

An Erudition and Attitude of Dental students and Dental practitioners on Travel Vaccines

Abstract:

Objective: With the rise in travel among the current age, there is a greater chance of infectious disease spreading across the country being visited as well as the country to which the traveler belongs. Through their travel habits and behaviors, travelers play a key influence in the spread of infectious diseases across international borders. Aim: This study was conducted with a aim to assess the knowledge, attitude and practices regarding travel vaccine among dental students and dental practitioners in and around Kanpur city.

Materials and Methods: A cross-sectional study was conducted at a private dental college, in Kanpur from December 2021 to March 2022. Using quantitative method of data collection among total of 382 dental student and dental practitioners.

Result: A total of 181 (47.3%) males and 201 (52.6%) female respondents participated in the study, out of which 93(24.34 %) participants were married and 289 (75.65 %) were single. 28.2% of the respondents were aware of the concept of travel vaccines while 12.82 % of the respondents could give correct definition of travel vaccine. Knowledge regarding travel vaccine was found to have improved the uptake of travel vaccine.

Conclusion: The study shows that as the knowledge improves the uptake of travel vaccine increases significantly.

Key-words: Knowledge, Travel vaccine, Dentist

Introduction:

Many individuals assume that travel medicine is relatively modern. In returning passengers, travel medicine encompasses not only diagnosis but also medication.¹ It is possible to travel for business or pleasure. Knowledge of local diseases, including travel medicine and immunizations, should be considered while organizing a vacation. Travelers not only expose themselves and the place they are visiting to infections, but they also cause negative health consequences outside their home country and may import numerous systemic illnesses that are not native to their own country.^{2,3}

In the today's World of modernization, every generation travels more frequently and at longer distances than the previous generation. Thus making the physicians throughout the world confronted to various new diseases.⁴ Approximately 10% of travelers to impoverished nations are anticipated to

contract a febrile illness during or shortly after their trip. The bulk of epidemics that have affected humanity, such as plague and syphilis, have been carried internationally by travelers, according to the literature. As a result, vaccination of travelers is an important part of the control of travel-related infectious disease.⁴

A large proportion of these diseases may be preventable through adequate vaccination, highlighting the importance of the knowledge that the health care practitioner should have on

¹VISHAL MEHROTRA, ²KRITI GRAG,
³RAHUL SRIVASTAVA, ⁴PALLAVI SINHA,
⁵SHAZIA ASLAM, ⁶JYOTI KIRAN

¹⁻⁶Dept. of Oral Medicine and Radiology,
Rama Dental College, Kanpur

Address for Correspondence: Dr. Vishal Mehrotra
A- 503, Twin Tower, Near Gurudev Palace
Kanpur-208024
Email: vishal4march@rediffmail.com

Received : 16 May, 2022, **Published :** 30 Sep., 2022

Access this article online	
Website: www.ujds.in	Quick Response Code 
DOI: https://doi.org/10.21276/ujds.2022.8.3.5	

How to cite this article: Garg, K. (2022). An Erudition and Attitude of Dental students and Dental practitioners on Travel Vaccines. UNIVERSITY JOURNAL OF DENTAL SCIENCES, 8(3). 23-26

travel vaccination. [2,3] A vaccine is most commonly defined as a suspension of attenuated or killed microorganisms, administered for the prevention, amelioration, or treatment of infectious diseases.[5] Vaccines are a perfect combination of three different fields of science, namely microbiology, infectious diseases and immune-pharmacology.[6]

Immunizations, preventive drugs, and pre-travel health education can avoid the majority of travel-related illnesses.[7] Pre-travel advising consultations are becoming more important as a result of the dramatic growth in trip activities, particularly to tropical nations. Travel may have a crucial role in the transmission of some communicable illnesses that are under control in specific nations. Vaccination serves a critical role in the prevention of travel-related communicable diseases in this situation.[8]

It has been noticed that among Indian doctors, including dentists and medical practitioners, risk estimation of travel-related illness and knowledge of how to prevent it are not well recorded.[9] The aim of this study was to estimate the level of knowledge of risk for travel-related diseases, and also the attitude and practice towards uptake of vaccines before travel among dental students of a private dental institution and private dental practitioners in and around Kanpur city.

Material and Methods:

The present study was a cross sectional type of study, aimed at assessing the knowledge, attitude and practices about travel vaccines among dental students and dental practitioners in and around Kanpur city.

The study was conducted in a Rama Dental College Hospital and Research Center, Kanpur from December 2021 to March 2022. The study was carried out after obtaining permission from institutional ethical committee. All students and dental practitioners who gave their consent and were included in the study were above 18 years of age. The purpose of the study was explained to the participants and verbal consent was obtained. After understanding the purpose of the study all the 382 participants agreed to respond to the printed questionnaire.

