

Research Article

Perception of dentistry Among First Year Students from Medical, Paramedical and Dental Profession

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ABSTRACT:

Background- Understanding the perception of dentistry among medical, paramedical, and dental students is crucial for fostering interdisciplinary respect, improving collaboration, and addressing prevailing misconceptions about the field. This study aims to assess and compare the knowledge, attitudes, and perceptions of dentistry among first-year students enrolled in medical, dental, nursing, and pharmacy programs.

Materials & Methods-

A cross-sectional survey was conducted among first-year students from medical, dental, nursing, and pharmacy programs. A structured questionnaire containing 16 questions was distributed to evaluate students' knowledge of dentistry, their perceptions of its importance within the healthcare system, and their attitude toward pursuing dental careers or collaborating with dental professionals. The collected data was analyzed to identify significant differences in perceptions among the various academic disciplines.

Results-

Preliminary findings revealed that dental students had a significantly greater understanding of the scope and relevance of dentistry compared to their peers in medical and paramedical fields. Many medical, nursing, and pharmacy students were found to underestimate the complexity and critical role of dentistry within the broader context of healthcare. Common misconceptions included viewing dentistry as less vital profession than other healthcare professions. However, interprofessional exposure positively influenced perceptions across all groups.

Conclusions-

The study highlights the importance of increasing awareness and understanding of dentistry among non-dental healthcare students. Implementing interprofessional educational initiatives can help bridge existing knowledge gaps, correct misconceptions, and foster a more collaborative and integrated approach to patient care. Strengthening interdisciplinary connections will ultimately benefit both healthcare education and the quality of comprehensive patient management.

KEY WORDS: Interprofessional collaboration, health care profession, dental profession, oral health

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Submitted: 08.02.2025, **Accepted:** 31.05.2025, **Published:** 04.06.2025

INTRODUCTION:

Oral health is considered to be a mirror of systemic health and vice-versa.^[1] Dentistry, as a specialized field of healthcare, plays a pivotal role in

maintaining not only oral health but also the overall well-being of individuals. However, its significance is often undervalued by professionals from other medical and paramedical disciplines. Misconceptions about dentistry's scope, its connection to systemic health, and

Access this article online

Quick Response Code:



Website:

www.pjsr.org

DOI:

<https://doi.org/10.5281/zenodo.15630401>

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How to cite this article: Zaidi FZ, Nagar H, Shrivastava N, Kaushik N. Perception of dentistry Among First Year Students from Medical, Paramedical and Dental Profession. PJSR. 2025;18(1):49-56.

the complexity of its procedures often lead to a lack of understanding and underestimation of the profession.^[2] These perceptions can result in barriers to effective interprofessional collaboration, limiting the holistic approach necessary for patient-centered care.^[3] Dental health is an integral component of overall healthcare that requires greater emphasis across all healthcare professions.^[4] Enhancing the understanding of oral-systemic health links through interprofessional education and collaborative practices can improve patient outcomes and foster a more holistic approach to healthcare. Policymakers and educators must prioritize the inclusion of dental health training in medical, nursing, and pharmacy curricula to equip professionals with the knowledge and skills needed to address oral health effectively.^[5] Dental health plays a critical role in overall health and well-being, with mounting evidence linking oral health to systemic conditions such as cardiovascular disease, diabetes, and respiratory infections.^[6] However, the importance of dental health is often overlooked by healthcare professionals outside the field of dentistry, leading to missed opportunities for holistic patient care. This study aims to highlight the significance of dental health, its integration with systemic health, and the role healthcare professionals play in promoting and addressing oral health in their respective fields. Although oral health is considered a key indicator of overall health, dentistry is still neglected in medical education at the university level.^[7]

MATERIALS & METHODS:

The study employed a cross-sectional survey design for 233 participants consisting of 16 questions to assess their knowledge about oral health, oral health practices, management of oral health diseases and oral health education targeting first-year students from four healthcare disciplines: medicine, dentistry, nursing, and pharmacy. Participants were recruited from a single institution to ensure consistency in academic exposure and curriculum structure. A structured and validated questionnaire was used to collect data on students' perceptions of dentistry Figure 1. The questionnaire covered key aspects such as the scope of dental practice, its relevance to systemic health, the role of dentists in multidisciplinary care, and attitudes toward pursuing or collaborating with dental professionals. The study had institutional ethical clearance.

