

The Relationship Between Patients' Sociodemographic Factors And The Selection Of Prosthetic Rehabilitation Treatment

Karina Mundiratri*, Nadia Kartikasari*, Imam Safari Azhar*, Fionna Adhelia Putri*, Floreant Indira Naila*

* Department of Prosthodontics, Faculty of Dental Medicine, Universitas Airlangga

Correspondece : karina.mundiratri@fkq.unair.ac.id

Received 25 January 2026; Revision 1st 21 January 2026, Accepted 24 February 2026; Published online 24 February 2026

Keywords:

Prosthetic;
Sociodemography;
Rehabilitation; Prosthesis

ABSTRACT

Background: The success of prosthodontic rehabilitation can be achieved by paying close attention to both subjective and objective examination. Patients' preferences for the type of prosthesis are also influenced by sociodemographic factors. Sociodemography refers to the background characteristics of each individual. The purpose of this study was to investigate the association between sociodemographic factors including age, gender, occupation and location of residence that may influence the selection of prosthesis type.

Method: Cross-sectional study utilized a non-probability sampling method with total of 52 patients who met the inclusion and exclusion criteria, and required partial denture prosthodontic rehabilitation. Data of patients were collected from the Universitas Airlangga Dental Hospital from 2019 - 2025.

Result: Among all study participants, majority of study participants were female and chose fixed partial denture. Sociodemographic factor influencing treatment selection included gender ($p = 0.015$) and edentulous site ($p = 0.034$), both of which showed a statistically significant association with the overall patient choice.

Conclusion: gender and edentulous site of the ridge were significantly correlated as factors affecting the prosthesis choice of the patients.

Copyright ©2022 National Research and Innovation Agency. This is an open access article under the CC BY-SA license (<https://creativecommons.org/licenses/by-sa/4.0/>).

DOI: <http://dx.doi.org/10.30659/medali.8.1.20-24>

MEDALI Jurnal: Media Dental Intelektual accredited as Sinta 4 Journal

(<https://sinta.kemdikbud.go.id/journals/profile/13665>)

2337-6937/ 2460-4151 ©2025 National Research and Innovation Agency

This is an open access article under the CC BY-SA license (<https://creativecommons.org/licenses/by-sa/4.0/>)

How to Cite: Mundiratri et al. The Relationship Between Patients' Sociodemographic Factors And The Selection Of Prosthetic Rehabilitation Treatment. MEDALI Jurnal: Media Dental Intelektual, v.8, n.1, p.20-24, February 2026.

INTRODUCTION

Tooth loss is a common condition within the population, necessitating prosthodontic treatment to restore masticatory function, aesthetics, and speech ability. Prosthodontic treatment aims to restore chewing and speech functions, improve aesthetics and patient comfort, and maintain or enhance the condition of remaining teeth and supporting tissues. Rehabilitation in prosthodontics includes various options such as removable dentures, fixed dentures, implant, and others.¹

Successful treatment can be achieved by paying close attention to every clinical detail and the patient's anamnesis, as these aspects are crucial. Determining the appropriate rehabilitation treatment requires careful consideration between the dentist and the patient, including the number and position of remaining teeth, the restoration of dental arches with partial or complete tooth loss, as well as the patient's general health and personal conditions. In prosthodontics, patient satisfaction is one of the key aspects to consider, particularly for those undergoing or planning rehabilitation.²

One of the most important factors in determining a treatment plan is the site of tooth loss, which significantly influences the selection of prosthesis type. Patients with partial tooth loss have several treatment options, including removable partial dentures, fixed partial dentures (bridges), or implants. Patients' preferences for prosthesis type are also influenced by sociodemographic factors. Sociodemographic factors represent individual background characteristics such as age, gender, occupation, and domicile³. According to Elagra *et al.*, younger and middle-aged patients tend to prefer fixed partial dentures, while older patients are more likely to choose removable dentures.⁴ Not all patients perceive tooth loss as an urgent problem, but women generally report a greater impact of

tooth loss on their quality of life compared to men. These findings indicate that sociodemographic factors can influence patient preferences in the selection of prosthesis type.⁵

The sociodemographic conditions of patients and the number of missing teeth vary among populations in different regions, leading to variations in the prevalence of both removable and fixed prosthodontic rehabilitations.⁶ This study provides insight into the distribution of prosthodontic treatments and may serve as a foundation for future research. However, to this day, no such study has been conducted in Surabaya; therefore, information regarding prosthodontic treatment patterns in this region remains limited.

