

Self-changing Strategies to Quit Smoking Among Current Tobacco Smokers in General Population

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Abstract

Tobacco smoking is one of the important public health problems in India and the prevalence of smoking among adult males is high. Despite numerous community interventions and government legislation against smoking, cessation or prevention of tobacco smoking is still challengeable. Literature suggests that strong self-changing behaviours of smokers, facilitate the process of quit smoking. The aim of this cross sectional study was to explore self-changing strategies to quit smoking among current smokers in a selected rural population at Bangalore. A sample size of 35 from general population were conveniently selected to complete a Self-Changing Strategies of Current Smokers (SCS-CS) questionnaire about commitment to change, taking control, risk assessment, helping relationship and coping with temptation to quit smoking. Amongst all the participants (n=35) none of the females were identified. Around 12 (34.3%) of male study subjects smoked more than 10 times per day. Nearly three-fourth of current smokers (n= 25, 71.4%) never had previous quit attempts. Commitment to change strategy (mean 11.11±2.73) was high among subjects, (80% often thought to stop smoking) which facilitated to strengthen their pre-contemplation stage of change process. In-contrary participants were weak in coping process. Greater part (n=21, 60%) of the subjects 'never' keep themselves busy to overcome the urge to smoke thus failing to achieve the maintenance stage in change process (mean 5.57±2.83). Continuous follow-up and frequent cessation programme would aid to boost up the self-change strategies to quit smoking. Mental health professionals such as psychiatry nurses actively implementing the smoking cessation intervention in every care settings will increase the successful quitting.

India is the second largest consumer of tobacco in the world after China. Projections forecast that by 2020, tobacco will account for 13 percent of deaths in India. In Karnataka, over all prevalence of current tobacco user is 28.2 percent (GATS 2008-2010). While considerable effort has been made to prevent smoking, still the relapse rate is central health problem in India. Self-control or self-change plays an important role in several health-related behaviours, including the habit of cigarettes smoking. Self-control is the capacity to alter one's own responses in the service of goals and standards (Stephen et al, 2013). The trans-theoretical model (TTM) of change is motivational in nature and is most commonly known as the Stages of change model (Prochaska et al. 1988). It is utilised as a theory to explain behavioural change in relation to smoking and other health-related behaviours. Pattern of change in trans-theoretical model represent a series of discrete motivational stages indicating an individual's readiness to change.

The five stages of changes are pre-contemplation, contemplation, preparation, action and maintenance,

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which eventually lead to termination of the behaviour. Individuals are hypothesised to progress through these stages of change as they attempt to modify their problem behaviour. Pre-contemplation is characterised by recognising and modifying a problem behaviour. Pre contemplators do not intend to change their behaviour in the next 6 months. Contemplators are individuals who are seriously considering changing in the next 6 months. They recognise the problem and know what they want to do, but they are just not ready to act. Both intentions to take action in the near future (next 30 days) and small behavioural changes characterise the preparation stage. The action stage is where behavior is being performed at the criterion level but this change has taken place within the last 6 months.. Maintenance, where long-term change has been achieved and is being integrated within the individual's behaviour set. Musiello (2009) evaluated the smoker's behaviour using TTM in one of the core construct of stages of change. Self-change strategies put forth by Etter et al (2000) in current smokers assesses this 5-stage strategy. The first strategy *Commitment to change*, included items on taking the decision to quit smoking and on reassessing the advantages of quitting. The second strategy, *Taking control*

included items on taking steps to control one's habit (such as spending a whole evening without smoking) and on avoiding smoking-related situations. The third strategy, *Risk assessment* contained items on thinking about the impact of smoking on health. The fourth strategy was *Helping relationships* and the fifth was *Coping with the temptation to smoke*. Any alteration in the stages of change may be viewed as early indicators of future change in the abstinence measures. Smokers are not willing to quit immediately, i.e. smokers in the pre-contemplation or contemplation stages, are expected to take time to move to the preparation stage, and finally to move from the preparation to the action stage, are only then actually trying to quit smoking. Thus, the present study is important to assess the self-changing strategies of current smokers.

Objectives

This study was undertaken:

1. To determine socio demographic characteristics of current smokers.
2. To investigate self-changing strategies to quit smoking among current smokers.

Materials and Methods

This was a cross sectional descriptive study carried out among general population residing in a rural industrial area of the community. The sample under study was conveniently selected. The total population of this selected community was 35 current smokers (n=35). The inclusion criteria for the present study were individuals (a) who belonged to a selected community (b) who were willing to participate in the study (c) who have smoked more than 100 cigarettes in their life time. Persons suffering with severe physical and psychiatric disorders were excluded.

