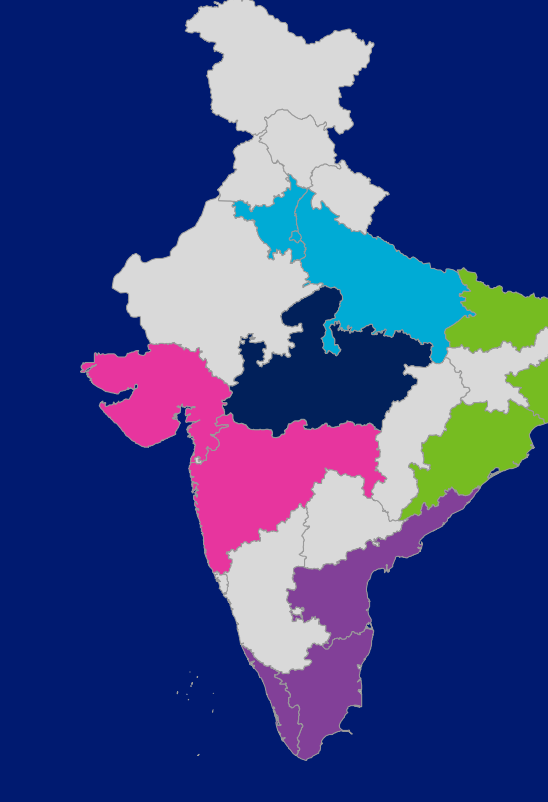




PATTERNS OF TOBACCO USAGE IN INDIA



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BACKGROUND

India is the second largest tobacco producing and consuming country, behind only China; it is home to 11.2% of the world's smokers and 74% of the world's smokeless tobacco (SLT) users. Indeed, nearly half of all oral cancer cases in the world occur in India, with 90% attributable to tobacco consumption. In 2019, tobacco accounted for over 1.2 million deaths, which was over 13% of all deaths in India.

Research indicates numerous disparities in tobacco use in India, with male use prevalence (42%) that is about three times that of the female rate (14%), and notably higher tobacco use prevalence in low-income and rural segments of the population. Both men (30%) and women (13%) prefer SLT over other forms of tobacco. *Bidis*, locally produced tobacco rolled in tendu leaves, are the most common form of combusted tobacco used in both rural and urban India. Rates of current bidi smoking for men and women are double those of cigarette smoking but use among men (14%) is over 11 times greater than it is among women (1.2%).

While restrictions of tobacco sales and regulations on tobacco use exist, especially since the ratification of the FCTC in 2004, enforcement is lacking. Further, implementation of a tiered excise tax system primarily affected the price of factory-made cigarettes. This, combined with demographic variability, has resulted in unique tobacco use patterns in India.

