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## Perception of Dental and Dental Assistant Students regarding the Functions of Dental Assistant in Oral Health care

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### **Abstract**

*The aim of this study was to determine the perception of dental and dental assisting students regarding the roles and tasks of dental assistants in a dental office. The study was conducted at the Institute of Tropical Odonto-Stomatology of Madagascar (IOSTM), University of Mahajanga, Madagascar. It was a descriptive cross-sectional study that lasted for 6 months, with a study period of one month. The study population included students in dentistry and dental assisting at IOSTM. All students present during the survey days were included, and those with incomplete survey forms or those reluctant to participate were excluded. The sampling was exhaustive. Data were collected, coded, processed in Excel, and analyzed using the SPSS 20.0 software. Survey authorization from the institute's management and approval from the IOSTM ethics committee were obtained.*

*The male gender represented 67.2% of the sample. Dentistry students were more numerous (70.6%) than dental assisting students (29.4%). Almost all students (81.9%) considered dental assistants indispensable in a dental office. Assisting in*

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*taking impressions was the most recognized task by students (92.2%), followed by patient reception and seating (88.2%).*

*Dental assistants are deemed indispensable and play a crucial role in providing quality dental care. Establishing comprehensive training and enhancing students' skills would be a major asset in this continually evolving profession.*

**Keywords:** *perception, dental assistant, dental student education, dental assistant competence*

## 1. INTRODUCTION

Dental assistants play an essential role in the effective management of a dental practice. By working closely with dentists, they become the central pillar of a successful dental practice, ensuring more efficient care for patients [1].

The increasing demand for experienced assistants is notably observed within dental clinics and hospitals, particularly in developed countries. This trend emphasizes the growing need for quality preventive care, a qualified dental assistant, and sound advice on oral health [2].

Certification and the regulation of dental assistant tasks vary significantly from one country to another; some allow them to provide clinical care, while others limit their role to assisting dentists [3].

Since 2018, the Institute of Tropical Odonto-Stomatology in Madagascar has implemented a professional license program dedicated to training qualified dental assistants. Despite the graduation of several assistants from this program, it has been observed that they encounter challenges when seeking employment.

The objective of this study was to determine the perception of dental and dental assisting students regarding the roles and tasks of dental assistants in a dental office.

## 2. METHODOLOGY

The study was conducted at the Institute of Tropical Odonto-Stomatology of Madagascar (IOSTM), University of Mahajanga. It was a descriptive cross-sectional study that spanned six months, from June to November 2021, with data collection specifically taking place in June 2021.

The study targeted dental and dental assisting students at IOSTM. All students present during the survey days were included, while those with incomplete survey forms were excluded. Students who were hesitant to participate were also excluded. The sampling method used was exhaustive, aiming to include all eligible participants.

Data on the students' social profiles, including age and gender, were collected. The assessment focused on students' knowledge regarding the tasks and various roles a dental assistant can undertake in a dental office.

Study objectives were explained to the students before sharing the survey forms, and their consent was obtained. Students autonomously filled out the forms,

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with explanations provided in case of any misunderstandings, ensuring no influence on their responses.

Data were collected, coded, processed using Excel, and analyzed using SPSS 20.0 for Windows. An inquiry authorization was obtained from the IOSTM management before the beginning of the study, along with approval from the institute's ethics committee. Strict adherence to anonymity and confidentiality of student information was maintained throughout the study.

### 3. RESULTS

Table 1: Distribution of the student

	Frequency	Percentage(%)
<b>Gender</b>		
Male	32	62,7
Female	19	37,3
Total	51	100
<b>Field of Students</b>		
Dentalstudent	36	70,6
Dentalassistantstudent	15	29,4
Total	51	100

Table 2: Opinion of students on the usefulness of the dental assistant

Student opinion	Frequency	Percentage (%)
Essential	41	81,9
Indispensable	5	9,05
Optional	5	9,05
Total	51	100

Table 3: Students' knowledge about the tasks and roles of dental assistants

Tasks and roles of dental assistants	Percentage of students responding YES (%)	Percentage of students responding other answers (%)
Greet and seat the patient	88,2	11,8
Prepare the materials	50	50
Assist during an impression-taking	92,2	7,8
Teach oral hygiene	27,5	72,5
Take photographs	41,2	58,8
Promote recommendations after a procedure	7,8	92,2
Promote reeducation exercises	9,8	90,2
Handle administrative tasks	35,3	64,7
Manage appointments	56,9	43,1

#### 4. DISCUSSION

Most of our study population was composed of men, representing 67.2% of the sample (table 1). In a study conducted in Bulgaria, the study population, consisting of practicing dentists and dental assistants, was predominantly female (dental assistants: 86 out of 100, dentists: 64 out of 103) [4]. Generally, in practice, most dental assistants are women [5, 6].

Dental students represented a significant majority, accounting for 70.6%, compared to dental assistant students, who constituted 29.4% of the sample.

