Original Article

Understanding addictive behaviour of a group of slum dwelling female SLT users on the basis of PRIME theory: A case study in Odisha, India

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Abstract

Context: Tobacco addiction is an important public health problem. Among several theories of addiction proposed, PRIME theory of motivation is found to be a comprehensive one to synthesise prevention strategies. **Aims:** This case study was conducted on the basis of PRIME theory to explain smokeless tobacco (SLT) addiction patterns among slum dwelling female residents of Cuttack district, Odisha. **Settings and Design:** Cuttack district of Odisha state and Qualitative synthesis. **Methods and Material:** Qualitative semistructured face-to-face interviews and framework analysis techniques were employed. The study was conducted over a period of 2 months between February 2020 and March 2020. Face-to-face interviews of 26 participants of Dasha Sahi slum using a semistructured questionnaire assessing responses based on five main themes including P, Plans; R, Responses; I, Impulses And Inhibitory Forces; M, Motives; and E, Evaluations of the said theory. **Statistical Analysis Used:** Verbatim transcripts were analysed using thematic framework analysis. **Results:** A majority of the participants were multiple SLT product users, and they did not have an immediate plan to quit. Most of the participants showed strong emotional attachment with these products and considered them the only source of pleasure (want) in a life full of miseries. The words “Tobacco” and “Nicotine” were medical jargons for them. Though they were aware of the harmful effects, they had a positive evaluative belief about its use because of cognitive dissonance. Most of them were habitual users living in an environment full of physical and social cues. **Conclusions:** This case study is well in line with the PRIME theory in explaining the addictive behaviour; a comprehensive multi-strategic approach was formulated for inculcating quitting behaviour among this disadvantaged section of the population as suggested by the proposer of this theory.

Keywords: Cognitive dissonance, evaluative belief, motive, nicotine addiction, tobacco

Introduction

Tobacco use in India is a major behavioural risk factor associated with increased morbidity and mortality. As per Global Adult Tobacco Survey (GATS) reports 3, about 275 million of adults aged 15 years and above use some kind of tobacco and 206 million use smokeless tobacco (SLT).[1] To make matter worse, most tobacco users acquire the habit early at a mean age of 18.6 years, thus increasing their lifetime exposure to tobacco.[2]

In India, people use a wide variety of SLTs such as paan, gutkha, and gudakhu, which contain several chemicals which may be responsible for oral cancers, cardiovascular diseases, low birth weight, and mental illnesses.[3,4] The use of SLT is widespread and more among males, increases linearly with age and is higher

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in north-eastern and eastern regions of India like Odisha. It is also associated with low SES and education level.[5-8]

The UN operationally defines a slum as "one or a group of individuals living under the same roof in an urban area, lacking in one or more of the following five amenities": a. Durable housing (a permanent structure providing protection from extreme climatic conditions); b. Sufficient living area (no more than three people sharing a room); c. Access to improved water (water that is sufficient and affordable and can be obtained without extreme effort); d. Access to improved sanitation facilities (a private toilet or a public one shared with a reasonable number of people); and e. Secure tenure (de facto or de jure secure tenure status and protection against forced eviction)".[9,10] As per Govt. of India (2009) 29.4% of urban population of India live in slums.[11] This disadvantaged segment of population has a higher risk of tobacco abuse because of their poor SES.[11,12] A study found that the average age at which street children in Mumbai started using tobacco was 11·3 years, and the most frequently used products were raw tobacco, gutkha (a blend of tobacco and flavourings), and cigarettes/beedis. Tobacco use is reported to be rampant in urban slums of developing countries.[13] In India, 39% of slum women have poor health, with 62% consuming alcohol and tobacco, of whom 79% suffer related health issues.[14] According to GATS 2, 94% of current adult users of SLTs believed use of smokeless tobacco causes serious illness; however, only 33.2% users made an attempt to quit in the previous 1 year. This underlines that apart from the knowledge, perceptions and attitude of SLT users toward tobacco, there is also a need to understand the underlying mechanism of addiction. Several theories have been put forth to explain 'Addiction', which may be defined as a reward-seeking behaviour that has become 'out of control'. But all of those theories explain only a single aspect of this complex mechanism which can involve a wide range of abnormalities in the 'motivational system'. Robert West proposed a synthetic theory of motivation, the PRIME theory, which integrated five levels of motivation: plans, responses, impulses and inhibitory forces (sometimes felt as urges), motives (sometimes experienced as feelings of want or need), and evaluations (evaluative beliefs)".[14,15] For developing strategies for prevention, understanding this theory of addiction can be very useful. A qualitative cross-sectional study was conducted among 22 continuing smokers with varying levels of motivations to explore the differences in terms of plan to quit and evaluative beliefs about smoking using PRIME theory. The outcome of the study provided information for proper planning of strategies for smoking control policy.[16] Till now, no study has been conducted with application of this theory among people using SLT. Hence, the objective of this study was to explain the addictive behaviour of a group of slum dwelling females to SLT on the basis of PRIME theory.