OBJECTIVES

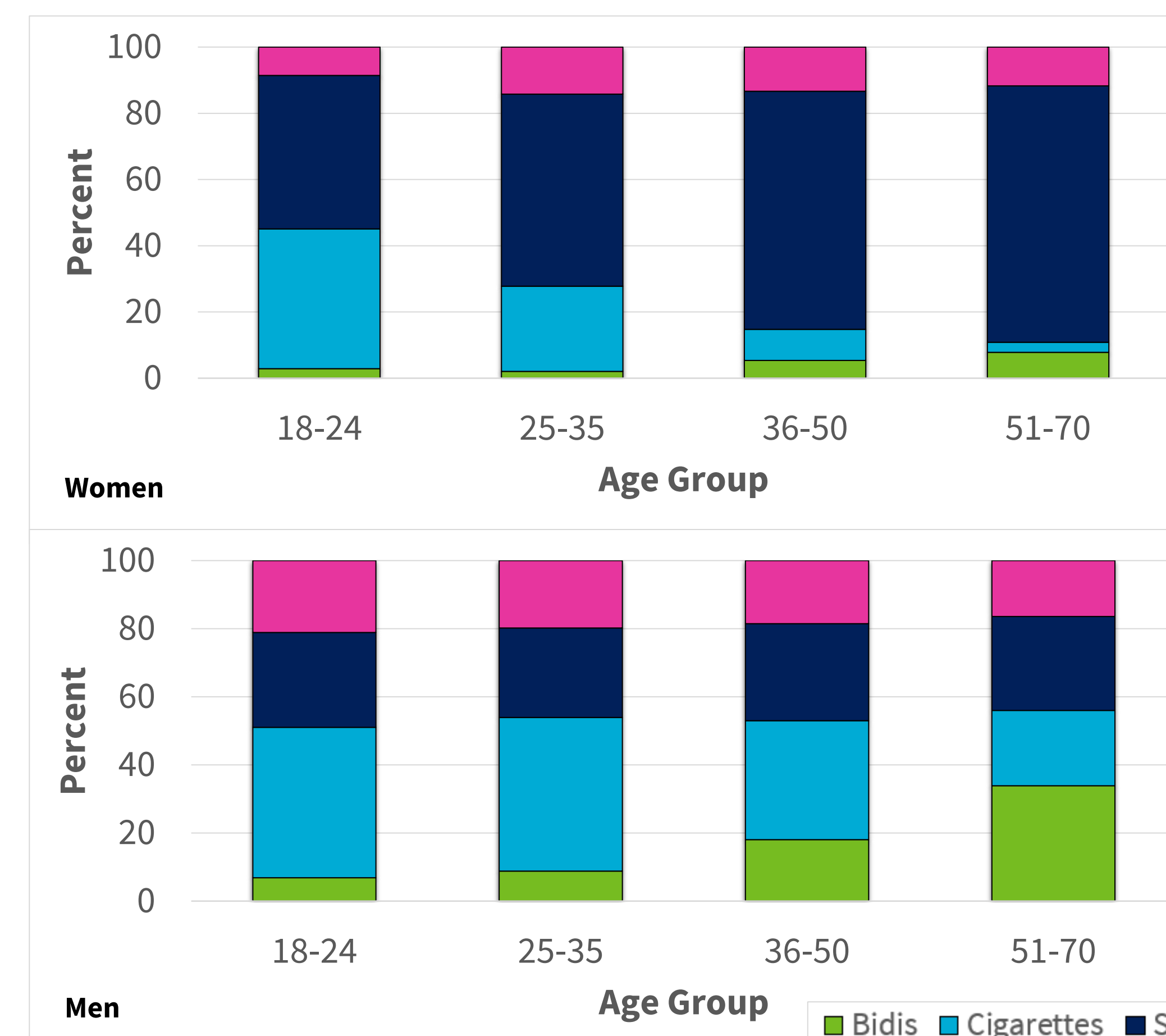
- Identify tobacco use patterns in India and determinations of it through analyses of demographic data collected via 2019 poll
- Explore variability in age of initiation of tobacco product use in India
- Describe disparities in spending on tobacco products among current users

