Indian Journal of Clinical Practice, Vol. 31, No. 2, July 2020

A Pilot Study to Assess the Knowledge, Attitude and Practice Among Healthcare Practitioners in India Regarding Tobacco Use and Cessation

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ABSTRACT

Background: Article 14 of the World Health Organization (WHO)'s Framework Convention on Tobacco Control (FCTC) recommends appropriate 'demand reduction measures concerning tobacco dependence and cessation', which includes, among others, "2(b) …. diagnosis and treatment of tobacco dependence and counseling services on cessation of tobacco use in national health and education programs, plans and strategies, with the participation of health workers, community workers and social workers as appropriate". The role of healthcare professionals (HCPs) is critical in demand reduction strategies in the domain of tobacco dependence, control and cessation. **Objective:** This study was undertaken to assess the prevalent knowledge, attitude and practices among the HCPs on tobacco use and cessation. **Methods:** Three groups of HCPs namely, medical doctors, dentists and nurses were requested to participate in the survey using a questionnaire in online and offline mode. **Results:** Significant deficiencies of knowledge, attitude and practice, in all three groups of HCPs covered in the study were found in the domain of tobacco and tobacco cessation. **Conclusions:** The findings of this pilot study highlight existence of a significant policy and practice gap in India among the HCPs' approach to tobacco cessation. Strengthening their knowledge base on tobacco, harm reduction principles and tobacco cessation practices has the potential to enhance the rate of tobacco cessation. This can aid the ongoing national effort in tobacco control to reduce the massive disease and death burden in India from current tobacco use.

Keywords: Healthcare professionals, tobacco cessation, smoking tobacco, smokeless tobacco, policy and practice gap

The Framework Convention on Tobacco Control (FCTC) of World Health Organization (WHO) refers to a comprehensive public health response to the global tobacco epidemic, which was negotiated by and adopted at the World Health Assembly (WHA) held in Geneva in May 2003 as the first WHO treaty under Article 19 of the WHO constitution.[1,2] The provisions of the treaty remain legally binding to all ratifying countries. There are 181 parties to the FCTC. As of July 2017, there were seven countries, including the USA, who had signed but not ratified the treaty, while nine countries had neither signed nor ratified it.[3] India took the lead in including the provisions of the FCTC into a legislative framework by enacting appropriate parliamentary legislations in 2005. This treaty and its legislative incorporation were developed in response to a rapid globalization of the tobacco epidemic due to multiple factors contributing to its growth in India and elsewhere. Article 14 of FCTC envisions member countries to take appropriate 'demand reduction measures concerning tobacco dependence and cessation', which includes, among others, "2(b) …. diagnosis and treatment of tobacco dependence and counseling services on cessation of tobacco use in national health and education programs, plans and strategies, with the participation of health workers, community workers and social workers as appropriate".[1] This provision highlights the important

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IJCP SUTRA: " Set goals you can achieve. For example, aim to eat more vegetables and less high-calorie foods."

role of healthcare professionals (HCPs) in demand reduction strategies since they are the first-responders for any lay person who seeks help in the domain of tobacco dependence, control and cessation.

India is the second highest tobacco consuming country in the world housing ~270 million tobacco users in 2016-17.[4] This includes an estimated >11% of world's cigarette smokers, and larger sections of the population indulging in either (a) smoking tobacco in its alternative or local forms (e.g., *bidis, hookahs, chilams,* etc.), (b) chewing or masticating it in form of smokeless tobacco (SLT) such as *khaini, zarda, gutkha, betel nut/ quid,* etc. or (c) both (mixed users).[5] It is estimated that about 80% of global SLT burden is from India.[6] Consequently, it is estimated that today every 10th adult is a smoker (~100 million) and every 5th a SLT user (~199 million) in India. The economic burden of tobacco-related health issues in India is also staggering. According to the Ministry of Health and Family Welfare (MoHFW), Government of India's report for 2011, the total economic costs attributable to tobacco use for persons aged 35-69 years amounted to US$ 22.4 billion (approx. equivalent to Rs. 1,04,500 crore).[7] Therefore, India represents a complex public health challenge stemming from not only tobacco smoking in different forms, but also from the use of SLT products. Tobacco use kills an estimated million people annually in India.[8] The Government of India's plan of action in the domain formulated by MoHFW on the control of noncommunicable diseases (NCDs) aims to reduce the prevalence of tobacco by 15% by the end of the current year (2020) and further by 30% by 2025.[8]

