 95% 1.9-9.1).

Likewise, taking reference occupation as student, farmer and labour respondents were three times more like to smoke than students (OR:3.4,CI 95% - 1.4-7.9). As compared to monthly family income 20,000 to 30,000 per month in average family which income is 10-000 to 20,000 per month was nearly three times (OR: 2.9,CI 1.5-5.7) more likely to be smoke. Relatively disadvantage and other ethnic group were 2.5 (OR: 2.5, CI 95% 0.9-6.8) and 1.5 (OR: 1.5, CI 95%0.7-3.1) times more likely to smoke than relatively advantage upper class ethnic group. Married women and never married women were 9.1 (OR: 9.1, CI 95% 1.6-51.4) and 4.1(OR: 4.1, CI 95% 1.2-13.4) times more susceptible to smoking than widow or divorcee women. Education and family types found less effect on women smoking. (Table 3)

Table3: Bivariate analysis of current tobacco smoking with Sociodemographic variable

Variables	Current daily Smoker	Significance level	Crude OR	CI 95%
Age	Yes No			
20-29	20(10.8%) 42(22.7%)	0.000	1	
30-39	26(14.1%) 18(9.7%)	0.001	0.4	0.2-0.7
40-49	34(18.4%) 8(4.3%)	0.074	1.7	0.9-3.2
50 up to 59	27(14.6%) 10(5.4%)	0.000	4.2	1.9-9.1
Occupation				
Business	18(9.7%) 15(8.1%)	0.602	1.2	0.6-2.3
Farmer	24(13.0%) 7(3.8%)	0.004	3.4	1.4-7.9
Housewife	38(20.5%) 37(20.0%)	0.908	1.0	0.6-1.6
Labor	24(13.0%) 7(3.8%)	0.004	3.0	1.4-7.9
Service	3(1.6%) 1(0.5%)	0.341	3.0	0.3-28.8
Student	1(0.5%) 10(5.4%)	0.003	1	
Education				
No formal Education	46(42.6%) 22(28.6%)	0.000	0.7	0.1-0.2
Primary	33(30.6%) 12(15.6%)	0.000	0. 7	0.3-1.7
Secondary	25(23.1%) 23(29.9%)	0.519	0.3	0.1-0.9
Higher	4(3.7%) 20(26.0%)	0.037	1	1
Religion				
Buddhist	14(7.6%) 10(5.4%)	0.791	1	
Hindu	73(39.5%) 55 (41.6%)	0.906	1.0	0.4-2.5
Christian	21(11.4%) 12 (6.5%)	0.493	1.3	0.5-2.9
Income				
10,000-20,000 per month in average	88(81.5%) 46(59.7%)	0.001	2.9	1.5-5.7
20,000-30,000 or more per month in average	20(18.5%) 31(40.3%)	1	1	1
Ethnicity				
Relatively upper caste	30(27.8%) 17(22.1%)	0.129	1	1
Disadvantage Janajati	61(56.5%) 54(70.1%)	0.072	2.5	0.9-6.8
Other	17(15.7%) 6 (7.8%)	0.211	1.5	0.7-3.1
Marital Status				
Married	94(87.0%) 63(81.8%)	0.012	9.1	1.6-51.4
Never Married	4(37.0%) 11(14.3%)	0.020	4.1	1.2-13.4
Widow/Divorce/Separated	10(9.3%) 3(3.9%)	0.027	1	1
Types of Family				
Extended family	4(3.7%) 4 (5.2%)	0.388	1	
Joint family	37(34.3%) 33(42.9%)	0.483	0.1	0.1-2.5
Nuclear family	67(62.0%) 40(51.9%)	0.198	0.3	0.3-1.2

Reference Category: 1

Table 4 showed that taking reference age group 20-29 years, age group 30-39 years less likely to be current daily smoker (AOR: 0.1, CI 95%-0.05-0.3) which conclude that respondents of age group 30-39 less likely to smoke than age group 20-29 years. Age group 50 up to 59 years were 1.1 (AOR: 1.1, CI 95%-0.3-3.4) times more susceptible to smoking than age group 20-29.

Similarly , compared occupation as students, respondents whose occupation were business two times (AOR:2.2,CI 95% -0.8-5.8), Farmer five times (AOR: 5.4, CI 95% -1.7-16.8), House wife two times, (AOR: 2.3,CI 95%-1.0-5.3), Labor eight times (AOR: 8.5, CI 95% -2.7-26.4), and Service holder twelve times (AOR: 12.5,CI 95% - 1.0-151.7) more likely to be current daily smoker than students. Similarly as compared to divorced women married women were 3.2,(AOR: 3.2, CI 95% 0.2-41.6), never married women were 2.3(AOR: 0.2-19.1) times more likely to be smoker. As compared to Buddhist as religion Christian and Hindu were 2.5 (AOR: 2.5, CI 0.8-8.1) and 2 (AOR: 2.0, CI 0.7-5.4) times more likely to be smoker. Similarly as compared to relatively upper caste ethnic group disadvantage janajati and other ethnic group were 2.6(AOR: 2.6, CI 0.8-8.8) and 1.9(AOR: 1.9, CI 0.8-4.6) times more likely to smoke. Education and family types found less effect on smoking.

