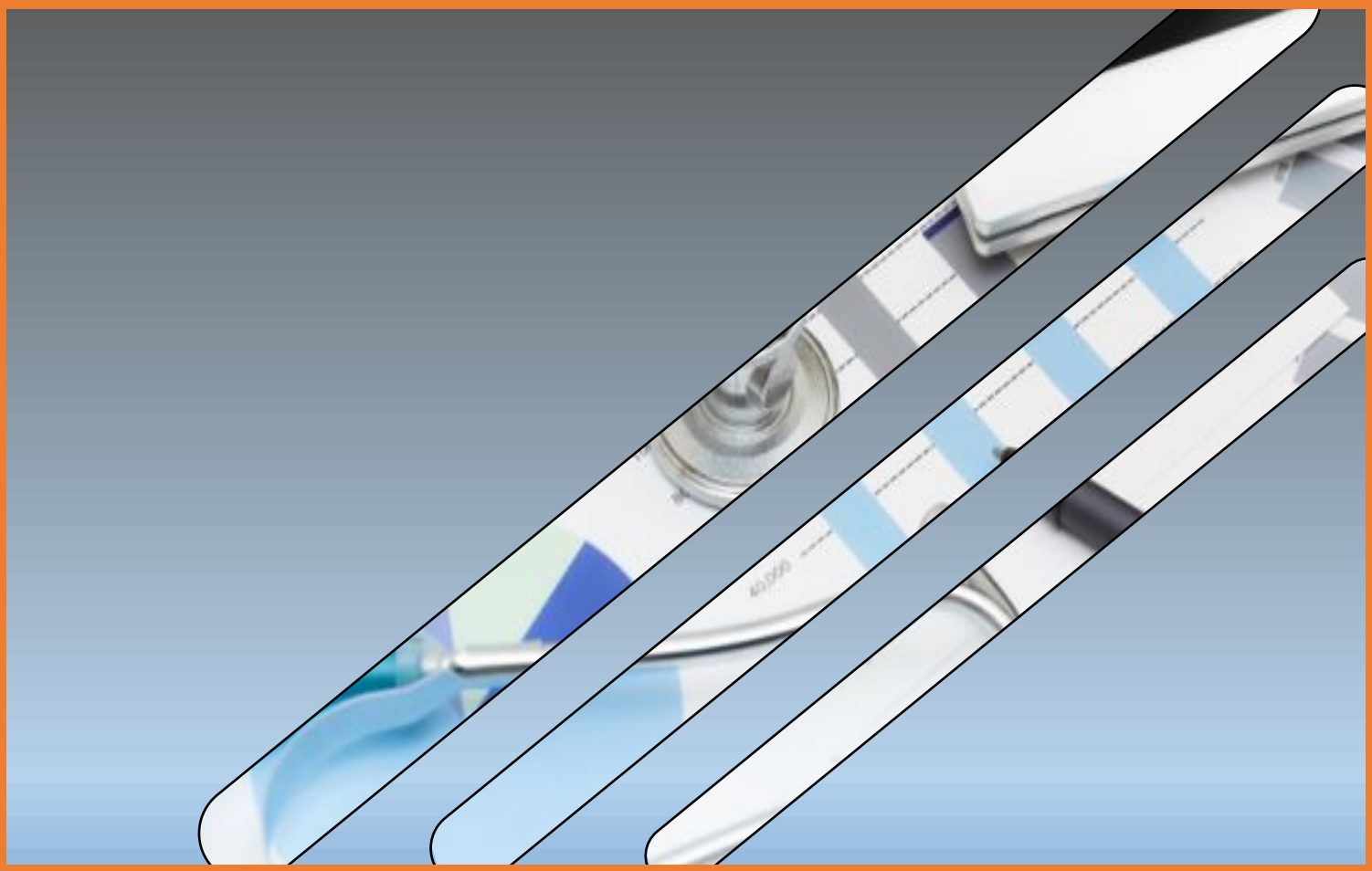

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EDITORIAL COMMENT

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IHRJ Completes Six Years of Glorious Publication: Thank You Note

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Greetings

It is with extreme pleasure that we inform you all that with your support, IHRJ has completed six years of glorious publication. Our backend team also deserves a special mention for their non-stop technical support and solving issues at a short notice.

As we embark on the journey of our seventh year of publication, we remain committed to our cause of providing top-quality and ground breaking research a platform to be published.

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We look forward to your continued association and feel free to contact us via e–mail for any queries/ clarifications.

Regards,

Editorial team
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SHORT COMMENTARY

QR CODE

World No Tobacco Day 2023: Short Commentary

ABHINAV BHASKER

The relationship between tobacco use and health is a topic widely studied among researchers in recent decades in which lung cancer came out to be the first disease that is definitively linked to tobacco use. Cancer, cardiovascular diseases and chronic obstructive pulmonary disease continue to be the main health issues that are associated with cigarette smoking.[1] Tobacco is one of the major risk factors for periodontitis and oral cancer. Many research evidence suggests that smokers have greater tendency to problems such as teeth and alveolar bone loss and gingival recession compared to non-smokers, and to the formation of periodontal pockets, which increase the probability of having more severe periodontal disease.[2]

Apart from its adverse health effects, tobacco and its associated products also considerably impact environment. Cigarette litter or cigarette waste is one of the major environmental contaminant, as trillions of cigarettes are smoked worldwide and a greater part of cigarette waste, is disposed of in the open areas including roads, parks, and streets. Cigarette litter is the most commonly found litter. This cigarette litter basically contains cigarette filter made of cellulose acetate and unburnt part of cigarette filter. Filters from smoked cigarettes contains significant amount of tar. The tar contains thousands of heavy metals and chemicals. These constituents have been reported to be toxic to humans that can cause a variety of diseases including inflammatory lung diseases, cardiovascular diseases and cancers. Cigarette litter is a major concern to the environment as the chemicals and heavy metals contained in the waste leach into the soil and water sources and pose threat to animals and plants, from there they could also enter into the food chain.[3]