The Dental and Oral Hospital of Universitas Airlangga is one of the largest prosthodontic referral centers in Surabaya, East Java. Therefore, it serves as an appropriate site to investigate the association between patients' sociodemographic factors and their selection of prosthodontic rehabilitation, particularly within the urban population of Surabaya.

METHODS

The sample was obtained from the medical records of prosthodontic patients treated at the Universitas Airlangga Dental Hospital. A non-probability purposive sampling method was employed to select patients according to specific inclusion and exclusion criteria. The inclusion criteria comprised: (1) patients with partial tooth loss involving one to three missing teeth; (2) patients with complete medical records, including patient information, odontogram, and treatment chart; (3) patients treated in the Prosthodontic Clinic of the Universitas Airlangga Dental Hospital, by prosthodontic residents or clinical dental students during the 2019–2025 period; and (4) patients treated using

fixed partial dentures, removable partial dentures, or dental implants.

Patients were excluded from the study if they met any of the following criteria: (1) incomplete medical records; (2) medical records outside the 2019–2025 period; (3) hybrid prosthesis users; (4) patients with complete edentulism; or (5) patients with jaw abnormalities such as cleft palate, tumor, or cancer. If the minimum required sample size was not achieved, the study period would be extended to include cases from 2017 to 2025.

The independent variables in this study were the patients' sociodemographic factors, including age, gender, occupation, domicile, and edentulous site. The dependent variable was the type of prosthesis selected by the patient, categorized as removable partial denture, fixed partial denture, or dental implant.

The collected data were statistically analyzed to determine whether a significant association existed between the selection of prosthodontic rehabilitation types and patients' sociodemographic factors. The analysis was performed using the chi-square test for independence, as both variables were categorical. Statistical analysis was conducted using Chi square test, with the Statistical Package for the Social Sciences (SPSS) software to obtain the p-values for the evaluated variables. A p-value of less than 0.05 was considered statistically significant.

RESULT

This research has granted the ethical clearance with registered number of 0833/HRECC.FODM/VIII/2025. Medical record of the prosthodontic clinic patient of Universitas Airlangga Dental Hospital from 2019 to 2025 were analyzed, and 64 patients were fulfilled the

required the inclusion criteria. All of the patients received treatment from prosthodontic specialist program student.

The result of distribution of the prosthesis, the highest number was fixed partial denture (FPD), followed by implants, removable partial denture (RPD) and the least was combination of FPD and RPD.

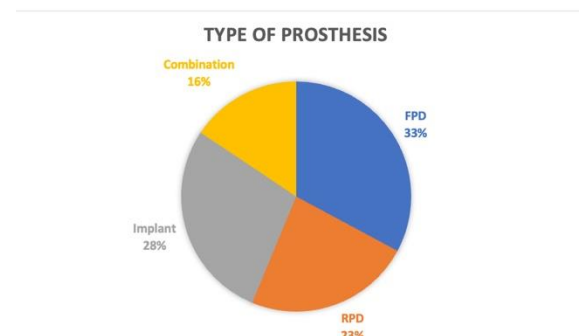


Figure 1. Distribution of type of prosthesis 2019 - 2025

Sex	Type of Prosthesis %				Total	P value
	FPD	RPD	Implant	Combination		
Male	4.7%	12.5%	6.3%	7.8%	31.3%	0.05*
Female	28.1%	10.9%	21.9%	7.8%	68.8%	

Table 1. Distribution of type of prosthesis and sex

Age	Type of Prosthesis %				Total	P value
	FPD	RPD	Implant	Combination		
20-39 years	12.5%	9.4%	7.8%	9.4%	39.1%	0.05*
40-59 years	15.6%	9.4%	14.1%	4.7%	43.8%	
> 60 years	4.7%	4.7%	6.3%	1.6%	17.2%	
Total	32.8%	23.4%	28.1%	15.6%	100%	

Table 2. Distribution of type of prosthesis and age majority of the patients were females (68.8%) followed by males (31.2%). The chi square test showed significant correlation between the type of prosthesis and sex, where most female patients chose with the FPD and in the contrary, male patients chose the RPD.

