ORIGINAL ARTICLE

Patient perceptions of the professionalism of dental co-assistants and dental residents at a university dental hospital: a cross-sectional study

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ABSTRACT

Introduction: Professionalism in dentistry, encompassing clinical competence, communication, and ethical practice, critically influences patient satisfaction and quality of care. Despite its importance, patient perceptions of dental students' professionalism remain understudied in Indonesian teaching hospitals. This research aims to assess patient perceptions of the professionalism of dental co-assistants and dental residents at a university dental hospital. **Methods:** This cross-sectional study administered questionnaires via Google Forms to 226 patients, including patients treated by co-assistants and residents. The questionnaire consisted of four indicators of professionalism in dentistry, namely excellence, humanism, accountability, and altruism; each indicator comprised five questions assessed using a Likert scale. The results were analyzed using univariate analysis. **Results:** A total of 226 patients participated in this study, including patients treated by co-assistants (n=111) and residents (n=115). Most participants were adults and predominantly female, with the majority having an undergraduate education. Patients received various dental treatments across multiple polyclinics, and most had visited the dental clinic three times or more. Patient perceptions of the professionalism of co-assistants were categorized as good (100%). Meanwhile, patient perceptions of the professionalism of residents showed an average of 1.7% in the deficient category, 1.55% in the sufficient category, and 96.75% in the good category. **Conclusion:** Patient perceptions of the professionalism of dental co-assistants and dental residents at the university dental hospital showed generally good scores. However, some aspects of the professionalism indicators require attention for further improvement.

KEYWORDS

Professionalism, dentistry, perception, dental students

INTRODUCTION

Medical professionalism is a combination of good clinical skills, communication skills, and an understanding of legal and ethical principles.[1] Professionalism can be defined based on four indicators of professional behaviour: excellence, humanism, accountability, and altruism. Excellence means a commitment to mastering knowledge and technical skills and exceeding the minimum standards set.[2]

Humanism emphasizes respect, care, and empathy for patients without discrimination.[3] Accountability reflects responsibility for clinical decisions, standards of care, and professional ethics by always prioritizing patient welfare and transparency in practice.[4] Meanwhile, altruism is a selfless attitude that prioritizes patients' needs over personal interests.[5–8]

As the public becomes increasingly aware of the importance of quality dental care, expectations for the professionalism of dental care providers increase.[9,10] However, these expectations have not always been fulfilled in practice, with previous studies reporting a decline in professionalism among dentists, particularly in terms of inadequate communication skills.[11,12]

Studies have shown that unmet patients' expectations could lead to decreased patient satisfaction, which in turn can damage the institutional reputation and reduce treatment adherence.[13–15] These findings highlight the need for continuous evaluation and improvement of professional behavior, especially in teaching hospitals where future practitioners are trained.

The novelty of this study lies in its provision of new insights based on the professionalism indicators of excellence, humanism, accountability, and altruism, which can inform curricular improvements in professionalism training for co-assistants and residents, as well as improve the quality of dental healthcare services provided to the community.

Rumah Sakit Gigi dan Mulut Universitas Padjadjaran (RSGM Unpad) is a teaching hospital for both undergraduate (co-assistant) and postgraduate dental students (resident). While evaluating students' professionalism is crucial for service quality improvement, no studies have assessed patient perceptions of the professionalism of co-assistants and residents at this institution. Therefore, this study aims to assess patient perceptions of the professionalism of dental co-assistants and dental residents at the university dental hospital.

METHODS

This was a descriptive cross-sectional study conducted from January 5 to February 7, 2025. The inclusion criteria for this study were patients of RSGM UNPAD who had received treatment at least once by co-assistants or residents and were willing to participate as respondents. For subjects treated at the Pediatric Dentistry Polyclinic, the questionnaire could be completed by a parent or guardian. The exclusion criteria were patients who did not complete the questionnaire in full or withdrew from the study.

The patient population consisted of patients who visited the Oral Surgery, Pediatric Dentistry, Conservative Dentistry, Orthodontics, Oral Medicine, Periodontics, and Prosthodontics Polyclinics. Participants were selected using purposive sampling because the exact number of eligible respondents during the study period was not known.

To minimize potential selection bias, respondents were recruited from various clinical departments to ensure diverse representation of patients. The total sample size was 226 patients. The sample size was determined using the Slovin formula with an acceptable margin of error, taking into account the relatively small and finite population.