METHODS

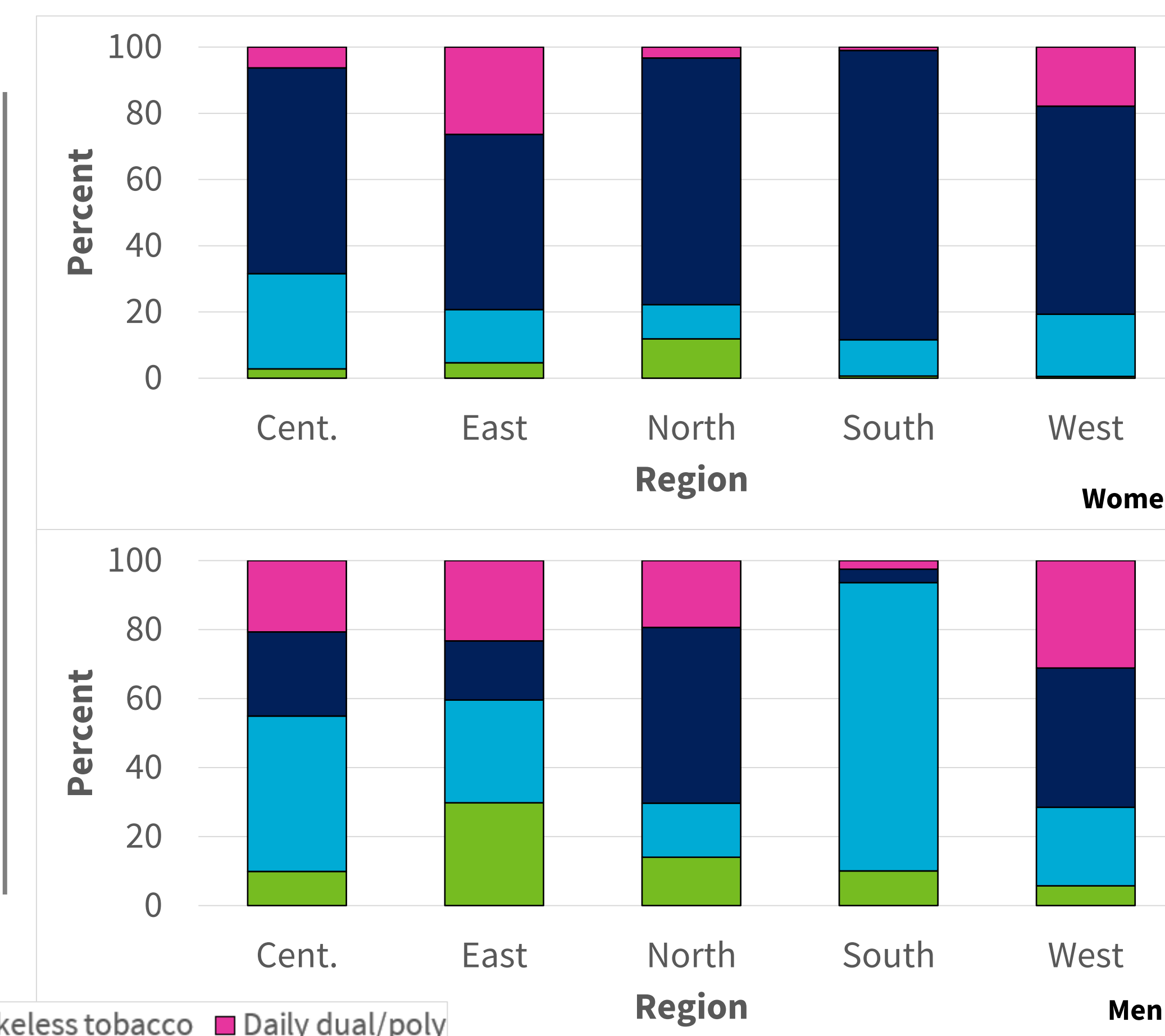
- Foundation for a Smoke-Free World commissioned a survey to understand the current landscape of tobacco product use behaviors and perceptions.
 - The 2019 survey was conducted among adults 18-69 years of age in seven countries including Greece, India, Japan, Norway, South Africa, the UK and the US. Surveys in South Africa, Greece, and India were administered face-to-face.
 - Survey participants (n=54,000) were current smokers or those who had quit within the last five years.
 - 41,673 participants were from India alone (women were oversampled, n=1000).
 - 3,831 women and 28,929 men were current daily tobacco product users.
 - Surveys were conducted in five regions (Central, Eastern, Northern, Southern, and Western) and included one large city, five towns, and 36 villages within each region
 - Nielson's monthly income categories were used to classify socioeconomic status as: low (₹9,999 or less), middle (₹10,000-29,999), or high (₹30,000 or more).
- Exclusive daily combustible smoker refers to any respondent using only the following at least once a day: factory-made cigarettes, tubed cigarettes, rolled cigarettes, capsule/flavored cigarettes, cigars, cigarillos, water pipe, hookahs, shishas, and pipes.
- Exclusive bidi smokers only used bidis on a daily basis.
- Exclusive daily SLT user refers to any respondent using only the following at least once a day: moist SLT, loose leaf chewing tobacco, dry snuff, snus, dissolvable tobacco products, gutka, and other chewing tobaccos.
- Daily dual/poly user refers to users who used any number and combination of any product including nicotine replacement therapy.