Data collection was conducted anonymously to encourage honest responses. Descriptive statistics and inferential tests, were performed to identify significant differences in perceptions across the groups. Additionally, subgroup analysis was conducted to

examine the impact of demographic factors, such as prior exposure to dental care or interprofessional education programs, on student's perceptions. Informed consent was obtained from all participants.

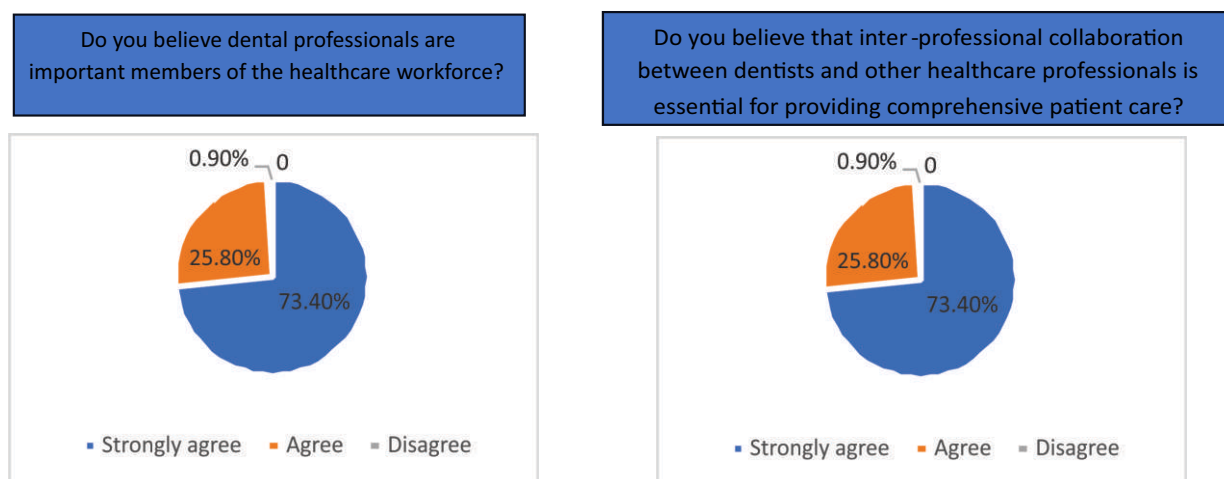
RESULTS:

A total of 233 first-year students from dental, medical, nursing, and pharmacy programs participated in the study. Out of these, 56% were male and 44% female, and 13% having no prior exposure to health-related education. Analysis of the questionnaire responses revealed that dental students possessed significantly higher awareness of the scope and importance of dentistry compared to their medical and paramedical counterparts. They demonstrated better understanding of oral-systemic health relationships, such as the connection between oral hygiene and systemic conditions like cardiovascular diseases and diabetes. Conversely, a large proportion of medical, nursing, and pharmacy students held misconception about dentistry being primarily focused on teeth or aesthetics, and less critical than other healthcare professions. 73.40% of participants believed that, dental professionals are important members of the healthcare workforce and inter-professional collaboration between dentists and other healthcare professionals is essential for providing comprehensive patient care. 69.10% participants felt that toothache is the most common dental emergency followed by broken/fractured teeth (13.70%), oral infection (12.90%). 81% were of the opinion that dental field is equally complex compared with medical field. Regarding perception of dentistry limited to treating teeth only, 45.9% believed that it covers wide range of healthcare, while 36.8% were of the opinion that the dental field primarily focusses on teeth. Surprisingly, 50.20% participants said that understanding of the importance of oral health is poor in the community. 41.4% participants felt that dentistry is moderately recognized in healthcare industry while 26.70% felt dentistry was undervalued. 45.9% felt regular visit to a dentist is necessary while 40.7% confirmed that they visited a dentist only when they experienced some pain or discomfort.

