Knowledge, Attitude and Practice of Tobacco Usage among Adult Power-Loom Workers Living in Tamil Nadu, India: A Cross-Sectional Survey

Master of Public Health Integrated Experience Project

A Research Grant Proposal

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List of Abbreviations:

AUA   American University of Armenia

GATS   Global Adult Tobacco Survey

GYTS   Global Youth Tobacco Survey

KAP   Knowledge, Attitude and Practice

SD   Standard Deviation

SEAR   South East Asian Regions

SLT   Smokeless Tobacco

WHO   World Health Organization

Executive Summary

Background: Among preventable deaths, tobacco accounts the leading cause globally. Tobacco is harmful, regardless of how it is consumed. Annually, more than eight million people die because of tobacco. In 2017, 13% of the global death toll was attributed to primary smoking, and an additional, 2% was related to second-hand smoke. On average, 2500 peoples globally, starts smoking cigarette below the age of 18. Among Indian adults, 19% of men and 2% of women are smokers. In 2011, more than $6.7 billion US dollars were spent on treating tobacco-related health conditions in India. Nearly 31.0% of men and 9.3% of women were using either smoking tobacco or Smokeless tobacco (SLT) among overall adults in Tamil Nadu. From 2010 to 2017, the prevalence of tobacco use in Tamil Nadu increased by 3.8%, reaching 20.0% in 2017. In India, power loom workers, when compared with the general population, have even higher prevalence of tobacco use.

Study aims and research questions: The current study aims to measure the knowledge, attitude, and practice (KAP) towards tobacco use among power loom workers in Tamil Nadu. The specific research questions include:

1. What is the level of KAP of tobacco use among power loom workers in Tamil Nadu, India?

2. Is there an association between knowledge and education level among power loom workers?

3. Is there an association between tobacco use (practice) and the demographic characteristics (i.e., age, gender, working hours, working days, marital status, average monthly income, and education level)?

4. Is there an association between knowledge and tobacco use (practice) among power loom workers?

5. Is there an association between attitude and tobacco use (practice) among power loom workers?

Methods: A cross-sectional household survey with a multistage sampling method will be used. The study will include 333 power loom workers. The interviewer administered instrument will contain four sections (socio-demographic character, knowledge, attitude, and practice), which were adopted and modified from the previous study and from the global youth tobacco survey instrument. The data will be double entered and analyzed using SPSS 23 software. Descriptive statistics will be used to summarize the characteristics of the sample. Bivariate and multivariate analyses will be conducted to evaluate associations between the dependent and independent variables.

Ethical consideration: The study will obtain IRB approval before implementation. Only participants providing informed consent will be included in the study.

Budget: As an incentive, each survey participant will receive 100 INR. The total study budget of 419,602 INR (5,525 USD) was estimated to cover the salary for a project coordinator, travel expenses, material expenses, and other expenses. The study will be completed within six months after getting IRB approval.

1. Study Rationale and Research Questions

Despite the high prevalence of tobacco use among power loom workers, the literature on tobacco use among this high-risk population remains limited. The current study aims to measure the knowledge, attitude, and practice of tobacco use among power loom workers in India.

Research questions:

1. What is the level of KAP of tobacco use among power loom workers in Tamil Nadu, India?

2. Is there an association between knowledge and educational level among power loom workers?

3. Is there an association between tobacco use (practice) and the demographic characteristics (i.e., age, gender, working hours, working days, marital status, average monthly income, and education level)?

4. Is there an association between knowledge and tobacco use (practice) among power loom workers?

5. Is there an association between attitude and tobacco use (practice) among power loom workers?

2. Background/ Literature Review

2.1 Tobacco

Tobacco is a common name for a group of plants that contains stimulant alkaloid nicotine and harmala alkaloids.[1] Smoking and smokeless tobaccos are among the highly consumed tobacco products.[2] Smoking tobacco is used by inhaling the smoke from burning the dried leaves of the

tobacco plant.[2] There are different types of smoking tobacco products such as roll-your-own cigarettes, manufactured cigarettes, cigars, water pipes, pipes, bidis, kreteks, and sticks.[2]