A total of 382 participants who fulfilled the inclusion criteria were asked to fill the questionnaire. Scoring and grading of responses for knowledge of travel vaccine was done and calculated. The questionnaire consisted of five main

questions based on the knowledge of travel vaccine with 13 possible responses. Only eight of these responses were correct. One mark was awarded for each correct response and no mark was awarded for wrong response or I don't know response and a total of eight maximum attainable scores were used for knowledge of travel vaccine. A score of 0-2 marks out of 8 marks was graded to be poor knowledge, 3-5 as fair knowledge, and a score of 6-8 marks out of 8 marks was graded as good knowledge.

The data were collected, compiled, arranged systematically, and analyzed using SPSS Version 17.0 (SPSS Inc., Chicago, IL, USA). Mean (standard deviation) values were analyzed. Percentages were calculated for the responses given by the dental students and dental practitioners separately. The Chi-square test was applied to compare the awareness of the participants and P value calculated which was significant <0.05.

Result :

Three hundred and eighty two dental students and private dental practitioners in and around Kanpur city participated in this study with 181 (47.38%) males and 201(52.61%) female respondents of the total 93(24.34%) participants were married and 289(75.65%) were single in this study. (Table 1).

Table1: Socio demographic characteristics of the respondents:

Characteristics	Frequency (n=382) (%)
Age Group(years)	
18-27	175(45.81)
28-37	89(23.29)
38-47	118 (30.89)
Sex	
Male	181(47.38)
Female	201 (52.61)
Qualification	
IIIrd year BDS	108 (28.27)
IVth year BDS	129 (33.76)
Intern	73(19.10)
Dental Practitioners	72 (18.684)
Marital status	
Single	289 (75.65)
Married	93 (24.34)

Respondent those who were aware of the concept of travel vaccine were 108(28 %) while 49(12.82%) could give correct definition of travel vaccine. About 47(12.31%) dental doctors in this study had good knowledge of travel vaccine (Table 2).

Table 2: Knowledge of Travel vaccines:

Parameters	Frequency (n=382) (%)
Awareness of travel vaccines	
Yes	108(28.27)
No	274(71.73)
Definition of travel vaccine	
Correct	49(12.82)
Incorrect	333(87.17)
Level of knowledge	
Poor	274(71.72)
Fair	61(15.96)
Good	47(12.31)

In the study 43(11.25%) participants among 382 had history of international travel and 34(8.9%) had taken the vaccination for the destination countries in their last international travels. Yellow fever vaccine and Hepatitis B were the most received vaccine by 11(32.35%) and 9(26.47%) each of the respondents who had travelled internationally. The reasons adducted for low uptake of travel vaccination in this study were, paucity of information of travel vaccination in 348(91%) of the participants (Table 3).

Table 3: Uptake of Travel vaccines:

Parameters	Frequency (n=382) (%)
History of International travel	
Yes	43(11.25)
No	339 (88.74)
Uptake of Travel vaccine in the last International travel	
Yes	34(8.9)
No	348 (91.0)
Type of vaccine received	
Yellow fever vaccine	11(2.87)
Meningococcal vaccine	7(1.83)
Hepatitis B vaccine	9(2.35)
Typhoid vaccine	7(1.83)
No vaccine	348 (91.0)
Reasons for uptake of Travel vaccines	
Paucity of information	348(91.0)
Distressing protocols	15(3.92)
Financial constraint	11(2.87)
Poor monitoring	8(2.09)

Majority of the participants fell within the age group of 29-39 and were males more in number of which 21 participants had good knowledge of travel vaccine. (Table 4). Significant relationship was found between level of knowledge and vaccine uptake.

Table 4: Relationship between factors and uptake of Travel vaccine:

Age Group(years)	
18-27	175(45.81)
28-37	89(23.29)
38-47	118 (30.89)
Sex	
Male	181(47.38)
Female	201 (52.61)
Qualification	
IIIrd year BDS	108 (28.27)
IVth year BDS	129 (33.76)
Intern	73(19.10)
Dental Practitioners	72 (18.684)
Marital status	
Single	289 (75.65)
Married	93 (24.34)

Discussion:

In the present study the females were higher in number as compared to males which is in contrast to the results of the studies conducted by Upadhyay R et al[9] where males(59.65%) were more than females (40.35%) and also in study conducted by Zuwaira I.H et al.[10] where males were predominant than females.

