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Original Research Article

Investigating the understanding and attitudes of medical practitioners towards the interlink between periodontitis and systemic diseases: A Cross-sectional questionnaire survey

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ABSTRACT

Background: Periodontitis ranks as the sixth most prevalent global ailment, impacting around 750 million individuals and standing as a prominent cause of adult dental loss. This study aims to investigate the dental awareness, viewpoints, and recognition of severe oral ailments with potential systemic health implications among distinct medical specialists: Gynecologists, Diabetologists, and Psychiatrists.

Materials and Methods: A questionnaire based survey among three groups of specialist's, viz. gynecologists (Group A), diabetologists (Group B), and psychiatrists (Group C) was done to gather insights into the participants' knowledge of periodontal disease and its links to systemic conditions. The collected data were subjected to descriptive statistical analysis using Microsoft excel 2013.

Results: The findings revealed that 100% of diabetologists were cognizant of the correlation between periodontal health and its systemic implications. Among gynecologist's 67% recognized the relationship between periodontal health, pregnancy, and women's well-being. Meanwhile, the majority of psychiatrists demonstrated appropriate referral practices when necessary. In contrast, only 47% of diabetologists who were aware of the connection initiated referrals for oral health assessments by dentists.

Conclusion: Enhancing awareness and referral rates to dental professionals could potentially foster improved oral health, impacting diverse medical conditions. However, there exists an opportunity to motivate patients to seek dental care independently of their primary healthcare provider's specialization.

1. Introduction

The oral cavity mirrors an individual's overall health and well-being. Oral disease such as dental caries and gum disease have long been a concern for humans.[1] Periodontal disease is an infection of the tissues that support the teeth that is caused by the inflammatory response of the host to bacterial invasion from plaque on the teeth.[2] The oral cavity has been found to be a source of infection that can travel to distant organs via circulatory pathways. This concept was initially suggested as the focal infection theory, which argued that an infection in one portion of the body (e.g., periodontitis) might influence other organs via circulation.[3]

Advancements in modern oral bacteria classification and detection techniques have resulted in more precise evaluations and analyses of the relevance of the pathogens in the oral biome. According to multiple studies, there is a clear link between poor oral hygiene, dental problems

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and systemic disease. Today, there is ample evidence that periodontitis is a risk factor for systemic diseases such as cardiovascular disease, stroke, diabetes, preterm birth with low birth weight, respiratory infections, rheumatoid arthritis, and even Alzheimer's disease. Proper treatment of periodontal diseases can also have positive effects on the management of these systemic conditions.[4–7]

Oral diseases can be prevented or treated in those who regularly practice good oral hygiene. Good oral hygiene habits are adopted to achieve this. As a vital organ, the mouth must be treated for the oral symptoms that arise in a number of systemic illnesses in both healthy and medically compromised individuals.[8] The dental expertise of skilled medical professionals varies from that of the general population. While they may hold qualifications in the medical field, their grasp of dental ailments, the relationship between oral health and systemic conditions, as well as critical dental diseases, remains restricted.[9] Individuals may seek treatment from primary healthcare practitioners to meet their oral health requirements due to problems in accessing dental care. This may result in medical practitioners attending to individuals with oral and dental disorders.[10] Severe periodontitis is the sixth most common illness in the world, affecting about 750 million individuals globally, and is the leading cause of dental loss in adults. Periodontal disease prevention, diagnosis, and treatment are public health concerns owing to its health and socioeconomic implications.[11]

Periodontitis shares several risk factors with life-threatening chronic diseases such as cardiovascular disease, diabetes, psychological disorders, and pregnancy, emphasizing that a medical specialist should be aware of these conditions and their clinical manifestations in order to help build a better community health.[12]

Limited research has focused on collecting information about the dental health knowledge in medical specialists. This study's objective is to examine the dental knowledge, perspectives, and recognition of severe oral diseases with potential systemic health implications among various medical specialists namely Gynecologists, Diabetologists and Psychiatrists'.

2. Materials and Methods

A questionnaire study was conducted among 60 doctors, 20 doctors in each of the three groups: gynecologists (Group A), diabetologists (Group B), and psychiatrists (Group C). Random convenient sampling was employed to select the participants. The study was conducted over a period of two months.