Smokeless tobacco (SLT) is used directly without any smoke or burn.[2] It is consumed in many ways, such as chewing tobacco, moist snuff, and dry powder.[2,3] There are different varieties of SLT, including pan masala, gutkha, slaked lime, and many more.[2] There are also diverse varieties of pan masala, including zarda, gundi, kaddipudi, and many more.[2]

2.2 Tobacco Use and Burden of Tobacco Related Morbidity and Mortality Globally

Tobacco is harmful, regardless of how it is taken. Tobacco is a legal product that even in spite of being consumed as instructed by manufacturers, it can kill its consumers.[4] Tobacco epidemic is one of the most significant contemporary public health threats worldwide.[5] Globally, tobacco is the leading cause of preventable deaths.[6] More than eight million people die because of tobacco use each year.[5,7] Among them, direct tobacco is the underlying cause of seven million deaths, while second-hand smoke contributes to more than a million deaths.[5] In 2017, 13% of the global death toll was attributed to primary smoking, and an additional 2% was related to second-hand smoke.[7] Smoking increases the risk of death, partly by increasing risk of cancers in the respiratory tract (trachea, lung, and bronchus) among many others.[6] By 2030, the World Health Organization (WHO) predicts that tobacco-related deaths will increase by 9% globally.[8] Globally, 20% of adults smoke tobacco.[7] In 2016,more than 35% of men and 6% of women were smokers worldwide.[7] Despite the variations across countries, cigarettes remain the most commonly used tobacco product worldwide.[2] On average, 2500 peoples globally, starts smoking cigarette below the age of 18.[9] Smoking cigarettes is harmful not only for smokers but also for non-smokers, because of the exposure to second-hand smoke.[2,6] Smoking damages the body and increases the risk of developing cancers, lung diseases, renal failure, intestinal ischemia, and

cardiovascular diseases.[10] Among pregnant women, smoking affects the fetus and can increase the risk of several health conditions including congenital disorder, cancers, lung disease, and even sudden death.[10] Smoking also increases the risk of developing tuberculosis and makes its treatment less effective.[10] Tobacco use attributes about half of the deaths (45%) among chronic obstructive pulmonary disease patients.[10]

WHO surveillance from 133 countries in 2010 showed that more than 650,000 deaths were attributable to SLT use.[11] The preparation of SLT, its components, as well as effects can vary from place to place.[11] The production and the usage of SLT are high among Southeast Asian Region (SEAR).[12] The SLT usage is high among low and middle-income countries compared with high-income countries.[12] A study conducted among 140 countries found that nearly 81.6% of their study participants who used SLT were from the SEAR countries.[12] Moreover, the SLT use among rural populations from the SEAR countries were1.2 to 8.0 times higher than urban populations from the same regions.[12] In SEAR countries, the usage of SLT among the poorest regions was 1.5 to 17 times higher than wealthier regions.[12] Similar to cigarettes, SLT also contains nicotine and oncogenic chemicals.[3] The usage of SLT leads to nicotine addiction and increases the risk of gastrointestinal tract cancers.[2] For instance, SLT increases cancer of the oral cavity, oesophagus, and pancreas.[2] SLT also increases the burden of heart diseases, stroke, gum diseases, and nicotine poisoning among children.[10] SLT usage during pregnancy may lead to early delivery, and stillbirth, and can affect the baby's brain development before birth.[10]

2.3 Burden of Tobacco Use in India

According to the 2011 census, India has over 1.2 billion population.[13] Overall, in India, 28.6% of adults use tobacco products.[14] Among them, 10.7% of adults use the smoked type of tobacco.[14] Nearly, 19.0% of men and 2.0% of women currently smoke tobacco.[14] In India, nearly 38.7% of

adults at home and 30.2% of adults at indoor working places are exposed to second-hand smoke.[14] In 2011, the expenditure of treating tobacco-related health conditions in India added up to more than $6.7 billion US dollars.[12]

Among all types of tobacco used in India by adults, SLT accounts for 21.4%.[14] Nearly two-thirds of the global SLT users are living in India (237.4 million).[12] About 200 million adults are currently using SLT.[14] The prevalence of SLT use among adult males and females in India is 29.6% and 12.8%, respectively.[14] Among females, SLT use is more prevalent than the prevalence of smoking tobacco.[15] In 2010, a significant majority of adults in urban (93%) and rural (87%) areas believed that SLT could cause serious illnesses.[16] According to a study conducted in India, low education was strongly associated with SLT use.[17] In general, the SLT usage is high among the low socio-economic status peoples and those employed in low profile occupations.[17]