According to WHO's assessment, since adoption of FCTC in 2005, progress towards implementation of its different articles has been uneven with implementation rates ranging from 13% to 88% for different articles in different countries, including India[9] and in 2019 the MPOWER criteria related to cessation policy in India stands fully implemented.[10] The data for India over the intervening 8-year period between the Global Adult Tobacco Survey (GATS)-1 covering 2009-10 period[11] and GATS-2 covering 2016-17 period[5] shows that the absolute tobacco usage as well as the prevalence of tobacco use among minors (15-17 years) decreased by 6% each (from 34.6% to 28.6% and from 10% to 4%, respectively). The average age of initiation of tobacco simultaneously increased by 1 year (from ~17.9 to ~18.9 years for smokers). While these are encouraging trends, GATS-2 data also shows that India had the 2nd lowest quit rate among the GATS-2 countries despite high prevalence of knowledge about the health consequences of tobacco smoking and/or chewing. GATS-2 report further illustrates that only about 55% of smokers and 50% of SLT users ever thought of or intended quitting with poor to very poor success rate.

HCPs play an important role in the Indian healthcare milieu. They are generally trusted well by their patients. Their advice carries substantial weight in the choices and decisions that people take in their health-related behaviors. Tobacco use and cessation advice is no exception. Multiple studies identified a variety of factors influencing the HCPs' services for tobacco cessation support, including location of practice and history of attending formal training programs.[12-14] Gender dynamics were mentioned in studies wherein male HCPs were confident in providing medication for tobacco cessation, whereas most female HCPs expressed lack of competence in delivering behavioral counseling services.[15] A recent study also highlighted the importance of skill building of physicians to complement their commitment to address it through their healthcare practices.[16] These facts bring to fore, once again, the critical role HCPs can play in the domain of demand reduction and cessation of tobacco. Knowledge and infrastructure empowered, and positively motivated HCPs can potentially enhance the rate of decline of tobacco consumption in India in significant measures. Only then we may be able to meet the set target of reduction of prevalence of tobacco in the country by 15% by the end of the current year (2020) and further by 30% by 2025.[8]

OBJECTIVE

This pilot survey was designed to assess the knowledge, attitude and practice (KAP) of HCPs of India in order to assess the existing gaps and lacunae as well as identify opportunities to overcome them.

METHODS

In this pilot project, a study was undertaken to assess the KAP of HCPs towards tobacco control, using a blind, online and offline survey among three sections of HCPs namely, nurses, dentists and doctors from selected regions of the country in a convenience sampling mode. Available sampling frames (e.g., local chapters of professional bodies like the Indian Medical Association [IMA], Indian Dental Association [IDA] and professional affinity groups in professional networks) purposively from the regions of Chennai, Mumbai and Shillong and their adjoining areas (covering the southern, western and the north-eastern

regions of India, respectively) were targeted for data collection. This approach introduced as much randomness in sampling as was possible within the limitations of sampling avenues and the constraints of the study. The sample size for this study was calculated by the formula, 4pq/d2, where prevalence p = 66.7%, q(1-p) = 33.3%, d = 5% (absolute error) based on Grewal et al.[17] Accordingly, we needed a minimum sample size of 355 for the study. The only inclusion criterion for recruitment was that the subject should belong to one of the three categories of a practicing HCP. Within the limits of the study, as stated, we intended to get baseline data to identify measurable indices for India in the domain of KAP of HCPs towards tobacco control and cessation.