Subjects and Methods

The present study involves qualitative semistructured face-to-face interviews among habitual female SLT users in Dasha Sahi slum, Cuttack district, Odisha, February 2021 and March 2021. After obtaining permission from the Institutional Ethical Committee (IEC/SCBDCH/124/2021) and approval of the ward member (administrative head of Slum) with the help of a social worker, an Oral Cancer screening camp was organised to identify the SLT users and find out the prevalence of the tobacco-related lesions. Names of current female SLT users with their occupations were noted. A pilot study was conducted among five participants by approaching them at their home with the help of the social worker using a preliminary semistructured interview guide based on PRIME theory. After modifying the questionnaire, in-depth interviews were conducted among selected participants from various occupational groups till theoretical saturation was reached. The final sample consisted of 26 women between 20 and 62 years of age. After obtaining verbal consent, interviews were conducted over 2–3 sessions for each participant along with repeat interviews in the community hall of the slum by two interviewers who were well versed in the local language. Interviews were scheduled during participants' leisure time, mostly evening. Each interview lasted for 30–45 minutes and was audio-recorded. No incentives were given to the participants for their participation. After the interviews were over, verbatims were transcribed and translated manually. As this is a deductive approach, themes, subthemes, categories, and codes were developed by two researchers independently. The consistency of the codes, with the categories and themes, was checked, clarified, and confirmed by both of them. Interviews, transcripts, and scenarios (field notes), including the extracted codes, shown to the participants and were confirmed by them.

Results

A total of 26 participants were recruited for the study. Most of them were illiterate, belonging to low socioeconomic strata with age ranging from 20 to 62 years [Table 1]. The result of the exploratory analysis is expressed according to five major themes of PRIME theory.

1 **Response (Do you have any habit of chewing some substance?**)

Most of the participants gave a history of consumption of multiple chewable tobacco products like Beetle quid, Gudakhu, Khaini, and gutkha since their childhood. Switching from one product to other was frequent. The commonest site of dipping was left lower buccal vestibule and labial vestibule. The frequency of consumption ranged from 5 to 30 times a day [Table 1, Supplementary Table 1].

2 **Impulse (Timing and situations provoking use)**

The habit typically began in childhood by observing others, initially yielding pleasure despite mild discomfort such as head reeling. Regular use ensues, leading to a formidable addiction. Starting the day with "gudakhu" for gut cleansing is customary, followed by habitual use throughout the day, including after meals, during work, after tea, and before bed, with some even sleeping with the products in their mouth.

The participants took utmost care not to discontinue their habit, even for some hours, because they used to develop signs and symptoms of craving. Apart from their usual habitual

Table 1: Demographic variables of participants along with type and pattern of tobacco chewing behaviour

Variables	Categories	Frequency (Percentage)
Age	20-30 years	5 (19.2%)
	30-40 years	6 (20.0%)
	40-50 years	9 (34.6%)
	50-60 years	4 (15.3%)
	60-70 years	2 (7.6%)
Education	Illiterate	25 (96.1%)
	High school	1 (3.9%)
Occupation	Sweeper	6 (23.0%)
	Labourer	7 (26.9%)
	Paan shop owner	2 (7.6%)
	Housewives	8 (30.7%)
	Domestic servant	2 (7.6%)
	Tailor	1 (3.8%)
Monthly income	Below Rs. 5000	10 (38.4%)
	Rs. 5000-10,000	12 (46.1%)
	Above Rs. 10,000	4 (15.3%)
Method of use of SLT	Chewing	14 (53.9)
	Pouching	8 (30.8)
	Scrubbing	4 (16.3)
Type of SLT	Paan	6 (24.0)
	Khaini	4 (15.2)
	Gutkha	1 (3.8)
	Paan and gutka	2 (7.6)
	Paan and gundi	3 (11.5)
	Paan and khaini	3 (11.5)
	Paan and zarda	2 (7.6)
	Paan and gudakhu	1 (3.8)
	Khaini and gudakhu	2 (7.4)
	Gutka and zarda	1 (3.8)
	Paan, gudakhu, and khaini	1 (3.8)
Frequency of chewing SLT (per day)	≤10	21 (80.7)
	>10	5 (19.2)
Duration of habit (years)	≤ 5 years	3 (11.5)
	6-15 years	6 (23.0)
	16-30 years	9 (34.6)
	>30 years	8 (30.7)