The electronic nicotine delivery systems (e-cigarettes and IQOS) were banned in India by September 2019.[18]

2.4 Burden of Tobacco Use in Tamil Nadu

According to the 2011 census, Tamil Nadu has over 72 million population.[13] In 2017,10.5% of the adult population in Tamil Nadu were smokers, and 10.6% were SLT users.[19] Overall, 21.1% of men and 0.1% of women were smokers, and 11.9% of men and 9.3% of women are SLT users.[19] Nearly 31.0% of adult men and 9.3% of adult women in Tamil Nadu use smoking tobacco or SLT.[19] According to the Global Adult Tobacco Survey (GATS), the prevalence of tobacco use in Tamil Nadu increased by 3.8% from 2010 to 2017, reaching 20.0%.[19] Moreover, in Tamil Nadu, from 2010 to 2017, the prevalence of smoking in adults increased by 0.9%, while for SLT that increase was 2.5%.[19]

2.5 Power Loom Workers in Tamil Nadu

Globally, populations living in rural areas or with low socio-economic status have a higher prevalence of tobacco use.[10] A study conducted among power loom workers in Allahabad, India, showed that a majority of the study participants had low socio-economic status and low educational background (0.04% were graduated, 2.9% were educated up to 12th standard, and 40.4% were educated).[20] This study also reported that the prevalence of tobacco use among power loom workers (85.9%) was higher than in the general population.[20] The major part of the clothing need in the country is met by the power loom sectors.[21] According to 2010 estimates, there were 2.3 million power looms in India, and it ensured employment for 5.7 million people in the country.[21] Power loom workers produce a variety of fabric materials like cotton, silks, synthetics, and others.[21]

No study has specifically assessed the prevalence of tobacco use and its factors among power loom workers. The current study aims to measure the knowledge, attitude, and practice (KAP) towards tobacco use among power loom workers in Tamil Nadu. The study will be focusing on two randomly selected districts (Salem and Namakkal) of Tamil Nadu, where the power loom sector plays a major source of livelihood for a large rural populations.[21]

3. Methods

3.1 Study Population

The target population will be the adult power loom workers living in Tamil Nadu, India. Workers residing in two randomly selected districts will be recruited for the study. The only exclusion criteria among power loom workers will be those who are not able to speak and understand the Tamil language.

3.2 Study Design

Taking into account the feasibility and practicality, a cross-sectional survey will be utilized to measure the knowledge, attitude, and practice of tobacco use among the power loom workers.

3.3 Sample Size

The sample size was calculated using the formula for comparing two group means

$n = (2/d^2) (c_{p,power})$

Where,

n   = number of required participants in each group

d   = standardized difference

$c_{p,power}$ = constant value based on type 1 error and power

The formula for calculating standardized difference was

d = target difference/ standard deviation

Based on the previous study conducted in Malaysia, the average standard deviation (SD) of knowledge score about tobacco use is 2.66.[20] To be more conservative, the SD for sample size calculation was round up and was assumed to be 3.

We assumed that the target difference in knowledge between low educated and highly educated was 1.d = 1/3 = 0.33

Considering type I error of 5% and power of 80%, the constant value ($c_{p,power}$) was 7.9.

With $n = (2/ 0.33^2) (7.9) = 145.04 = 146$

For equal groups, the required sample size in each group will be 146. Nevertheless, since the groups will be unequal, we revised the total sample accordingly.

$N^1 = [N(1+k)^2] / 4K$

Where,

N^1 = revised total sample size

N = sample size for equal group (146+146= 292)

K = ratio between two groups, assuming that 60% were low educated and 40% were high educated (0.6/0.4 = 1.5)

N^1 = $[292(1+1.5)^2] / 4(1.5)$

    = $[292(6.25)] / 6$

    = $[1825] / 6$

    = 304.16

    = 305

The formula for each individual group were $N^1/(1+K)$ and $KN^1/(1+K)$

So

$N^1/(1+K)$ = $305/(1+1.5) = 122$

$KN^1/(1+K)$ = $(1.5*305) / (1+1.5) = 183$

So, 122 participants for a low educated group and 183 participants for the high educated group were the target sample size.