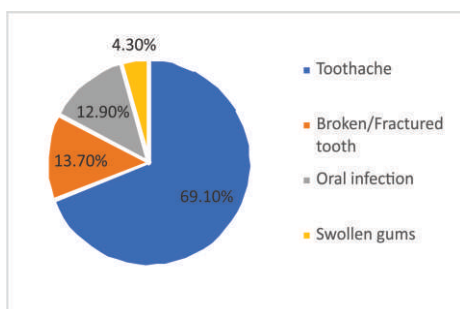
Awareness about the recommended frequency of dental visits, emergency dental care, and the broader preventive role of dentists was also limited among non-dental students. However, majority of all respondents (86.9%) acknowledged the importance of oral health in

Figure 1: A structured and validated questionnaire was used to collect data on students' perceptions of dentistry

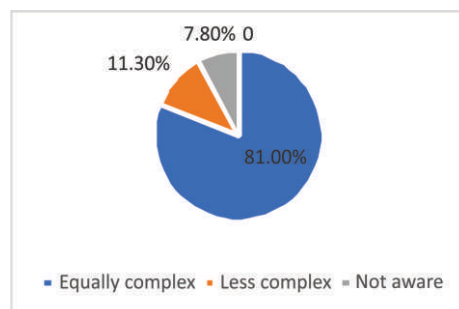
1. What is your course of study?
a) Medicine b) Dentistry c) Nursing d) Pharmacy
2. What is your gender?
a) Male b) Female c) Other
3. Do you believe dental professionals are important members of the healthcare workforce?
a) Strongly agree b) Agree c) Disagree
4. Do you believe that inter-professional collaboration between dentists and other healthcare professionals is essential for providing comprehensive patient care?
a) Agree b) Neutral c) Disagree
5. What is the most common dental emergency?
a) Toothache b) Swollen gums c) Broken or fractured tooth d) Oral infection
6. How do you perceive the complexity of dental procedures compared to other medical fields?
a) Equally complex b) Less complex c) Not Aware
7. Do you think dentistry is limited to treating teeth only?
a) Yes, entirely b) No, it covers a wide range of healthcare c) Primarily focused on teeth but has other roles d) Not sure
8. In your opinion, how well do people in your community understand the importance of oral health?
a) Very well b) Moderately well c) Poorly
9. Do you think dentistry is adequately recognized in the healthcare industry?
a) Yes, it is highly recognized b) It is moderately recognized c) It is undervalued compared to other fields, d) Not sure
10. Which of the following best describes your attitude toward visiting a dentist?
a) I visit regularly for preventive care b) I visit only when I experience pain or discomfort c) I avoid visiting a dentist unless absolutely necessary d) I have never visited a dentist
11. Do you believe that improving oral health education can reduce systemic disease?
a) Agree b) Neutral c) Disagree
12. Should oral health awareness programs be integrated into school curriculums?
a) Yes, it is essential for early education b) No, it is not necessary c) No sure
13. Which of the following diseases can poor oral health contribute to?
a) Heart disease b) Diabetes c) Respiratory infections d) All of the above
14. What is the recommended frequency of visiting a dentist for a routine check-up?
a) Every 3 months b) Every 6 months c) Once a year d) Only when there is an issue
15. What do you think is the biggest misconception about dentistry?
a) Dentistry is only about teeth b) Dental procedures are always painful c) Dentistry is less important than other medical fields d) I am unaware of misconceptions
16. What do you think is the greatest challenge in improving oral health in underserved communities?
a) Lack of awareness about oral health b) High cost of dental care c) Fear of dental procedures d) Lack of government support and policies



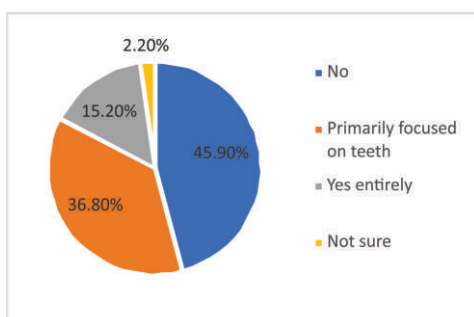
What is the most common dental emergency?



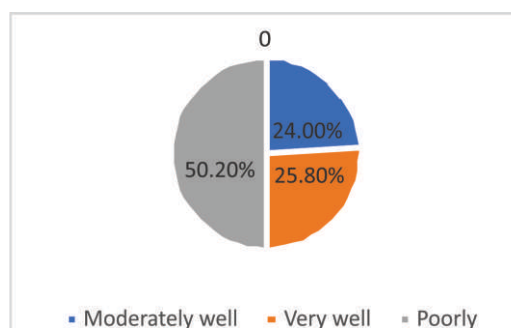
How do you perceive the complexity of dental procedures compared to other medical fields?



