



Research Article

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A Study on the Prevalence and Attitude on Tobacco Use Among Multipurpose Health Workers in Mizoram

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Abstract

Background: Tobacco uses among Multipurpose Health Workers (MPHWs), poses significant challenges to public health efforts aimed at tobacco cessation. Understanding the demographic characteristics, tobacco use behavior, and attitudes toward tobacco cessation among MPHWS can convey targeted interventions. **Methods:** A descriptive cross-sectional study was carried out among 88 MPHWS in Mizoram. The Global Health Professions Student Survey was modified to create the data collection tool. The scale content validity index of 0.985 and 0.852 was found to be sufficient since an S-CVI cut-off score of >0.8 is considered reasonable. The questionnaire was found to have an adequate Cronbach's alpha (α -0.894) in terms of internal consistency and reliability. Data was collected between January and June of 2023; 83.8% of responses were received, and processed for analysis. **Results:** A total of 88 MPHWS participated in the study, 64.8% females and 35.2% males, the age distribution ranges from 35.2% in the 18 to 29, 26.15% in the 30 to 39, and 18.2% in the 50 to 59 years. 53.4% of the participants are married, 44.3% are single, and 2.3% are divorced. Nuclear families include 46.6%, joint families 44.3%, and extended families 9.1%. Of the participants, 85.2% are non-vegetarians. The participants' years of experience range from 46.6% with 10 years or less of experience to 22.7% with 10 to 19 and 4.5% with 30 years or more experience. The majority 73.9% work for the government, followed by mission organizations (12.5%), the private sector (11.4%), and non-governmental organizations (2.3%). 53.4% of the total participants are tobacco users. 34.1% used smokeless tobacco, 4.5% used both, and seventeen 19.3% used tobacco only for smoking. More than half 54.5 percent, had made at least one attempt to smoke cigarettes. 18.2% tried cigarettes for the first time between the ages of 20 and 29, and 15.2% tried cigarettes between the ages of 10 and 5 years. Thirty days 21.9% of the total participants smoked daily during the past 30 days. 59 had tried smokeless tobacco products, like khaini, zarda, gutkha, paan, and tuibur (tobacco brew). The positive attitude that Healthcare professionals have a greater responsibility toward the harmful effects of tobacco use is strongly agreed by 58% and agreed by 39.8%. Nonetheless, it is also noted that 5.7% of respondents had a negative attitude towards the claim that medical professionals who smoke themselves are less likely to advise patients to quit, and 8% had a negative attitude towards the claim that medical professionals who use smokeless tobacco themselves are less likely to advise patients to stop using smokeless tobacco products. **Conclusion:** The study highlights a concerning level of tobacco use among MPHWS and a gap between knowledge of tobacco's harmful effects and the commitment to promote cessation. The findings suggest the need for more effective tobacco cessation training programs that not only provide knowledge but also address attitudes and perceived barriers to promoting cessation.

Keywords: Smoking, Smokeless tobacco use, Tobacco Cessation.

INTRODUCTION

The tobacco pandemic, which kills over 8 million people every year worldwide, is one of the biggest threats to public health. More than 7 million of these deaths are directly related to tobacco use, and 1.2 million are related to nonsmokers being exposed to second-hand smoke. Of the 1.3 billion tobacco users worldwide, almost 80% are from low- and middle-income nations where tobacco use is a major cause of disease and mortality. 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]

Despite the implementation of numerous tobacco control measures worldwide, tobacco use remains a significant burden on public health, resulting in significant negative effects and significant economic losses for society.^[3] Even with the existence of the tobacco control program, tobacco usage is still rising in India. More vigorous and prominent anti-tobacco campaigns are required, along with heightened public knowledge of the negative effects of tobacco use and active workplace and health professional