The target sample size is 333, adjusted by each ward

Assuming a response rate of 80%, 417 participants will be approached to achieve the target sample size.

3.4 Sampling Methods

A Multi-stage sampling method will be used to select the participants. In Tamil Nadu, Madurai, Erode, Coimbatore, Namakkal and Salem districts have a higher number of power loom workers. Among these districts, Namakkal, and Salem districts were randomly selected for choosing the

study participants. In Namakkal, the pallipalayam village/town was randomly selected, and in Salem, Elampillai village/town was randomly selected.[21]

To start the survey, the official ward vies division map will be used to select the target households. The survey will start on the first house towards north-west corner, and then the interviewer will move towards right or down on each ward. In Elampillai there are officially 15 wards, and in Pallipalayam there are 21 wards.[22,23] The 50% of the target sample size will be achieved in each town. The 50% of the sample size will be divided into equal numbers according to the total number of wards in Elampillai and Pallipalayam. The study aims to cover an equal number of participants in the wards within each randomly selected district. The details about the desired sample size from each ward in each district are presented in appendix 1. After completing one survey in the target household, we will skip the next two households towards right or down. If the house will be locked, no one will open the door or there will be no power loom worker in the house, the interviewer will approach the next targeted household. If there are more than one power loom workers in a house, the participants will be selected based on their first upcoming birthday from the time of the survey.

3.5 Instrument

The survey will be interviewer administrated. The questionnaires are adapted and modified based on the questionnaires of global youth tobacco survey and previous similar studies.[24,25] The instrument contains four sections (demographic, knowledge, attitude, and practice). The first nine items are about the demographic characteristics of the study participants, mainly questions adapted from the previous studies conducted in India. Knowledge of the participants on tobacco will be assessed by 11 questions yielding a summary knowledge score with a valid range of 0 to 11.

The attitude of participants will be assessed by 18 five-point Likert scale items, where one means strongly agree, and five means strongly disagree. Both knowledge and attitude questions are adapted and modified from a previous study conducted in Malaysia among tuberculosis patients.[25] A total of 22 items will collect data about practice towards the use of tobacco products. The practice questions are adapted from the global youth tobacco survey (GYTS) instrument.[24] The instrument was given in appendix 2. The instrument will be translated to Tamil language and back-translated to English to check the accuracy. The Tamil instrument will be pre-tested among five power loom workers and modified as needed.

3.6 Study Variables

The dependent variables of the study will be the knowledge, attitude, and practice of tobacco usage. The knowledge score will be calculated as the percent mean score. The attitude will also be calculated as the percent mean score. Practice (tobacco use) will be treated as a binary variable.

The independent variables of the study will be age, gender, working hours, working days per week, marital status, average monthly income, and education level. The education and monthly income will be collected as categorical variables. The working hours will be originally a continuous variable which will be converted into a categorical variable. Age, number of household member, and years of work experience will be collected as continuous variables, and later will be converted to categorical variables. The marital status will be collected as a categorical variable. Gender will be a categorical variable.

3.7 Data Management and Analysis

3.7.1 Data Entry and Management

The participants' ID will be five-digit numbers. The first two numbers will refer to the ward number, and the last three will refer to the participants' number. The data entry will be done in SPSS version 23. Double data entry will be done to minimize data entry errors. Range and outlier checks will be performed to clean the data. The journal forms will be maintained throughout the survey, and a sequential number will be assigned for each household visit. The format of the journal form is given in appendix 3.

3.7.2 Data Analysis

The descriptive statistics will be used to present the demographic characteristics of the study participants. Continuous variables will be summarized as means, ranges, and standard deviation, while the categorical variables will be summarized as proportions and frequencies.

For knowledge score, the correct answers will be scored as 1, and the wrong answers will be scored as 0. The score of all knowledge items will be added up and divided by the maximum possible score to get the percent mean knowledge sore. For attitude, the correct response will be scored as 1, the wrong response will be scored as 0, and neither agree nor disagree response will be scored as 0. The score of all attitude items will be used to calculate the percent mean attitude score. Practice will be a binary variable, user vs. non-user.