consumption, they described about the environmental cue-driven response to certain physical stimuli like sight and smell of these products [Supplementary Table 1].

3 **Motive (What are the reasons for use?)**
Most participants exhibited strong emotional attachment to tobacco products, viewing them as the sole source of pleasure (want) amidst challenges of life. They sought to use these products to enhance concentration and alleviate tiredness, laziness, and boredom. Dependency on tobacco fulfilled their physiological, safety, and social needs. Many experienced withdrawal symptoms upon unintentional cessation due to financial constraints. Hence, they were very careful in avoiding such symptoms in near future, indirectly enforcing the consumption [Supplementary Table 1].

4 **Evaluative beliefs (What are their perceptions about use of these products?)**
Surprisingly, two-third of them had never heard the term "*tobacco*". They assumed it to be any one of the locally available addictive products like khaini, gutkha, gudakhu, or paan. They expressed their ignorance about the content of the product they use and attributed such ignorance to their illiteracy. With the exception of two participants, the rest of them were unaware of the word "*nicotine*". Around two-third of them had intentionally seen the picture present on the packaging. Surprisingly, all of them were aware about the ill effect of long-term use of these substances (mostly cancer). The reported sources of information were TV, friends and relatives, attending some cancer patients in hospitals, attending some awareness programme, and so on. Apart from one participant, who had knowledge about "nisha mukti kendra" (de-addiction centres), most of the participants accused government for indirectly promoting sale of these products by not imposing ban. Despite widespread availability, addiction to these products leads to family disturbances, prompting calls for a ban. Despite awareness of harmful effects, individuals hold strong positive beliefs about benefits like aiding digestion and stress relief. As most of them were dependent on these products with a strong positive evaluative belief about its beneficial effect, when they get some information about the harmful effects, they developed cognitive dissonance modifying their evaluative believes about the harmful effects. They were much sure about their belief that the exact product they were using was much safer than the other available ones. Most of the participants attributed the occurence of cancer and related death to destiny rather than their habit [Supplementary Table 1].

5 **Plan (What are your comments about quitting these products?)**
Almost 50% of the participants were not even ready to think about quitting even for a while, the reason stated being their positive evaluative beliefs about use. Hence, they had no plan to quit. The other 50% agreed that one ought to quit. Most had made a quit attempt though not extending beyond a week and incurred failure because of the withdrawal symptoms. Only three participants expressed their willingness to quit in near future but were not ready to set an instant quit date. They wanted some form of professional help and assured to reduce the consumption [Supplementary Table 1].

Observational field notes

The field notes were taken as general observations from the setting while conducting the interview and notes on surroundings, social circles, and attitude of the people dwelling in the slums. The field notes corroborate the verbatims about the different themes [Supplementary Table 2].

Discussion

This exploratory cross-sectional qualitative interview tried to explore the addictive behaviour of a group of slum dwelling female tobacco chewers as per PRIME theory of motivation. The findings of the study depicted that there existed abnormalities in each of the five components of the motivation system of this population, resulting in such reward-seeking tobacco chewing behaviour which had become out of control (adapted from

PRIME theory). Almost all the participants were middle-aged and illiterate and belonged to low SES. Most of them were working as daily wage labourers and sweepers. They live in slums in a dirty unhealthy atmosphere struggling to manage even minimum requirements for their livelihood. They were constantly surrounded by environmental (physical, social) cues as tobacco sale and multiple addictive behaviour was rampant in that area. In prime theory, the "response" is the simplest level of motivation characterised by starting, stopping, or modifying an action, that is, SLT consumption in this population. All the participants were addicted to multiple SLTs. Initially, they learnt it through socialisation, experimented with these products, and used them *ad libitum*, but after a few days, they became dependent. In India, villagers commonly clean their teeth with gudakhu for morning defecation. Paan holds cultural significance, often offered to the divine during rituals and as a gesture of hospitality to guests, friends, or relatives. In India, due to lack of implementation of blanket ban on sale of these products, indigenous tobacco products are affordable for slum dwellers. Switching between various SLT products is common in addiction. Participants rarely consider switching to smoking due to associated stigma. They described their dependency, cravings, and withdrawal symptoms during temporary cessation.