Dental professionals are well positioned to provide tobacco cessation treatment to their patients. Not only dental professionals come across large umber tobacco users, but they often have more time to interact with patients and see patients more regularly than other health professionals do. The five A's approach to tobacco cessation (Ask, Advise, Assess, Assist and Arrange) is an evidence based intervention supported by several countries and organizations, including the World Health Organization.[4]

It has been estimated that Tobacco consumption is going to kill more than 1000 million people in 21st century. Considering the above stats, the World Health Organization started the Tobacco Free Initiative (TFI) in 1998. The mission of the WHO TFI's is to reduce the global burden of disease and death caused by tobacco, thereby protecting present and future generations from the devastating health, social, environmental and economic consequences of tobacco use and exposure to tobacco smoke.[5]

The Member States of the World Health Organization started World No Tobacco Day in 1987, to draw worldwide attention to the tobacco epidemic and its associated adverse health effects. In 1987, the World Health Assembly passed a resolution, calling for 7th April 1988 to be a "world no-smoking day." In 1988, another resolution was passed, according to which, World No Tobacco Day is celebrated every year on 31st May.[6]

The theme for this year's World No Tobacco Day 2023 is "Grow food, not tobacco." This campaign

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encourages governments across the globe to end tobacco farming and encourage and support farmers to switch to more sustainable crops that improve food security and nutrition.[6]

The main objectives of this campaign are:
1. Mobilize governments to end subsidies on tobacco growing and use of savings for crop substitution programmes.
2. Raise awareness among tobacco farming communities about the benefits of shifting from tobacco farming to other crop farming.
3. Support efforts to combat desertification and environmental degradation by decreasing tobacco farming;
4. Expose industry efforts to obstruct sustainable livelihoods work.

This day is celebrated to create awareness globally regarding adverse effects of tobacco products in general and oral health. Not only health effects, this day also aims to make people acquainted with harmful effects of tobacco smoke and cigarette litter on environment. Globally, governments are encouraged to motivate their farmers to shift cultivation of tobacco to more useful crops.

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REVIEW

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Global Health: No Borders, Just Health Care

ISHITA SHARMA[1], SAUNDRYA KAUSHAL[2], PINKI[1]

ABSTRACT

Achieving marked health and improving the quality of life is the area of major concern for the healthcare bodies and workers all over the world. "No man is an island". We live in a community and are inter-related. So is health. Global community health is an amalgamation of health care services, economies and social conditions of the communities all over the globe in a unison. Health is not only restricted within the four walls of a clinic or a hospital, but involves every individual of a population outside those walls and is community-oriented. It deals with solving health related issues and achieving better health goals, by inter-connecting healthcare systems globally with the main focus at achieving health for all, and not for one!

KEYWORDS: Health, Economies, Social Conditions, Health For All

INTRODUCTION

Global community health deals with the health of community by fostering globalization worldwide. It involves each one of us as an individual and as communities that increasingly interact with each other and help in reducing the boundaries by interconnecting different people, nations and economies. It helps in contributing to health improvement by diffusion of knowledge regarding health, low cost health technology and human rights. It involves various stakeholders, advocates, implementers, policy makers, healthcare providers, charitable organizations, government agencies and all those who are advancing the agenda for Global Health priorities all over the globe.[1]

WHAT ACTUALLY IS GLOBAL HEALTH?

According to Koplan et al 2009, Global Health is a field of study, research and practice that places a priority on achieving equity in health for all people worldwide.[1,2] Basically, Global Health aims at better health outcomes for populations and communities that are vulnerable. Global Health is also stated as a collaborative transnational research and action for promoting the concept of "health for all" which emphasizes on importance to collaborate.[3]

WHAT IS "HEALTH FOR ALL"

An equal opportunity to be as healthy as possible is necessary for all the people all over the globe. It requires a collective approach along with health and social justice to reach across sectors, communities and countries. It ensures that all people in the world have access to good quality services of health, when and where needed, without any financial adversity. The obstacles of poverty and discrimination that continue to adversely affect those who are marginalized and unable to access healthcare should be tackled. As funding and policy decisions are made, the affected populations/communities must play a leading role in selecting and developing the solutions so that global health planning and programming decisions are community-led.

KEY PRINCIPLES OF GLOBAL COMMUNITY HEALTH

1. A focus on public good
2. Belief in a Global perspective
3. An approach that is scientific and interdisciplinary
4. Multi-level interventions
5. Comprehensive frameworks for financing and health policies.

IS GLOBAL HEALTH SAME AS PUBLIC HEALTH AND INTERNATIONAL HEALTH?

Although all of these three terms promotes Health and resolve health related problems, however they vary at different aspects. Global Health Community has its main focus on health issues transcending the national boundaries and to achieve health equity among nations worldwide is its greatest priority. It is an interdisciplinary as well as a multidisciplinary body that embraces prevention in population entwined with

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clinical care of individuals.

Whereas international health is concerned, its main focus lies at resolving health issues outside one's own country which clearly means that it's area of extent is binational. It prioritizes helping other nations.[4]

While public health operates nationally i.e. it focuses on specific communities or countries. It prioritizes health equity within a nation or community and mainly embraces prevention programs for populations.