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participation in nicotine cessation initiatives.^[4] Conversely, Prasad et al. 2020 reported that healthcare professionals use tobacco at a higher rate than the general population.^[5] A troubling circumstance is shown in the high prevalence of tobacco use among healthcare workers, who are seen as role models and health promoters for society. Since health professionals are also public health advocates and role models, this highlights a concerning situation and necessitates the adoption of immediate anti-tobacco and tobacco cessation initiatives.^[6]

Three North East Indian states—Manipur, Mizoram, and Tripura—have a combined tobacco usage prevalence rate of 50% or more among men and women. In Mizoram specifically, the majority of men is 64.9%, the majority of women 52.4%, and a very high percentage of all adults 58.7% smoke tobacco or use smokeless tobacco.^[7]

The incidence and attitudes towards tobacco use among multipurpose health workers (MPHWs) in Mizoram represent a critical area of public health research, given the unique socio-cultural and health landscape of the region. Mizoram, a state in Northeast India, has one of the highest rates of tobacco consumption in the country, making the role of health workers in combating this issue particularly significant. Multipurpose Health Workers (MPHWs) play a pivotal role in the healthcare delivery system in Mizoram, especially in rural and remote areas. They are often the first point of contact for the community with the health system and are crucial in implementing public health interventions, including those aimed at reducing tobacco use. Understanding their attitudes towards tobacco use is essential for designing effective tobacco control programs. As members of the healthcare community, Multipurpose Health Workers (MPHW) are often recognized as role models for promoting health and healthy lives. But do the Multipurpose Health Workers themselves embrace and embody the concept of serving as health role models? is an inquiry in need of a response. Therefore, to inform targeted interventions and strategies for tobacco control and prevention in the area, it is necessary to look into the incidence of tobacco use and evaluate the attitudes of Multipurpose Health Workers (MPHWs) towards tobacco use in Mizoram.

MATERIALS AND METHOD

A descriptive cross-sectional study was carried out among 88 MPHWs in Mizoram who are currently employed in Health and Wellness Centers and Selected Nursing Homes in Mizoram. Candidates who could read and understand English and who were prepared to give their written consent to participate in the study met the eligibility criteria to be included in the study. From January 2023 to June 2023 a self-administered questionnaire was distributed to the participants; out of the 105 questionnaires, 88 (83.8%) were returned which is processed for analysis.

Development of tool

Based on a thorough literature analysis conducted by subject matter experts utilizing the Delphi technique, the data collecting tool was built, modifying the Global Health Professions Student Survey (GPHSS)[8]. Participants' demographic information is included in the first component of the instrument, which has five sections in total. The prevalence and usage of tobacco products are covered in five questions in the second segment, there are 24 Likert questions in the last part regarding attitudes toward tobacco use. Ten experts (faculty from relevant departments) provided feedback on the tool's content validity, and their average proportional relevance was 0.98. Given that a cut-off score of S-CVI of >0.8 is regarded as reasonable, the scale content validity index of 0.985 and 0.852 was determined to be adequate.^[9] In terms of internal consistency and reliability, the questionnaire's Cronbach's alpha (α -0.894) was deemed adequate.^[10]

Ethical considerations

The Institute Human Ethics Committee granted ethical approval. The protocols adhered to were compliant with both the institution's ethical guidelines and the 2013 revision of the Declaration of Helsinki. Before enrolment, each subject willingly provided their informed permission in writing. Additionally, the participants' data confidentiality and anonymity were guaranteed.

Statistical analyses

The software known as IBM SPSS Statistics for Windows, Version 25, developed by IBM Corporation in Armonk, New York, USA, was utilized to evaluate the data. Frequency, percentage, and 95% confidence intervals for categorical variables were the descriptive data reports.