These women, frequently subjected to domestic violence, resort to tobacco use as a coping mechanism for emotional distress. Economic hardships prompt continuous tobacco consumption to alleviate hunger and conserve resources. Their dependence on these products extends to fulfilling biological, safety, and social needs, initially pursued for pleasure but evolving into a necessity. As most of their needs belong to the lowest level in Maslow's Hierarchy, the participants have a strong preference to fulfil these needs.[14] Study participants had positive evaluative beliefs (functional, moral, and aesthetic) about the use of these substances. Both the words "*Tobacco*" and "*Nicotine*" were medical jargons for them. Inspite of their awareness about the harmful effects, their strong inner emotional attachment and cognitive dissonance might have changed their evaluative belief about these products. Though many tobacco-related diseases are prevalent in such populations (data not shown), due to their ignorance and evaluative beliefs, they did not attribute that effect to tobacco addiction. This might be because of the fact that most of the harmful effects of the tobacco is delayed phenomenon and the pleasure effect and nicotine hunger is established immediately after few days of its use. They have assumed that the effect of these products is not so bad as publicised because only a proportion of SLT users develop cancer. Some individuals develop cancers despite no history of tobacco use. Some believe substances like paan are not harmful as they are used in worship of Lord Jagannath, trusting in divine protection from disease. They attribute illness to fate yet strive to prevent their children from similar habits. They view pleasures of life as a small cost amidst poverty and deprivation, granted by God.

However, due to their unawareness about cumulative expenses incurred, they opt for homemade SLT products, considering them cheaper and safer than commercial ones, as they believe homemade products are free of adulterants. Many hold the belief that if used briefly and spat out, homemade SLTs do not harm. Additionally, they perceive bidi and cigarettes as harmful, associating them with tuberculosis, cancer, and other health issues, but view SLTs as safe. Some conceived an idea that alcohol is much more addictive products as users forget their identity and start doing criminal activities, breaking laws, but tobacco products are not at all harmful as they do not alter your thinking and induce almost negligible criminal activities. Because lack of belief in harmful effects of tobacco leads to skepticism about preventive programs and services, these people question why such products remain legal if they are risky. Additionally, low socioeconomic status hinders access to pharmacological interventions like nicotine replacement therapy, even if few were being educated about it.

Their evaluative believes were in line with cognitive dissonance theory, which suggests that the path of least resistance, that is, change in belief and not in behaviour, will be chosen to decrease their feelings of dissonance because of difficulty in quitting the tobacco chewing habits. Even though 50% of the participants were aware of the harmful effects of tobacco chewing, most of them had no plan of quitting in near future, with only three participants willing to quit. Similar findings were observed in a previous studies conducted among smokers of UK as the participants had an overall plan to continue smoking, with only few of them thinking of quitting in future.[16,17] However, they agreed that gradual reduction in consumption and ultimately quitting is a possibility. Participants were unwilling to set an immediate quit date, having experienced withdrawal symptoms during previous quit attempts, which lasted only briefly. Reluctance to quit was evident through their gestures from field notes during interviews, with many displaying impatience and a desire to end the discussion quickly.

A strong motive (want) for quitting as opposed to a rationale thought (ought to) is required to inhibit internal impulses to use these products [Figure 1].[17] The most important thing is by seeing the current level of motivation to quit the need to be developed in further research. This study clearly depicts that most of the participants had "unstable mind" with regards to use of these products.[18] In spite of their awareness of serious side effects of SLTs, their momentary urge of SLT use was influenced by their acquired drive of pleasure seeking attitude, fulfilment of biologic needs, emotional dependence on this product to cope up with domestic violence, and proneness to external environmental cues. These factors along with positive evaluative beliefs regarding the use of these products resulted in developing a self-identity of "habitual SLT user" with no plan to quit within 6 months. This whole scenario can be visualised in terms of "Waddington's epigenetic landscape" as their system seems to have fallen down into a valley of intense addiction of SLT in the landscape.[19] All the above-mentioned factors along with their genetic susceptibility (as can be seen from presence of similar tobacco use habits in parents and

