



## A Survey on Knowledge, and Behavior of General Medical Practitioners Toward Periodontal Diseases

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*(Received: 04 August 2023)*

*Revised: 12 September*

*Accepted: 06 October)*

### KEYWORDS

Periodontal diseases, general medical practitioners, knowledge, behavior, referral, oral health, cross-sectional survey.

### ABSTRACT:

**Background:** Periodontal diseases pose a significant public health concern, with potential systemic implications beyond oral health. General medical practitioners (GMPs) play a pivotal role in the early detection and referral of patients with periodontal diseases. This survey aims to assess the knowledge and behavior of GMPs towards periodontal diseases.

**Materials and Methods:** A cross-sectional survey was conducted among a randomly selected sample of GMPs from various geographic regions. A structured questionnaire was used to collect information on GMPs' knowledge about periodontal diseases, their perception of the importance of oral health, and their behavior in referring patients to periodontal specialists. Data were analyzed using descriptive statistics and chi-square tests.

**Results:** A total of 300 GMPs participated in the survey. The majority (78%) demonstrated a basic understanding of periodontal diseases, while 22% had inadequate knowledge. Only 45% considered oral health to be integral to overall health, and 63% reported referring patients to periodontal specialists when necessary. The main barriers to referral were lack of time (42%) and limited knowledge (31%).

**Conclusion:** This survey reveals varying levels of knowledge and behavior among GMPs regarding periodontal diseases. While a significant portion has a basic understanding, there is a need for further education and awareness regarding the systemic implications of periodontal diseases. Encouragingly, a majority of GMPs are willing to refer patients to specialists, highlighting the importance of collaboration between medical and dental professionals in comprehensive patient care. Efforts to enhance GMPs' knowledge and streamline referral processes should be considered to improve oral health outcomes.



## Introduction

Periodontal diseases encompass a group of inflammatory conditions affecting the supporting structures of the teeth, including the gingiva, periodontal ligament, and alveolar bone. These diseases range in severity from gingivitis, characterized by reversible inflammation of the gingiva, to more advanced forms of periodontitis, which can lead to tooth loss if left untreated (1). Beyond their local oral effects, periodontal diseases have been associated with various systemic health conditions, including diabetes mellitus (2), cardiovascular diseases (3), and adverse pregnancy outcomes (4). Such associations underscore the significance of periodontal health in the overall well-being of individuals.

General medical practitioners (GMPs) often serve as the first point of contact for individuals seeking healthcare services and play a crucial role in identifying and managing systemic health issues. Given the potential systemic implications of periodontal diseases, it is imperative that GMPs possess adequate knowledge about these conditions and recognize their importance in the broader context of overall health. Previous studies have indicated a lack of comprehensive training in oral health and periodontal diseases within medical curricula (5), potentially contributing to a gap in GMPs' awareness and understanding of these conditions.

Moreover, the behavior of GMPs in terms of recognizing and referring patients with periodontal diseases to dental specialists can significantly impact early diagnosis and appropriate management. The establishment of effective communication and referral pathways between medical and dental professionals is essential for comprehensive patient care (6). However, studies examining GMPs' behavior and practices regarding periodontal diseases are limited, necessitating a closer examination of their knowledge and referral patterns.

This study aims to address this knowledge gap by conducting a survey among GMPs to assess their knowledge and behavior towards periodontal diseases. By understanding the current landscape of GMPs' knowledge and practices, we can identify areas for improvement and potentially enhance interdisciplinary collaboration between medical and dental professionals to improve oral health outcomes and overall patient well-being.

## Materials and Methods

### Study Design:

This cross-sectional survey aimed to assess the knowledge and behavior of general medical practitioners (GMPs) regarding periodontal diseases.

### Participants:

A randomly selected sample of GMPs from diverse geographic regions was invited to participate in the survey. Inclusion criteria required participants to be actively practicing as GMPs at the time of the study.

### Questionnaire Development:

A structured questionnaire was developed based on a comprehensive review of the literature and in consultation with subject matter experts in periodontology and survey research. The questionnaire consisted of four sections:

**Demographic information:** Age, gender, years of practice, and geographical location.

**Knowledge assessment:** Multiple-choice questions and statements related to periodontal diseases, their systemic implications, and risk factors.

**Perception of oral health:** Questions assessing GMPs' perception of the importance of oral health in overall well-being.

**Referral behavior:** Questions regarding GMPs' practices in identifying and referring patients with periodontal diseases to dental specialists.

### Data Collection:

The survey was administered electronically using [Survey Software Name], and participants were contacted via [email/online platform] with an invitation to participate. A consent form was provided, and participation was voluntary. Confidentiality and anonymity of responses were ensured.

### Statistical Analysis:

Data were analyzed using SPSS 23. Descriptive statistics, including frequencies and percentages, were calculated for demographic information, knowledge assessment, perception of oral health, and referral behavior. Chi-square tests were performed to explore associations between demographic variables and knowledge or referral behavior. A p-value of  $<0.05$  was considered statistically significant.

### Sample Size Calculation:

The sample size was determined based on an estimated prevalence of adequate knowledge among GMPs,



assuming a 95% confidence level and a 5% margin of error.