To answer the second research question and examine the association between knowledge and education level, a multiple linear regression models will be applied while adjusting for demographic characteristics.

For the third research question, categorical and continuous variables will be compared between tobacco users and non-users, using chi-square for categorical variable and student t-test for continuous variables. A multivariable logistic regression model will be applied to assess the adjusted association of demographic characteristics (i.e., age, gender, working hours, working days, marital status, average monthly income, and education level).

To answer the fourth research question and examine the association between the knowledge and practice, a student t-test will be conducted. A multivariable logistic regression model will be applied to assess the association while adjusting for the demographic characteristics.

Similarly, to answer the fifth research question and examine the association between the attitudes and practice, a student t-test will be conducted. A multivariable logistic regression model will be applied to assess the association while adjusting for the demographic characteristics.

4. Strengths and Limitation

According to our literature review, this will be the first study to measure the KAP about tobacco use among adult power loom workers in Tamil Nadu. The sample size will provide adequate power to answer the research questions. The multistage random sampling will reduce potential selection bias; nevertheless, the small number of districts included in the sample will be a limitation for the generalizability of our findings. The instrument is interviewer administrated; hence there is a chance for social desirability bias. For instance, tobacco use will be self-reported and can be underreported. The cross-sectional nature of the study might not allow for establishing a temporal order for some of the independent and dependent variables in the study (e.g., working hours and tobacco use).

5. Ethical Considerations

The study protocol and IRB application complies with the requirements of the Institutional Review Board (IRB) of the American University of Armenia (AUA). The study will get local IRB approval from India before the survey starts. After getting the IRB local approval, oral approval will be taken from the power loom association and the local panchayat office of Elampillai and Pallipalayam. Before the survey, oral consent will be taken from the participants. The privacy and confidentiality of participants will be maintained. As an incentive, survey participants will receive 100 INR (1.40 USD).

6. Timelines and Budget

The entire project will be completed within six months after getting the IRB approval from the AUA. The detailed timeline is given in appendix 4. The total budget for this study is about 419,602 INR (5,525 USD) and that would cover the cost of project co-ordinator, travel, printing the survey materials, interviewers' accommodation, and incentives for the participants. The data collecting, entering, and analysis will be done by the project co-ordinator. Appendix 5 presents more information about budget allocation.

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Appendices

Appendix 1: Sample size breakdown

Place (number of wards)	Elampillai (15 wards)	Pallilpalayam (21 wards)	Total
Sample size in the sub clusters	305/2=152.5= 153	305/2=152.5= 153)	
Sample size per each ward	153/15=10.2= 11	153/21=7.2= 8	
Total sample size	165	168	333

Appendix 2: Survey instrument

SURVEY QUESTIONNAIRE

A survey of Knowledge, Attitude and Practice of tobacco use among adult power loom workers in Tamil Nadu, India

Participant's ID _____   Start time ___ : ___

Date of Interview (Day/Month/Year) _____ / _____ / _____   End time ___ : ___

Section-1 Socio-demographic

1. What's your current age _____ (Years)

2. Gender

   o   1) Male
   o   2) Female
   o   3) Transgender

3. What is the highest level of education you have completed?

   o   1) No formal education
   o   2) Primary school (1st grade to 5th grade)
   o   3) Middle school (6th grade to 8th grade)
   o   4) High school (9th grade and 10th grade)
   o   5) Higher secondary/ Diploma (11th/12th grade or 2 year study after 10th grade)
   o   6) Collage (Under graduate)
   o   7) Collage (Post graduate)
   o   99) Refuse

4. How long you are working as a power loom worker _____ (years)

5. How many hours do you work per day on average _____ (HH:MM)

6. How many night shifts do you work in a week on average _____ (Days)

7. How many live in your family, including you _____

8. What is your marital status?

- o 1) Single
- o 2) Engaged
- o 3) Married
- o 4) Divorced
- o 5) Other, please specify _____
- o 99) Refuse

9. How much does your family spend monthly on average?

- o 1) less than 7000 INR
- o 2) From 7001 to 14,000 INR
- o 3) From 14,001 to 28,000 INR
- o 4) From 28,001 to 41,000 INR
- o 5) Above than 41,001 INR
- o 99) Don't know/ Refuse to answer