Data collection Instruments

a. Socio demographic tool: It was prepared by the researcher and comprised 12 items including age, sex, marital status, education, occupation, age of smoking initiated, number of cigarettes per day and number of Quit attempts.

b. Self-Change Strategies for Current Smokers Questionnaire: Self Change Strategies for Current Smokers (SCS-CS) was developed by Etter et al (2000). Permission to use the scale was granted in writing by the authors. This 19-item self-report questionnaire measures five types of self-change strategies utilised by current smokers. These strategies consist of Commitment to change, Taking control, Risk assessment, Helping relationships and Coping with the temptation to smoke. Responses are scored on a 5-point Likert scale ranging from Never (score of 1) to All the time

(score of 5). The subscales are calculated as individual totals, providing a score for each of the five self-change strategies. Across all the self-change strategies, higher scores indicate more frequent use. Despite the fact that the scales contain a small number of items, Cronbach's coefficients for the subscales ranged from 0.73 to 0.87, demonstrating good levels of internal consistency. As shown all of the coefficients for each subscale exceeded the recommended criterion level of $\alpha=0.7$ (Nunnally & Bernstein, 1994). In addition, acceptable test-retest reliability coefficients were obtained for the subscales with scores ranging from 0.59 to 0.86 (Etter et al, 2000). The scale was developed from an initial qualitative phase of data collection. As the scale contains all of the main categories of qualitative data initially identified, it retains good content validity. Moreover, the scale was found to have predictive validity, with a relationship demonstrated between self-change strategies and smoking cessation at one month, which is useful for the current study.

Data collection procedure: Informed consent of all subjects was sought. Subjects were explained risks, discomfort, and benefits. Confidentiality of the subjects was assured to be maintained. Questionnaires were piloted to assess ease of clarity and recording of responses. Residents of the targeted community (N=6) were asked to complete the questionnaires. This allowed the researcher to pilot the ease of completion of the questionnaires, to ensure all questions were unambiguous, and that response formats were easy to understand.

The researchers interviewed the participants at time convenient to the study subjects. The family members were asked about smoking history. Samples were selected after inclusion and exclusion and then invited to participate in the study. English version of the questionnaire was used for this present study. Data was collected through face-to-face interview format at the participant's house. After socio demographic questionnaire self change strategy tool was administrated. It took approximately five minutes.

Statistical analysis: Data were analysed by using SPSS 16 version. Descriptive statistics such frequencies, percentage, mean and standard deviation was used.

Results

Table 1 reveals the socio demographic details of the study subjects. Mean age of the current smokers was 38.3 ± 10.952 years (n=35). Nearly half of them (n=17, 48.6%) were studied up to secondary schooling. Greater part (n=29, 82.9%) of subjects initiated their smoking between 16-25 years. Around 12 (34.3%) of study subjects smoke more than 10 cigarettes per day. Nearly three-fourth of smokers (n=25, 71.4%) never had previous quit attempt. Tables 2-6

Table 1: Socio- demographic characteristics of study subjects

S.No	Socio demographic detail		f	%
1	Sex	Male	35	100
		Female	0	-
2	Marital status	Married	21	60.0
		Unmarried	11	31.4
		Divorce	3	8.6
3	Education	Illiterate	2	5.7
		Primary	13	37.1
		Secondary	17	48.6
		Graduate	3	8.6
4	Occupation	Government	3	8.6
		Non-government	22	62.9
		Self-employment	5	14.3
		Retirement	3	8.6
		Unemployment	2	5.7
5	Age of smoking initiated (years)	<15	2	5.7
		16-25	29	82.9
		>25	4	11.4
6	Number of cigarettes per day	1-3	3	8.6
		4-6	12	34.3
		7-10	9	25.7
		>10	11	31.4
7	Number of Quit attempt	None	25	71.4
		Once	7	20.0
		Twice	2	5.7
		>3 times	1	2.9
		None	25	71.4

Mean±SD=38.3±10.952

show the self-changing strategies of the current smokers. Amongst 35 subjects, maximum (n=28, 80%) thought to stop smoking often and sometimes. Whereas another 14 (40%) informed that they were never tired of addicted to cigarettes (Table 2). More than half of the participants (n=19, 54.3%) sometimes thought about benefits of giving up smoking. The overall mean ± SD of Commitment to change was 11.11±2.73. Table 3 shows that majority (n=21, 60%) expressed that to avoid the temptation to smoke, sometimes they stay away from places where people smoke. Nearly half, (50%, n=17) of the subjects said that sometimes they sit in the No-smoking section in public places, whilst 24 (68.6%) 'never' waited as long as before light their first cigarette of day. Mean SD of Taking control strategy was 9.26±3.31. Table 4 reveals that out of 35 current smokers, 40 percent (n=14) think sometimes that smoking will shorten their life; majority (n=24, 68.3%) were afraid of lung cancer sometimes. The mean and SD of Risk assessment strategy was 4.31±2.29.

