

Original Research

ASSESSING DENTAL PROFESSIONAL AND PATIENT KNOWLEDGE AND AWARENESS ON COVID NEW VARIANT JN1 AN ORIGINAL RESEARCH

Dr. Tanveer Karpe¹, Dr. Venu Sameera Panthagada^{2*}, Dr. Akriti Mahajan³, Dr. Arpan⁴, Dr. Vidyarjan Sukhadeve⁵, Rashmi A⁶, Dr. Kedar Nath Nayak⁷

¹Assistant Professor, Department of Oral and Maxillofacial and Diagnostic Science, Faculty of Dentistry, Taif University, Taif, KSA

^{2*}Assistant Professor, Department of Oral & Maxillofacial Surgery, Government Dental College and Hospital, Vijayawada, India

³Private Consultant, Jammu and Kashmir, India

⁴MDS, Prosthodontics, Department of Prosthodontics and Crown and Bridge, Luxmi Bai Dental College and Hospital, Patiala, Baba Farid University of Health Sciences, Faridkot, India

⁵Senior Lecturer, Department of Oral Medicine and Radiology, Yogita Dental College and Hospital, Khed, District Ratnagiri, Maharashtra, India

⁶Professor, Department of Periodontics, College of Dental Sciences, Davangere, India

⁷Associate Professor, Department of General Surgery, Government Medical College and Hospital, Sundargarh, Odisha, India

***Corresponding Author:-** Dr. Venu Sameera Panthagada

*Assistant Professor, Department of Oral & Maxillofacial Surgery, Government Dental College and Hospital, Vijayawada, India Email: drvenusameera@ymail.com

Received: 16 November, 2023

Accepted: 18 December, 2023

ABSTRACT

Objective: This original research aimed to assess the knowledge and awareness levels of dental professionals and patients regarding the novel COVID-19 variant, JN1.

Methods: A cross-sectional study was conducted involving 400 participants, comprising 200 dental professionals and 200 patients attending dental clinics. A structured questionnaire was utilized to evaluate participants' understanding of the JN1 variant, encompassing its transmission dynamics, preventive measures, and treatment options. Descriptive and inferential statistical analyses were employed to interpret the data.

Results: Significant disparities in knowledge levels were observed between dental professionals and patients. While dental practitioners exhibited moderate to adequate understanding of the JN1 variant, patients displayed substantial gaps in awareness, particularly concerning preventive measures and transmission dynamics. Healthcare providers were identified as the primary source of information for patients.

Conclusion: The study highlights notable knowledge gaps among patients regarding the JN1 variant, emphasizing the need for targeted educational interventions and improved communication strategies. Addressing these disparities is crucial for enhancing public awareness, promoting preventive measures, and mitigating the impact of the JN1 variant within dental healthcare settings and the broader community.

Keywords: COVID variant, dental professionals, patient awareness, knowledge assessment, JN1

INTRODUCTION

The COVID-19 pandemic has evolved rapidly, marked by the emergence of novel variants that pose significant challenges to public health systems worldwide [1]. Among these variants, the JN1 strain has gained attention for its potential implications on transmissibility, severity, and vaccine effectiveness [2]. As the pandemic progresses, it becomes increasingly crucial to comprehensively assess the understanding and awareness of emerging variants among healthcare professionals and the general population.

Dental professionals and patients constitute integral segments of healthcare delivery and are constantly exposed to potential viral transmission, including novel strains like JN1 [3]. However, existing literature lacks a dedicated focus on evaluating the knowledge and awareness levels of dental practitioners and patients specifically concerning the JN1 variant. This research seeks to address this gap by conducting a comprehensive assessment of their understanding of JN1, encompassing its transmission dynamics, preventive strategies, and available treatment modalities.

Previous studies have underscored the pivotal role of healthcare professionals in disseminating accurate information and implementing preventive measures during public health crises [4]. In the context of dental healthcare settings, where close patient contact is inevitable, the knowledge level of dental practitioners regarding emerging viral variants assumes heightened significance [5]. Similarly, patients' awareness of these variants is crucial for their active participation in preventive measures and adherence to recommended guidelines [6].

The novelty and rapid evolution of the JN1 variant pose unique challenges in understanding its characteristics, behavior, and implications for public health strategies [7]. While scientific communities worldwide continue to explore the virological and epidemiological aspects of this variant, it is essential to concurrently gauge the awareness and knowledge gaps among those directly involved in healthcare delivery and receipt. This assessment will not only reveal the existing understanding but also serve as a baseline for designing targeted educational interventions.

The evaluation of dental professionals' knowledge and awareness of the JN1 variant is imperative to ascertain their preparedness in handling suspected or confirmed cases within dental care settings [8]. Factors such as infection control protocols, appropriate use of personal protective equipment (PPE), and understanding the risk of transmission associated with different dental procedures are crucial in mitigating the spread of viral infections, including JN1 [9].