Measurement bias was further minimized through the use of a previously validated and reliable questionnaire developed by Ramadhan et al.[16] which was administered using Google Forms. The questionnaire consisted of 20 items covering four indicators of professional behaviour: excellence, humanism, accountability, and altruism, with five questions for each indicator. Face validity testing was conducted to assess feasibility, readability, consistency of format, and clarity of language.

Responses were measured using a four-point Likert scale ranging from 1 ("strongly disagree") to 4 ("strongly agree"). For each indicator, item scores were summed to obtain a composite score representing the overall perception of professional behaviour within that domain. The summation of Likert-scale items was performed to capture the cumulative contribution of each item and to facilitate meaningful interpretation of respondents' perceptions at the indicator level.

To further enhance interpretability and support descriptive analysis, the composite scores were subsequently transformed into categorical levels. Scores of 15–20 were classified as good, scores of 10–14 as sufficient, and scores below 10 as deficient. This categorization allowed for clearer presentation of the results and comparison across indicators while acknowledging the ordinal nature of the original Likert-scale data.[17] Univariate analysis was conducted to describe the frequency distribution of the collected data.

RESULTS

This study involved 226 respondents, consisting of 111 patients who assessed the professionalism of co-assistants and 115 patients who assessed the professionalism of residents. All respondents met the inclusion criteria and completed the questionnaire in full, with no missing data identified. The results are presented in the following tables.

Table 1. Distribution of patient respondent characteristics among patients treated by co-assistants and residents

Variables		Co-Assistant		Resident	
		n	%	n	%
Gender	Female	78	70.3	96	83.5
	Male	33	29.7	19	16.5
Total		111	100	115	100
Age	Children	3	2.7	0	0
	Adolescents	9	8.1	9	7.8
	Adults	97	87.4	102	88.7
	Elderly	2	1.8	4	3.5
Total		111	100	115	100
Jobs	Elementary and High School Students	9	8.1	10	8.7
	Undergraduate Students	39	35.1	29	25.2
	Civil Servant/Teacher	3	2.7	9	7.8
	Private Employee	24	21.6	38	33
	Health Workers	2	1.8	2	1.7
	Unemployed	27	24.3	20	17.4
	Entrepreneur	4	3.6	4	3.5
	Retired	1	0.9	2	1.7
	Labourer	2	1.8	1	0.9
Total		111	100	115	100
Last Level Of Education	Elementary School	6	5.4	5	4.3
	Junior High School	7	6.3	5	4.3
	High School	33	29.7	43	37.4
	Undergraduate	65	58.6	62	53.9
Total		111	100	115	100
Polyclinic	Oral Surgery	26	23.4	23	20
	Pediatric Dentistry	16	14.4	7	6.1
	Conservative Dentistry	31	27.9	14	12.2
	Orthodontics	16	14.4	50	43.5
	Oral Medicine	11	9.9	3	2.6
	Periodontics	8	7.2	10	8.7
	Prosthodontics	3	2.7	8	7
Total		111	100	115	100
Treatment Received	Dental Fillings	41	36.9	14	12.2
	Tooth Extraction	28	25.2	20	17.4
	Root Canal Treatment	3	2.7	8	7
	Minor Surgery	0	0	1	0.9
	Fixed Orthodontic Treatment	0	0	49	42.6
	Removable Orthodontic Treatment	13	11.7	0	0
	Ulcer Treatment	11	9.9	2	1.7
	Dental Scaling	8	7.2	5	4.3
	Gingivectomy	0	0	2	1.7
	Frenectomy	0	0	1	0.9
	Operculectomy	0	0	1	0.9
	Splinting	0	0	2	1.7
	Denture	3	2.7	7	6.1
	Oral examination	1	0.9	3	2.6
Total		111	100	115	100
Number of visits	1 Time	32	28.8	21	18.3
	2 Times	23	20.7	22	19.1
	3 times or more	56	50.5	72	62.6
Total		111	100	115	100

Table 1 shows the distribution of respondent characteristics among patients treated by co-assistants and residents. In both groups, the majority of respondents were adults, female, and had visited the dental clinic three times or more. Among patients treated by co-assistants, most were undergraduate students who received dental fillings at the Conservative Dentistry Clinic. In

contrast, among patients treated by residents, most were private employees who received fixed orthodontic treatment from the Orthodontic Clinic.