HAS GLOBALISATION HELPED IN HEALTH IMPROVEMENT?

Nations, businesses, communities and people worldwide are becoming more connected and interdependent with the help of increased economic integration and communication exchange, cultural diffusion, and travel.[5,6] Emphasis was made on the social outlines of global health development. It was believed that much of the improvement in global health during the last half of the twentieth century arose from health technologies and knowledge transfers between developed countries and developing countries.[7] In past 15 years, rise in global attention to health is seen considerably. The main focus in bilateral and multilateral development aid policies is health concerns which resulted in creation of over 100 global public–private partnerships. It is also said that health should be considered as an investment in economic growth rather than a cost.[8]

GLOBAL HEALTH COUNCIL- THE COLLECTIVE VOICE OF GLOBAL HEALTH COMMUNITY

The Global Health Council is a US-based networking organization in Washington DC. It is a non-profit organization.

It is the world's largest membership alliance devoted to advance priorities of global health by connecting governments, advocates, implementers, stakeholders as well as policy makers, all around the world through increased investment, robust policies and the power of the collective voices. According to their website, the Council "assembles stakeholders around key priorities of global health and actively engages decision makers to influence health policy."

It works in three main areas: policy and advocacy, member engagement, and connections and coordination. It amplifies critical messages of global health by measuring, aligning & encouraging work of members. It is considered to be the focal point for other global health networks worldwide.
The main priorities of GHC are:

- **Multilateral organizations:** Multilateral organizations are global organizations where multiple parties come together towards a common goal. United Nations, overall, is a multilateral organization which includes other organizations like the World Health Organization, UNICEF, the Global Fund and the Global Alliance for Vaccines and Immunizations. UNICEF helps children and women all over the world to live happy as well as healthy life. For example, they led the work for the Global Action Plan for the prevention and control of Pneumonia.

- **Global health security:** Global health security has an approach that is multidisciplinary, holistic, and is centered on the safety and security globally. Not only national security ought to be the prime most explanation for security decisions but should also include human rights, dignity, equity and development. To benefit all the people around the world, global health securities should also include low and middle-income countries or communities.

ROLE OF GOVERNMENT & POLICY MAKERS IN GLOBAL COMMUNITY HEALTH

Equity in Global health totally depends on the facilitations and aids from government and policy-makers.[9] They make far-sighted decisions on how to allocate scarce resources for the most impact. Via an effective policy, the officials of global health can also persuade and encourage the crucial healthcare companies to improve access to the products over the globe, including low or middle-income countries or communities.

INVOLVEMENT OF VARIOUS OTHER STAKEHOLDERS

Stakeholders,that are less often included are celebrities whose popularity and influence is used to promote global health goals. For example, to promote safe childbirth and maternal well-being, Model Christy Turlington Burns stated, “Every Mother Counts".

The other two major group of stakeholders who are also less often involved but helps in building the backbone for delivering global health are Private Companies which provide health commodities such as drugs, vaccines, etc. and the other one is Non-Government

Organizations. It is necessary recognize the commendable role that is played by NGOs in executing health programs. The backbone of the healthcare system in developing countries which include India as well is formed by the NGOs. For examples "Save the Children" and "CARE".[10]

MAJOR GLOBAL COMMUNITY HEALTH ISSUES DEALT WITH ARE

i) Emerging and re-emerging infectious diseases
ii) Antimicrobial resistance
iii) Eradication of polio
iv) Diarrhea, measles and pneumonia in young children
v) Sexually-transmitted infections in young women
vi) Tuberculosis
vii) Malaria
viii) HIV/AIDS
ix) Parasitic infections such as hookworm
x) The increasing number of cases of non-communicable diseases (eg. diabetes)

IMPACT OF COVID-19 ON GLOBAL COMMUNITY HEALTH

The COVID-19 pandemic clearly makes us understand that no country acting alone can respond effectively to health threats in a globalized world. COVID-19 has overturned healthcare systems and derailed the non-COVID-19 related treatments. It has left a tremendous impact on global health. Bringing many health systems on their knees, this pandemic had a knock-on impact on the diagnosis and the treatment of other diseases due to social distancing and lockdowns.[11] It has continued to exacerbate inequities that previously existed between countries, people, and communities. Frontline health workers globally have shouldered the tremendous load of treating a global pandemic, while simultaneously continuing to provide crucial healthcare services.

Dr Tedros Adhanom Ghebreyesus, the Director-General of the World Health Organization, stated that "The COVID-19 pandemic has shown the importance of data and science to build back more resilient health systems and equitably accelerate towards the shared global health goals".[12] Also this pandemic period paced up the need of sharing knowledge globally through scientific researches.

DENTISTRY AND GLOBAL COMMUNITY HEALTH

Outcomes of different oral conditions varies enormously in different populations or communities worldwide. Many low-income, rural, and minority communities still struggle to access dental care.[13] It is the absolute necessity to reduce the differences between dental research and global health so that oral health gets recognized as a health priority. The indulgence of multi-functional dental health organizations, for example World Dental Federation, the International Association for Dental Research is pivotal to promote dental health globally. If there will be a reduction in the number of untreated dental cases then it will eventually indicate major success in achieving goals of global health.[13,14] Health services should continue to promote and improve the standard of surveys of oral health that will ensure the timely, accurate, relevant and latest data is compiled and analyzed. A rigid evaluation of substantiation for equitability in averting and handling of dental conditions must be carried out by oral health researcher. Therefore, dental health care should become a more cost-efficient approach in delivering dental care to people.

