Intention to Quit Tobacco Use among Adults in India: Identifying Stages based on the Transtheoretical Model of Stages of Change



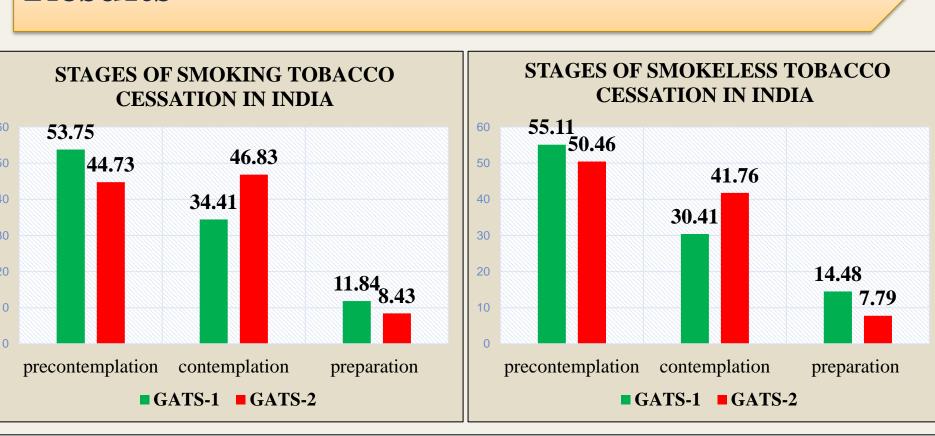
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The Stages of Change or the transtheoretical model was developed to examine the changes in addictive behavior of smokers. Tobacco users are categorized into precontemplation, of 3 stages: continuum contemplation, preparation. As an integrative biophysiological model, Stages of Change assumes smokers go through the sequence of these stages to quit successfully. 1) not at all thinking about quitting (*precontemplation*), 2) thinking about quitting (*contemplation*), 3) making preparations to quit (*preparation*). Based on the transtheoretical model of stages and processes of change three cessation stages are defined as stages a smoker goes through to quit successfully.





Background characteristics	Precontem	Contemplatio	Preparation
	plation	n	
Sex			
Male	0.459	0.455	0.084
Female	0.549	0.367	0.083
Place of residence			
Urban	0.464	0.451	0.083
Rural	0.484	0.367	0.084
Age group			
15-24	0.519	0.389	0.091
25-34	0.482	0.425	0.091
35-44	0.444	0.472	0.083
45-54	0.471	0.447	0.081
55-64	0.477	0.452	0.070
65-74	0.512	0.380	0.107
75+	0.535	0.381	0.082
Education level			
No education/less than primary	0.528	0.390	0.081
Primary /less than secondary	0.459	0.451	0.088
Secondary	0.442	0.481	0.076
Higher	0.422	0.485	0.091
Working status			
Gov./Non-gov. employee	0.488	0.435	0.076
Daily wage/casual labourer	0.461	0.450	0.087
Self – Employed	0.505	0.407	0.086
Student	0.334	0.578	0.087
Homemaker	0.439	0.470	0.089
Unemployed	0.517	0.423	0.058
Nicotine dependency			
Low	0.451	0.477	0.101
Moderate	0.479	0.446	0.073
High	0.490	0.428	0.080
Info. about danger			
No	0.602	0.341	0.055
Yes	0.372	0.518	0.109
Belief that smokeless tobacco causes			
serious illness			
No	0.531	0.315	0.152
Yes	0.476	0.440	0.082
All probabilities were statistically signific	cant at p<0.05		
Predictive probabilities based on multinon		ession for differe	ent stages of
uitting smoking tobacco from GATS-2(20	<u>016-17)</u>		
Background characteristics	Precontem	Contemplatio	Preparation
	plation	n	
Sex			
Male	0.432	0.482	0.085
Female	0.425	0.500	0.073
Place of residence			
Urban	0.414	0.504	0.081
Rural	0.439	0.473	0.086
Age group			