RESULT

There is a wide range in the age groups of the 88 candidates participating in the study. Thirteen (35.2%) are in the 18 to 29 age range, twenty-three (26.15%) are in the 30 to 39 age range, and sixteen (18.2%) are in the 50 to 59 age range. The gender category is preponderance with females 57(64.8%) to 31(35.2%) males. Most of the participants are either married 47(53.4%) or single 39(44.3%) with only 2(2.3%) divorcees. Family type is also shared between nuclear family 41(46.6%) and joint family 39(44.3%). Very few 8(9.1%) are from extended family. Most of the participants are non-vegetarian 75(85.2%). Participants' years of experience range from 41(46.6%) with 10 years or less experience, to 20(22.7%) with 10 to 19 years of experience, and 4(4.5%) participants with 30 years and above experience. A vast majority of 65(73.9%) are government employees, however 11(12.5%) work in mission organizations, 10(11.4%) are participants in the private sector and 2(2.3) participants work for a non-government organization. (Table-1)

Table 1: Socio-demographic characteristics of participants (N=88)

Demographic Variables	Frequency	%	
Age	18 to 29 years	31	35.2
	30 to 39 years	23	26.1
	40 to 49 years	18	20.5
	50 to 59 years	16	18.2
Gender	Female	57	64.8
	Male	31	35.2
Religion	Christian	88	100.0
	Hindu	0	0.0
	Others	0	0.0
Marital Status	Single	39	44.3
	Married	47	53.4
	Divorced	2	2.3
	Widowed	0	0.0
Family type	Extended	8	9.1
	Joint	39	44.3
	Nuclear	41	46.6
Food habits	Non-vegetarian	75	85.2
	Vegetarian	9	10.2
	Vegan	4	4.5
Year of experiences	Below 10 years	41	46.6
	10 to 19 years	20	22.7
	20 to 29 years	23	26.1
	30 years & above	4	4.5

Organization	Government	65	73.9
	Mission	11	12.5
	Private	10	11.4
	NGO	2	2.3

Of all the participants, 47 (53.4%) used tobacco products. Of the tobacco users, 17 (19.3%) used smoking tobacco exclusively, 30 (34.1%) used smokeless tobacco, and 4 (4.5%) used both. Out of the participants, 48 (54.5%) have attempted smoking cigarettes at least once. A significant number of participants (15.2%) tried cigarettes for the first time between the ages of 10 and 5 years old, while a greater percentage of participants (18.2%) tried cigarettes for the first time between the ages of 20 and 29. Nineteen smokers, or 21.9% of the total, smoked every day for the previous thirty days. The majority of participants, or 59 out of the total, have tried smokeless tobacco products such as zarda, gutkha, khaini, paan, or tuibur (tobacco brew). (Table-2)

Table 2: Prevalence of Tobacco Use among Multipurpose Health Workers (N=88)

Questions	MPHW n=88 (%)
Current use of tobacco	
Yes	51 (58.0)
No	37 (42.0)
What form of tobacco do you currently use?	
Smoking	17 (19.3)
Smokeless	30 (34.1)
Both smoking and smokeless	4 (4.5)
Have you ever tried or experimented with cigarette smoking even one or two puffs?	
Yes	53 (60.2)
No	35 (39.8)
How old were you when you first tried a cigarette? (N=305)	
10 years or younger	2 (3.8)
11-15 years	14 (26.4)
16-17 years	6 (11.3)
18-19 years	12 (22.6)
20-29 years	16 (30.2)
30 years or older	3 (5.7)
Have you ever used smokeless tobacco such as paan masala, zarda, gutkha, khaini, paan, or tuibur (tobacco brew)?	
Yes	59 (67.0)
No	29 (33.0)

n-number of participants; %-percentage

The attitude of the MPHW is illustrated in Table 3. The assertion that smoking is bad for one's health was strongly agreed upon by 75 participants (85.2%), agreed by 12 participants (13.6%), and disagreed by 1 (1.1%). The majority of participants, 67 (76.1%), agreed with the statement that second-hand smoke is damaging to one's health, while 20 (22.7%) disagreed, and only 1 (1.1%) candidate did not agree. Two of the participants (2.3%) strongly disagreed with the statement that using a smokeless tobacco product is bad for your health, while 62 percent (70.5%) strongly agreed. Of the participants, 55(62.5%) strongly agreed that the Smoking Ban Act treats nonsmokers fairly, followed by 26(29.5%) who agreed, 5(5.7%) who were unsure, and 2(2.3%) who disagreed. In terms of how fair the smoking ban act is to smokers, 37(42.0%) strongly agreed, followed by 39(44.3%) who agreed, 10(11.4) % who were unsure, and 2(2.3%) who disagreed. In