Table 5 shows that nearly half of the participants

(n=23, 63%) 'never' tell others about their effort to quit smoking. Whereas majority (n=32, 91.3%) 'never' ask for help from friends and family to quit smoking, mean and SD of helping relationship strategy was 7.83±3.21. Greater part of them 'never' (60%, n=21) keep themselves busy to overcome the urge to smoke but only 8.6 percent often took deep breaths to fight off the desire to smoke. Mean and SD of Coping with temptation strategy was 5.57±2.83 (Table 6).

Discussion

Present study found very few differences in the sample demographic and smoking characteristics. It found that average age of male was 38 years among current smokers. The significant observation was seen in gender, that all the participants were male. With cultural diversity and ethnicity, even today it is a social norm that men smoke far more than women. In terms of marital status, more men were married than unmarried. On the contrary, a recent study showed ma-

Table 2: Distribution of study subjects on commitment to change strategy to quit smoking

S.No	Dimensions and items	F	%
I	COMMITMENT TO CHANGE		
1	I tell myself that I should stop smoking		
	Never	-	-
	Sometime (2)	14	40.0
	Fairly often (3)	14	40.0
	Very often (4)	7	20.0
	All the time (5)	-	-
2	I tell myself that I am tired of being addicted to cigarettes		
	Never(1)	14	40.0
	Sometimes(2)	6	17.1
	Fairly often (3)	9	25.7
	Very often (4)	6	17.1
3	I tell myself that I would be more physically fit if I stopped smoking		
	Never (1)	16	45.7
	Sometime (2)	3	8.6
	Fairly often (3)	10	28.6
	Very often (4)	6	17.1
4	I think about the benefits of giving up smoking		
	Never (1)		
	Sometime (2)	19	54.3
	Fairly often (3)	15	42.9
	Very often (4)	1	2.9
	Total	35	100.0

Mean±SD= 11.11±2.73

Table 3. Distribution of study subjects on taking control strategy to quit smoking

S.No	Dimensions and items	f	%
II	TAKING CONTROL		
5	I try to spend a whole evening without smoking		
	Never (1)	6	17.1
	Sometime (2)	26	74.3
	Fairly often (3)	3	8.6
6	In public places, I sit in the NO-smoking section		
	Never (1)	12	34.3
	Sometime (2)	17	48.6
	Fairly often (3)	4	11.4
	Very often (4)	2	5.7
7	After meals, I keep myself busy rather than smoke		
	Never(1)	14	40.0
	Sometimes(2)	11	31.4
	Fairly often (3)	10	28.6
8	To avoid the temptation to smoke, I stay away from places where people smoke		
	Never (1)	3	8.6
	Sometime (2)	21	60.0
	Fairly often (3)	11	31.4
	Very often (4)		
9	I wait as long as I can before I light my first cigarette for the day		
	Never (1)	24	68.6
	Sometime (2)	10	28.6
	Fairly often (3)	1	2.9
	Total	35	100

Mean±SD=9.26±3.31

majority of the participants studied up to secondary level of education. Despite very few uneducated participants, nearly ninety percentage were employed, this could be because targeted community was located in industrial area. Majority of the subjects initiated their smoking habit during their adolescence or early adulthood. Similar results were reported by Amr Ahmed Sabra (2007). More than one-fourth of the subjects tried their quit attempts from one to three times.

Whilst comparing self-changing strategies, some fluctuations in stage of change were noticed. There were significant differences in mean value amongst Commitment to change strategy (pre-contemplation), Taking control (contemplation), Risk assessment (preparation stage), Helping relation strategy (action) and Coping with temptation to smoke strategy (maintenance stage). Participants most frequently used the cognitive strategy of commitment to change. Use of

ships are classified as *behavioural strategies*. Coping with the temptation to smoke consists of both *cognitive and behavioural* elements. The present study found that the behavioural strategy was least used element than cognitive strategy among current smokers. In contrary a study by Musiello (2009), results obtained concerning those in the pre-contemplation stage were prone to build considerably less use than other strategies for self-change. The individuals who are not thinking or planning on change will fail to employ processes towards change. Individuals who are contemplating or preparing for change will employ the use of processes of change more frequently than those who are not planning to change their smoking behaviours. This finding supported by Prochaska et al (1991, 1998), who predicted that processes of stage are related to stages in a curvilinear function (the use of processes are low in the pre-contemplation stage, increase in the middle stages and then decrease again in the latter stages of the model) and it demonstrates distinction among those changing (cognitively and behaviourally) and not changing. Interestingly, this study reinforced that even