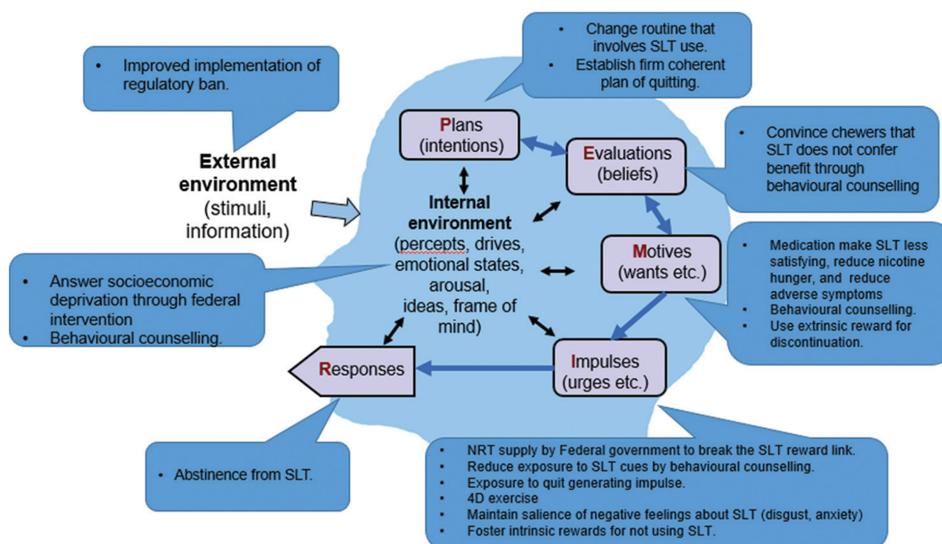

Figure 1: Comprehensive management strategies for handling SLT addiction for the study population[17]

siblings) and socioeconomic deprivation would have pulled the motivation system down into the depths of the valley. A comprehensive intervention is necessary to facilitate a shift towards healthier behaviour/discontinuation of habit in the epigenetic landscape. The study highlights a deeply ingrained motivation to use SLT products, with no immediate plans to quit, indicating a need for significant intervention in the population's motivation system.

Their pleasure seeking acquired drive, need for fulfilment of strong biologic needs, response to craving for avoidance of withdrawal symptoms, positive evaluative belief about benefits of these products resulting from cognitive dissonance, cheap raw products which are easily acquired, cultural norms of widespread use of these products, living in a society prone to multiple substance addiction least penetrated by existing health services, and so on were responsible for their maladaptive behaviour. Using PRIME theory, it may be possible to trigger a quit attempt using all the available strategies to change these people's overall plan of not quitting SLT chewing habits. Although qualitative in nature, this study sheds light on the addiction patterns within this community and underscores the challenges in motivating them to quit. In dentistry, collaboration between dentists and primary care physicians for tobacco cessation counselling could be enhanced by incorporating insights from the PRIME theory. There is a need to develop well-integrated multi-strategic approach to address each and every construct of their disturbed motivation system as suggested by PRIME theory. Proper implementation of existing tobacco control strategies, conducting several sessions of motivational interviewing, providing pharmacological intervention free of cost and so on together is the need of the hour.

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Key messages

The process of SLT addiction is affected by various factors. In this qualitative synthesis, five levels of motivation proposed by Robert West as PRIME are significant to understand the complex mechanism of addiction so that effective preventive strategies should be planned accordingly by considering all the aspects of addiction.

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Conflicts of interest

There are no conflicts of interest.

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Supplementary Table 1: Verbatims of PRIME