CONCLUSION

Global health considers the entire human population as a single global community. Hence, it is clear that Health can be improved by preventing, detecting, and responding to public health events worldwide. We all as an individual and as a community must contribute and commit to the goals and objectives of global health, no matter how small the contribution. Therefore, it is our duty too to take initiative in prioritising global community health goals.

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ORIGINAL RESEARCH

QR CODE

Knowledge, Attitude and Risks Associated in Treatment among Dental Practitioners of Ghaziabad Regarding COVID-19 Pandemic

RAFIA*[1], RAMAN GUPTA[2], ASHISH SINGLA[3]

ABSTRACT

INTRODUCTION: COVID 19 was first reported in Wuhan China, in December 2019 and it soon spread to the entire globe involving millions of people. It was declared as a global pandemic on 11th March 2020 by WHO. The symptoms ranged from mild to deadly and often included fever, cough, breathing difficulty, loss of taste, loss of smell. Severe cases resulted in pneumonia, dyspnea, shock, multi-organ failure and death. Transmission is chiefly through droplets thus pose a significant risk among dental professionals.
AIM: to assess the knowledge about Covid-19 among dental practitioners in Ghaziabad and the preventive measures used for the treatment of the patients.
MATERIALS AND METHOD: An online survey was carried out among the dental practitioners of Ghaziabad from November 2020 to January 2021. A snowball sample of 250 dentists was selected and a predesigned questionnaire was mailed to them. Response was recorded via a second email sent by them.
RESULTS: The study showed that majority of dentists 95% had good knowledge about Covid and the primary source of information was World Health Organization through television, radio and social media. About 85% were fearful of the being infected by suspected patients, and transmitting the disease to their homes and 61% were afraid of the impact it will have on dentists livelihood. It was witnessed that dentists having more than 10 years experience had a positive attitude towards the virus. Infection control protocols seemed insufficient and needed improvement and assistance.
CONCLUSION: the study concluded that though the knowledge was good, the practice scores were poor. Our findings have important implications in need for a special training program for dentists to deal which such pandemics.

KEYWORDS: Covid-19, Dentists, Ghaziabad, Knowledge, Practice.

INTRODUCTION

The virus causing COVID-19 is a severe acute respiratory syndrome (SARS)- like coronavirus that had previously been reported in bats in China. The virus is zoonotic that has a tendency to be transmitted between animals to humans and humans to humans.[1] COVID-19 caused a global pneumonia outbreak and has become a major challenge to public health in almost all countries of the world. It and was declared as a pandemic on March 11, 2020, by the World Health Organization (WHO).

The spread of the newly emerged coronavirus has created panic and chaos worldwide and changed the landscape of the health sector.[2] As of July 2, 2020, a total of 10,357,662 cases of COVID-19 have been reported throughout, with approximately 4.91% of the mortality rate.[3,4] COVID-19 is likely to cause severe acute respiratory infection amongst infected people, which is usually transmitted from person to person through hands, saliva, nasal drops, and superficial contact.[5] This viral infection involves several systems such as respiratory, enteric, hepatic, neurologic, and vascular systems.[6,7] Dentists are at the highest risk of getting infected, as droplets are the primary source of transmission of the disease and dental clinical settings could act as a possible place for the transmission of the virus when an infected person (symptomatic or asymptomatic) gets dental treatment. Evidence shows that SARS-CoV-2 has been detected in saliva samples, and thus saliva can act as a potential source of transmission.[8,9,10]

The aim of this study was to assess the knowledge, attitude and practice regarding coronavirus among dental practitioners and determine the preventive strategies in use.

MATERIALS AND METHODS:

An online survey was carried out among the dental practioners of Ghaziabad from November 2020 to

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January 2021. Ethical approval was taken from the ethical clearance committee of D.J college. A snowball sample of 250 dentists was selected and a predesigned questionnaire was mailed to them. Response was recorded via a second email sent by them. Approval was taken from the ethical review committee of D.J college. The questions addressed the attitude, knowledge and practice of dentists about coronavirus.

RESULTS

The response rate was 97%, the data collected collected and analyzed. Data was entered into SPSS version 21. The knowledge was measured using a six questions and dichotamized into good and poor knowledge based of a 60% cut off of the domain. The study showed that majority of dentists 95% had good knowledge about Covid and the primary source of information was World Health Organization through television, radio and social media. About 85% were fearful of the being infected by suspected patients, and transmitting the disease to their homes and 61% were afraid of the impact it will have on dentists livelihood. It was witnessed that dentists having more than 10 years experience had a positive attitude towards the virus. Infection control protocols seemed insufficient and needed improvement and asssistance (table 1). The questions used in the questionnaire are shown in table 2.

AGE	Percentage (%)
20-30 years	34
30-40 years	38
40-50 years	24
50-60 years	4
GENDER	
Male	60
Female	40
LEVEL OF EDUCATION	
BDS	58.14
MDS	48.16
EXPERIENCE IN YEARS	
1-5 years	12.8
5-10 years	26
10-20 years	34.8
> 20 years	26.4

Table 1. Sociodemographic characteristics of Dental practitioners (n=250)

DISCUSSION

The findings of the current survey demonstrated that the majority of dentists had good knowledge (95%). Our result is consistent with a multinational study (92.7%) conducted by Kamate et al.[11] and anotherstudy conducted by Saqlain et al.[12] in Pakistan (93.2%).We also found that 75.57% of dentists used official government websites such as the World Health Organization as the main source of information about COVID-19. The majority of the dentists participating in this study were male (60%), which is in accordance with a study conducted by Almulhim et al.[13] and Mustafa et al.[14] The virus remains asympotomatic for sometime, but contiues to be infectious and the disease can spread before any symptoms are detected. Therefore, it is recommended to increase the level of awareness in preventive measures in order to control its spread. All of the prevention measures—ranging from social distancing, hand washing to protective equipment, including surgical masks, face shields, gowns, and gloves—are important as protection measures for dental professionals in triage areas. In line with the results of previous studies, infection with COVID-19 through patients or colleagues, treatment of suspected patients, nonobservance of social distance with patients, the possibility of transmitting the infection to family members, post-infection quarantine, and treatment costs due to COVID-19, as well as news related to mortality were the main causes of dentist's fear and anxiety in this study.