Table 4. Distribution of study subjects on risk assessment strategy to quit smoking

III.	RISK ASSESSMENT	F	%
10	I tell myself that smoking will shorten my life.		
	Never (1)	11	31.4
	Sometime (2)	14	40.0
	Fairly often (3)	6	17.1
	Very often (4)	4	11.4
11	I am afraid that smoking will give me lung cancer		
	Never (1)	1	2.9
	Sometime (2)	24	68.6
	Fairly often (3)	3	8.6
	Very often (4)	6	17.1
	All the time (5)	1	2.9
12	I think about the effects of smoking on my lungs		
	Sometime (2)	16	45.7
	Fairly often (3)	4	11.4
	Very often (4)	5	14.3
	All the time (5)	10	28.6
13	The information on the risks of smoking gives me something to think about		
	Sometime (2)	16	45.7
	Fairly often (3)	10	28.6
	Very often (4)	3	8.6
	All the time (5)	6	17.1
	Total	35	100

Mean±SD=7.83±3.21

Table 5: Distribution of study subjects on helping strategy to quit smoking

IV.	HELPING RELATION	f	%
14	I tell others about my effort to quit smoking		
	Never (1)	23	65.7
	Sometime (2)	4	11.4
	Fairly often (3)	7	20.0
	Very often (4)	1	2.9
15	I tell others about my intention to quit smoking		
	Never (1)	23	65.7
	Sometime (2)	5	14.3
	Fairly often (3)	6	17.1
	Very often (4)	1	2.9
16	I ask friends and family for support to help me quit smoking		
	Never (1)	32	91.4
	Sometime (2)	1	2.9
	Fairly often (3)	2	5.7
	Total	35	100

$M \pm SD = 4.31 \pm 2.29$

Table 6: Distribution of study subjects on coping with temptation to smoke strategy to quit smoking

V.	COPING WITH TEMPTATION TO SMOKE	f	%
17	To deal with my craving for cigarettes, I concentrate on other things		
	Never (1)	8	22.9
	Sometime (2)	16	45.7
	Fairly often (3)	5	14.3
	Very often (4)	6	17.1
18	I keep busy to overcome the urge to smoke		
	Never (1)	21	60
	Sometime (2)	6	17.1
	Fairly often (3)	2	5.7
	Very often (4)	6	17.1
19	I take deep breaths to fight off the desire to smoke		
	Never (1)	20	57.1
	Sometime (2)	12	34.3
	Fairly often (3)	3	8.6
	Total	35	100

$M \pm SD = 5.57 \pm 2.83$

risk assessments was the second most frequently used strategy. Taking control was the third most used strategy within the sample. Coping with the temptation to smoke and Helping relationships were the least frequently used strategies within this sample. According to the TTM theory in self-change strategies, commitment to change and risk assessment are classified as *cognitive strategies* and taking control, helping relation-

though nearly one-third of the participants tried to quit smoking but they failed to maintain the same constantly. Another possible reason for was current smokers were not strong enough in action and maintenance stage. Therefore, the mean value of helping relation and coping strategy was small.

Limitations and recommendations

The current research study was small sample sized, which makes it difficult to infer the study's findings to the wider population. A larger sample size would have been able to better address these issue. Secondly, to our best of knowledge, in India studies related to self-change strategy are rare. Hence, this study has few related studies to discuss. Yet some of the findings of this study can be replicated in few areas like nursing practice, administration, education and research. A longitudinal study design in different community settings like in cities should be considered.

Conclusion

Commitment to change was the more frequently used strategy and coping with temptation to smoke was the least common strategy among current smokers, indicating that majority of the participants were in the pre contemplation stage. Despite the fact that the cognitive strategy was strong enough for the current smokers, they could not maintain same behaviour throughout the change process. Possible explanation could be the behavioural strategy (coping strategy) of the current smokers was weak. Mental health professionals play an important role in persuading patients to stop tobacco habits. Creating awareness toward adverse effects of tobacco use and motivating self-control to quit, influence the patient's attitude to stop tobacco-related habits.

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