Themes	Code		Verbatim
RESPONSE	Type		*"I used to take cycle khaini and rub gudakhu on my teeth.I use to chew khaini for 4-5 minutes then I used to spit and small amount I used to keep in left cheek usually after lunch"*- ID 3.
	Ingredients of SLT		*"in dhuanpatra I mix zarda, meetha&supari, then put it on left side of mouth". .sometimespaan with dhuanpatra , gopal, meetha, guha, chuna, khiar"- ID7*
	Pattern of use		*"I used to chew khaini for 4-5 minutes then I used to spit and small amount I used to keep in left cheek usually after lunchand keep till night"- ID3.*
	Frequency of use		*"how can I count such things, if I stay at home I chew 1-2 paan, when I go outside I used to carry 3-4 along with me". -"I used to chew 15-20 paan dips per day, little amount of nasa, 5-7 dips of khaini-ID2".*
	Switching On-		*"during my childhood i used to rub gudakhu as it is not good. So later on I have started chewing khaini"- ID13.*
IMPULSE (Timing and situations provoking use)			
	Habit		*"at 8:00 am I used to wake up, clean my teeth with gurakhu and chew stick , take bath then take breakfast, carry 15-20 paan with me and leave for my work place. Later chew those paan one by one"-ID17.*
	Dependency/Craving		*"Its like rice and curry for me. . I have never spent a day without chewing paan. Even if I wont get paan, I chew khaini. If khaini is not available I used to ask from my neighbours. I know I am wasting a lot of money on this, still I cant manage without paan, as I have got habitual of it".when I had ulcers in my mouth till that time also I used to chew paan , it burns a lot and hurt me too still I used to chew and rinse my mouth repeatedly after chewing it when it hurts. If I woke up at night and did not find paan then I use khaini that I always use t keep with me. Or else I rub gudakhu 2-3 times at short intervals and sleep. If I wont get all these stuff then I ask from my neighbours"-ID18.*
	Physical environmental cue		*"paan and khaini are available in paan shop, tea stall, grocery store, etc., whenever I see these I feel like using these… "-ID2*
	Social cue		*"when I have started working, go to outside for work, People used to take it routinely slowly by seeing people chewing paan, khaini I have also started taking it"-ID25.*
	Pain relieve		*"I used to take khainiatleast 2-3 times a day from around 2-3 years just because I got toothache, but I am not habitual of taking it"-ID3.*
MOTIVE			
Sub-theme	**Category**	**Code**	**Verbatim**
Want	Pleasure		*"initially we I rub gudakhu it feel kauda but later on I feel good .That strong taste makes me feel good"-ID 18.*
	Concentration		*"feel good and will get good concentration while working"-ID 17*
	Look appealing		*"After taking paan my lips look red and seems really nice"-ID 17*
	Arousal		*" I sometimes feel low, then take paan"-ID 2.*
	Nullify bad taste		*"Sometimes I take Khaini, to nullify the bad taste of food"-ID3*
Need	Physiologic need	Physical discomfort	*"If I do not take for some times, have a feeling of head reelling, dryness of throat, taste change in mouth. If I don't take gudakhu, defecation will not be possible"-ID-2*

Contd...

Supplementary Table 1: Contd...

Themes	Code		Verbatim
		Stress relief	"I know about its harmful effects but I don't want to live , what will I do without my husband. I want to die.I am very poor "when I feel tensed due to small household tensions then I put paan and pudia in my mouth and I feel relaxed." *-ID 16*
		Pain relief	"my tooth was paining once so someone told me to rub gudakhu pain killer will relieve your pain for short duration but khaini will relieve it completely"- ID-3
		Control emotion	"when my husband died 20 years ago I have increased the frequency of chewing paan and moreover"-ID8
	Safety need	Nature of job	*"my work is not good (sweeper). Just to get rid of all the odours of human waste specially sanitary napkins, I have increased the frequency of taking paan."-ID-8*
	Social need	Work culture/identity	*"In my workplace everyone use these products.if my pan finishes then we share it with our friends".if you don't use anything thew will tell that you are stringent….you don't have money to spend for yourshelve"-ID-2*
Evaluative believe	**Code**		**Verbatim**
Awareness	Tobacco		*"we don't know anything about tobacco. I have never heard of the term tobacco It might be khaini or something like that We are foolish, illiterate people, how would we get to know about this".-ID3*
	Nicotine		*"I don't know. can u tell me".-ID3* *"yes… I got to know about it from TV , it's a kind of chewing gum which is used to quit habit of tobacco chewing. if you eat nicotine then you don't feel like to take paan or khaini. I don't know where it is available otherwise I would have stopped paan and gudakhu".-ID12*
	Pictorial Message		*" I don't understand any written message or picture on the gutka and khaini packet. I don't know A B C, as I am illiterate, so how can I read the note on the tobacco product wrapper".-ID2*
	Harmful effects		*" paan and khaini causes cancer of teeth root, toothache then wound occur in the oral cavity, and gudakhu causes tb , I got to know about all this from a camp held in our locality. I know it very well that my children will not eat all this although its harmful for children. But I myself did not feel any bad effect because of this product".-ID 17*
	De-addiction Strategies		*"I have heard about nasha mukti Kendra. They are situated outside the town. Children were kept there so that they can leave these substances. I have heard of some medicine also. If you take that you can leave your habit, I got this information from one camp, its like a tonic".- ID 17* *"for alcohol there is a government program but for tobacco quitting we don't have any such type of strategy".-ID15* *"government is not doing anything for reducing this habit. Once we went in a rally to close the alcohol factories. Owners started abusing us telling that they are giving money to government for licence and other things".-ID17*
Belief	Beneficial effect		*"to get rid of halitosis after meal & toothache reliever, helps in proper defeacation".-ID1* *" If I don't take gudakhu, defecation will not be possible". Paan is very good because it is used in trinath god's worship, lord shiva's worship. As these gods are taking why can't we…-ID2* *" I was sitting by putting my hand on cheek as my tooth was aching then one of my neighbour told me to use khaini as pain reliever, pain killer will relieve your pain for short duration but khaini will relieve it completely".-ID3*