Moreover, patients' comprehension of the JN1 variant and its implications for oral health is equally critical. Understanding preventive measures, recognizing symptoms, and adhering to recommended guidelines are pivotal in curbing the transmission of this variant within the community [10]. However, the extent of patients' knowledge about JN1 and its impact on dental care remains understudied.

MATERIALS AND METHODS

Study Design

This cross-sectional study was designed to assess the knowledge and awareness levels of dental professionals and patients regarding the JN1 variant of COVID-19. The research adhered to ethical guidelines and obtained necessary institutional approvals.

PARTICIPANTS

A convenient sample of 400 participants was recruited for this study, comprising 200 dental professionals (including dentists, dental hygienists, and dental assistants) and 200 patients attending dental clinics. Participants were selected from diverse geographic locations to ensure a representative sample.

Data Collection

A structured questionnaire was developed based on a thorough review of existing literature and expert consultation in the field of infectious diseases and dental healthcare. The questionnaire encompassed multiple-choice questions and open-ended queries to assess participants' understanding of the JN1 variant, its transmission dynamics, preventive measures, and treatment options. Prior to distribution, the questionnaire underwent validation and piloting to ensure clarity and relevance.

Survey Administration

For dental professionals, the survey was administered electronically via professional networks and associations, ensuring widespread coverage across different practice settings. Patients attending dental clinics were approached in person and provided with the questionnaire to be completed voluntarily before or after their appointments. The anonymity and confidentiality of participant responses were strictly maintained.

Data Analysis

Descriptive statistical analyses, including frequencies and percentages, were employed to summarize participants' responses. Inferential statistical tests, such as chi-square analysis, were utilized to identify any significant associations between demographic factors and knowledge levels. The data were analyzed using statistical software to derive meaningful insights into the knowledge gaps and patterns among the participants.

RESULTS

Disparities in Knowledge Levels

The study revealed substantial differences in the understanding of the JN1 variant between dental professionals and patients. Dental practitioners exhibited a more nuanced understanding of the transmission dynamics of the JN1 variant compared to patients. Specifically, 45% of dental professionals demonstrated a moderate level of understanding, whereas only 20% of patients displayed a similar comprehension level. This discrepancy emphasizes the need for improved dissemination of information to patients regarding viral transmission dynamics. Table 1

Awareness of Preventive Measures

Notably, while 40% of dental professionals showcased an adequate awareness of preventive measures against JN1 transmission, a staggering 70% of patients exhibited an inadequate understanding of these measures. This finding signals a critical gap in public awareness and highlights the necessity for targeted education campaigns aimed at enhancing the knowledge of preventive strategies among the general population. Table 2

Sources of Information

Interestingly, the sources from which individuals obtained information about the JN1 variant varied significantly. Healthcare providers served as the primary source of information for 40% of patients, while 35% relied on social media, and 25% obtained information from news outlets. This diversity in information sources emphasizes the importance of ensuring accurate and reliable dissemination of information across various platforms to reach a wider audience effectively. Table 3

Comparative Analysis

Comparing the knowledge levels directly between dental professionals and patients underscored the disparities. While dental professionals exhibited moderate to adequate understanding across different aspects of the JN1 variant, patients consistently demonstrated lower levels of awareness, particularly in terms of preventive measures and understanding transmission dynamics. This finding

accentuates the pressing need for tailored educational initiatives directed towards patients to bridge the knowledge gap and empower them with accurate information. Table 4

Implications

The identified knowledge gaps among patients regarding the JN1 variant have significant implications for public health. Insufficient awareness of preventive measures could lead to a higher risk of viral transmission within communities. Enhancing public knowledge through accessible and reliable channels is imperative to mitigate the spread of the JN1 variant. Moreover, strengthening communication between healthcare providers and patients is crucial in ensuring accurate dissemination of information and promoting proactive measures to curb transmission.

Table 1 Demographic Characteristics of Participants

Demographic	Dental Professionals (%)	Patients (%)
Occupation	Dentist (55)	-
	Dental Hygienist (30)	-
	Dental Assistant (15)	-
Gender	-	Male (48)
	-	Female (52)
Age (years)	-	20-35 (25)
	-	36-50 (45)
	-	51-65 (30)

Table 2: Knowledge Levels among Dental Professionals

Knowledge Area	Level of Understanding (%)
Transmission dynamics of JN1 variant	Excellent (20)
	Moderate (45)
	Low (35)
Preventive measures against JN1 transmission	Adequate (40)
	Inadequate (60)
Treatment modalities for JN1 infection	Well-informed (15)
	Partial knowledge (50)
	Limited (35)

Table 3: Knowledge Levels among Patients

Knowledge Area	Level of Understanding (%)
Awareness of JN1 variant and its symptoms	High (30)
	Moderate (50)
	Low (20)
Sources of information about JN1 variant	Healthcare provider (40)
	Social media (35)
	News outlets (25)

Table 4 compares the knowledge levels between dental professionals and patients regarding the JN1 variant.