A questionnaire comprising 32 questions was developed based on review of the published literature to assess the KAP among HCPs. The questions were based on a previously conducted feasibility study with a smaller sample of HCPs in India (unpublished), and a survey conducted among general practitioners (GPs) in Sweden and the UK.[18] The first section of the questionnaire included socio-demographic questions wherein disclosure of identity was optional. Subsequently, in the following three sections, participants were asked about their (a) knowledge, (b) attitude and (c) practice associated with tobacco and its control and cessation. The last section on 'knowledge gap' intended to assess the knowledge gap as perceived by the subjects. The links to the online questionnaire were sent to prospective subjects meeting the inclusion criteria with a request to participate in the study. In addition, the offline questionnaires were also distributed to subjects meeting the criteria and the data obtained were manually fed into the system. A sample questionnaire is provided as at the end of this article.

The study protocol was approved by the Institutional Research Committee (IRC) vide approval Ref. No: CRL/181/2020, and Approval Number: TMCH/IRC/2020/028 (date: 25/04/2020).

DATA ANALYSES AND STATISTICS

Descriptive statistical analysis was performed, with continuous variables reported as median and categorical variables reported as number or percentage. All data were analyzed using SPSS version 22.0 software. Graphs were plotted using Excel.

RESULTS AND DISCUSSION

A total of 619 HCPs participated in this study, which included 376 (~61%) female responders. The sample consisted of 133 nurses (>21% of total; 100% females; median age 27 years), 162 dentists (>26% of total consisting of 66% female dentists; median age of 24 years) and 324 doctors (>52% comprising ~42% female doctors; median age 24 years). The cohort variably represented 16 states of India with overwhelmingly dominant responses coming from HCPs belonging to Maharashtra, Meghalaya and Tamil Nadu due to the sampling approach (Table 1).

Analysis of the survey gave deep insights into different aspects of KAP of HCPs on tobacco in India. The HCPs covered in this study were predominantly (54-87%) catering to a mixed group of rural and urban patients in their current practice (Table 1). While almost all HCPs

Table 1. Demographic Details of the HCPs

Demographics indicators	HCPs			
	Nurses	Dentists	Doctors	Total
Participants (n)	133	162	324	619
Fraction of the total (%)	>21	>26	>52	100
Female HCPs (%)	100	~66	~42	>60
Median age in years	27	24	24	24
Main patient load (%) attended to: urban, rural or mixed	Mixed (~87)	Mixed (>70) & urban (~23)	Mixed (~54) & rural (~37)	Mixed (>65), rural (~13) & urban (~21)
Prevalence (%) of current tobacco use	~14	~3	~5	~7
Form of tobacco mainly used	SLT	Cigarette	Cigarette	-
Former tobacco use prevalence (%)	~11	~9	~16	~13

were aware of the deleterious effects of tobacco on health (88-92%) and the overwhelming majority of them (83-93%) enquired their patients about their tobacco habit in the routine patient medical history notes, different HCP groups understood ill-effects of tobacco differently (Table 2). A small segment of HCPs were either themselves current users of tobacco (~14% nurses, ~3% dentists and ~5% doctors) or were former users (~11%, ~9% and ~16%, respectively) (Table 1). The choice of tobacco product used by different HCP groups was variable. While nurses (100% females) predominantly used SLTs in different forms (Betel [*Areca*] nut, Oral/chewing tobacco or Betel quid/*Paan*), the dentists and doctors, mix of both genders, were mainly smokers of cigarettes (Table 1).

Among the HCPs covered in this study, the overwhelming majority, ~92% nurses, ~71% dentists and ~79% doctors, considered nicotine from any tobacco product as the main cancer causing chemical of tobacco (Table 3 and Fig. 1), while remaining had a vague understanding of the carcinogenic content of tobacco. Majority of nurses (>63%) were not aware of any tobacco de-addiction guidelines or protocols. But ~71% of dentists and >51% doctors were aware of it (Table 3). Nonetheless, overwhelming majority of all participating HCPs had never received any specific training in tobacco cessation service (Table 3 and Fig. 2). Even though as much as 88-92% of the HCPs generally believed that tobacco cessation was good for the recovery of patients from other pathophysiologies and advised cessation (Table 2), only a small segment of the HCPs offered tobacco cessation assistance supplemented with counseling and aid of medication to patients without (20-29%) or with (13-38%) follow-up (Table 4). A large majority of HCPs desired to receive tobacco cessation-specific training to augment their tobacco-specific care practices (Table 2). Most of them were unaware about tobacco de-addiction centers in their own location, and, perhaps, therefore, were unable to refer needy patients there (Table 4). They did offer some (41-52%) casual general advice to quit but hardly followed it with specific behavioral counseling, medical aids and/or follow-ups for tobacco-related behaviors among the clients (Table 4). Overwhelming majority of HCPs in all three groups had neither attended a course (90-93%) or CME (continuous medical education)/Workshop/Seminar (74-86%) in tobacco cessation, harm reduction or behavioral therapy. With the possible exception of dentists (Table 4),