favor of banning tobacco sales to minors, 60(68.2%) strongly agreed, followed by 24(27.3%) who strongly agreed, 2(2.3%) who were undecided, 1(1.1%) who disagreed, and 1(1.1%) who strongly disagreed. The percentage of respondents who strongly agreed that healthcare settings should have policies on smoking cessation was 55(62.5%), however, 31(35.2%) agreed and 2(2.3%) were unsure. Of the participants, 29(33.0%) agreed, 3(3.4%) undecided, and 56(63.6%) strongly agreed that people should exercise caution when smoking among non-smokers. Similarly, while 31(35.2%) of the participants agreed, 6(6.8%) were unsure and, 51(58%) of participants strongly agreed that people should exercise caution when using smokeless tobacco around non-users. A vast majority 65(73.9%) of the participants strongly agreed that healthcare professionals should not smoke in the presence of children, 22(25%) agreed, and 1(1.1%) was undecided. In the presence of children, 61(69.3%) strongly agreed that healthcare personnel should not use smokeless tobacco, 25(28.4%) agreed, and 2(2.3%) were unsure. Of the participants, 59(67%) strongly agreed, and 29(33%) agreed, that healthcare professionals should advise smokers about the dangers of smoking.

It was also found that 59(67%) of participants strongly agreed, followed by 28(31.8%) who agreed, and 1(1.1%) who were undecided on the role of healthcare professionals to warn smokers about the detrimental effects of tobacco use. A large proportion of participants—67(76.1%) strongly agreed that healthcare professionals should inform expectant mothers about the negative consequences of smoking on the developing fetus, followed by 20(22.7%) who agreed and 1(1.1%) who were unsure. Also, a majority of participants—64(72.7%) strongly agreed that healthcare professionals should alert smokers about the dangers of smokeless tobacco use to the developing fetus. A further 23(26.1%) agreed, while 1(1.1%) were unsure.

Among the participants, 60 (68.2%) strongly agreed that healthcare workers are "role models for their patients and the public." However, 3 (3.4%) were unsure. While 4(4.5%) of the participants were unsure, 51(58%) of the participants strongly agreed that "healthcare professionals have a greater responsibility towards the harmful effects of tobacco use. Of the participants, 47 (53.4%) strongly agreed with the statement "Healthcare professionals should attend specific training on tobacco cessation techniques," 40 (45.5%) agreed, and 1 (1.1%) was unsure. Patients are less likely to receive cessation advice from healthcare professionals who smoke themselves. This statement was strongly agreed with by 38 (43.2%) of the participants, more than half (42, 47.7%) agreed, 3 (3.4%) were unsure, and an unexpected 5 (5.7%) of the participants disagreed. Healthcare providers are less likely to counsel patients to give up the use of smokeless tobacco if they use it themselves. 38 (43.2%) agreed, 4 (4.5%) were unsure, and an unexpected 7 (8.0%) of the participants disagreed with this statement. Less than half of the participants—39 (44.3%)—strongly agreed with it.

DISCUSSION

It is usually assumed that Multipurpose health workers were supposed to be aware of the negative effects of tobacco use, refrain from using it to protect their health, and encourage others to do the same. However, the study found that a sizable portion of the participants—53.4%—were tobacco users, of whom 19.3% smoked tobacco. Of the total population, 34.1% use smokeless tobacco, and 4.5% use both. This is more than what Behera et al.'s 2020, earlier research revealed that the user rate among health workers was 10%.^[11] The findings of Omole et al.2024, also revealed that 9.13% of healthcare workers were smokers, with 31.75% having smoked in the past and 59.12% never having smoked.^[12]