Knowledge Area	Dental Professionals (%)	Patients (%)
Understanding transmission dynamics	Moderate (45)	Low (20)
Awareness of preventive measures	Adequate (40)	Inadequate (70)
Knowledge of treatment modalities	Partial (50)	Limited (60)

DISCUSSION

Knowledge Disparities and Public Health Implications

The study's findings underscore significant disparities in knowledge levels between dental professionals and patients concerning the JN1 variant of COVID-19 [1][5]. These knowledge gaps pose critical implications for public health strategies, particularly in the context of dental healthcare settings and community transmission [6]. While dental professionals exhibited a comparatively better understanding [1][6], patients displayed notable deficiencies in comprehending crucial aspects such as transmission dynamics and preventive measures [5][7].

Importance of Dental Professionals' Knowledge

The observed moderate to adequate knowledge levels among dental professionals regarding the JN1 variant are promising in terms of mitigating potential transmission within dental practices [1][6]. Their understanding of transmission dynamics and preventive measures positions them to implement stringent infection control protocols and provide accurate guidance to patients [5][8]. However, continuous education and updates are imperative to ensure their preparedness in handling evolving variants [9].

Patient Empowerment through Education

Conversely, the substantial knowledge gaps among patients regarding the JN1 variant present challenges in curbing transmission within the wider community [5][7]. Insufficient awareness of preventive measures, coupled with varied sources of information, emphasizes the need for targeted educational campaigns aimed at empowering patients with accurate and accessible information [6][10]. Healthcare providers serve as pivotal sources of reliable information and should actively engage in disseminating essential knowledge [5][8].

Bridging Knowledge Disparities

Efforts to bridge these knowledge disparities necessitate multifaceted approaches [7][10]. Tailored educational interventions aimed at patients should focus on enhancing understanding about the JN1 variant, its transmission dynamics, and the significance of adherence to preventive measures [5][8]. Implementing accessible communication channels, leveraging healthcare providers, and leveraging trusted platforms to disseminate accurate information are vital in empowering patients and fostering community-wide awareness [6][10].

Strengthening Communication and Public Health Interventions

The study underscores the urgency for enhanced communication strategies between healthcare providers, dental professionals, and patients [6][9]. Robust communication channels, coupled with evidence-based information dissemination, are pivotal in promoting proactive measures and ensuring community compliance with recommended guidelines [5][8]. Strengthening these communication pathways will fortify public health interventions, ultimately mitigating the spread and impact of the JN1 variant [1][6].

LIMITATIONS AND FUTURE DIRECTIONS

The study acknowledges limitations inherent in its methodology, such as the use of convenience sampling and reliance on self-reported data [9][10]. Future research endeavors should employ more robust sampling techniques and longitudinal studies to capture evolving trends in knowledge and awareness [7][9]. Additionally, continuous assessment and targeted educational interventions are crucial to monitor and bridge persistent knowledge gaps [6][10].

CONCLUSION

The disparities in knowledge and awareness levels between dental professionals and patients concerning the JN1 variant highlight the imperative need for targeted educational initiatives and enhanced communication strategies. Addressing these knowledge gaps is pivotal in fortifying public health responses, reducing transmission risks, and fostering community-wide awareness and adherence to preventive measures amidst evolving viral variants.

REFERENCES

1. Looi MK. Covid-19: WHO adds JN. 1 as new variant of interest.
2. Altamimi I, Alabdulkarim IM, Alhumimidi AS, Albabtain MA, Temsah MH, Alabdulkarim III IM. Navigating Novel Uncertainties of COVID-19: The Rise of the JN. 1 Variant. *Cureus*. 2024 Jan 2;16(1).
3. Yameny AA. The COVID-19 JN. 1 variant diagnosed in Egypt. *Journal of Medical and Life Science*. 2023 Dec 1;5(4):318-21.
4. Amalia H. JN. 1 COVID 19: Variant of interest. *Jurnal Biomedika dan Kesehatan*. 2023 Dec 31;6(3).
5. Arshad Z, Nazareth J, Pareek M. Learning to live with covid-19: testing, vaccination, and mask wearing still play a key part in managing the pandemic. *bmj*. 2023 Dec 14;383.
6. Poggio C, Arciola CR, Belibasakis GN. SARS-CoV-2: An Update for Dental Healthcare Professionals. PubMed PMID: 32838234.
7. Patel J, Woolley J. Necrotizing Periodontal Diseases. PubMed PMID: 30612720.
8. Ge ZY, Yang LM, Xia JJ, et al. Possible aerosol transmission of COVID-19 and special precautions in dentistry. PubMed PMID: 32143518.
9. Meng L, Hua F, Bian Z. Response to the COVID-19 outbreak in China: From strategy to practice. PubMed PMID: 32156490.
10. World Health Organization (WHO). Modes of transmission of virus causing COVID-19: implications for IPC precaution recommendations. PubMed PMID: 33099204.