Table 2. Attitude of the HCPs About Tobacco in Dealings with Patients

Attitude indicators	HCPs			
	Nurses	Dentists	Doctors	Total
Routine medical history includes tobacco habit of patients (%)	~83	~93	~89	>88
Offering any cessation advice to patients (%)	~74	~86	~80	>80
Self-perception of HCPs being qualified to offer cessation support (%)	~66	~64	~56	>60
Interest for augmentation-training in cessation support (%)	Yes: ~83	Yes: ~82	Yes: ~71; Not sure: ~17	Yes: ~76
Tobacco cessation being good (%) for recovery from other pathophysiology	~88	>92	~91	~91

Table 3. Knowledge of the HCPs on Tobacco

Knowledge indicators	HCPs			
	Nurses	Dentists	Doctors	Total
Relatively more damaging tobacco product (%)	SLT (Oral tobacco + Betel nut & quid) (~61)	Smoking tobacco (cig. + *bidi*) (>49)	Smoking tobacco (cig. + *bidi*) (~55)	-
Nicotine of tobacco being a carcinogen (%)	~92	~71	~79	>79
Awareness of tobacco de-addiction guidelines/protocol (%)	~37	>75	>51	~55
Tobacco cessation service-specific training (%)	~20	~27	~10	~17

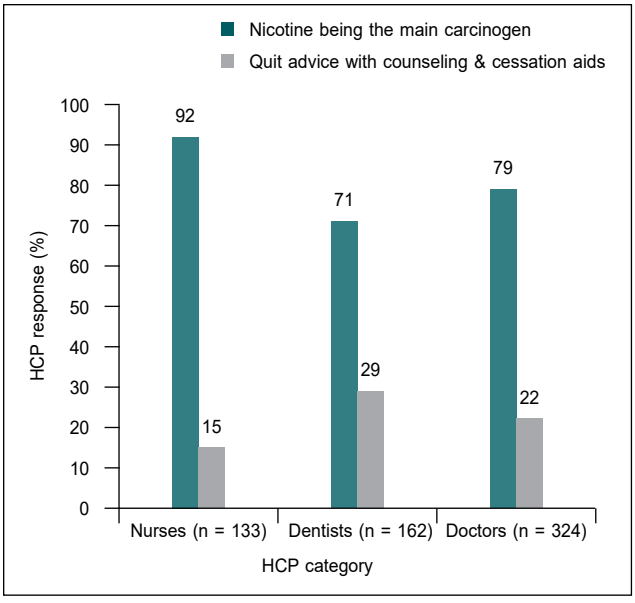


Figure 1. Bar diagram showing the % of HCPs (nurses, dentists and doctors) considering nicotine as the main carcinogen of tobacco *(green)* and the existing level of tobacco cessation service being offered by them to patients *(gray)*.