Section-2 Knowledge of tobacco use

		Agree (1)	**Disagree (2)**
10	Smoking has the greatest negative effect on the vascular system	○	○
11	A smoker's heart works harder because carbon monoxide makes the blood carry less oxygen	○	○
12	Nicotine, an ingredient in tobacco, is both stimulating and depressing to the nervous system	○	○

13	Cigarette smokers get tired easily because their lungs cannot exchange gas well	○	○
14	Pipe smokers are more likely to get lung cancer than other types of smoking	○	○
15	Cigarette smokers are more likely do not live as long as non-smokers	○	○
16	The "smoker's cough", a type of chronic bronchitis is caused by irritation of the lungs and bronchial tubes and due to the chemicals in the cigarette	○	○
17	The dangers from cigarette smoking increase with dose (number of cigarettes smoked, number of years a person smoked, and amount of smoke inhaled)	○	○
18	Smokeless tobacco is a safe, harmless product	○	○
19	Using chewing tobacco can lead to oral cancer	○	○
20	Using smokeless tobacco can increase athletic performance	○	○

Section-3 Attitude of tobacco use

		Strongly Agree	Slightly Agree	Neither agree Nor Disagree	Slightly Disagree	Strongly Disagree
21	Smoking is fun	1 ○	2 ○	3 ○	4 ○	5 ○
22	People smoke just to show off	1 ○	2 ○	3 ○	4 ○	5 ○

23	Smoking calms your nerves	1 ○	2 ○	3 ○	4 ○	5 ○
24	Smoking makes you smelly	1 ○	2 ○	3 ○	4 ○	5 ○
25	Smoking makes you look tough	1 ○	2 ○	3 ○	4 ○	5 ○
26	Smoking is a waste of time	1 ○	2 ○	3 ○	4 ○	5 ○
27	Smoking makes you relieve all life stresses	1 ○	2 ○	3 ○	4 ○	5 ○
28	Smoking keeps your weight down	1 ○	2 ○	3 ○	4 ○	5 ○
29	Smoking gives you confidence	1 ○	2 ○	3 ○	4 ○	5 ○
30	Smoking should be allowed at fewer places than it is now	1 ○	2 ○	3 ○	4 ○	5 ○
31	Both smoking and smokeless tobacco are very dangerous to health	1 ○	2 ○	3 ○	4 ○	5 ○
32	Sales of tobacco product should be outlawed	1 ○	2 ○	3 ○	4 ○	5 ○

33	Ban to sell tobacco product for people under 18 should be obeyed properly	1 ○	2 ○	3 ○	4 ○	5 ○
34	Smoking gives you bad breath	1 ○	2 ○	3 ○	4 ○	5 ○
35	Smokers are more likely to die from heart disease than non-smokers	1 ○	2 ○	3 ○	4 ○	5 ○
36	Smoking together may lead to friendship	1 ○	2 ○	3 ○	4 ○	5 ○
37	Sharing cigarettes can act as an "ice breaker"	1 ○	2 ○	3 ○	4 ○	5 ○
38	Smokeless tobacco is easy to use during working hours	1 ○	2 ○	3 ○	4 ○	5 ○

Section-4 Practice of tobacco product

39. Which type of tobacco products are you using?

- o 1) Never used   (end the survey)

- o 2)Only smoking products

- o 3) Only chewing tobacco (skip to question 51)

o   4) Both smoking and chewing tobacco

40. Which type of smoking tobacco products are you using?

   o   1) Cigarettes

   o   2) Bidi

   o   3) Cigars

   o   4) Water pipes

   o   5) Other, please specify _____

41. How old were you when you first tried smoking?

   o   1) 7 years old or younger

   o   2) 8 or 9 years old

   o   3) 10 or 11 years old

   o   4) 12 or 13 years old

   o   5) 14 or 15 years old

   o   6) 16 years old or older

42. During the past 30 days, on how many days did you smoke?

   o   1) 1 to 2 days

   o   2) 3 to 5 days

   o   3) 6 to 9 days

   o   4) 10 to 19 days

   o   5) 20 to 29 days

   o   6) Every day

43. Please think about the days you smoked during the past 30 days. How many cigarettes did you usually smoke per day?

- o 1) Less than one cigarettes per day
- o 2) One cigarettes per day
- o 3) 2 to 5 cigarettes per day
- o 4) 6 to 10 cigarettes per day
- o 5) 11 to 20 cigarettes per day
- o 6) More than 20 cigarettes per day