The respective duration of the study program is different between these two fields. It is 6 years for dental students and 3 years for dental assistant students. Dental students have a more extensive academic background, thus being more represented in the sample compared to dental assistant students.

In terms of training, before the implementation of the dental assistant study program at our dental school, they were locally trained by dentists without specific accreditation. In contrast, in the United States, dental assistants can be trained by dentists but must obtain accreditation from a regulatory body, such as the Commission on Dental Accreditation or CODA. This accreditation is often a prerequisite for practicing the dental assistant profession [3].

Malagasy dental assistants do not have an independent management system like in the United States, which has a well-established management system for dental assistants. However, in Japan and Taiwan, the situation is similar to Madagascar [1, 7].

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Dental assistant students at our school undergo a program combining theoretical and practical training over a period of three years, culminating in the presentation of a qualifying professional license thesis. In the United States, most CODA-accredited dental assistant training programs last for one to two academic years [5].

In Taiwan, dental assistants come either from nursing-related fields or undergo specific training organized by dental associations [1].

Almost all students (81.9%) considered the dental assistant as indispensable within a dental office (table 2). In other words, dental practitioners cannot do without the presence of a dental assistant to ensure the smooth functioning of their office. It is almost unthinkable for dentists to practice without dental assistants nowadays. Several studies emphasize the importance of the role played by these professionals in the optimal functioning of a dental office [1, 3, 5, 8].

According to the study by Rosen et al. [9], teamwork between dentists and assistants has a proven positive impact on the quality of care and patient satisfaction. To achieve the desired results, it is imperative that the team is competent, successful, and that its members complement each other [10].

This collaboration gives rise to four-handed dentistry, an approach aimed at reducing the stress and fatigue of the practitioner by coordinating tasks effectively [10]. According to Finkbeiner [8], it is becoming increasingly clear that the adequate training of dental assistants is equally important as that of dental instruments.

Within this team, the assistant can take on two distinct roles alone or accompany. On the one hand, as non-operative auxiliary staff, they can hold positions such as dental surgery assistant, dental secretary, dental laboratory technician, and dental health educator. On the other hand, as operative auxiliary staff, working directly in the mouth under the supervision of the dentist, they can be a school dental nurse, dental therapist, dental hygienist, or dental assistant with extended functions [12].

However, despite these observations, 9% of students considered the employment of an assistant in a dental office to be optional (table 2). The survey covered all students present during data collection without distinguishing the level of dental education. It is likely that these 9% represent students in the early stages of dental education who are not yet fully aware of the importance of the assistant's role in the dental profession.

Table 3 presents the students' perception of the functions assigned to a dental assistant. They were asked to select multiple responses from the provided options, revealing that assisting during an impression-taking was the most recognized task (92.2%), followed by welcoming and seating the patient in the chair (88.2%).

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In line with the definition, a dental assistant assists the dentist in the prevention, diagnosis, and treatment of oral health conditions, as well as in the preparation of instruments, equipment, and materials. Their usual role involves assisting during care procedures, preparing, cleaning, and disinfecting instruments after examination or treatment, and assisting dentists with photographic documentation and images [1].

However, in certain situations and contexts, dentists may delegate simpler tasks to assistants to lighten their workload. In such cases, the assistant may receive and treat patients under their supervision [5, 13].

This finding highlights the insufficient awareness of students regarding the diverse roles of dental assistants. The low percentages related to specific skills, such as promoting post-treatment recommendations (7.8%) or performing rehabilitation of oro-facial functions (9.8%), emphasize potential gaps requiring further enhancement of student training.

According to observations from teachers at the Institute of Tropical Odonto-Stomatology in Madagascar, dental students are not sufficiently informed about the roles and responsibilities of dental assistants. In response to this, training authorities have adjusted theoretical courses by integrating modules that sensitize students to the functions and responsibilities of dental assistants. Subsequently, practical internships and exchanges have been established between the two categories of students to strengthen their mutual understanding.

With the evolution of the dental care delivery system, an anticipated increase in demand for dental assistants with advanced clinical skills will require adjustments in educational programs. This trend suggests that dental practitioners may increasingly prefer employing dental assistants with advanced clinical skills, highlighting the need for more comprehensive training programs within higher education institutions [3].

## CONCLUSION

In conclusion, most students recognize the dental assistant as an essential element for the proper functioning of a dental office, playing a crucial role in delivering quality dental care. However, there are gaps among students regarding certain specific skills of dental assistants. It is imperative to establish comprehensive training and increase awareness among students about these skills, as it would be a major asset.

A thorough analysis of the needs and motivations of dentists regarding the recruitment of dental assistants is necessary. Considering anticipated developments in the dental care delivery system, future studies could explore the increasing demand for advanced clinical skills among dental assistants.

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Simultaneously, adjustments in their training programs will be essential to meet these emerging needs. It is crucial to anticipate and prepare students for future developments in the field, emphasizing the development of advanced clinical skills that will be increasingly sought after in the constantly evolving dental context.

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