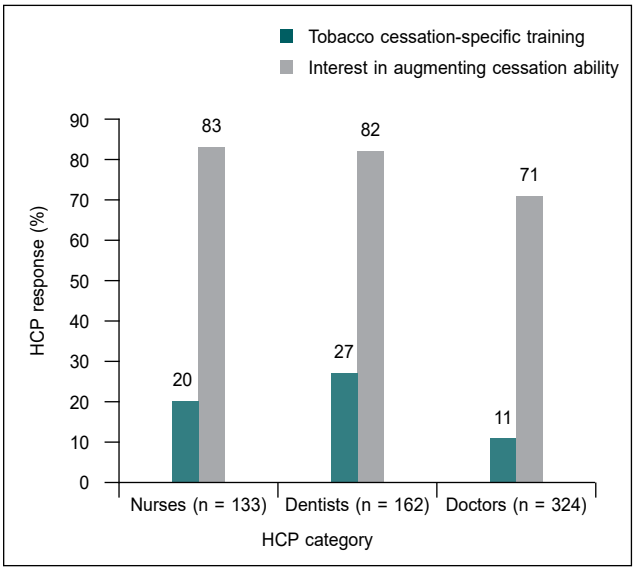


Figure 2. Bar diagram showing the % of HCPs (nurses, dentists and doctors) having received any tobacco-specific training *(green)* and their desire to receive such specific trainings to augment their ability to offer tobacco cessation assistance to patients *(gray)*.

the nurses and doctors were poorly aware of the 5 A's and R's of tobacco cessation service (Table 5).

Majority of HCPs considered nicotine as the main carcinogenic substance of tobacco (Table 3 and Fig. 1). Nicotine is a parasympathomimetic alkaloid, stimulant and the addictive component of tobacco. Like any addictive chemical, nicotine may not be entirely safe. However, apart from its consumption from tobacco products, nicotine is also used by adults worldwide in the form of medically licensed and regulated products such as nicotine patches and gums, among others, as a recommended tobacco cessation aid. According to the UK Medicines Agency,[19] "there is a large body of evidence that medicinal nicotine (in currently licensed forms) is not a significant risk factor for cardiovascular events, and does not cause cancer or respiratory disease". Also, nicotine is not classified as a carcinogen by WHO's International Agency for Research on Cancer.[20] On the contrary, nicotine replacement therapy (NRT) products are on the essential medicines list of the WHO, underscoring the importance attributed by the WHO to medicinal nicotine as a frontline drug for cessation.[21,22]

In countries such as the UK, NRT products are licensed for tobacco harm reduction. This is an important concept that needs to be understood among HCPs to inform why and how medicinal nicotine may be used for as long as necessary by smokers and users of the Indian forms of SLT to achieve tobacco cessation and prevent relapse. Prevalence of such deep and wide nicotine illiteracy among the pilot sample of HCPs surveyed in India highlights a big challenge in getting cessation products to the nearly 270 million tobacco users. The practice of HCPs is bound to be affected if their knowledge and, therefore, attitudes toward nicotine are ill informed.

The HCPs also had no clear idea of the actual carcinogenic content of tobacco, many of which are Group 1 carcinogens (proven carcinogens in humans) - estimated to be up to 60 in different tobacco products.[20,23] While the majority of them knew the potential harm tobacco might cause, they appeared to lack fully or partially the right attitude towards tobacco cessation and control due to a variety of possible reasons. The reasons could include some of themselves being current or former tobacco users, unscientific understanding of unsafe components of tobacco, lack of domain knowledge and training in tobacco de-addiction and cessation services, lack of time for engaging in tobacco cessation, lack of knowledge of availability of other support services in the domain, among others.[12-15] However, it was heartening to note that most HCPs were aware of the serious health implications of tobacco use, and its consequences on the general well-being of the patients. They did realize their lacunae and were keen on filling up the knowledge gaps in the domain by attending specialized trainings/workshops/seminars on the subject by way of CMEs (Fig. 2).

Table 4. Current Practice and Knowledge Gap of the HCPs in Tobacco Domain

Practice/Knowledge gap indicators	HCPs			
	Nurses	Dentists	Doctors	Total
Aware of any de-addiction center in your location	No: >62; Yes: ~32	No: >64; Yes: ~32	No: >64; Yes: ~32	No: >64; Yes: ~32
Referred patients to such centers	>35	>34	>42	~39
Blanket 'quit' advice towards cessation	~41	~49	~52	~49
'Quit' advice with counseling & aid towards cessation	~15	~29	>21	~22
Never attended cessation, harm reduction or behavioral therapy courses	>90	>92	>93	~92
Never attended cessation, harm reduction or behavioral therapy CMEs/ Workshops/Seminars	>86	~74	>85	~83
Unaware of 5 A's & 5 R's of cessation	~70	~26	~73	~60