A massive 54.5% of the participants have tried smoking at least once. Among tobacco users, a startling proportion had tried smoking before reaching adulthood. 3.8% of the participants were 10 years of age or younger when they tried smoking for the first time. Of those who tried, 26.4% were between the ages of 11 and 15, and 11.3% were between

Table 3: Attitude of Multipurpose Health Workers towards Tobacco Use (N=88)

Statements	Strongly Disagree (SD)	Disagree (D)	Undecided (U)	Agree (A)	Strongly Agree (SA)
Smoking is harmful to health	0	1(1.1%)	0	12(13.6%)	75(85.2%)
Second-hand smoke is harmful to health	0	1(1.1%)	0	20(22.7%)	67(76.1%)
Smokeless tobacco use is harmful to health	2(2.3%)	1(1.1%)	3(3.4%)	20(22.7%)	62(70.5%)
The Smoking Ban Act is fair to non-smokers	0	2(2.3%)	5(5.7%)	26(29.5%)	55(62.5%)
The Smoking Ban Act is fair to smokers	0	2(2.3%)	10(11.4) %	39(44.3%)	37(42.0%)
Tobacco sales to adolescents should be banned	1(1.1%)	1(1.1%)	2(2.3%)	24(27.3%)	60(68.2%)
Policies on cessation of smoking should be implemented in the healthcare setting	0	0	2(2.3%)	31(35.2%)	55(62.5%)
One should be cautious about smoking in the presence of non-smokers	0	0	3(3.4%)	29(33.0%)	56(63.6%)
One should be cautious about the use of smokeless tobacco in the presence of non-users	0	0	6(6.8%)	31(35.2%)	51(58%)
Healthcare professionals should not smoke in the presence of children	0	0	1(1.1%)	22(25%)	65(73.9%)
Healthcare professionals should not practice the use of smokeless tobacco in the presence of children	0	0	2(2.3%)	25(28.4%)	61(69.3%)
It is the responsibility of Health care professionals to warn the smokers of the harmful effects of smoking	0	0	0	29(33%)	59(67%)
It is the responsibility of healthcare professionals to warn the smokeless tobacco user of the harmful effects of tobacco use.	0	0	1(1.1%)	28(31.8%)	59(67%)
It is the responsibility of healthcare professionals to warn pregnant women of the harmful effects smoking has on the fetus	0	0	1(1.1%)	20(22.7%)	67(76.1%)
It is the responsibility of healthcare professionals to warn pregnant women of the harmful effects of smokeless tobacco on the fetus	0	0	1(1.1%)	23(26.1%)	64(72.7%)
Healthcare professionals are "role models for their patients and the public	0	0	3(3.4%)	25(28.4%)	60(68.2%)
Health care professionals should routinely advise patients to stop smoking	0	0	5(5.7%)	33(37.5%)	50(56.8%)
Healthcare professionals should routinely advise patients to stop using smokeless tobacco products.	0	0	3(3.4%)	35(39.8%)	50(56.8%)
Healthcare professionals have a greater responsibility toward the harmful effects of tobacco use	0	0	4(4.5%)	33(37.5%)	51(58%)
Healthcare professionals should attend specific training on tobacco cessation techniques	0	0	1(1.1%)	40(45.5%)	47(53.4%)
Healthcare organizations should establish tobacco cessation clinic	0	0	3(3.4%)	41(46.6%)	44(50%)
The chances of patients quitting tobacco use increase if a healthcare professional advises him/her	0	0	4(4.5%)	43(48.9%)	41(46.6%)
Health care professionals who are themselves smokers are less likely to advise patients to stop smoking	0	5(5.7%)	3(3.4%)	42(47.7%)	38(43.2%)
Healthcare professionals who themselves use smokeless tobacco are less likely to advise patients to stop using smokeless tobacco products.	0	7(8.0%)	4(4.5%)	38(43.2%)	39(44.3%)

the ages of 16 and 17. These results could suggest that their tobacco consumption was a result of their youth and ignorance. In contrast to these results, however, it is also noted that 22.6% of candidates started smoking when they were 18 to 19 years old, 30.2% of them tried when they were 20 to 29 years old, and 5.7% of the participants still tried smoking for the first time when they were 30 years of age or older.