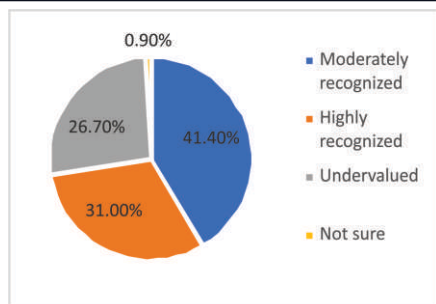
Do you think dentistry is limited to treating teeth only?



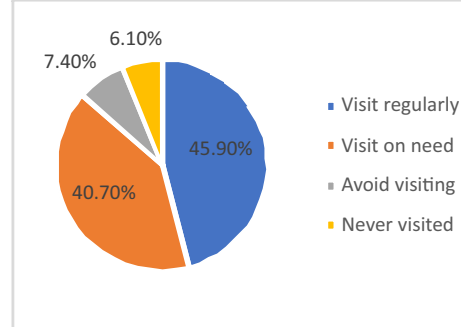
How well do people in your community understand the importance of oral health?



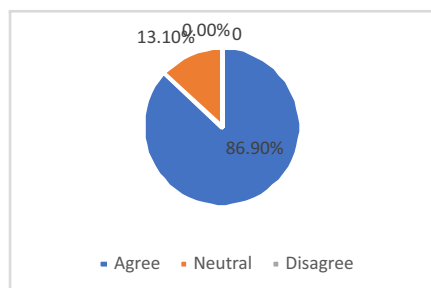
Do you think dentistry is adequately recognized in the healthcare industry?



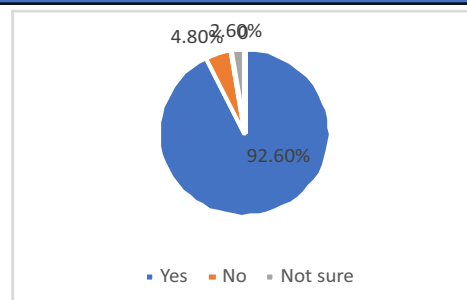
Which of the following best describes your attitude toward visiting a dentist?



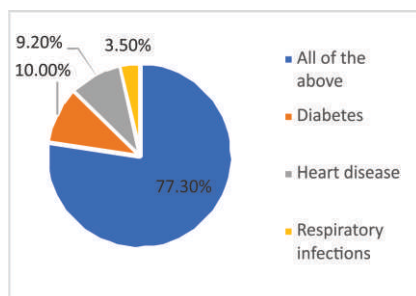
Do you believe that improving oral health education can reduce systemic diseases?



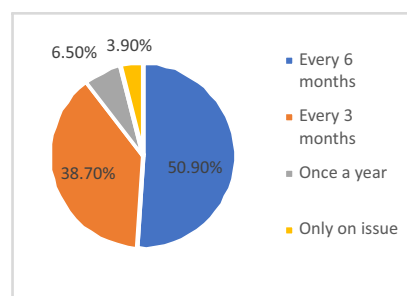
Should oral health awareness programs be integrated into school curriculums?



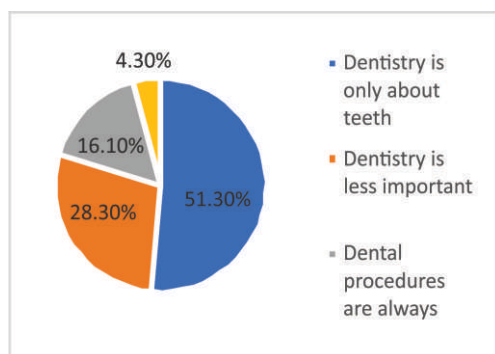
Which of the following diseases can poor oral health contribute to?