Table 5. The 5 A's and R's of Tobacco Cessation Service

Attributes of intervention	Explanation
The A's	**A**sk
	Advise
	Assess
	Assist
	Arrange
The R's	**R**elevance
	Risks
	Rewards
	Roadblocks
	Repetition

The first line of defense against tobacco available to the general population is the HCP who could provide necessary information and medical intervention, including counseling, hand-holding and follow-up services.[1,24] HCPs, therefore, are the critical drivers of tobacco cessation effort globally. It is essential that clinicians such as doctors, dentists, nurses and psychiatrists offer their services to the affected population in a coordinated manner for effective tobacco control and cessation.[25] With this background, our pilot study assumes great significance because it finds significant lacunae on this front. Notwithstanding the inherent limitation of the present study based on a convenience sampling method, and small sample size, as stated earlier, the pilot study clearly highlights some startling trends that need due consideration being the very first pilot study on KAP of HCPs covering several states and regions of India. There appears to be significant deficiencies at all levels of KAP, among all three sections of the HCPs covered in the study. In order to eliminate the existing deficiencies, we need composite short-, medium- and long-term strategies of intervention specifically designed to address the three HCP groups.

In short-term strategic intervention, specific CMEs/ Workshops/Seminar on tobacco and tobacco cessation designed separately for three groups of HCPs may be the starting point. In designing such educational materials, the latest global best practice on tobacco cessation will need to be adapted for the Indian context. This should include adequate elucidation of the concept of tobacco harm reduction and the fact that medicinal nicotine is a key tool for cessation, endorsed by the WHO. Such training may be conducted by national and international experts in the domain across all platforms, including face-to-face, audio-visual and online platforms. These educational interventions and upskilling endeavors among HCPs will be the foundation stone for creating a nicotine literate society and influencer community. This has the potential to reap large dividends due to the reach and impact of HCPs on patient behavior. The medium- and long-term approaches might include, but may not be limited to, refresher CMEs, appropriate curricular modifications in medical, dentistry, nursing and allied education systems to include detailed studies on science of tobacco induced damage to health, tobacco control strategies, legal provisions and state-of-the-art of different tobacco cessation strategies practiced across the globe, among others.

Creation of sound infrastructures of tobacco cessation clinics with empowered HCPs, and development of

standard operating procedures (SOPs) for users of different tobacco products will be necessary to achieve the target of tobacco control. It is critical that the HCPs are well-equipped with up-to-date knowledge base, possess a positive attitude with empathy towards tobacco control and cessation, and are fully empowered by a SOP of global standard reflecting best-in-line practices to achieve effective and significant success in offering tobacco cessation service.[24] The complexity of tobacco usage profile prevalent in India today, and the inherent weakness of HCPs in all three domains of KAP related to tobacco, might, at least in part, explain the poor tobacco cessation outcome in India evident by comparing the GATS-1 & 2 data[5,11] as against the goal set by Government of India for the current year-end under FCTC regimen.[7,8] This can aid the ongoing national effort on tobacco control and enhance India's chances of becoming a tobacco-free nation. Based on these study findings, studies involving all zones of India, using a probability based random sampling may be undertaken.

These findings also highlight the massive policy and practice gap prevalent in India among healthcare practitioner's approach to tobacco cessation. Such a gap has serious implications on routine clinical practice as well as on the nation's health. Use of risky oral and smoked tobacco products are a key modifiable behavior that contributes to the ever growing disease burden of preventable NCDs in India. Providing cessation advice to the 270 million tobacco users of India, especially those in rural areas with limited or no access to technology and services, will remain a challenge for the foreseeable future. Enabling and empowering healthcare practitioners, including community health workers and AYUSH practitioners, to provide timely advice and follow-up on tobacco cessation has the potential to reach the diverse geography and population of India quicker. The sooner the FCTC Article 14-based global tobacco cessation policies reach and translate into healthcare practitioners' practice into the deep interiors of India, the greater the likelihood of reduction of India's NCD burden from tobacco use.

