Original Article

A Cross-Sectional Study on the Prevalence and Attitudes towards Tobacco Use among Healthcare Professionals in Mizoram

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Abstract

Background: The average lifespan of smokers is often ten years shorter than that of non-smokers. Accelerated adoption of anti-tobacco and tobacco use cessation initiatives is necessary since health professionals are viewed as role models for health promotion, despite their higher tobacco use rates.

Methods: An online cross-sectional descriptive survey was completed by 426 healthcare professionals from Mizoram, including nurses, doctors, dentists, pharmacists, and multipurpose health workers, using a self-administering questionnaire adapted from the Global Tobacco Surveillance System. The tool's scale-content validity indices showed Cronbach's alpha values of 0.894 and 0.985 following psychometric testing. A significance level of 5% was used for statistical analysis.

Results: 47.2%of the participants used tobacco. 41.9%of the nurses' participants used tobacco, compared to 64.7%, of dentists who did not. More than half of the physicians 53.3%, multipurpose health workers 58%, and pharmacists 52.2% were tobacco users. Among the tobacco users, 9.2% solely smoked, 34%only used smokeless tobacco, and 4%, both smoked and used smokeless tobacco. Individuals' attributes such as gender, eating habits, and length of service are significantly correlated with their attitudes regarding tobacco usage.

Conclusion: The rate of tobacco use among healthcare professionals is alarming and requires appropriate interventions.

Keywords: Attitude; Healthcare professionals; Smoking; Smokeless Tobacco Use; Tobacco; Tobacco Use Cessation;

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Introduction

Background: With the tobacco pandemic claiming the lives of around 8 million people year worldwide, it is one of the largest hazards to public health. Among these deaths, tobacco usage is directly responsible for about 7 million deaths, while second hand smoke exposure causes 1.2 million deaths in nonsmokers. Over 80% of the world's 1.3 billion tobacco users live in low- and middle-income countries, where tobacco use is a leading cause of illness and death. Spending by households on necessities like food and housing was substituted for tobacco costs, which resulted in poverty.[1] There will be a startling disparity in the enduring prevalence of tobacco smoking amongst nations by 2025. The goals set forth for tobacco control will be unattainable for many countries.[2]

Even though many tobacco control policies have been put in place globally, tobacco use still has a significant detrimental influence on public health and causes significant financial losses for society.[3]

Despite the tobacco control legislation, India's tobacco consumption is still rising. Stronger and more visible anti-tobacco campaigns are needed, as well as increased public awareness of the harmful effects of tobacco use and active involvement from health professionals in programs aimed at helping people quit using cigarettes.[4] In comparison to the general population, healthcare workers likewise had a higher rate of tobacco use.[5]Those in the medical field who are seen as role models and advocates for public health but who also use tobacco heavily are a reflection of discomfiting circumstances. This demonstrates a concerning situation and necessitates that health professionals, who also serve as public health advocates and role models, take immediate action to combat tobacco use and quit smoking.[6]

The three North East Indian states of Manipur, Mizoram, and Tripura have a 50% or higher incidence of tobacco usage among men and women. More than half of women (52.4%), most males (64.9%), and a very high percentage (58.7%) of all adults—especially in Mizoram—smoke tobacco or use smokeless tobacco.[7]

Material and Methods

A cross-sectional descriptive survey was carried out among 426 healthcare professionals comprising nurses, doctors, dentists, pharmacists, and multipurpose health workers in Mizoram presently working in private/government/mission hospitals.

Data was collected in a hybrid method, using a self-administered questionnaire from 3rd January 2023 to 9th May 2023. 426 responses were received and processed for analysis.

Development of tool:

A modified version of the Global Health Professions Student Survey (GPHSS) was used as the data-gathering method[8] and created based on a thorough literature analysis conducted by subject matter experts utilizing the Delphi technique. The content validity of the tool was obtained from 10 experts (faculty from concerned departments) with an average proportion relevance of 0.98. The scale content validity index was appropriate: S-CVI/Ave of 0.985 and S-CVI/UA of 0.852, since S-CVI of >0.8 is considered an acceptable cut-off score. In terms of internal consistency and reliability, the questionnaire's Cronbach's alpha (α-0.894) was deemed adequate.[9]

Ethical considerations:

The Human Ethics Committee of Mizoram University granted ethical permission by letter No. MZU/HEC/2022/002 dated March 8, 2022. The protocols adhered to were compliant with the institution's ethical guidelines and the 2013 revision of the Declaration of Helsinki. Before enrollment, each subject willingly provided their informed consent. Additionally, the participants' data confidentiality and anonymity were guaranteed.