At the age group category, the statistical analysis test showed there were no correlation between the variables, meaning the variation of age were not affect the prosthesis treatment selection.

Pattern of missing teeth replaced	Type of Prosthesis %				Total	P value
	FPD	RPD	Implant	Combination		
Anterior	6.3%	3.1%	10.9%	3.1%	23.4%	0.05*
Posterior	21.9%	4.7%	10.9%	10.9%	48.4%	
Anterior and posterior	4.7%	15.6%	6.3%	1.6%	28.1%	
Total	32.8%	23.4%	28.1%	15.6%	100%	

Table 3. Distribution of type of prosthesis and pattern of missing teeth replaced

Occupation	Type of Prosthesis %				Total	P value
	FPD	RPD	Implant	Combination		
No occupation	9.4%	6.3%	1.6%	3.1%	20.3%	0.05*
With occupation	14.1%	14.1%	23.4%	12.5%	64.1%	
student	9.4%	3.1%	3.1%	0	15.6%	
Total	32.8%	23.4%	28.1%	15.6%	100%	

Table 4. Distribution of type of prosthesis and occupation

Location	Type of Prosthesis %				Total	Sig
	FPD	RPD	Implant	Combination		
outside Surabaya	9.4%	4.7%	7.8%	3.1%	25	0.601
Surabaya	23.4%	18.8%	20.3%	12.5%	75	
Total	32.8%	23.4%	28.1%	15.6%	100	

Table 5. Distribution of type of prosthesis and residence location
Majority of patient lost their posterior teeth (48,4%), and highest number of types of prosthesis was the

DISCUSSION

The significance of tooth replacement lies in its ability to restore masticatory, phonetic, and aesthetic functions, which are vital for an individual's nutritional status and overall quality of life. This study demonstrates that the selection of dental prostheses is a complex decision-making process influenced by both clinical and non-clinical factors.^{8,9} Notably, gender and the location of tooth loss emerged as significant determinants. Female patients showed a stronger preference for Fixed Partial Dentures (FPD) and implants due to higher aesthetic awareness, whereas male patients prioritized functional-oriented prostheses. Regarding tooth loss location, this study found a high demand for FPDs even in posterior regions, contradicting earlier findings by Khairani *et al*¹⁰, where Removable Partial Dentures (RPD) were the most favorable for posterior tooth loss.

Furthermore, this research contradicts Elagra *et al*¹¹, as age was not a determining factor in prosthetic selection. Aligning with Alamoush *et al*¹², the choice of prosthesis is currently more influenced by clinical conditions, professional prognosis, and internal patient factors—such as fear of surgery and adaptability—leading to a diverse range of prosthetic choices across all age groups.

FPD. Based on the statistical analysis, there were correlation between these pattern of missing teeth replaced with the type of prosthesis.

At the occupation category, most of the patient had occupation (64,1%), and the rest was without occupation or student. However, statistical result showed no correlation amongst them. The same statistical result also showed on the location of residential category, where the patient's residence location has no correlation on the choice of prosthesis type.

The overall preference for FPDs is attributed to their ability to provide a "normal" sensation and stable restorative results, leading to higher patient satisfaction in daily comfort and self-confidence. Conversely, factors such as age, occupation, and residential location did not show a significant relationship with prosthesis choice. This suggests that modern dental rehabilitation is increasingly driven by clinical indications rather than demographic constraints. The lack of significance regarding domicile and occupation reflects a more equitable distribution of oral health information and access in the digital era, where economic capacity is not always strictly tied to employment status. Ultimately, the choice of rehabilitation, including combination prostheses, remains a collaborative decision between the clinician's evaluation of oral conditions and the patient's personal experience and financial considerations.

This study also demonstrates that occupation has no significant relationship with the choice of prosthesis, contrasting with research of Isvandari's¹³. The occurrence of unemployed patients and students opting for Fixed Partial Dentures (FPD) suggests a variable bias, where occupational status does not necessarily reflect

economic capacity due to external financial support. Similarly, the domicile variable showed no significant correlation, indicating that oral health information has become equitable in the digital era, as proposed by Wulandari *et al*¹⁴.