CONCLUSIONS

The tobacco usage profile prevalent in India today is highly complex. The findings of this pilot study highlight existence of a significant policy and practice gap in India among the HCPs' approach to tobacco cessation. The existing gaps of HCPs (nurses, dentists and doctors) in all three domains of KAP related to tobacco and tobacco cessation, might, at least in part, explain the poor tobacco cessation outcome in India and has serious implications on routine clinical practice as well as on the nation's health. There is an urgent need to address the issue in order to strengthen HCPs on KAP to enhance the rate of tobacco cessation in India.

Acknowledgment

Authors greatly appreciate and thank (a) Ms Mercy Marbaniang, Shillong for the arduous task of manually entering response data of offline participants on the online portal, and (b) Mr Ahmad Maaitah, doctoral candidate, University of Southampton for prompt and immaculate statistical analyses.

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SAMPLE QUESTIONNAIRE

Pilot Study on Knowledge, Attitude and Practice Among Healthcare Professionals in India: Tobacco and Tobacco-cessation Services

Purpose: This short questionnaire is to establish a baseline on the prevalence and knowledge among healthcare professionals around tobacco use and de-addiction treatments, respectively. Such a baseline will allow us to identify gaps and opportunities to empower medical professionals help their patients quit tobacco for good.

Confidentiality and Anonymity:

- Please note that your name and email are being asked only for follow-up studies !
- Data from this survey will be anonymized and analyzed by the Centre for Health Research and Education purely for research purposes and may be presented in scientific publications for educational purposes. This survey is not for commercial purposes and not sponsored by any pharmaceutical or tobacco company.

Section 1: Socio-demographics

1.1 Name of HCP & email (optional & voluntary):

_____

1.2 Age (years):_____

1.3 Gender: Female ☐ Male ☐ Other ☐

1.4 Professional qualification(s): _____

1.5 Experience (years): _____

1.6 Specialty of medical practice:_____

1.7 Patients you normally attended to are: Rural ☐ Urban ☐ Mixed ☐

1.8 Are you currently a tobacco user? Yes ☐ No ☐ Do not like to respond ☐

1.9 If yes, what tobacco product(s) do you use? Cigarette ☐ *Bidi* ☐ Oral/Chewing tobacco e.g., *Gutkha, Khaini*, etc. ☐ Betel (*Areca*) nut ☐ Betel quid or *Paan* ☐ Mixed ☐

1.10 If no, did you ever use any tobacco product? Yes ☐ No ☐ Do not like to respond ☐

Section 2: Knowledge

2.1 Based on your knowledge, please arrange the following categories of tobacco products in terms of its health damaging potential (1 being least and 5 being most damaging):

Cigarette ☐ *Bidi* ☐ Oral/Chewing tobacco such as *Gutkha, Khaini*, Betel (*Areca*) nut/*Paan*, etc. ☐