DEMOGRAPHICS OF CURRENT PRODUCT USERS BY USER GROUP AND SEX		ALL		EXCLUSIVE DAILY COMBUSTIBLE								EXCLUSIVE DAILY									
				BIDIS				CIGARETTES				SMOKELESS				DAILY DUAL/POLY					
				Women		Men		Women		Men		Women		Men		Women		Men			
N	%*	N	%*	N	%	N	%	N	%	N	%	N	%	N	%						
ALL		3831	100.0	28929	100.0	185	4.8	4026	13.9	613	16.0	11385	39.4	2551	66.6	7920	27.4	482	12.6	5598	19.4
AGE GROUPS	18-24	455	100.0	6526	100.0	13	2.9	450	6.9	192	42.2	2882	44.2	211	46.4	1816	27.8	39	8.6	1378	21.1
	25-35	1033	100.0	11081	100.0	21	2.0	978	8.8	266	25.8	4998	45.1	599	58.0	2910	26.3	147	14.2	2195	19.8
	36-50	1320	100.0	7815	100.0	71	5.4	1410	18.0	124	9.4	2730	34.9	949	71.9	2226	28.5	176	13.3	1449	18.5
	51-70	1035	100.0	3526	100.0	81	7.8	1193	33.8	32	3.1	779	22.1	802	77.5	976	27.7	120	11.6	578	16.4
EDUCATION	HIGH	275	100.0	4577	100.0	2	0.7	203	4.4	194	70.5	3232	70.6	67	24.4	538	11.8	12	4.4	604	13.2
	MEDIUM	525	100.0	6727	100.0	13	2.5	511	7.6	251	47.8	3338	49.6	205	39.0	1592	23.7	56	10.7	1286	19.1
	LOW	2898	100.0	17345	100.0	160	5.5	3262	18.8	163	5.6	4769	27.5	2182	75.3	5651	32.6	393	13.6	3663	21.1
GEOGRAPHY	URBAN	2710	100.0	22142	100.0	120	4.4	2834	12.8	573	21.1	9986	45.1	1706	63.0	5236	23.6	311	11.5	4086	18.5
	RURAL	1121	100.0	6787	100.0	65	5.8	1192	17.6	40	3.6	1399	20.6	845	75.4	2684	39.5	171	15.3	1512	22.3
SES	HIGH	158	100.0	1267	100.0	4	2.5	65	5.1	116	73.4	926	73.1	19	12.0	121	9.6	19	12.0	155	12.2
	MEDIUM	2192	100.0	19114	100.0	104	4.7	2677	14.0	390	17.8	7730	40.4	1458	66.5	5028	26.3	240	10.9	3679	19.2
	LOW	1284	100.0	6832	100.0	56	4.4	1161	17.0	63	4.9	1555	22.8	942	73.4	2491	36.5	223	17.4	1625	23.8