Table 4: Multivariate analysis of current daily smoking with socio demographic variable

Variable	Unadjusted OR	Adjusted OR (CI 95%)
Age		
20-29 years	1	1
30-39 years	0.4(0.2-0.7)	0.1(0.05-0.3)
40-49 years	1.7(0.9-3.2)	0.5(0.2-1.3)
50 up to 59 years	4.2(1.9-9.1)	1.1(0.3-3.4)
Occupation		
Business	1.2(0.6-2.3)	2.2(0.8-5.8)
Farmer	3.4(1.4-7.9)	5.4(1.7-16.8)
Housewife	1.0(0.6-1.6)	2.3(1.0-5.3)
Labor	3.4(1.4-7.9)	8.5(2.7-26.4)
Service	3.0(0.3-28.8)	12.5(1.0-151.7)
Student	1	1
Education		
No formal Education	0.7(0.1-0.2)	0.04(0.07-0.2)
Primary	0.3(0.1-0.9)	0.3(0.2-1.6)
Secondary	0.7(0.3-1.7)	0.6(0.1-1.0)
Higher	1	1
Religion		
Buddhist	1	1
Hindu	1.3(0.5-2.9)	2.0(0.7-5.4)
Christian	1.0(0.4-2.5)	2.5(0.8-8.1)
Income		
10,000-20,000 per month in average	2.9(1.5-5.7)	1.0(0.06-16.2)
20,000-30,000 or more per month in average	1	1
Ethnicity		
Relatively upper caste	1	1
Disadvantage Janajati	2.5(0.9-6.8)	2.6(0.8-8.8)
Other	1.5 (0.7-3.1)	1.9(0.8-4.6)
Marital Status		
Married	9.1(1.6-51.4)	3.2 (0.2-41.6)
Unmarried	4.1(1.2-13.4)	2.3(0.2-19.1)
Widow/Divorce	1	1
Types of Family		
Extended family	1	1
Joint family	0.1(0.1-2.5)	0.8(0.1-4.7)
Nuclear family	0.3(0.3-1.2)	0.5(0.2-1.1)

Reference Category:1

DISCUSSION

The study findings revealed that, the mean age of tobacco smoking initiation was 15.4 years, which is supported by the findings of similar types of study conducted in Nepal which showed early initiation of tobacco smoking was(mean: 14.96 year). [2] The findings of this study showed that

prevalence of smoking and pattern (current and daily) use increased with age group which is consistent with findings of previous study conducted in Nepal. [13-15] Multivariate analysis further confirms the result of bivariate analysis. However, these findings were contrasting to findings of the study conducted in Brazil (AOR=1, 95%, CI=0.9-1.1) which shows no association with age. [9] It may be due to religious and cultural differences.

Findings of the study revealed that taking reference to other occupation service holders are more likely to smoke tobacco than others (AOR:12.561, CI 95% -1.040-151.777) which findings is similar to the study conducted in India which reported that service holders are more likely to smoke than other occupation. [10] In our study multivariable analysis failed to establish relationship between education and current daily smoking it may be due to the awareness program conduct by ENFHO in the squatter settlements. Our study shows association between marital status and smoking habit. We found that married and never married women are more susceptible to smoking and the finding is contrast to the similar types of study which reported that divorced, widow women are more susceptible to smoking. It may be due to widow women are more spiritual and religious and they think that women smoking is against religion. [11]

Likewise the findings reflect that Prevalence of current tobacco smoking was, 57.8%. This finding had little difference from the similar types of the study conducted on rural Dailekh district of Nepal where the prevalence of tobacco consumption among reproductive age women was 43.6% and most common form is smoke (95%). [2]

Likewise, in researcher's study, 50% smoke due to curiosity, 24.3% smoke due to peer pressure, which is supported with the similar types of the study conducted in eastern Nepal, Dharan, which shows that the major reasons behind initiation of smoking were for curiosity (43%) and (30%) smoke due to pressure from friend. [12] In this study 64.5% of the respondents smoke for pleasure which indicate the main reason for continuity of smoking which is supported with the similar types of study conducted in Chandigarh India which reported that pleasure (67%) was the main reason for continuity of smoking. [13] Thus in above study curiosity is major factor for smoking initiation and pleasure is most significantly associated with ever use of smoking.

In addition, the researcher's study showed that 56.1% smoker started their first puff with friend, 30% take alone, which is supported by the similar types of study conducted in India, where most of the women started their first puff mainly with their friends (54%) and (21%) of women take alone which conclude that peer are the comfortable group for smoker in initiation of smoking. [12]

Findings of the study reflect that one in four (25%) smoking women smoke to relief stress, findings is supported by the similar types of study conducted in India which reported that 27% of the women smoke to cope with frustration. [16]

CONCLUSION

Prevalence of tobacco smoking among young women in squatter settlement was alarming. The findings was quite high than other studies. Most of the smoker had initiate smoking at younger age. Age, occupation, religion, ethnicity, income, of women was directly related to tobacco smoking. Regarding the factor influencing them to smoke, the respondents express that curiosity as a key influencing factor and pleasure (fun) was the main reason for continuity of smoking. Thus, smoking control programme should be conducted in urban squatter settlements.

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