Statistical analyses:

The statistical package for the social sciences (IBM SPSS Statistics for Windows, Version 25, IBM Corporation, Armonk, NY, USA) was used to analyze the data. For categorical variables, descriptive statistics were given as frequency, percentage, and 95% confidence intervals. Continuous variables were presented as mean with standard deviation or median with interquartile range based on the normality assumption determined by Kolmogorov-Smirnov and Shapiro Wilk test. The relationship between healthcare professionals' attitude toward tobacco use and their socio-demographic characteristics, was assessed using an independent student t-test.

Spearman rank correlation was used for the relationship between attitude and previous training score. All the statistical analyses were carried out at a 5% significance level.

Results and Discussion

A large proportion of the participants 69 % belong to the 18-39 age group. The gender-wise response is significantly dominated by females at 82.4% to males at 17.6%. A majority 60.1% belong to the nuclear family and 46.2% are married while 50.2% are single. Table-1

Out of all participants, 47.2% were tobacco users. There is a 95% probability that the true percentage of tobacco users lies between 42.4% and 52.0%. More participants did not use any form of tobacco among the dentists 64.7%; while 41.9% of the nurses were tobacco users. More than half of the doctors 53.3%, multipurpose health workers58 %, and pharmacists 52.2% were tobacco users among the participants. Among the tobacco users, 9.2% of participants practiced only smoking, 34% of participants used smokeless tobacco, and 4% practiced both smoking and smokeless tobacco use. 71.6% of the participants have tried cigarette smoking at least once. A larger proportion of the participants 27.2% tried their first cigarette between 20 and 29 years of age. Nearly two-thirds 62.4% of the participants have tried smokeless tobacco such as paan masala, zarda, gutkha, khaini, paan, or tuibur (tobacco brew). Table-2

The findings far exceed the conclusion drawn in the meta-analysis by Nilan et al 2019 where the combined prevalence of tobacco usage was 21% for men and 17% for women.[10] The outcome is a clear indication of how concerning and disturbing the tobacco use rate among healthcare professionals is. It would be helpful to support healthcare professionals in quitting smoking if further research focuses on understanding the cause of the high prevalence of tobacco use among them. The outcome is a clear indication of how concerning and disturbing the tobacco use rate among healthcare professionals is.

A statistically significant association was noted between the type of profession and different forms of tobacco used (P<0.001). Smokers are found to be more among multipurpose health workers (19.3%), whereas, 36.9% of the nurses were using smokeless tobacco. The proportion of participants using both smoking and smokeless tobacco is the highest among pharmacists (10%), while none of the dentists were using both forms of tobacco.Table-3. This contradicts the findings of Mizher et al 2018, where no statistically significant difference (p=0.156) was observed in the prevalence of tobacco use among physicians and other healthcare professionals.[11]

53.7% of smokers (current and previous), and 53.7% of participants who received help regarding smoking cessation have abstained from smoking. Whereas, 58% of participants who did not receive help have stopped smoking. No statistically significant association was found between help received for smoking cessation and abstinence from smoking (P-0.610). Table -4.To promote individualized cessation programs and strategies, there is a need to increase the capacity for locally relevant research and implementation science.[12]

Table-5 shows that participants' attitudes towards tobacco use have a significant relationship with participants' characteristics like gender, food habits, and duration of work experience. Females have a higher attitude score towards tobacco use (111.06 vs. 108.96) as compared to men (P-0.045). Participants who followed a non-vegetarian diet had better attitude scores than vegetarians and vegan participants. (P-0.048). A lower mean attitude score towards tobacco use was also noted among divorced participants (P-0.065) and participants belonging to extended family (P-0.132), as compared to other categories. Dentists have a comparably higher attitude score on tobacco use (115.18±5.71) as compared to other healthcare professionals, which was however not statistically significant (P-0.093). Years of experience are found to be significant (P -0.031). Those with experience of 10 years or less have a better attitude (111.34±7.78) and their attitude gets better again after 21 years or more experience (110.84±8.71). There is no significant relationship between tobacco use and attitude towards tobacco use among the participants. A negligible positive correlation was also found between attitude score and previous training score (ρ of 0.221).