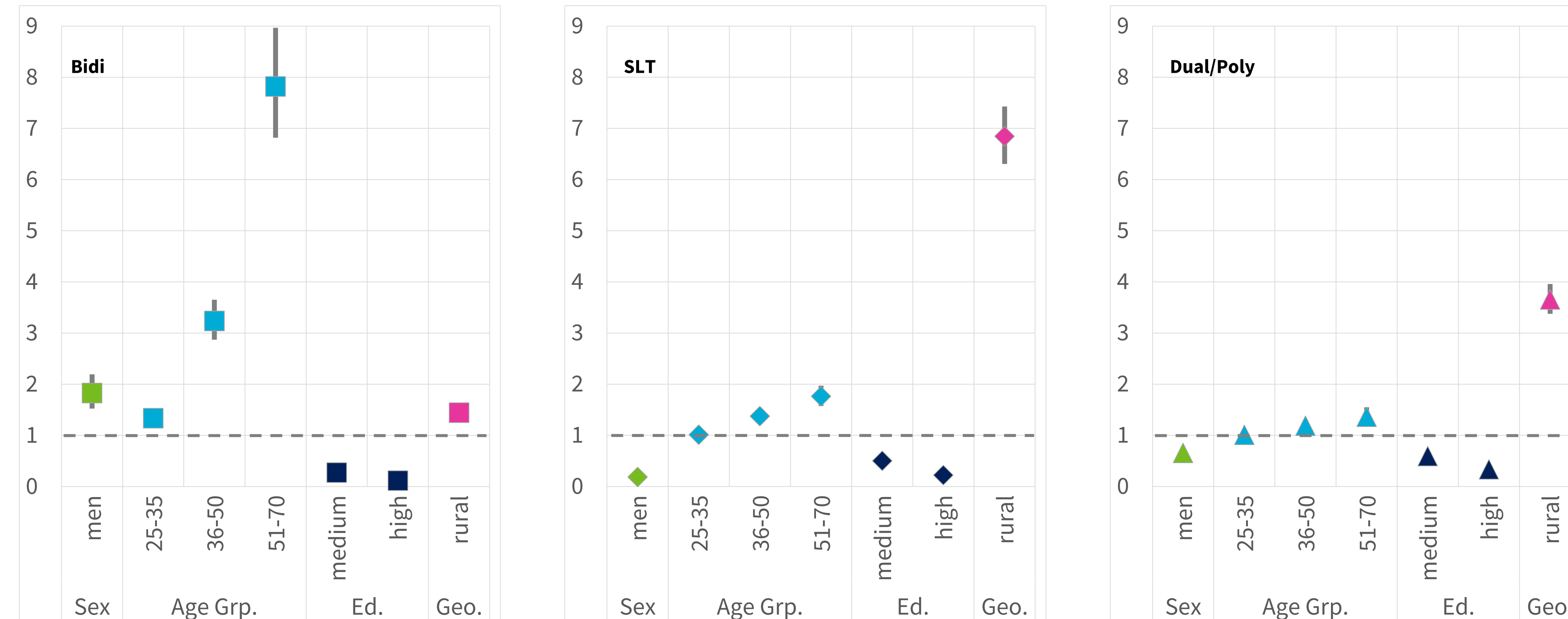
TOBACCO PRODUCT USE BY AGE GROUP



TOBACCO PRODUCT USE BY REGION



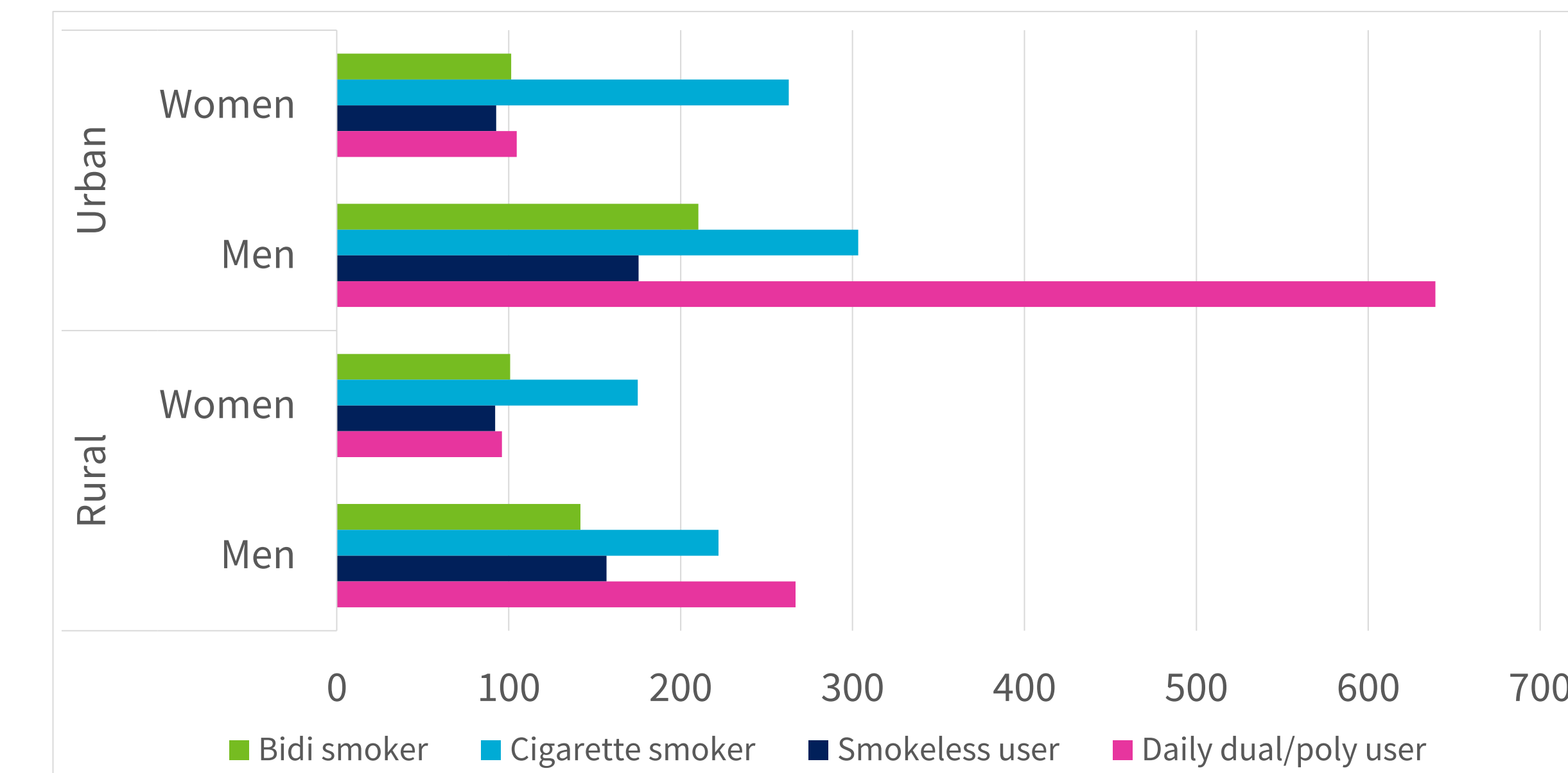
MULTINOMIAL LOGISTIC REGRESSIONS: USER GROUPS



Product reference: Combustible tobacco (excluding bidis) | Sex reference: Women | Age group reference: 18-24 years | Education reference: Low | Geographical reference: Urban

AGE OF PRODUCT INITIATION	USER GROUPS	WOMEN		MEN	
		MEAN	SD	MEAN	SD
18-24	BIDIS	27.2	10.1	19.6	6.0
	CIGARETTES	20.9	4.8	19.8	4.4
	SMOKELESS	25.6	9.9	19.9	6.1
	DUAL/POLY	23.7	8.8	18.9	5.4
25-35	BIDIS	17.6	2.6	17	2.6
	CIGARETTES	21.1	4.6	19.1	3.7
	SMOKELESS	26.1	8.1	21.2	5.8
	DUAL/POLY	31.5	12.4	23	8.7
36-50	HIGH	21.6	5.1	20.3	4.3
	MEDIUM	22.5	6.5	19.6	4.6
	LOW	26	10.1	19.5	5.7
51-70	HIGH	21.1	5.5	19.9	4.7
	MEDIUM	25.3	9.2	19.7	5.1
	LOW	25.5	10.5	19.1	6.1

MONTHLY EXPENDITURES (₹)



CONCLUSIONS

- For men and women, bidi use was highest among those in older age groups, those with a low education level, those with low SES, and those from rural areas; cigarette smoking was highest among corresponding opposite counterparts.
- Older age and being a man were the highest predictors of bidi use relative to other combustible tobacco use. Being from a rural geography was the highest predictor of SLT use, followed by dual/poly product use relative to combustible tobacco use.
- Men typically started using tobacco products at a younger age than women (except for cigarettes). Older individuals tended to start using at an older age.
- Men spent more money than women on tobacco products, especially those from urban areas; women in rural and urban areas spent similarly (except on cigarettes).
- Tackling burden of disease caused by tobacco use in India should consider the high heterogeneity in tobacco product use patterns, and specific interventions should be tailored accordingly.

REFERENCES

- IHME. GBD Results Tool | GHDx. Institute for Health Metrics and Evaluation. Published 2017. Accessed January 13, 2021. <http://ghdx.healthdata.org/gbd-results-tool>
- World Health Organization. *GATS2 India Fact Sheet 2016-2017*. 2017. Accessed January 10, 2020. https://www.who.int/tobacco/surveillance/survey/gats/GATS_India_2016-17_FactSheet.pdf
- Singh A, Arora M, English DR, Mathur MR. Socioeconomic gradients in different types of tobacco use in India: Evidence from global adult tobacco survey 2009-10. *Biomed Res Int*. 2015;2015. doi:10.1155/2015/837804

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