The questionnaire consisted of 3 different sections. The first section gathered demographic data from the participants, the subsequent section focused on assessing the participants' awareness about the association between periodontitis and systemic diseases. Additionally, the questionnaire inquired about the referral practices of the participants. The questionnaire was delivered to the participants through an online platform (like Whatsapp, Telegram, etc.) or via email. Participants were provided with a brief introduction about the research, and their informed consent was obtained beforehand. The collected data were subjected to descriptive statistical analysis using Microsoft excel 2013.

3. Results

The participants consisted of various medical specialists, including psychiatrists, gynecologists, and diabetologists. The findings from the three specialty groups provide valuable insights into the knowledge levels and referral practices of medical practitioners concerning interlink between periodontitis and systemic diseases. This data helps identify gaps in awareness or areas that require further education and interprofessional collaboration.

Table 1: Number of participants from each specialty

Specialty	Number of Participants
Psychiatrists	20
Gynecologists	20
Diabetologists	20

Awareness regarding periodontal disease and systemic disease amongst the various medical practitioners was recorded in which 100% of the diabetologists were aware about the relation between periodontal health and its systemic relation, whereas gynecologists stood in the second place with 67% of them knowing the relationship between periodontal health, pregnancy and women health.

The psychiatrists on the other hand were the least aware of the relationship between the systemic health and the periodontal health with only 57% being aware of the following.

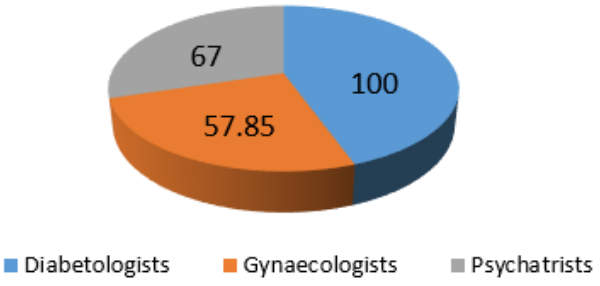

Fig. 1: Awareness about relationship between periodontal health and systemic health amongst different specialists.

When the specialists were asked about referring the patients for periodontal checkup only 47% of the diabetologists referred the patient to a dentist for periodontal diseases. 67% of the psychiatrists were referring the patients

for a dental checkup.

The gynecologists were the least to refer the patients to patients with only 20% of tem referring a patient with periodontal issue to a dentist.

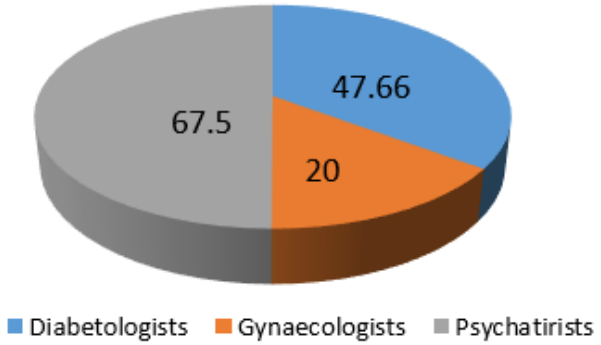

Fig. 2: Referral done by the specialists to a dentist for various dental problems.

When the levels of awareness and referral are compared across the specialties, the results showed that all the 67% of the psychiatrists made proper referral to a dentist whenever it was needed, whereas only 47% of the diabetologists that were aware of the relationship between periodontal health and systemic health made a referral to a dentist for oral health checkup.

The lowest scores for awareness and further referral was seen in the gynecologists that being 20%.

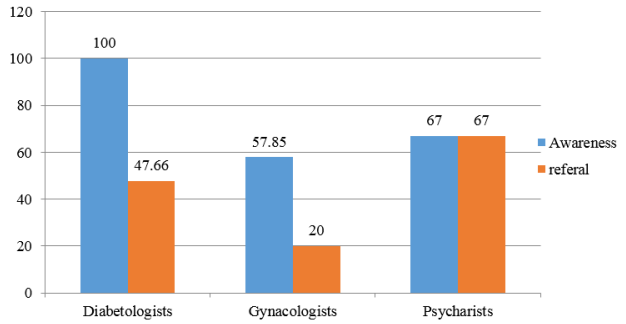

Fig. 3: Comparison of awareness and referral about awareness about dental health andsystemic health.