With regards to the attitude toward tobacco use, the study identified that the mean score was higher

among overall non-tobacco users (110.73 vs. 106.14) and non-smokeless tobacco users (110.56 vs.106.10), which are both statistically significant at P-0.047 and P-0.049 respectively, non-smokers are better inclined to give counseling to the patient than present smokers. Mizher et al.2018 also drew a similar conclusion that in comparison to present smokers, patient counseling was provided by non-smokers much more often.[11]

A minute correlation is detected between the attitude score and the previous training score (ρ of -0.041). The majority of the participants received previous training regarding tobacco use (>90%). However, fewer participants stated that they received training on tobacco cessation approaches (89.2%) and the use of antidepressants (21.5%). Training on tobacco cessation approaches for healthcare professionals was found to be relatively low. Chan et al. 2007 stated that most of their study participants did not receive training.[13] Lack of experience, expertise, time, and resources are thought to be the most obstacles to providing adherence assistance. Healthcare professionals thought that increasing counseling and keeping an eye on adherence could raise adherence rates.[14] The primary barriers noted include a lack of expertise, insufficient treatment duration, and a lack of awareness of referral channels, and recommendations for quitting smoking. More training on smoking cessation techniques is required, according to the evidence, which highlights one of the possible obstacles. Future studies in this area are also suggested to support the use of smoking cessation counseling in dentistry settings.[13]

Participants who do not use any kind of tobacco have the highest mean attitude score (110.73±6.97), whereas, participants who practiced both smoking and smokeless tobacco use have the lowest mean attitude towards tobacco use (104.67±8.55). A lower mean attitude score towards tobacco use was also noted among widowed participants (P-0.413) and participants belonging to extended family (P-0.101), as compared to other categories. This finding supports Chan et al 2023 who stated that Healthcare professionals whom themselves use tobacco were substantially less likely to think their tobacco cessation advice would be helpful. Additionally, they felt noticeably less equipped to help people give up tobacco use.[13]

Table 1: Socio-demographic characteristics of participants **N=426**

Participants' characteristics		**Frequency**	**Percentage (%)**
Age	18-29	151	35.4
	30-39	143	33.6
	40-49	80	18.8
	50-59	52	12.2
Gender	Female	351	82.4
	Male	75	17.6
Religion	Christian	420	98.6
	Hindu	2	0.5
	Others	4	0.9
Marital status	Single	214	50.2
	Married	197	46.2
	Divorced	10	2.3
	Widowed	5	1.2
Family type	Extended	18	4.2
	Joint	152	35.7
	Nuclear	256	60.1
Food habits	Non-vegetarian	396	93.0
	Vegetarian	22	5.2
	Vegan	8	1.9

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Profession	Dentist	17	4.0
	Doctor	45	10.6
	MHW	88	20.7
	Nurse	236	55.4
	Pharmacist	40	9.4
Organization	Government	251	58.9
	Mission	86	20.2
	Private	89	20.9
Work experience	≤10 years	251	58.9
	11-20 years	86	20.2
	≥21 years	89	20.9

Table 2: Prevalence of tobacco use among healthcare professionals

Questions	All		Dentists	Doctors	MHW	Nurses	Pharmacists
	n	% (95% CI)	n=17	n=45	n=88	n=236	n=40
Current use of tobacco							
Yes	201	47.2 (42.4-52.0)	6 (35.3)	24 (53.3)	51 (58.0)	99 (41.9)	21 (52.5)
No	225	52.8 (48.0-57.6)	11 (64.7)	21 (46.7)	37 (42.0)	137 (58.1)	19 (47.5)
What form of tobacco do you currently use?							
Smoking	39	9.2 (6.6-12.3)	3 (17.6)	8 (17.8)	17 (19.3)	5 (2.1)	6 (15.0)
Smokeless	145	34.0 (29.5-38.8)	3 (17.6)	14 (31.1)	30 (34.1)	87 (36.9)	11 (27.5)
Both smoking and smokeless	17	4.0 (2.3-6.3)	0	2 (4.4)	4 (4.5)	7 (3.0)	4 (10.0)
Have you ever tried or experimented with cigarette smoking even one or two puffs?							
Yes	305	71.6 (67.1-75.8)	16 (94.1)	37 (82.2)	53 (60.2)	167 (70.8)	32 (80.0)
No	121	28.4 (24.2-32.9)	1 (5.9)	8 (17.8)	35 (39.8)	69 (29.2)	8 (20.0)
How old were you when you first tried a cigarette? (N=305)							
10 years or younger	24	7.9 (5.1-11.5)	2 (12.5)	2 (5.4)	2 (3.8)	17 (10.2)	1 (3.1)
11-15 years	72	23.6 (19.0-28.8)	4 (25.0)	9 (24.3)	14 (26.4)	40 (24.0)	5 (15.6)
16-17 years	42	13.8 (10.1-18.2)	4 (25.0)	8 (21.6)	6 (11.3)	12 (10.2)	7 (21.9)
18-19 years	61	20.0 (15.7-24.9)	1 (6.3)	6 (16.2)	12 (22.6)	30 (18.0)	12 (37.5)
20-29 years	83	27.2 (22.3-32.6)	4 (25.0)	7 (18.9)	16 (30.2)	51 (30.5)	5 (15.6)
30 years or older	23	7.5 (4.8-11.1)	1 (6.3)	5 (13.5)	3 (5.7)	12 (7.2)	2 (6.3)
Have you ever used smokeless tobacco such as paan masala, zarda, gutkha, khaini, paan or tuibur (tobacco brew)?							
Yes	266	62.4 (57.7-67.1)	10 (58.8)	29 (64.4)	59 (67.0)	139 (58.9)	29 (72.5)
No	160	37.6 (32.9-42.3)	7 (41.2)	16 (35.6)	29 (33.0)	97 (41.1)	11 (27.5)