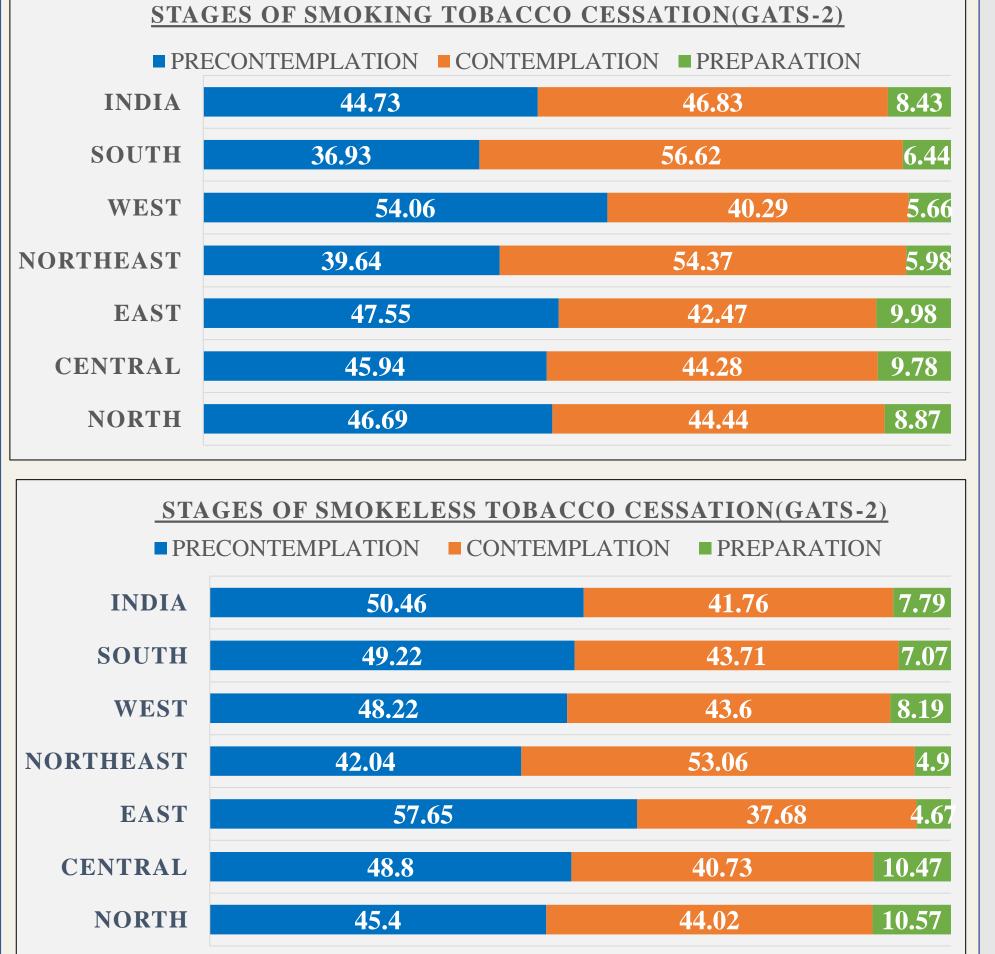
Objectives

The specific objectives of this study are :

- \succ To assess the socio-demographic and regional differentials in the proportion of tobacco users aged 15 and over in different stages of smoke and smokeless tobacco cessation.
- \succ To examine the influence of factors associated with stages of cessation among smokers aged 15 and over.
- To examine the influence of factors associated with stages of cessation among smokeless tobacco users aged 15 and over.

Data & Methodology

This study used publicly available data of Global Adult Tobacco Survey (GATS). GATS is a global standard for systematically monitoring adult tobacco



Proportion of adults aged 15+ in different stages of smoking tobacco cessation for socio-demographic characteristics from GATS-2(2016-17)