CONCLUSION

The sociodemographic conditions of patients that show are relationship with the prosthesis types are the location of tooth loss and gender. These results indicate that the location of tooth loss, along with aesthetic and functional needs, plays a crucial role in patient decision-making regarding the chosen prosthetic rehabilitation treatment. FPD (Fixed Partial Denture) is the primary choice for most patients in replacing partially missing teeth because it provides better comfort, high stability, and more satisfying aesthetic results.

REFERENCES

1. Mostafa A, Aljanakh M, LOPEZ J, Alshammari, R, Altamimi Y and Siddigui A. Prosthodontic Treatment Services in Ha'il: A Survey of routine Prosthodontics Rehabilitation or refer done by Dentists. *Hail Journal of Health Sciences*, 3(1) 2021 ; 68-78.
2. Kavita K, Iqbal MA, Singh R, Singh S, Nazeer J. and Singh R. Factors affecting patient satisfaction among patients undergone removable prosthodontic rehabilitation. *Journal of Family Medicine and Primary Care*. 2020;7:3544–3548.
3. Dzuhainy A. Pengaruh sosiodemografi terhadap hasrat berwirausaha mahasiswa Universitas Muhammadiyah Sumatera Utara. *Jurnal Ilmiah Mahasiswa Pendidikan [JIMEDU]*. 2023;3(1).
4. Patil S, Al Kahtani A, Baeshen HA, Alamir AW, Khan S, Bhandi S, Hosmani J, Raj AT, Gadbail A, Gondivkar S and Sarode S. Face validity and psychometric evaluation of the available oral health- related quality of life instruments: A systematic review. *Oral health & preventive dentistry*. 2020;18(3):44680.
5. Patil, S, Al Kahtani A, Baeshen HA, Alamir AW, Khan S, Bhandi S, Hosmani J, Raj AT, Gadbail A, Gondivkar S, Sarode S. Face validity and psychometric evaluation of the available oral health- related quality of life instruments: A systematic review. *Oral health & preventive dentistry*. 2020;18:3:44680.
6. Araby YA, Almutairy AS, Alotaibi FM. Pattern of partial edentulism in correlation to age and gender among a selected Saudi population. *International Journal of Dental Sciences Research*. 2017;5:1–4.
7. Al-Quran FA, Al-Ghalayini RF, Al-Zu'bi BN. Single-tooth replacement: factors affecting different prosthetic treatment modalities', *BMC oral health* . 2011;11:1:1-7.
8. Carr AB, Brown DT. *McCracken's Removable Partial Prosthodontics*, 13th edn. 2016; 1-42.
9. Khan U, Dhawan P, Tandan P, Jain M. 'Assessment of patients' satisfaction with fixed partial denture and its correlation with patients' evaluation of clinicians', *Indian Journal of Forensic Medicine & Toxicology*. 2022;16:1:1210-1218.
10. Khairani F, Fardaniah S, Mursid S. The relationship between socio-demographics and the location of missing teeth with type of prosthetic treatment decisions', *Journal of International Dental and Medical Research*. 2018;11:3:1002-1006.
11. Elagra MEI, Alhayek AIA, Al-Mutairi BFM, Aljohar N & Aladwani R. Changing trends of prosthetic rehabilitation of partially edentulous patients visiting a tertiary care dental hospital', *Journal of Family Medicine and Primary Care*. 2019;8:6:1914-1918.
12. Alamoush RA, Elmanaseer WR, Matar YW, Al-Omoush S & Satterthwaite JD. 'Sociodemographic factors and implant consideration by patients attending removable prosthodontics clinics', *BioMed Research International*. 2022;8466979.
13. Isvandari P. 'Hubungan Antara Tingkat Ekonomi Dengan Minat Pemakai Gigi Tiruan Sebagian Lepasn Buatan Tenaga Non Profesional di Desa Genjahan', *Journal of Oral Health Care*. 2021;9: 2:94-102.
14. Wulandari RD, Laksono AD, Nantabah ZK, Rohmah N & Zuardin Z. Hospital utilization in Indonesia in 2018: do urban–rural disparities exist?', *BMC Health Services Research*. 2022; 22:1:1-11.