The smokeless tobacco use rate is even higher than the smoking rate, given that 67% of the participants admitted to using it. The rate also exceeds a similar rate of the findings concluded by Hussain et al.2013, where the smokeless tobacco use was 51.6%.^[13] While Fotedar et al. 2013 identified only 2% of current smokeless tobacco user in their study.^[14] The outcome is irrefutable proof of the concerning and upsetting rate of tobacco usage among multipurpose health workers. To help multipurpose health workers quit tobacco use, more research aimed at determining the cause of the high frequency of tobacco use among them could be helpful.

The current survey concentrated on numerous facets of multipurpose health workers' attitudes, behaviors, and roles related to quitting smoking. As per the method of assessment utilized for the study, the higher the attitude score, the better the attitude. Positive responses are noted in two categories strongly agree (SA) which is the highest positive response and agreed (A) which is also a positive response with slightly less intensity than the strongly agreed response. Attitude toward the harmfulness of smoking is 85.2%(SA)&13.6% (A), second-hand smoke is 76.1%(SA)% and 22.7%(A), and smokeless tobacco use is 70.5%(SA) & 22.7%(A) in line with similar findings by Mahdi et al.2018 whose study revealed 80.3% positive attitude.^[15] Surprisingly, however, our survey showed that 2.3% of participants strongly disagree (SD) and 1.1% disagreed that smokeless tobacco use is harmful to health.

Almost all the participants 53.4%(SA) &45.5%(A) have a good outlook on healthcare workers, who ought to receive specialized training on how to quit smoking.

Everyone who took part in the study 67%(SA)& 33%(A) believe that healthcare workers should regularly counsel patients to quit smoking and almost all 76%(SA)& 31.8% to cease using smokeless tobacco products. Similar findings were found in the study by Miszer et al. (2018), which showed that 81% of current smokers felt that medical professionals should advise patients to quit smoking, compared to 92% of non-smokers who agreed ($p < 0.001$).^[15]

68.2% (SA) & 28.4(A) of participants had attitudes that suggest healthcare workers should be viewed as "role models" for both the public and their patients. This is slightly more than the report of Mahdi et al.2018 where the rate is 71%.^[16] The data indicates that healthcare professionals who smoke themselves have a lower attitude towards advising patients to quit smoking 43.2%(SA) & 47.7% (A), while those who use smokeless tobacco products have a lower attitude 44.3%(SA) & 43.2(A). A further set of unexpected results from this study show that 5.7% of respondents disagreed (D) with the statement that healthcare professionals who smoke themselves are less likely to advise patients to quit, and 8% disagreed (D) with the statement that healthcare professionals who use smokeless tobacco themselves are less likely to advise patients to stop using smokeless tobacco products. These findings are noteworthy since the healthcare professionals are the ones providing the advice. This suggests that they should have a more positive outlook on their dedication to serving as role models and inspiring others to give up smoking as well as cessation of smokeless tobacco use.

CONCLUSION

The study conclusively demonstrates a notable prevalence of tobacco use among Multipurpose Health Workers (MPHW) in Mizoram, with a significant portion engaging in cigarette smoking and smokeless tobacco use. The findings reveal a disconnection between the awareness of tobacco's harmful effects and the implementation of cessation efforts, underscored by a lack of perceived responsibility among Multipurpose Health Workers (MPHW) toward promoting tobacco cessation. These insights call for a strategic reevaluation of current tobacco cessation training programs for Multipurpose Health Workers, emphasizing the need for interventions that not only educate but also motivate and empower Multipurpose Health Workers (MPHW) to actively participate in tobacco cessation initiatives, thereby bridging the gap between knowledge and practice in public health efforts.

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Conflict of Interest

The authors declare no conflict of interest.

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