Table 2. Analysis of excellence indicators

	Question Items	Co-Assistants								Residents							
		SD		D		A		SA		SD		D		A		SA	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1	Be friendly and enthusiastic during the interview	0	0	0	0	16	14.4	95	85.6	2	1.7	0	0	25	21.7	88	76.6
2	Listen attentively to patients' complaints	0	0	1	0.9	22	19.8	88	79.3	2	1.7	0	0	22	19.1	91	79.2
3	Provide health advice	0	0	1	0.9	23	20.7	87	78.4	2	1.7	2	1.7	28	24.3	83	72.3
4	Provide care courteously	0	0	0	0	17	15.3	94	84.7	2	1.7	0	0	11	9.6	102	88.7
5	Understand patients' health problems	0	0	0	0	24	21.6	87	78.4	2	1.7	0	0	22	19.1	91	79.2
	Total	0	0	2	0.4	102	18.4	451	81.3	10	1.7	2	0.3	108	18.8	455	79.2
	Average	0	0	0.4	0.4	20.4	18.4	90.2	81.2	2	1.7	0.4	0.3	21.6	18.8	91	79.2

*SD: Strongly disagree; D: Disagree; A: Agree; SA: Strongly agree

Table 2 presents the results for the excellence indicator of professionalism. On average, most respondents provided positive responses to all items, with the majority strongly agreeing with the statements. The total score for the excellence indicator was 2114 for co-assistants, with a mean score of 19.04, and 2158 for residents, with a mean score of 18.76. Both scores were classified as good. However, negative perceptions were still reported in both categories, particularly among patients assessing residents, with 2% of respondents selecting the strongly disagree/disagree options.

Table 3. Analysis of humanism indicators

	Question Items	Co-Assistants								Residents							
		SD		D		A		SA		SD		D		A		SA	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1	Communicate in an easily understandable manner	0	0	0	0	22	19.8	89	80.2	2	1.7	0	0	27	23.5	86	74.8
2	Give clear and simple instructions	0	0	0	0	24	21.6	87	78.4	2	1.7	1	0.9	25	21.7	87	75.7
3	Involve the family in the decision-making process	0	0	0	0	32	28.8	79	71.2	2	1.7	5	4.3	38	33	70	60.9
4	Provide care professionally	0	0	0	0	28	25.2	83	74.8	2	1.7	0	0	13	11.3	100	87
5	Provide care patiently and kindly	0	0	0	0	16	14.4	95	85.6	2	1.7	0	0	18	15.7	95	82.6
	Total	0	0	0	0	122	22	433	78	10	1.7	6	1	121	21	438	76.3
	Average	0	0	0	0	22.4	22	86.6	78	2	1.7	1.2	1	24.2	21	87.6	76.3

*SD: Strongly disagree; D: Disagree; A: Agree; SA: Strongly agree

Table 3 presents the results for the humanism indicator of professionalism. On average, most respondents provided positive responses to all items, with the majority strongly agreeing with the statements. The total score for the humanism indicator was 2098 for co-assistants, with a mean score of 18.90, and 2137 for residents, with a mean score of 18.60. Both scores were classified as good. However, around 2.7% of respondents selected the strongly disagree/disagree categories when assessing the humanism of residents. In contrast, none of the respondents provided negative assessments of co-assistants' humanism.

Table 4. Analysis of accountability indicators

	Question Items	Co-Assistants								Residents							
		SD		D		A		SA		SD		D		A		SA	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1	Treat diseases under supervision	0	0	0	0	21	18.9	90	81.1	2	1.7	0	0	27	23.5	86	74.8
2	Provide wholeheartedly until completion	0	0	0	0	18	16.2	93	83.8	2	1.7	0	0	19	16.5	94	81.7
3	Provide care very well	0	0	0	0	26	23.4	85	76.6	2	1.7	2	1.7	23	20	88	76.6
4	Is highly skilled and well-trained	0	0	1	0.9	30	27	80	72.1	2	1.7	2	1.7	31	27	80	69.6
5	Has a certain ability to meet treatment standards	0	0	0	0	29	26.1	82	73.9	3	2.6	1	0.9	24	20.9	87	75.6
	Total	0	0	1	0.2	124	22.3	430	77.5	11	1.9	5	0.9	124	21.6	435	75.6
	Average	0	0	0,2	0.2	24.8	22.3	86	77.5	2.2	1.9	1	0.9	24.8	21.6	87	75.6