Contd...

Supplementary Table 1: Contd...

Themes	Code	Verbatim
		" to get refreshing odour in mouth &pleasant feeling in brain while working (sweeping, mopping, sanitary napkin, human waste cleaning, etc".-ID7 *" to get rid of unpleasant odours of human waste (sanitary napkins) while working in girls hostel".-ID8*
	Economic aspect	*"I used to buy paan worth rs. 10/-, gopal- 10/-, chalu gopal – 10/- and lime of rs 10/- which I use for 2-3 months"…." I get all raw material and prepare at home. I don't take it from outside. We are layman and foolish we don't know about the calculation and all. Sometimes 40 or 50/- per day I used to spend for whole day on this. Beetle leaf is of 1/- and chalu gopal of 100 gm is of 10/-. From this I used to make my paan.-ID2* *"I am not habitual of taking paan, only rs 10-20/- I used to spend for this".-ID6* *"I know I am wasting a lot of money on this, still I can't manage without paan, as I have got habitual of it"." Sometimes I think that I will leave paan and continue with khaini only as it is expensive and I am wasting a lot of money on this habit"…. Slowly we started having a pan box at our home. Its getting really expensive to buy a pan from shop, so we have started making our own at home.-ID18*
Cognitive dissonance	Other products not mine	*" I only chew paan nothing else , no gutkha and all, as those things are harmful. No no… I don't use bidi. All the disease which is told by the people are not because of paan. They are because of alcohol, ganja and powder, as these substances are actually bad. Tea has something addictive in it. Heroin, ganja, bidi, cigarette, pain killer also have addiction ingredients-ID2.*
	Any way we are going to die	*"see I have become very old till now I don't have any tooth pain, any stomach pain, or anything. I am surprised to see all type of problems these days. During the time my parents never had anything. When I was young in those days we used to do a lot of work. I can't tell much about bad effects, doctors can tell better. If there will be any disease, let it happen. We are ready to die. One day everyone will die, as I have become old".-ID2* *"Its all about our fate. If its in our destiny then we will definitely suffer"-ID18.*
	Don't want to believe	*"Its all about our fate. If its in our destiny then we will definitely suffer".-ID18* *" I don't know what is cancer . I don't have any problem till now moreover my family members also don't have any health issue. I don't want to know anything"-ID13*
	I prepare my product at home	*" I get all raw material and prepare at home. I don't take it from outside."-ID2*
	People who don't chew also develop	*"gundi, tobacco, paan causes cancer. So they are harmful. But people who do not chew this also got cancer. So I am not sure".-ID23*
	People chewing since long do not develop	*"My brother was taking paan in large amount but did not have any disease."-ID18*
	Our god uses it	*"Paan is very good because it is used in trinath god's worship, lord shiva's worship. As these gods are taking why can't we"…-ID2*
	Consume less	*"I used to scrub gudakhu for sometime in the morning then I rinse my mouth. I used to ask shopkeeper to put less amount of zarda as it causes cancer".-ID 6*

Contd...

Supplementary Table 1: Contd...