CONCLUSION

In general, dentists of Ghaziabad who were involved in the current survey showed satisfactory knowledge and a positive attitude toward COVID-19 during the outbreak. However, there is stillscope for recommendations to improve the knowledge level among dental staff. In addition, it is recommended to increase the dentists access to materials provided by dental health-care authorities and to specify the best and safest approaches while dealing with COVID-19 patients during and after the outbreak.

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Questions regarding knowledge about coronavirus. (open-ended questionnaire).
Q1.What is the correct incubation period of coronavirus?
Q2.What are the main symptoms of covid-19?
Q3. How is Covid mostly transmitted?
Q4. Can covid be transmitted from an asymptomatic person?
Q4. How can surfaces be cleaned if suspected to be contaminated?
Q5. Covid 19 is more dangerous and life threatening in which indiviuals?
Q6. What is the correct PPE doning and removal sequence?
Questions regarding attitude, practice and fear of Covid -19 among dental practitioners (close-ended yes/no response).
Q1. Is it important to educate people about covid19 to prevent its spread?
Q2. Do you prefer to avoid working with a patient suspected to have covid19?
Q3. Would you let the staff work if they experience flu like symptoms?
Q4. Do you know what to do if you experience symptoms of covid 19?
Q5. Do you think dentist has a significant role in preventing spread of covid 19?
Q6. Have you limited procedures that result in aerosol production?
Q7. Do you think covid has an impact on livelihood of dentists?

Table 2. Questions regarding knowledge, attitude, practice and fear of Covid -19 among dental practitioners (close-ended yes/no response).

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ORIGINAL RESEARCH

QR CODE

Effect of Educational Intervention on Improvement in Obesity Related Knowledge and Awareness among School Going Adolescents: A Questionnaire Study

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ABSTRACT

INTRODUCTION: Obesity is an abnormal or excessive fat accumulation and is considered as a complex, multifactorial chronic disease.
AIM: To access the changes in knowledge of obesity following educational interventions among school going adolescents.
MATERIALS AND METHOD: A quasi-experimental study was conducted among 157 school going adolescent students of two private schools. (78 from control school and 79 from intervention school). A pre-designed questionnaire was prepared which included ORK-10 (Obesity Risk Knowledge Questionnaire). An integrated educational package for obesity was prepared and used for educational intervention. After one year, data were collected to assess the changes in knowledge related to obesity.
RESULTS: A significant increase was observed in the total score in the students of intervention school from baseline to one year follow up. A significant improvement in knowledge regarding factors related to obesity among the students of intervention group was also reported.
CONCLUSION: The study concluded that educational intervention at regular intervals resulted in good outcomes of knowledge, attitude and awareness towards obesity.

KEYWORDS: Obesity, Knowledge, Quasi-Experimental

INTRODUCTION

Obesity is an abnormal or excessive fat accumulation that presents a general health risk. It is considered as a complex, multifactorial chronic disease. Alteration of the body's fat stores occurs due to imbalance of energy intake and expenditure. A study conducted in 2010 showed that globally, the number of overweight children was estimated to be over 35 million in developing countries and 42 million in developed countries.[1] Body mass index, which is calculated as body weight in relation to height, is used in categorizing obesity, and is defined as a body mass index of ≥ 30 kg/m^2, with overweight categorized as a body mass index of 25-29.99 kg/m^2. The World Health Organization predicted obesity as an emerging epidemic in the late 1990s. In current scenario, almost 1.9 billion people are now overweight, of whom 650 million are obese.[2]

The prevalence of obesity among age group of 5 to 19 years range between 3.6 and 11.7% and it is expected that by 2025, around 17 million obese children will be there in India.[3] To overcome the global menance of obesity and its associated problems among children and adolescents, educational interventions in school have been opted as an important strategy to improve knowledge and awareness related to obesity which in turn could prevent it. Previous researches have shown positive outcomes of educational intervention towards healthy behaviours.[4,5] So, this present study was planned to evaluate the outcomes of educational intervention on knowledge and awareness of obesity among school children.

MATERIALS AND METHOD

A quasi-experimental study was conducted on adolescent students of two private schools of Patiala city, Punjab over a period of two years. A total of 157 students were selected for study (78 form control group from one school and 79 form intervention group from other school). Written permission was taken from head of the institutions and guardians of the adolescents. A predesigned questionnaire was used for the study. The questionnaire used in the study was ORK-10 (Obesity Risk Knowledge questionnaire) and some other questions were also included to assess various other causative factors leading to obesity. Each question answered correctly on the ORK-10 form is equal to 1 and there were no negative scores. The minimum score was

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0 and the maximum score was 10. Those who answered ≥ 5 questions correctly were considered to be aware and those who answered < 5 questions correctly were considered to be unaware. To improve the knowledge, attitude and awareness of students towards adverse effects and prevention of obesity, an integrated educational package was prepared. Control school students were given printed educational materials in the form of a carefully prepared poster. Both poster and educational package were prepared before recording the baseline data. The other group of school students were given educational intervention by an integrated educational package. Intervention was done by arranging interactive sessions with the students, arranging powerpoint presentations regarding awareness of obesity. A total of 8 interactive sessions were conducted over two months period for intervention school group. On completion of the intervention, data were collected to assess the changes in knowledge, attitude, behaviour towards diet and physical activity. Follow up data were collected after 1 year of intervention.