N=426

n-number of participants; %-percentage CI-Confidence interval

Table 3: Comparison of tobacco use among healthcare professionals **N=426**

Profession	Tobacco use n(%)				P-value
	None	Smoking	Smokeless tobacco	Both	
Dentists	11 (64.7)	3 (17.6)	3 (17.6)	0	<0.001
Doctors	21 (46.7)	8 (17.8)	14 (31.1)	2 (4.4)	
MHW	37 (42.0)	17 (19.3)	30 (34.1)	4 (4.5)	
Nurses	137 (58.1)	5 (2.1)	87 (36.9)	7 (3.0)	
Pharmacists	19 (47.5)	6 (15.0)	11 (27.5)	4 (10.0)	

*n-number of participants; %-percentage; *Chi-square test; P<0.05*

Table 4: Help received for smoking cessation among previous and current smokers N=130

		Stopped smoking		P-value*
		Yes n (%)	No n (%)	
Help/advice received for smoking cessation	Yes	22 (53.7)	19 (46.3)	0.610
	No	52 (58.4)	37 (41.6)	

*n-number of participants; %-percentage; *Chi-square test;P≤0.05*

Table 5: Relationship between healthcare professionals' attitude on tobacco use and their socio-demographic characteristics **N=426**

Participants' characteristics		Attitude score on tobacco use (Mean±SD)	P-value
Age[1]	18-29	111.26±7.56	0.679
	30-39	110.69±8.17	
	40-49	110.05±9.19	
	50-59	110.04±8.99	
Gender[2]	Female	111.06±8.12	0.045
	Male	108.96±8.73	
Religion[1]	Christian	110.72±8.28	0.790
	Hindu	109.50±10.61	
	Other	108.00±5.72	
Marital status[1]	Single	111.08±7.787	0.065
	Married	110.66±8.57	
	Divorced	104.20±9.11	
	Widowed	108.00±10.22	
Family type[1]	Extended	108.67±8.87	0.132
	Joint	109.88±8.58	
	Nuclear	111.32±7.98	
Food habits[1]	Non-vegetarian	110.93±8.14	0.048
	Vegetarian	108.50±9.16	
	Vegan	104.75±9.16	

Profession[1]	Dentists	115.18±5.71	0.093
	Doctors	109.93±8.18	
	MHW	109.58±9.18	
	Nurses	111.08±7.77	
	Pharmacists	109.83±9.400	
Organization[1]	Government	110.73±8.34	0.692
	Mission	111.49±8.32	
	Private	110.24±8.05	
Years of work experience[1]	≤10 years	111.34±7.78	0.031
	11-20 years	108.64±8.86	
	≥21 years	110.84±8.71	
Tobacco use form[1]	None	111.20±8.06	0.329
	Smoking	109.72±8.02	
	Smokeless tobacco	109.94±8.57	
	Both smoking and smokeless tobacco	112.53±8.51	
Previous training score[3]		0.221 (0.127, 0.314)	<0.001

SD-standard deviation; [1]One-way Analysis of Variance; [2]Independent student t-test;

[3]Spearman's rank correlation coefficient(ρ) with 95% Confidence interval; P≤0.05

Conclusion

It is disturbing to learn that a significant percentage of healthcare personnel use tobacco in various forms. The study revealed that tobacco use has a significant relationship with participants' characteristics like gender, food habits, and duration of work experience. Contrary to tobacco users, non-users have a better attitude and are more likely to provide a good example of healthy behavior. The study revealed a negligible positive correlation between attitude score and previous training score. Healthcare workers themselves must stop using tobacco to be able to support programs to assist people in quitting tobacco use. Helping healthcare professionals give up tobacco usage should therefore be a priority.

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Conflict of Interest: None

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