The comparison highlights that Diabetologists have the highest awareness rate, which may indicate that they are more likely to recognize the importance of dental health in relation to diabetes management. Psychiatrists also show a reasonably high awareness rate, which may suggest an understanding of the potential links between oral health and mental health conditions. However, Gynecologists have a lower awareness rate, potentially indicating a need for increased education and awareness about the importance of dental health in their specialty.

Additionally, the overall referral rate to a dentist (45.55%) suggests that there is room for improvement in encouraging patients to seek dental care, regardless of their primary healthcare provider's specialty. Increasing awareness and referral rates to a dentist could contribute to better overall oral health and its potential impact on various medical conditions.

4. Discussion

As it is claimed that the mouth is a reflection of one's overall health. Poor dental health can have a detrimental influence on overall health, and some medical conditions can have an adverse impact on oral health, various medical conditions have separate presentations in the oral cavity.[13] Gingival inflammation and periodontitis are chronic inflammatory illnesses of the teeth's supporting tissues. Although they are caused by the presence of bacterial biofilms, additional factors such as cigarette use, medications, and numerous systemic disorders have been linked to their etiology.[1]

The diabetologists in our study were fully aware of the relationship between periodontal health and systemic health implications which is a better score than that of previous study done by Obulareddy V.T et al[14] where the awareness about the effects of diabetes on the oral cavity was not well studied by the diabetologists. Also in our study the corresponding referral to a dentist was low when compared to the awareness of the subject issue, which warrants to a call for change in referring practices in diabetologists as a generalized measure.

In a systematic review and meta-analysis done by Shahi A. et al, it was found that periodontal disease during pregnancy is linked to direct associations with negative outcomes like preterm delivery, low birth weight, and perinatal death.[15] When the gynecologist's in our study was asked about relation between pregnancy and Periodontal disease the awareness rates were quite low being only 57.85% whereas the referral rate to a dentist when encountered a dental problem in a patient was an all-time low to 20% is in contrast to a studies done by Rahman G. et al and Shruthi. M et al , where the studies found the cohort to have acceptable level of awareness toward periodontal health and the association between periodontal disease and adverse pregnancy outcomes and the participants in these study had referral rates which were quite higher than our finding.[16,17]

There is limited information available on the dental health status and treatment requirements of special needs individuals, which is, one area of community dentistry that is critical but remains neglected is the oral health of mental patients. Many variables, including age, environment, and impairment, may contribute to poor oral health status in institutionalized mental patients.[18] According to the 2017 World Health Organization report, one in ten representing about 792 million people in the whole

population, is estimated to have a diagnosable psychological disease that can range from mild depression, panic disorder, kleptomania to more debilitating diseases such as psychosis and schizophrenia.[19] The frequent side effects of using antipsychotics and antidepressants is xerostomia. Xerostomia leads to accentuated demineralization, periodontal diseases, increased caries incidence and loss of teeth. Similarly, patients admitted to hospitals with long-term psychiatric disorders have a higher incidence of dental caries due to fewer dental consultations.[20] In our study we found that the Psychiatrists were at an equal level of awareness about relation between psychiatric drugs and periodontal health and referral to dentist which was at 67% in both the cases, people who need psychiatric help should be made aware of the common side effects of the drugs they are being prescribed.

5. Conclusion

While the majority of medical practitioners acknowledged the connection between periodontal disease and systemic health, the study's findings indicated that this awareness was not substantiated by precise knowledge and did not translate into appropriate clinical implementation. Furthermore, it was observed that medical practitioners often failed to refer patients to dentists when necessary, underscoring the importance of comprehensive interdisciplinary medical and dental training as a potential solution to address this issue effectively. However, it is worth noting that diabetologists were an exception, as they demonstrated a relatively higher tendency to refer patients to dentists when required, showcasing their proactive approach towards recognizing the significance of oral health in diabetes management.

6. Source of Funding

None.

7. Conflict of Interest

None.

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