RESULTS

A total of 157 students were included in this study. The age of school going adolescents included in the study varied from 12-15 years. The mean age was 13.56 ± 0.72 years. About 55% of participants were boys and 45% were girls. At baseline, mean score of ORK-10 of Intervention school group was 5.17 ± 1.68 and control school group was 5.05 ± 1.34. During follow-up after 1 year, mean score of ORK-10 of the students of control school was 5.22 ± 1.21 and in intervention school group, it was 6.11 ± 1.33 (Table 1). There was significant increase in total scores in intervention group.

Awareness measured by ORK-10 have been improved during follow-up. It was seen that 68% students in control school and 87% students in intervention school were considered to be aware about obesity as they had scored 5 or more. Significant improvements were seen regarding awareness among the students in intervention group (Table 2). Response from the students of intervention group regarding knowledge of abnormal body weight were overeating (67.1%), genetic

QUESTION	Control (78)		Intervention (79)	
	Baseline	Follow up	Baseline	Follow up
1. Person with a 'pot-belly' shaped abdomen has an increased risk of getting diabetes	67	69	68	72
2. Obesity increases the risk of getting bowel cancer	44	44	46	49
3. An obese person who gets diabetes needs to lose at least 40% of their body weight for clear health benefits	10	15	27	37
4. Obese people can expect to live as long as non-obese people	53	51	53	60
5. Obesity increases the risk of getting breast cancer after the menopause	48	45	41	45
6. Obesity is more of a risk to health for people from South Asia (e.g. India and Pakistan) than it is for White Europeans	39	43	42	50
7. There is no major health benefit if an obese person who gets diabetes, loses weight	40	37	40	49
8. Obesity does not increase the risk of developing high blood pressure	48	46	56	58
9. It is better for a person's health to have fat around the hips and thighs than around the stomach and waist"	21	25	25	35
10. Obesity increases the risk of getting a food allergy	20	23	28	39
Total Score	5.05±1.34	5.22±1.21	5.17±1.68	6.11±1.33

Table 1. Comparison between two groups (Baseline Vs Follow up) (ORK10)

	Control (78)		Intervention (79)	
	Baseline	Follow up	Baseline	Follow up
Aware (Score ≤5)	50	53	53	69
Not Aware (Score<5)	38	35	26	10

Table 2. Awareness regarding Obesity (Baseline Vs Follow up) (As per ORK-10)

factors (32%), low physical activity (81%), eating habits during childhood (75%). (Table 3). When the students of the intervention group were asked about various foods which can promote weight gain, 93% of the students of intervention group reported oil/ghee/dalda as the major factor (Table 4). Knowledge regarding health problems due to excess body weight improved significantly among students of both schools ($p<0.05$). Response from the students of intervention school were breathing problems (60%), difficulty in getting up from squatting position (43%), inability to walk (53%), back pain (61%), hypertension (55%), diabetes (63%), arthritis (66%) (Table 5). It was observed that 92% students of intervention school told avoiding junk foods can prevent obesity (Table 6). Knowledge regarding healthy practices to prevent obesity was improved among students of both schools ($p<0.05$).

	Control (78)		Intervention (79)	
	Baseline	Follow up	Baseline	Follow up
Overeating	46.2	48.3	45.8	67.1
Genetic factors	10	18.2	12	32
Less Physical Activity	40.5	53.2	33.2	81.4
Eating habits in childhood	15.1	21.3	16	75.7

Table 3. Knowledge regarding factors contributing to abnormal body weight

	Control (78)		Intervention (79)	
	Baseline	Follow up	Baseline	Follow up
Fried	44.2	46	45.5	75
Sweets	35	40	12	32
Ghee/Oil/ Dalda	55	57	57	93
Ice Cream	20	21	18	48

Table 4. Knowledge regarding factors contributing to abnormal body weight

DISCUSSION

In this study, the mean age of the study participants was 13.56 ± 0.72 years. Among our study population, about 55% of participants were boys and 45% were girls. Several studies conducted highlight less knowledge among school going children regarding obesity. A study among adolescents conducted in a school reported around 46.4% of adolescents possessing less knowledge on obesity.[6] Also in another study, it was observed that knowledge about childhood obesity among school children was moderate and a negative attitude towards obesity was reported.[7] Another study reported limitation of knowledge of adequate nutrition and unhealthy eating practices among adolescents.[8] In our study, after the intervention, there was a significant improvement in mean ORK-10 scores. Also, awareness regarding obesity increased significantly among the students of intervention group. In another study done among the school students, the mean ORK-10 score came out to be 3.15 and 25.4% were considered to be aware about obesity, although the ORK score values differed from our study. This variation could be due to the difference of region in which this study was conducted.[9] Many other studies have also used ORK-10 score to assess knowledge of obesity among different population groups.[10,11]

CONCLUSION

This study reported that educational intervention at regular intervals resulted in good outcomes of knowledge, attitude and awareness towards obesity. Regular educational intervention is a good, efficient, cost-effective method to impart knowledge among students regarding obesity and to make aware of the growing generation regarding the associated adversities surrounding obesity.