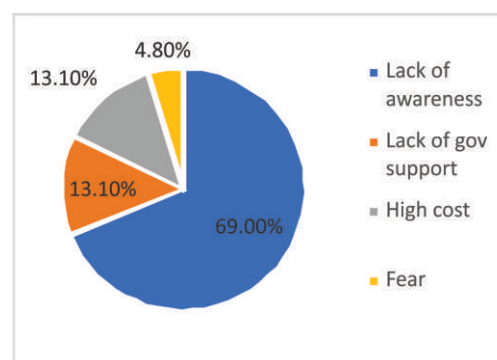
What is the recommended frequency of visiting a dentist for a routine check-up?



What do you think is the biggest misconception about dentistry?



What do you think is the greatest challenge in improving oral health in underserved communities?



overall well-being and (92.6%) expressed support for greater integration of dental knowledge into school curriculum. It was found that heart diseases, diabetes and respiratory infections can contribute to poor oral health. Nearly half the respondents felt that dental visit in every 6 months is adequate while 38.70% felt it should be once a year. 51.30% participants felt that the biggest misconception regarding dentistry is that it is only related to teeth, 28.30% felt that dentistry is considered less important than medical field and 16.10% felt that dental treatments are usually painful. 69% participants felt that lack of awareness about oral health remains greatest challenge in improving oral health in underserved communities followed by lack of government support (13.1%) and cost factor (13.1%). Fear was considered to be negligible. Furthermore, students with prior exposure to interprofessional education or interaction with dental professionals tended to hold more accurate and positive perceptions of the field.

DISCUSSION:

The results of this study revealed a significant variation in the perception of dentistry among first-year students from medical, dental, nursing, and pharmacy

disciplines. As expected, dental students exhibited the highest level of understanding regarding the scope, significance, and complexity of dentistry. In contrast, students from medical and paramedical fields often underestimated the role of dentistry in comprehensive healthcare, viewing it primarily as a profession focused on aesthetic treatments and dental extractions. These findings reinforce the long-standing concern that dentistry is perceived as a secondary healthcare discipline rather than an integral component of overall health.

The findings indicate that most participants acknowledge the pivotal role of dental professionals within the broader healthcare workforce. Furthermore, there was a strong consensus on the necessity of interprofessional collaboration between dental and other healthcare providers to ensure the delivery of comprehensive and holistic patient care. The present study underscores that the majority of participants recognize dental professionals as integral members of the healthcare workforce, emphasizing the necessity of interprofessional collaboration (IPC) between dental and other healthcare providers to ensure comprehensive patient care. This aligns with findings

from previous studies that highlight the value of IPC in enhancing patient outcomes and healthcare delivery. However, a cross-sectional study in Saudi Arabia assessed healthcare students' knowledge and attitudes towards interprofessional education (IPE). The findings revealed that pharmacy students had significantly more positive attitudes towards IPE compared to medical students ($p < 0.001$), while dental students' attitudes did not differ significantly from the medical student reference group ($p = 0.664$). Additionally, pharmacy and nursing students demonstrated higher knowledge scores regarding IPE than dental students.^[8]

A prevalent misconception among non-dental students is the belief that dentistry is solely concerned with treating teeth, neglecting its broader roles in disease prevention, diagnosis, rehabilitation, and its integral connection to systemic health. This limited perception likely stems from insufficient exposure to oral health education within medical and paramedical curricula, a gap that can impede effective interprofessional collaboration. A study assessing medical interns' awareness in rural areas found that many lacked substantial knowledge in oral health, despite being primary health providers in these regions. This underscores the necessity of incorporating comprehensive oral health education into medical training programs. In contrast, dental students typically receive extensive training in the relationship between oral and systemic health. A study surveying dental students before and after clinical training demonstrated a significant increase in their understanding of the clinical significance of dental treatment for systemic health, highlighting the effectiveness of clinical education in enhancing this awareness.^[9,10]

While medical students receive extensive training on systemic diseases, the role of oral health in these conditions is often overlooked. This study supports previous research indicating that medical and nursing students frequently have a lower awareness of the oral-systemic health connection, which can lead to missed opportunities for early detection and intervention in systemic conditions linked to poor oral health.^[11]