*SD: Strongly disagree; D: Disagree; A: Agree; SA: Strongly agree

Table 4 presents the results for the accountability indicator among patients treated by co-assistants and residents. On average, most respondents provided positive responses to all items, with the majority strongly agreeing with the statements. The total score for the accountability indicator was 2094 for co-assistants, with a mean score of 18.9, and 2133 for residents, with a mean score of 18.5. Both scores were classified as good. However, similar to the findings for the humanism indicator, approximately 2.8% of respondents selected the strongly disagree/disagree options when assessing residents' accountability, compared with only 0.2% for co-assistants.

Table 5. Analysis of altruism indicators

	Question Items	Co-Assistants								Residents							
		SD		D		A		SA		SD		D		A		SA	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1	Put patients' interests and safety first	0	0	0	0	24	21.6	87	78.4	2	1.7	0	0	22	19.1	91	79.2
2	Do not hesitate to refer patients when a case is beyond their authority	0	0	0	0	20	18	91	82	2	1.7	0	0	27	23.5	86	74.8
3	Include patients in research to advance dental science	0	0	1	0.9	29	26.1	81	73	3	2.6	2	1.7	35	30.4	75	65.2
4	Ensure patients' privacy from other doctors	0	0	1	0.9	24	21.6	86	77.5	2	1.7	1	0.9	29	25.2	83	72.2
5	Provide care in a friendly and engaging manner	0	0	0	0	20	18	91	82	2	1.7	1	0.9	22	19.1	90	78.3
	Total	0	0	2	0.4	117	21.1	436	78.5	11	1.9	4	0.7	135	23.5	425	73.9
	Average	0	0	0.4	0.4	23.4	21.1	87.2	78.5	2.2	1.9	0.8	0.7	27	23.5	85	73.9

*SD: Strongly disagree; D: Disagree; A: Agree; SA: Strongly agree

Table 5 presents the results for the altruism indicator among patients treated by co-assistants and residents. On average, most respondents provided positive responses to all items, with the majority strongly agreeing with statements. The total score for the altruism indicator was 2099 for co-assistants, with a mean score of 18.9, and 2124 for residents, with a mean score of 18.5. Both scores were classified as good. However, 2.6% of respondents selected the strongly disagree/disagree options when assessing residents' altruism, compared with 0.4% for co-assistants.

Table 6. Analysis of professionalism indicators

Indicators	Co-Assistants						Total		Residents						Total	
	Good		Sufficient		Deficient				Good		Sufficient		Deficient			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Excellence	111	100	0	0	0	0	111	100	112	97.4	1	0.9	2	1.7	115	100
Humanism	111	100	0	0	0	0	111	100	112	97.4	1	0.9	2	1.7	115	100
Accountability	111	100	0	0	0	0	111	100	109	94.8	4	3.5	2	1.7	115	100
Altruism	111	100	0	0	0	0	111	100	112	97.4	1	0.9	2	1.7	115	100

Table 6 shows the results of the analysis of patient perceptions of professionalism indicators among co-assistants and residents. All co-assistants were rated in the good category across all professionalism indicators (100%). In contrast, although the overall professionalism indicators for residents were classified as good, 0.9 to 3.5% of respondents rated residents' professionalism as sufficient, while 1.7% rated it as deficient. The highest proportion of ratings in the sufficient and deficient categories was observed for accountability. Taken together, these findings suggest that some improvements may still be needed in residents' professionalism.