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	Control (78)		Intervention (79)	
	Baseline	Follow up	Baseline	Follow up
Breathing difficulty	38	48	40	60
Difficulty in getting up from squatting	25	32	28	43
Inability to walk	45	65	43	53
Back Pain	50	60	48	61
Hypertension	35	50	33	55
Diabetes	36	48	33	63
Arthritis	37	49	36	66

Table 5. Knowledge regarding health problems due to excess body weight

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	Control (78)		Intervention (79)	
	Baseline	Follow up	Baseline	Follow up
Avoid Fried	48	50	46	86
Avoid Junk	60	65	62	92
Increase fruit/vegetable intake	55	57	51	81
Exercise	51	65	49	91
Restrict high calorie diet	46	66	47	77

Table 6. Knowledge regarding healthy practices to prevent obesity

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ORIGINAL RESEARCH

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A Study to Assess the Prevalence and Risk Factors of Hypertension among the Truck Drivers of district Shivpuri, Madhya Pradesh, India

MAHENDRA PRASAD*[1], KUNAL SINGH[2]

ABSTRACT

INTRODUCTION: Hypertension is one most common non-communicable cardiovascular disease. It is the major risk factor for heart failure, coronary artery disease, chronic renal failure and cerebral vascular diseases. Hypertension has been found paramountly amongst long distance truck drivers. This could be due to the hectic nature of their job.

AIM: The study was conducted to study the prevalence of hypertension among truck drivers of Shivpuri district of Madhya Pradesh and to study the associated risk of hypertension amongst them.

MATERIALS AND METHOD: District Shivpuri of Madhya Pradesh has around 20 Truck operation unions all registered under which more than 1000 truck drivers are registered. Total 770 drivers were selected by using systematic random sampling. The present study was conducted from November 2022 to March 2023. Information regarding demographic profile and risk factors of hypertension were collected on pre-tested proforma.

RESULTS: Out of total 770 truck drivers, prevalence of hypertension was found 45.6% including 15% self-reported and 30.6% detected in the study. Only about 7% of truckers who were pre-diagnosed had undergone treatment for a certain period of time. Highest prevalence of hypertension was reported in 40 to 49 years age group followed by 30 to 39 years. Hypertension was prevalent amongst the truck drivers who had been working for more than 10 years. Significant association found on assessing risk factors like lack of physical exercise, lack of proper sleep, high BMI, history of addiction.

CONCLUSION: Hypertension was reported more in the age group and people who were in this profession for over 10 years. Age was found significantly associated with hypertension. Improper sleep, schedule, hectic routines, lack of proper nutrition, centric obesity, high BMI and addiction to tobacco and alcohol found significant risk factors for hypertension.

KEYWORDS: Hypertension, Motor Vehicles, Prevalence

INTRODUCTION

Indian Truck drivers contribute substantially to the transportation sector as well as the overall economy.[1] This mostly comes at an expense of these truck drivers compromising their lifestyle and health status.[2] Hypertension is the most important noncommunicable disease in India and accounts for an estimated burden of 200 billion people1. its prevalence is ever increasing and hypertension is slowly becoming a global pandemic. various risk factors like high BMI, lack of proper nutrition, sedentary lifestyle and consumption of alcohol and tobacco etc are associated with increased hypertension amongst individuals. Truckers in India live a very tough life. The very nature of their job demands them being on road for non stop hours that often leads to various health issues remaining either undiagnosed or worsening health conditions as time pass by[3,4] with vast terrains, long distances and low wages, health and wellness often takes a backseat. On average truck drivers spend 12 of the 24 hours on road. Considering the lack of resources and unawareness about risk factors, hypertension is a growing health risk among truckers. Job insecurity, odd working hours, competitive industry, low wages, lack of work hour regulation system are some of the reasons for this growing concern. Hypertension requires continuous medication and lifestyle modification, if left uncontrolled, hypertension can result in systemic complications. It can cause endothelial dysfunction, leading to the development of atherosclerosis, which can culminate in cardiovascular events like myocardial infarction, stroke, or peripheral artery disease. Additionally, hypertension can cause damage to the renal vasculature and eventually lead to decreased glomerular filtration rate, renal insufficiency, and even renal failure. It can also lead to cerebrovascular accidents, cognitive dysfunction, and optic neuropathy due to hypertensive retinopathy. Hypertension can have a neurodegenerative impact, leading to central

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nervous system damage, autonomic neuropathy, and impaired baro reflex function. Additionally, hypertension can lead to the development of insulin resistance and metabolic syndrome, which can eventually cause diabetes mellitus. Sexual dysfunction is also associated with hypertension, with men potentially developing erectile dysfunction and both men and women experiencing decreased libido. Therefore, controlling hypertension through lifestyle modifications and medications is critical to preventing these complications. The study was conducted to study the prevalence of hypertension among truck drivers of Shivpuri district of Madhya Pradesh and to study the associated risk of hypertension amongst them.

MATERIALS AND METHOD

The present study was cross-sectional in nature and conducted among the truckers of transport union of Shivpuri district, Madhya Pradesh, India. Sample size consisted of 770 drivers which showed 67% prevalence of hypertension. Local rickshaw / bus drivers were excluded from the study considering different job profile and time frame of their jobs.

The data was collected in preformed, pretested and semi-structured questionnaire by interview technique from 1st November 2022 to 15th march 2023. Prior permissions were taken from the transport unions and the interviews were conducted with informed consent. Sessions were recorded for research purposes and observational analysis. Interviews were conducted by physically visiting the unions frequently. Interviews were conducted in morning and afternoon slots as most truck drivers work late night shifts. The questionnaire constituted demographic details of the truckers, history of any chronic disease, family history, average working hours per day, dietary habits, physical activity and smoking/ drug consumption habits (if any).