Themes	Code		Verbatim
	Don't sleep with these		*"after chewing paan for 10 minutes I used to wash my mouth immediately, I never swallow it. Before sleeping at night I chew one paan then wash my mouth and sleep".-ID12*
	Children should not take		*" I know it very well that my children will not eat all this although its harmful for children. But I myself did not feel any bad effect because of this product".-ID17*
	Govt is not banning		*" If tobacco products are bad, then they are easily available in the market , why govt. had not banned their sale, so that no one will get into these habit.".-ID18*
	Addiction meaning		*"I know something about addiction. Addiction means taking powder, ganja, alcohol. If my husband don't drink alcohol for one day, he will feel shaking of hands & physical discomfort. My husband used to wash his face with alcohol".-ID3*
PLAN	**Category**	**Code**	**Verbatim**
	Ought to	Had a quit attempt	*"we should quit it.I had tried to quit it for 2 days, but food did not get digested properly".-ID1*
		If I want, can	*"I can't stop my habit completely immediately. I will try to reduce the consumption from 6 to 2 per day then gradually I may stop".-ID12* *" if I want I can stop from today. It is not my daily habit".-ID14*
	Want to	Need help	*"I need to quit but I don't feel any inner force which help me in quitting. I feel good but I need some medication to quit paan, I cant quit it by my own".-ID8*
		Reduce consumption	*" I can't stop chewing paan&gudakhu immediately but I will try to reduce its consumption, but not sure for the success of quitting".-ID12*
		Can't set date now	*"I did not feel good after I tried to quit. I think its not good at all, we need to quit it. All ingredients of pan are harmful. Icant tell the date now.-ID20*
	No plan	Beneficial	*"as our god is taking paan and other things so they are good. We do not need to quit it".-ID2*
		Not harmful	*"because I feel happy about its beneficial effects as mouth freshner. I don't find it harmful. So no need to quit it".-ID3*
		Addicted	*"we got addicted to it that's why would not be able to quit. We are aware that its harmful. But one day we all will die, so whats the fun of leaving this".-ID4*
		One day we will die	*"I have never tried to quit this habit. I don't anything about what steps govt is taking about these products. Everyone is telling that we have to leave gudakhu, gutka, paan, khaini. But I m about to die, I can't leave all this".-ID 2*
		Harmful for children	*"I have told my son to quit bidi as it is harmful but then I thought as I wont be able to leave khaini as it become habit now how can I expect from him to leave it".-ID13*
		Already using less amount	*"I am already taking it in less amount. In less quantity its not harmful, no need to quit. We are getting old, very less amount of life is remaining. If I don't have pan I can stay without it".-ID5*
		Faith in god	*" nothing will happen to us by chewing paan, as till now we got survived without having any disease, have faith in god". as our god is taking paan"-ID7*

Supplementary Table 2: Observational Field notes

Aspects	Detailed Field Notes
Position	Slum was situated near one of the main roads of Cuttack city near one Medical College , Regional Cancer institute of the state, The only Dental College of the state
Garbage & Filth	Dumps of garbage everywhere. The dumped waste emanate foul odour and at the same time becomes breeding ground for flies and mosquitoes . Also children were playing near the garbage dumps . There was standing water everywhere.
Miserable Toilets	The community toilets were in pathetic conditions. Plenty of them had no doors and the ones that had doors had no latches. Enclosures were there for taking showers, without doors and without tap connection. Toilets were full of filth and human excreta as water supply through pipes was not working.
Public Park	Public parks are used as dump yard. It was a piece of a barren land filled with water and garbage everywhere and that's why all the dingy lanes littered with rubbish were the playing ground for children.
Cramped Houses	Six to eight people share a cramped room and only they know as to how so many people fit in such a small room. The streets are narrow and the sewage water stagnates in open surface drains, which emit bad smell.
Tobacco shops	At the entrance of the slum three small shops selling Tea, Busciuts , paan and displaying varieties of colourfull pouches of SLTs. There were four grossary shops nearby having all the raw tobacco products.
Addiction status Of the Community	Multiple substance abuse was much prevalent in the community. Most of the participant gave information about physical violence created by their alcoholic spouses.
Gossip circle	We frequently encountered with many gossip circles where a group of ladies with their kids chit chat , most of them having Paan in their mouth. Sharing SLTs was a common phenomena in these groups.
Enquiry about other Health problems	Most of them interacted with the research team and the social worker with their grievances relating to their general health problems, hardly give importance to oral health.
Exposure to Cancer Cases	Many of the ladies were working in the medical institutes nearby, hence had direct interaction with Cancer patient including oral cancer
Lack of motivation to Quit	Most of the participants came to the community hall for their interviews having the SLTs in their mouth and in their hand. They were not even ready to wash their mouth before start of interview