Betel (*Areca*) nut ☐ Betel quid or *Paan* ☐

2.2 Based on your knowledge, do you think nicotine from cigarette or *bidi* smoke or oral tobacco products cause cancer?

Yes ☐ No ☐ May be ☐ Do not know ☐

2.3 If no, what are the main causes of cancer from tobacco use?_____

2.4 Do you know any tobacco de-addiction guidelines or protocols? Yes ☐ No ☐

2.5 Did you ever receive any specific training on tobacco cessation service? Yes ☐ No ☐

Section 3: Attitude

3.1 Does your routine history taking include questions on the tobacco habit of a patient? Yes ☐ No ☐

3.2 To a patient using tobacco, do you provide tobacco cessation advice? Yes ☐ No ☐

3.3 If yes, average how many patients receive tobacco cessation advice per month?_____

3.4 If no, why?

You did not think it was necessary ☐ Patient did not ask for it ☐

You had no time for this in your practice ☐ No specific reason ☐ Other_____

3.5 In your own assessment, are you in a position to offer tobacco cessation support to patients?

Yes ☐ No ☐ Not sure ☐

3.6 Are you interested in getting appropriate training to enhance your ability in the domain?

Yes ☐ No ☐ Not sure ☐

3.7 Do you think tobacco cessation could help a patient in recovery from other ailment(s)?

Yes ☐ No ☐ Not sure ☐

Section 4: Practice

4.1 Which city & state do you practice? City:_____; State:_____

4.2 Do you know any tobacco de-addiction center in your city? Yes ☐ No ☐ None ☐

4.3 If yes, did you consider referring a patient to such centers for help? Yes ☐ No ☐

4.4 On an average how many patients do you refer to such centers per year?_____

4.5 In your clinical practice in the last one year, what have you mainly advised your patients using tobacco (cigarettes/*bidis*/oral tobacco such as *Gutkha, Khaini*, Betel (*Areca*) nut/*Paan*, etc.)?

☐ Nothing

☐ Asked them to quit, but did not give behavioral counseling or medication

☐ Advised to quit, and provided behavioral counseling with medications such as nicotine gums/patches

☐ Advised to quit, and provided behavioral counseling, medications such as nicotine gums/patches, and called patients for follow-ups

☐ Referred them to the nearest tobacco de-addiction center

Section 5: Knowledge gap

5.1 Have you **Ever** attended a specialized course on tobacco cessation or harm reduction or behavioral therapies (e.g., a certificate course or structured program on site or online)? Yes ☐ No ☐ Not sure ☐

5.2 If yes, name and duration of the course?

Name:_____; Duration:_____(hours/days/weeks)

5.3 Have you attended a CME/Workshop/Seminar on tobacco cessation or harm reduction or behavioral therapies? Yes ☐ No ☐ Not sure ☐

5.4 When was the last such opportunity for you to update your knowledge-base in the domain of tobacco and tobacco cessation? Month: _____ Year: _____

5.5 Are you aware of 5 A's and 5 R's strategies in tobacco cessation support? Yes ☐ No ☐ Not sure ☐

(https://docs.google.com/forms/d/e/1FAIpQLSeYSFMrVlxL8gN01RWGZ2t7g_bN583qbEWrnNtcItMV95seFw/viewform)

■■■■

Tocilizumab Improves Arthritic Kids' Quality of Life

Treatment with tocilizumab yielded significant benefits in health-related quality of life among children with juvenile idiopathic arthritis (JIA), suggests a secondary analysis of clinical trial data.

Among patients with polyarticular JIA in the phase III CHERISH trial, a reduction in the mean score on the Childhood Health Assessment Questionnaire (CHAQ) from 1.39 to 0.67 was noted at Week 16, reported researchers. Additionally, in children with systemic JIA in the phase III TENDER trial, those receiving tocilizumab had a mean change on the psychosocial summary score on the Child Health Questionnaire-Parent Form 50 (CHQ-P50) at Week 12 of 7.3 compared to 2.4 for those given placebo, reported researchers online in *Arthritis Care & Research*… (*Medpage Today*)

Belimumab Beneficial for Kids with SLE

Intravenous belimumab was found to be beneficial as a treatment for children with systemic lupus erythematosus (SLE) in the first trial of this drug for patients 5 to 17 years of age, reported researchers online in *Annals of the Rheumatic Diseases*.

At Week 52, more patients receiving belimumab compared to placebo were considered responders on the SLE Responder Index (52.8% vs. 43.6%, OR 1.49, 95% CI 0.64-3.46). The risk of severe flare was shown to be 64% lower in the belimumab group compared to the placebo group over the 52 weeks… (*Medpage Today*)

Managing Prediabetes to Ward Off Heart Disease

According to a meta-analysis published online in *The BMJ*, prediabetes was shown to be a risk factor for all-cause death and heart-related events.

Among the general population without a history of atherosclerotic cardiovascular disease, prediabetes was found to be associated with a 13% (RR 1.13, 95% CI 1.10-1.17) higher relative risk for all-cause mortality over a median follow-up of 9.8 years. Additionally, prediabetes in the general population was associated with a higher relative risk of heart events including composite of cardiovascular events: RR 1.15 (95% CI 1.11-1.18); coronary heart disease: RR 1.16 (95% CI 1.11-1.21) and stroke: RR1.14 (95% CI 1.08-1.20)… (*Medpage Today*)