The participants were also requested for their anthropometric measurements - weight, height and waist size were recorded along with the blood pressure of each individual was recorded on site using sphygmomanometer. Blood Pressure was recorded in a sitting position in the right arm. 2 arbitrary reading were recorded at an interval of 10 minutes in all participants. Mean/ average value of these readings were taken as final readings.

On the basis of the recorded blood pressure all the participants were categorised as per the Joint National Committee (JNC) 2007 criteria. Data entry was done in Microsoft Office Excel 2007 followed by analysis using SPSS version 22.

Inclusion criteria: Truck drivers enrolled with the Transportation union and are over the age of 20 years. Drivers who possessed an active Commercial Driver's License by Department of Transportation were included. Drivers who were willing to take part were made part of this study.

Exclusion criteria : Drivers who were not willing to take part were excluded from the study.

RESULTS

A total 770 truck drivers participated in the study out of total 900 drivers in the transport union in the area of Shivpuri, Madhya Pradesh (Table 1). Age range of the participants is between 20- 55 years. All the drivers were males. Total prevalence of hypertension was found 45% including 15% self reported and 30% detected during the study and is depicted in table 2.

HYPERTENSION	YES (%)	NO (%)
Self-reported	107 (15%)	224 (32%)
Detected in present study	210 (30%)	231 (33%)
Total	315 (45%)	455(65%)

Table 1. Distribution of truckers as per their self-reported hypertension and hypertension detected in present study (n=770)

Higher prevalence of hypertension was reported in 40-49 years age group followed by 30-39 years of age group. Hypertension was more prevalent among truckers who were chronic smokers and who consumed alcohol and tobacco products. Significant association was found during assessment of risk factors like lack of physical activity, obesity, late working hours, high BMI, history of drug addiction and hypertension (table 3).

DISCUSSION

According to WHO, an approximate 1.18 billion of world's adult population are affected by hypertension.[5] In India, a systematic review and meta-analysis determined the prevalence of hypertension (high blood pressure) to be around 29-30% in adults.[3]

The present study in the state of Madhya Pradeshrevealed a drastic 29% of the reported

RISK FACTORS	NORMAL n=455 (%)	HYPERTENSION n=315 (%)
AGE GROUP (YEARS)		
20-29	212(46.5%)	51(16%)
30-39	115(25.2%)	85 (26.9%)
40-49	55(12%)	92 (29%)
50-59	73(16%)	87 (27.6%)
WORK EXPERIENCE (YEARS)		
<10	158(34.7%)	65 (20.6%)
10-19	73(16%)	69(21.9%)
20-29	142(31.2%)	84 (26.6%)
>29	82(18%)	97(30.7%)
FAMILY HISTORY		
Present	58 (12.7%)	221(70.1%)
Absent	397(87.2%)	94(30.7%)

Table 2. Comparison of truckers between various risk factors and prevalence of hypertension (n=770).

that hypertensive patients belonged to an age group of 40-49 years of age followed by other age groups.

The provision of health facilities to mobile population of truck drivers in a state of tough terrains and isolated locations like Madhya Pradesh should be on high priority list for health service providers.[6] Based on the results of the present study, it is recommended that health programs combine screenings for multiple ailments, especially asymptomatic systemic conditions at a single urban setting[7,8] where truck drivers could stop by for taking some rest or refuelling and also get themselves checked. The present study emphasises on the need for clinical examinations and screening of truck drivers through hypertension screening programs.

The present study displays higher prevalence of hypertension amongst the truckers is reported to be far higher than in the general population of India which is estimated to be 13.8% in general male population of age group 15-49 years old.[9] Hypertension is consistently found to be highly prevalent among truckers of same age group. Additionally only 15% of the participants were aware of their condition and had ever undergone checkup for the same. A roughly 5% of the self reported hypertensive patients would receive the advised treatment. Others opt not to continue with the medication due to the side effects of the medications such as feeling dizzy, nausea etc that often requires taking leave from their work.

RISK FACTORS	NORMAL (n= 455) (%)	HYPERTENSION (n=315) (%)
HISTORY OF ADDICTION		
Yes	168(36.9%)	59%
No	287(63%)	41%
PHYSICAL ACTIVITY		
Regular	327(71.9%)	28%
Irregular	127(28%)	72%
LATE NIGHT SHIFTS		
Yes	88%	93%
No	12%	7%
BMI STATUS		
Underweight (<18.50)	11%	8%
Normal (18.50-24.99)	44%	30%
Overweight (25.00-29.99)	32%	44%
Obese(>30.0)	13%	18%
CONSUMPTION OF EXTRA SALT		
Yes	67%	54%
No	33%	46%

Table 3. Risk factors associated with hypertension among truckers (n=770)

Among all the subjects diagnosed with hypertension, physical inactivity was prevalent in 72%, history of addiction was reported in 59% of the patients with 24% consuming only alcohol and rest 35% were involved in smoking along with alcohol consumption. Only 30% had normal body weight while 44% were deemed overweight.

Age and Family history of hypertension were related to hypertension and other Cardiovascular diseases.

CONCLUSION

Hypertension was found in a much pronounced manner amongst the elderly age group as compared to the younger generation. Dietary habits and lifestyle plays a crucial role in hypertension. Truckers who worked late night shifts were found to be hypertensive. Although consumption of extra salt had no direct relation to hypertension amongst the truckers, lack of physical activity was evident amongst all those who were detected hypertensive. Smoking, consumption of alcohol and tobacco has a direct relationship and are evident risk factors for hypertension and other systemic conditions.

Most truckers refrain from medicines in the fear of feeling dizzy and weak that might hamper their work performance, thereby they skip their medicines. Central obesity and high BMI status were found as significant risk factors for hypertension.

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