44. Do you ever smoke or feel like smoking tobacco first thing in the morning?

- o 1) No, I don't feel like smoking tobacco first thing in the morning
- o 2) Yes, I sometimes feel like using smoking tobacco first thing in the morning
- o 3) Yes, I always feel like using smoking tobacco first thing in the morning

45. How soon after you smoke, do you start to feel a strong desire to use it again that is hard to ignore?

- o 1) I never feel a strong desire to use it again after smoking
- o 2) Within 60 minutes
- o 3) 1 to 2 hours
- o 4) More than 2 hours to 4 hours
- o 5) More than 4 hours but less than one full day

46. Do you think you would be able to stop smoking if you wanted to?

- o 1) Yes
- o 2) No
- o 99) Don't know

47. Have you ever received help or advice to help you stop smoking?

(SELECT ONLY ONE RESPONSE)

- o   1) Yes, from a program or professional

- o   2) Yes, from a friend

- o   3) Yes, from a family member

- o   4) Yes, from both programs or professionals and from friends or family members

- o   5) No

48. If one of your best friends offered you cigarette, would you use it?

- o   1) Definitely not

- o   2) Probably not

- o   3) Probably yes

- o   4) Definitely yes

49. Do you think that smoking helps people feel more comfortable or less comfortable at celebrations, parties, or in other social gatherings?

- o   1) More comfortable

- o   2) Less comfortable

- o   3) No difference whether smoking or not

50. Do you agree or disagree with the following: "I think I might enjoy smoking."

- o   1) Strongly agree

- o   2) Agree

- o   3) Disagree

- o   4) Strongly disagree

51. How old were you when you first tried smokeless tobacco?

- o 1) 7 years old or younger

- o 2) 8 or 9 years old

- o 3) 10 or 11 years old

- o 4) 12 or 13 years old

- o 5) 14 or 15 years old

- o 6) 16 years old or older

52. During the past 30 days, on how many days did you use smokeless tobacco?

- o 1) 1 to 2 days

- o 2) 3 to 5 days

- o 3) 6 to 9 days

- o 4) 10 to 19 days

- o 5) 20 to 29 days

- o 6) Every day

53. Please think about the days you used smokeless tobacco during the past 30 days. How many times did you use smokeless tobacco?

- o 1) Less than once per day

- o 2) Once per day

- o 3) 2 to 5 times per day

- o 4) 6 to 10 times per day

- o 5) 11 to 20 times per day

- o 6) More than 20 times per day

54. Do you ever use or feel like using smokeless tobacco first thing in the morning?

- o 1) No, I don't feel like using smokeless tobacco first thing in the morning

- o 2) Yes, I sometimes feel like using smokeless tobacco first thing in the morning

- o 3) Yes, I always feel like using smokeless tobacco first thing in the morning

55. How soon after you use smokeless tobacco, do you start to feel a strong desire to use it again that is hard to ignore?

- o 1) I never feel a strong desire to use it again after using smokeless tobacco

- o 2) Within 60 minutes

- o 3) 1 to 2 hours

- o 4) More than 2 hours to 4 hours

- o 5) More than 4 hours but less than one full day

56. Do you think you would be able to stop using smokeless tobacco if you wanted to?

- o 1) Yes

- o 2) No

- o 99) Don't know

57. Have you ever received help or advice to help you stop using smokeless tobacco? (SELECT ONLY ONE RESPONSE)

- o 1) Yes, from a program or professional

- o 2) Yes, from a friend

- o 3) Yes, from a family member

- o 4) Yes, from both programs or professionals and from friends or family members

- o 5) No

58. If one of your best friends offered you smokeless tobacco, would you use it?

- o 1) Definitely not

- o 2) Probably not

- o 3) Probably yes

- o 4) Definitely yes

59. Do you think that using smokeless tobacco helps people feel more comfortable or less comfortable at celebrations, parties, or in other social gatherings?