Majority of the participants in the present study were single which was in coincidence with the studies conducted by Upadhyay R et al[9] in Madhya Pradesh India (81.58%) and Zuwaira I.H et al[10] who conducted the study in Nigeria. The average age of participants was 24.25 years which was in coincidence with that of study conducted by Upadhyay R et al[9] where the average age was found to be 27.85years. On the other hand the average of the participants in the present study was in contrast the studies conducted in Nigeria where mean age of respondents was significantly higher and much lower in the study conducted by L.Guerrero-Lillo et al in Chile.[11] According to the present study there was very limited number of participants who were aware about the travel vaccines, which were in contrast with the results of the study conducted by Zuwaira I.H[10] in Nigeria.

In the present study Yellow fever and hepatitis B vaccines were the most received vaccine by of the respondents who had travelled internationally, which was in consistent with the results obtained from the study conducted by Upadhyay R et al⁹ where yellow fever (94.59%)vaccines were the most received one followed by Hepatitis B vaccine (81.08%). The reasons stated by the participants for low uptake of travel vaccination in this study were, paucity of information of travel vaccination in participants, followed by poor

monitoring on uptake of required vaccines for international travels by relevant authorities.[12]

Majority of the participants fell within the age group of 29-39 and were females of which participants had good knowledge of travel vaccine and a significant relationship was found between level of knowledge and vaccine uptake which was contradictory with the results obtained in the study conducted by L.Guerrero-Lillo et al in Chile.[11,12] Based on the Statistical analysis level of knowledge was the most important and statistically significant cause influencing the uptake on travel vaccine uptake, whereas other studies have shown statistically significant influence due to age and gender.

Conclusion:

The results of the present study highlights the importance of level of knowledge of the dental students and dental practitioners which is lacking towards travel vaccines and also that it plays a key role in improving the uptake of travel vaccine significantly. All other factors did not show any significant relationship with knowledge, attitude or practice. Due to the rising travel activity especially to tropical countries, the importance of qualified pre travel advice consultation is an increasing need, even more in a country where travel medicine is still an unknown medical discipline. For certain communicable diseases, which are under control in particular countries, travel may be an important factor in their spread, vaccination plays a major role in the control of travel associated communicable diseases. Thus emphasis should be given on increasing the awareness of the actual risk of travel related sickness and the knowledge of its prevention amongst the dental students as well as dental practitioners.

References:

1. Travel Health-Travel medicine. *Journal of Health Specialties*. 2017; 5(1):42-44.
2. Adachi K, Coleman MS, Khan N, Jentes ES, Arguin P, Rao SR, et al. Economics of malaria prevention in US travellers to West Africa. *Clin Infect Dis* 2014; 58(1):11-21.
3. Behrens RH, Carroll B. The challenges of disease risk ascertainment using accessible data sources for numbers of travellers. *J Travel Med* 2013; 20(5):296-302.
4. Roukens, A. *Travel Medicine: Knowledge, Attitude, Practice and Immunisation*. Netherlands: IOS Press BV; 2010.
5. World Health Organization. 2009. State of the world's vaccines and immunization. Third edition.
6. Centers for Disease Control and Prevention. General recommendations on immunization. Recommendations of the advisory committee on immunization practices (ACIP). *MMWR Morb Mortal Wkly Rep*. 2011; 60:1-64.
7. Wallace, R.B, Kohatsu, N. *Wallace/Maxcy-Rosenau-Last public health & preventive medicine*. (15 Ed.). New York: McGraw-Hill Medical; 2008.
8. Roukens, A.H, Vossen, A.C, Bredenbeek, P.J, Van dissel, J.T, Visser, L.G. Intradermally Administered Yellow Fever Vaccine at Reduced Dose Induces a Protective Immune Re-sponse: A Randomized Controlled Non-Inferiority Trial. *Plos One*. 2008; 3(4): 1-8.
9. Knowledge, attitude and practices about travel vaccine among medical students and doctors in a tertiary health institution, Indore, Madhya Pradesh, India. Upadhyay R, Tandia D, Thakur AB, Wavare RR, Deshpande A. *National Journal of Community Medicine*. 2016;7(3):208-211.
10. Zuwaira, I.H, Tolulope, O.A. The Knowledge and Uptake of Travel Vaccine Among Medical Doctors in a Tertiary Health Institution in Plateau State, North Central Nigeria. *Indian Journal of Community Medicine*. 2015; 40(5): 177-181.
11. Guerrero-lillo, L, Medrano-diaz, J, Perez, C, Chacón, R, Silva-Urra, J. Knowledge, Attitudes, and Practices Evaluation About Travel Medicine in International Travelers and Medical Students in Chile. *Journal of Travel Medicine*. 2009; 16(1): 60-63.
12. Schellack N, van der Sandt N, Modau T, Meyer JC, Pople T. Travel vaccines: information for health care practitioners. *S Afr Pharm J* 2016; 83(10):17-26