DISCUSSION

Medical professionalism is measured by indicators of excellence, humanism, accountability, and altruism.[1] In dentistry, this definition was further redefined by Cserzo *et al.*, who identified the following components: vocationalism, altruism, self-awareness, awareness of others, trustworthiness, responsibility, and accountability.[18] Overall, this study showed that patients treated by co-assistants and residents gave good assessments across all indicators of professionalism. These findings suggest that aspects of communication, empathy, and professional responsibility continue to be important factors in establishing positive patient evaluations of dental healthcare providers' professionalism.[19]

Most respondents in this study expressed a positive view of the excellence indicator, which reflects the highest quality of practice through knowledge and skills. This finding is consistent with previous studies reporting a positive correlation between perceived professionalism and patient satisfaction.[3] In addition, previous research has shown that patient satisfaction is influenced by the doctors' level of skill in providing care, particularly through effective doctor–patient interaction.[20]

Another aspect of professionalism, the humanism indicator, measures doctors' compassionate, respectful, and patient-centered approach to care. The majority of respondents rated all five aspects positively, particularly the components involving the provision of clear instructions and the involvement of family members in the treatment plan. These findings are consistent with previous research, which identified these two aspects as key factors in the assessment of residents' professionalism.[21] However, when these aspects of professionalism are not adequately demonstrated, patient dissatisfaction may occur.[22]

The difference between these findings and those of the previous study may be attributed to several factors, such as patient characteristics and the length of treatment.[23] In this study, some patients were friends or acquaintances of the co-assistants who treated them, as observed by the author, whereas in Taufan's study, the patients were hospital service users whose relationships with the attending doctors were not disclosed.[22] In addition, more frequent visits for dental care may lead patients to develop rapport with treatment providers compared with a single visit, as recorded in that study. These factors may have contributed to the more positive evaluations.[24,25]

In terms of the accountability indicator, the results of this study showed that the majority of patients strongly agreed that co-assistants and residents were

responsible for upholding ethical standards and making appropriate clinical decisions. Previous research has identified three main indicators used by patients to assess dentists' competence: (1) adherence to strict infection control measures, (2) professional appearance, and (3) accuracy of diagnosis and treatment planning.[3]

In addition, respondents in this study gave a positive assessment of the role of supervision by lecturers and supervising dentists. This finding is supported by previous studies, which have shown that academic supervision not only increases patients' trust in the quality of care but also has the potential to enhance patient loyalty and reduce anxiety during treatment.[26–28]

Regarding the altruism indicator, most patients expressed a positive perception of this aspect of professionalism. These findings are consistent with previous research showing that the majority of patients strongly agreed that doctors consistently prioritize patients' interests over their own.[22] As individuals with limited knowledge of dental and oral health, patients tend to place a high level of trust in those with greater expertise, namely dentists. This trust includes the expectation that dentists will maintain the confidentiality of patients' personal and medical information. Therefore, dentists have a moral, legal, and ethical obligation to uphold patient confidentiality and preserve this trust.[29–31]

Overall, this is the first study in Indonesia to examine patient perceptions of the professionalism of co-assistants and residents, and it may serve as a reference for further research in this field. The results highlight the need for structured professionalism training to improve the quality of services at RSGM Unpad. This approach may also be applicable to the assessment of professionalism within educational hospital settings.

However, the applicability of these findings outside educational hospitals, particularly in settings with more diverse patient populations, should be interpreted with caution. Differences in patient demographics and care contexts may require the findings to be reconsidered or re-evaluated. Furthermore, the use of a closed-ended questionnaire may limit a comprehensive understanding of other aspects of professionalism.

Therefore, future studies are encouraged to further explore these findings by involving populations with more diverse demographic characteristics and by examining perceptions of other stakeholders using open-ended questions. This study also has a limitation in that the measurement instrument did not operationally define the meaning of "skilled and trained," which warrants further exploration in future studies.

CONCLUSION

Patient perceptions of the professionalism of dental co-assistants and residents at the university dental hospital showed good scores. However, some aspects of each indicator still require attention for further improvement. Structured professionalism training for residents may be used to improve the quality of services at university dental hospitals. The implications of this study include curriculum development and policy formulation in dental education, emphasizing the integration of professionalism training as a core component to enhance patient-centered care and overall service quality.

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Informed Consent Statement: Written informed consent was obtained from each participant before their involvement in the study. The study objectives and procedures were explained in detail to

the participants, who were given the opportunity to ask questions and clarify any doubts. Participants were informed that their participation was voluntary and that they could withdraw from the study at any time without consequences.

Institutional Review Board Statement: This research was conducted in accordance with ethical principles and received approval from the Research Ethics Committee of Padjadjaran University through Ethics Approval Letter No. 1261/UN6.KEP/EC/2024 and from Rumah Sakit Gigi dan Mulut Universitas Padjadjaran through Research Permit Letter No. 23/UN6.RSGM/PT.00/2025.

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