- o 1) More comfortable

- o 2) Less comfortable

- o 3) No difference whether smoking or not

60. Do you agree or disagree with the following: "I think I might enjoy using smokeless tobacco."

- o 1) Strongly agree

- o 2) Agree

- o 3) Disagree

- o 4) Strongly disagree

Thank you for the participation

Appendix 3: Journal form

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American University of Armenia

Gerald and Patricia Turpanjian School of Public Health

Interviewer Journal Form

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Interviewer name: _____

Date of data collection (dd/mm/yyyy): ____/___/_____

Survey place: _____

Visit/ attempt sequential number	Participant ID	Ward number	Scheduled date (mm/dd/yyyy) and time (24 hours formate)(hh:mm)	Number of eligible participants	Results code
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					

13					
14					
15					
Etc…					

Result code

1- Competed interviews

2- Refusal

3- Nobody home

4- Incomplete interview

5- Scheduled interview

6- Others

The participants ID will be seven-digit numbers. The first two numbers refer the ward number and next two refers the date of data collection and the last three refers the participants' number.

Appendix 4: Timeline

Task	1st month	2nd month	3rd month	4th month	5th month	6th month
Planning	X					
Tamil translation of Instrument	X					
Permission from AUA	X					
IRB approval from India		X				
Pre-test assessment		X				
Survey collection at Pallipalayam			X			
Survey collection at Elampillai				X		
Data entry			X	X		
Data analysis			X	X	X	
Final report presentation & submission					X	X

Appendix 5: Budget

Cost type	Unit of cost type	Number of units	Unit cost in INR	Total in INR
Personnel				
Project coordinator salary	Fixed per month	six months	40,000 INR	240,000 INR
Statistician	Fixed per month	Three months	30,000 INR	90,000 INR
Incentive	Fixed per completed participants	333+5=338	100 INR	33,800 INR
Operational				
Room rent	Fixed per month	Five months	5000 INR	25,000 INR
Printing of survey instrument	Per page cost, totally 11 pages	338*11= 3,718	1.50 INR	5,577 INR
Stationary (files, pen, pencil and eraser)	-	-	1000 INR	1000 INR
Printing journal form and concern form	-	-	1.50 INR	225 INR
Transport				
Two wheeler	Per day	80 days	300 INR	24,000 INR
Total budget				419,602INR

Appendix 6: Consent form

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American University of Armenia

Gerald and Patricia Turpanjian School of Public Health

Institutional Review Board#1

Oral consent form for power loom workers

Knowledge, Attitude and Practice of Tobacco Usage among Adult Power-Loom Workers Living in Tamil Nadu, India: A Cross-Sectional Survey

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Hello, my name is Naveen Prabu Arunachalam. I am a graduate student of Master of Public Health program at American University of Armenia (AUA) in Armenia. The Turpanjian School of Public Health at AUA is conducting a study to investigate the knowledge, attitude and practice of tobacco products among power loom workers in this randomly selected region, because the usage of tobacco products is increasing among power loom workers and it leads to increased risk of many diseases. The study is approved by the panchayat officer and power loom association of your region. You are being asked to participate in this survey because your house is randomly selected for the survey. The study aims to conduct the survey among 333 power loom workers. Your participation is completely voluntary and you can skip any questions or you can end the survey at any time you want without any consequences for you. If you are willing to participate, I will ask you some questions, which may take up to 25 – 30 minutes of your time. If this time is not convenient for you, you can decide a convenient time and we will approach you by that time. After the completion of the survey you will get 100 INR as an incentive.

I will ask some demographic questions and questions on knowledge and attitude about the tobacco, and some details about tobacco use if so. The information provided by you will be very helpful for the study and also for the power loom workers in future. The information provided by you is highly confidential and will be used only for this study purpose, no any personal information like name and mobile number will be collected.

If you have any questions about this study, please contact my primary adviser Dr.Vahe Khachadourian (vkhachadourian@aua.am). If you feel that you have not been treated fairly or

you have been hurt by joining this survey, please feel free to contact the vice chair of AUA IRB#1, Kristina Akopyan (akopyank@aua.am). If you are willing to participate, we can start.