Background characteristics	cs Precontempla ion			Preparation	
Age group ***	4.4.4.4		. 40		
15-24	41.14		8.42	10.44	
25-34	43.01		7.86	9.14	
35-44	42.12		8.54	9.34	
45-54	44.83		5.94	8.22	
55-64	43.62		7.68	8.70	
65-74	51.31	42	2.44	6.25	
75+	48.04	44	4.17	7.79	
Sex***					
Male	43.86	47	7.55	8.59	
Female	53.58	39	9.56	6.86	
Education level***					
No education/less than primary	50.65	41	1.59	7.76	
Primary /less than secondary	40.26	50).27	9.48	
Secondary	36.21	56	5.03	7.76	
Higher	36.74	53	3.96	9.30	
Working status ***					
Gov./Non-gov. employee	34.98	55	5.18	9.83	
Daily wage/casual laborer	44.21		7.24	8.55	
Self – Employed	44.69		5. 87	8.44	
Student	40.42		5.29	14.29	
Homemaker	53.43).26	6.31	
Unemployed	55.13		3.44	6.43	
Place of residence ***	55.15	30	/ · · · ·		
	20 07) 16	Q 57	
Urban Dural	38.97		2.46	8.57	
Rural	46.83	44	4.79	8.38	
Wealth index ***	26.04			0.00	
Poorest	36.01		5.90	8.09	
Poorer	41.31		1.45	7.24	
Middle	38.72	50).26	11.02	
Richer Richest	49.00 50.59		1.94 2.56	9.05 6.84	
	50.59	42	2.56	6.84	
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use (smoking and smokeless) and tracking key tobacco control indicators.

Variables Used

- □ <u>Outcome Variable</u> Stages of cessation
- □ **Predictor Variables** age, sex, education level, current working status, place of residence, wealth index, regions, smoking frequency, nicotine dependency, Information about dangers of smoking from any source of media, Belief that smoking causes serious illness etc.

Statistical Analysis

- Cross-tabs are used to present the sociodemographic and economic differentials among all stages of smoke and smokeless tobacco cessation.
- **D** Pearson chi-square test was used to understand the association between the predictor variables and the outcome variable.
- *Multinomial logistic regression* was used to calculate the predictive probabilities for the stages of cessation.

Prevalence Prevalence

Prevalence of smoke and smokeless tobacco use in India and its regions.

45-54	0.445	0.468	0.085
55-64	0.449	0.456	0.093
65-74	0.438	0.483	0.078
75+	0.350	0.568	0.081
Education level			
No education/less than primary	0.461	0.447	0.090
Primary /less than secondary	0.405	0.510	0.084
Secondary	0.399	0.532	0.067
Higher	0.419	0.496	0.084
Working status			
Gov./Non-gov. employee	0.418	0.474	0.106
Daily wage/casual labourer	0.387	0.524	0.088
Self – Employed	0.452	0.468	0.078
Student	0.574	0.300	0.124
Homemaker	0.411	0.524	0.064
Unemployed	0.547	0.390	0.062
Nicotine dependency			
Low	0.397	0.505	0.969
Moderate	0.402	0.530	0.066
High	0.452	0.461	0.086
Info. about danger			
No	0.569	0.392	0.038
Yes	0.341	0.544	0.114
Belief that smoking tobacco causes serious			
illness			
No	0.462	0.486	0.051
Yes	0.429	0.483	0.086
All probabilities were statistically significant	nt at p<0.05		

0.477

0.436

0.405

0.388

0.485

0.515

0.134

0.078

0.079

Conclusion

15-24

25-34

35-44

- There is a significant association between the stages of smoke and smokeless tobacco cessation and the socio-demographic characteristics and the factors related to smoke and smokeless tobacco use.
- The stages of smoking tobacco cessation depend

		of smoking	of smokeless tobacco
India	All 29 states and 3 Union territory	10.68 %	21.38 %
North	Chandigarh, Delhi, Haryana, Himachal Pradesh, Jammu & kashmir, Punjab, Rajasthan, Uttarakhand.	13.79 %	9.98 %
Central	Chhattisgarh, Madhya Pradesh, Uttar Pradesh	12.01 %	29.63 %
East	Bihar, Jharkhand, Odisha, West Bengal	10.28 %	26.81 %
North east	Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura	16.85%	40.5 %
West	Goa, Gujrat, Maharashtra	5.13 %	22.43 %
South	Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Telangana, Puducherry.	10.34 %	10.48 %

on several factors including nicotine dependency, information about dangers of smoking, belief that smoking causes serious illness, working status of smokers, age, sex and wealth quantile.

Discussion

- Quitting tobacco use is not a one step process, all the cessation programs should focus on these factors and try to formulate the strategies according to their stages of cessation.
- The contemplation is a big issue for the tobacco cessation.
- These stages may also help tobacco control programs to implement more effectively and efficiently.