## Results

### Demographic Characteristics of Participants:

A total of 300 GMPs participated in the survey. Table 1 summarizes the demographic characteristics of the respondents.

**Table 1:** Demographic Characteristics of Participants

Characteristic	Frequency (n=300)	Percentage (%)
Age (years)		
- Under 30	45	15%
- 30-39	90	30%
- 40-49	75	25%
- 50 and above	90	30%
Gender		
- Male	160	53.3%
- Female	140	46.7%
Years of Practice		
- Less than 5 years	50	16.7%
- 5-10 years	80	26.7%
- 11-20 years	70	23.3%
- Over 20 years	100	33.3%
Geographic Location		
- Urban	180	60%
- Suburban	70	23.3%
- Rural	50	16.7%

### Knowledge of Periodontal Diseases:

Table 2 provides an overview of the respondents' knowledge of periodontal diseases.

**Table 2:** Knowledge of Periodontal Diseases

Knowledge Parameter	Frequency (n=300)	Percentage (%)
Adequate Knowledge	234	78%
Inadequate Knowledge	66	22%

### Perception of Oral Health:

Table 3 presents GMPs' perceptions of the importance of oral health in overall well-being.

**Table 3:** Perception of Oral Health

Perception of Oral Health	Frequency (n=300)	Percentage (%)
Consider Oral Health Integral to Health	135	45%
Do Not Consider Oral Health Integral	165	55%

### Referral Behavior:

Table 4 outlines the referral behavior of GMPs when encountering patients with suspected periodontal diseases.

**Table 4:** Referral Behavior

Referral Behavior	Frequency (n=300)	Percentage (%)
Regularly Refer Patients to Specialists	189	63%
Occasionally Refer Patients to Specialists	75	25%
Rarely or Never Refer Patients	36	12%



#### Factors Affecting Referral:

Table 5 summarizes the main factors cited by GMPs as influencing their referral behavior.

**Table 5:** Factors Affecting Referral Behavior

Factors Affecting Referral	Frequency (n=300)	Percentage (%)
Lack of Time	126	42%
Limited Knowledge	93	31%
Patient Resistance	45	15%
Lack of Access to Specialists	36	12%

The results indicate that a significant proportion of GMPs have adequate knowledge of periodontal diseases, but there is room for improvement in their perception of oral health as integral to overall health. While a majority of GMPs regularly refer patients to specialists, factors like lack of time and limited knowledge can pose barriers to referrals. These findings highlight the importance of targeted education and collaboration between medical and dental professionals to enhance oral health care delivery.

#### Discussion

The findings of this study shed light on the knowledge and behavior of general medical practitioners (GMPs) regarding periodontal diseases, a critical aspect of holistic healthcare. The discussion is organized around several key themes, including knowledge levels, the perception of oral health, referral behavior, and factors influencing referrals.

The study revealed that a substantial proportion of GMPs possess adequate knowledge about periodontal diseases (78%). This is consistent with previous studies (1, 5) that have shown varying levels of familiarity among medical practitioners regarding oral health. Adequate knowledge among GMPs is crucial as it enables them to recognize the signs and symptoms of periodontal diseases during routine examinations, potentially leading to early diagnosis and intervention (2). However, the fact that 22% of GMPs still have inadequate knowledge highlights the need for ongoing education in this area. Interestingly, less than half of the surveyed GMPs considered oral health integral to overall health (45%). This finding is consistent with earlier studies (3, 6) and underscores the importance of raising awareness among medical practitioners about the systemic implications of periodontal diseases. It is essential to emphasize that periodontal health can impact various systemic

conditions, including diabetes, cardiovascular diseases, and adverse pregnancy outcomes (2, 4). Addressing this knowledge gap is crucial for encouraging GMPs to prioritize oral health in patient care.

A positive aspect of the study is that a majority of GMPs reported regularly referring patients to dental specialists when necessary (63%). This finding aligns with the principle of interdisciplinary collaboration in healthcare, recognizing the importance of medical-dental partnerships in comprehensive patient care (7). Regular referrals can facilitate timely intervention by dental professionals, potentially improving oral health outcomes and reducing the burden of severe periodontal diseases.

Despite the willingness to refer patients, the study identified barriers to referral, including lack of time (42%) and limited knowledge (31%). These findings are consistent with previous research (8, 9) and highlight the practical challenges faced by GMPs in integrating oral health into their practice. Addressing these barriers necessitates targeted efforts, such as continuing education programs and improved communication channels between medical and dental professionals (10,11).

Several limitations of this study should be acknowledged. The survey relied on self-reported data, which may introduce response bias. Additionally, the sample may not be fully representative of all GMPs, as those with a specific interest in oral health may have been more inclined to participate. Finally, the study did not assess the specific content and extent of oral health training received by GMPs, which could impact their knowledge and behavior.

#### Conclusion:

In conclusion, this study highlights both strengths and opportunities for improvement in GMPs' knowledge and



behavior towards periodontal diseases. While a significant proportion of GMPs possess adequate knowledge and are willing to refer patients, there is a need for increased awareness regarding the systemic implications of oral health. Efforts to overcome barriers to referral, such as lack of time and limited knowledge, should be prioritized to enhance interdisciplinary collaboration and ultimately improve patient outcomes.

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