Furthermore, the study revealed that a considerable proportion of participants from medical, nursing, and pharmacy backgrounds lacked awareness regarding the complexity of dental procedures. Although some acknowledged the importance of dentistry within the healthcare system, they appeared to underestimate the technical proficiency, specialized knowledge, and advanced procedures involved in contemporary dental practice. This limited

understanding may perpetuate the misconception that dental education is less rigorous than medical education, thereby reinforcing hierarchical distinctions among healthcare professions and potentially impeding effective interprofessional collaboration. A cross-sectional study in Peshawar, Pakistan, assessed dental myths and misconceptions among medical and dental students. The study found that medical students held more misconceptions about oral health compared to dental students, indicating a gap in understanding the scope and complexity of dental care.^[12]

Despite the knowledge gaps identified in this study, a positive finding was that a majority of participants, including medical and nursing students, recognized the necessity of IPC between dentists and other healthcare professionals. Respondents largely agreed that collaborative efforts between medical and dental practitioners could improve patient outcomes by addressing oral health as part of a comprehensive healthcare approach. Our results were in concordance to few other studies.^[8,9] However, despite this acknowledgment, few students reported having had direct exposure to interdisciplinary training programs that integrate dentistry with other healthcare fields.

IPE has been widely promoted as a means of improving communication and cooperation among healthcare professionals.^[13,14] Studies have demonstrated that early exposure to interdisciplinary learning significantly enhances students' understanding of each other's roles, reducing professional silos and improving teamwork in clinical settings.^[15] The results of this study reinforce the need for structured IPE programs that incorporate dental education into medical, nursing, and pharmacy curricula. Potential strategies for achieving this include joint lectures, case discussions, and collaborative clinical rotations that emphasize the interconnectedness of oral and systemic health.

A critical insight from this study is the broader impact of limited oral health awareness on overall patient care. In many cases—especially in underserved communities—the physician's office serves as the first point of contact for patients due to limited access to dental services. When medical professionals are not adequately trained to recognize the early signs of oral disease or to understand its systemic implications, key opportunities for early diagnosis and intervention may be lost. This concern is particularly salient for conditions such as diabetes mellitus, cardiovascular disease, and respiratory infections, which have well-documented associations with poor oral health. These findings underscore the need to enhance oral health literacy among non-dental healthcare professionals to improve interdisciplinary care and patient outcomes.

The association between oral and systemic health is well-documented. Periodontal disease, for instance, has been linked to systemic conditions such as diabetes and cardiovascular disease. A study utilizing data from the National Health and Nutrition Examination Survey (NHANES) found statistically significant associations between periodontal disease and diabetes, as well as between dental caries and hypertension, underscoring the interconnected nature of oral and systemic health.^[16]

The disparities in oral healthcare access between urban and rural populations were also noted in this study. Rural areas often suffer from a shortage of dental professionals, making it even more critical for medical practitioners to be equipped with basic oral health knowledge.^[17] Strengthening collaboration between physicians, nurses, pharmacists, and dentists can reduce barriers to care, improve patient outcomes, and lower treatment costs by addressing oral health issues before they escalate into more severe conditions. The ongoing debate about merging certain aspects of medical and dental education was also relevant to this study's findings. While a complete integration of the two disciplines may not be feasible or widely accepted, there is increasing recognition of the need for shared learning experiences. Some universities have begun incorporating dental health topics into medical school curricula, and vice versa, to foster a more holistic understanding of healthcare. However, broader implementation of such initiatives requires institutional support, curriculum revisions, and faculty training in interprofessional education methodologies. One of the key takeaways from this study is to remember that as oral health is as important as general health, students themselves should emphasize on its important and be actively involved in shaping interprofessional education initiatives. Surveying students about their knowledge gaps, experiences, and perceptions can provide valuable insights into how educational programs should be designed. A student-driven approach to interdisciplinary education may also lead to greater acceptance and engagement, as students are more likely to value and retain knowledge that they perceive as directly relevant to their future careers.

CONCLUSION:

This study underscores the need for greater awareness and education regarding dentistry among medical, nursing, and pharmacy students. The observed knowledge gaps and misconceptions highlight the importance of integrating oral health into broader healthcare education. By fostering

interprofessional education and collaboration, healthcare institutions can bridge disciplinary divides, enhance patient-centered care, and improve overall health outcomes. Strengthening the understanding of dentistry's role in systemic health will ultimately contribute to a more integrated and effective healthcare system.

Financial Support and Sponsorship

Nil.

Conflicts of Interest

There are no conflicts of interest.

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