ECRONICON OPEN ACCESS

EC DENTAL SCIENCE
Research Article

Exploring Motivations to Seek and Undergo Prosthodontic Care in Hail, Saudi Arabia: A Cross-Sectional Study

Samaher Mohammad Almarshedy[1]*, Naji Hubaykan Alshammari[2], Saada Sayyah Alenazi[2] and Saad Abdullah Alqarni[3]

[1]*Department of Prosthodontics, Faculty of Dentistry, University of Hail, Hail, Saudi Arabia*

[2]*College of Dentistry, University of Hail, Hail, Saudi Arabia*

[3]*Intern, College of Dentistry, Umm Alqura Univesity, Makkah, Saudi Arabia*

***Corresponding Author**: Samaher Mohammad Almarshedy, Faculty Member of Dentistry, Demonstrator of Prosthodontics College of Dentistry, University of Hail, Kingdom of Saudi Arabia.

Received: October 09, 2019; **Published:** November 01, 2019

Abstract

Introduction: Dental prosthodontic care involves the provision of dentures whether fixed or removable, partial or complete. Stimulating for seeking and going through prosthodontic care are defectively debated and are not generally marked for clinical purposes.

Aim of Work: We using the theory of planned behavior to find the individual and social factors related intentions and behaviors associated with prosthodontic treatment.

Methods: This is a descriptive cross sectional study conducted on 300 participants. Online survey occurred between October and November 2018.

Results: The majority (33.3%, P = 0.001) of participants who have posterior maxillary tooth loss were untreated while only 1.3% were treated. The majority (23.3%, P = 0.001) of participants who have anterior and posterior maxillary tooth loss were treated while only 3% were untreated. Regarding mandibular tooth loss respondents, the majority (13.3%, P = 0.001) of participants who have anterior tooth loss were treated while only 2.3% were untreated. 48.3% of respondents were answered by 'definitely yes' about the treatment intention.

Conclusion: It was concluded that the partici¬pants had positive attitudes, SNs, and PBC toward prosthodontic treatment. ATB and SN were observed higher scores more than in PBC. Intention and behavior were linked to all of the TPB components and the in general TPB scale. In addition, positive intention and behavior were related to age, tooth loss position. The positive behavior was connected with the position of tooth loss, and PBC. On the other hand, The positive intention was only prophecy by PBC.

Keywords: *Attitude to Health; Edentulous Patient; Health Services and Demand; Behavior*

Abbreviations

SN: Subjective Norm; ATB: Attitude Toward the Behavior; PBC: Perceived Behavioral Control; TPB: Theory of Planned Behavior

Introduction

Dental prosthodontic care includes the services of dentures whether fixed or removable, partial or complete [1]. Studies made obvious that who were the need for prosthodontic care in adults may have sequence of affected tooth loss caused by periodontal disease and dental caries [2,3]. The factors which are correlated with caries are cariogenic bacteria, fluoride exposure, sugar exposure, professional

cleaning at the dentist's office, smoking, tooth brushing, pit and fissure sealant, and personal factors such as sex, age, and socioeconomic status (SES). Also, tooth brushing, professional cleaning, smoking, age, sex, and SES are correlated with periodontitis which are other factors involving diabetes and periodontopathic bacteria [4]. Obtaining treatment to replace lost teeth is associated with health care seeking attitudes and practices like, regular dental visits, the perceived impact of tooth loss on life activities in addition to the health care system characteristics involving access to care and insurance coverage [3]. Additionally, there is an interaction between oral diseases and obtaining care where people with advanced disease differ from those at milder stages in the chances of receiving attention due to the cost included and needed for dentists with advanced training [5]. Moreover, acquire care affects in sequences of disease detection, progression and treatment and after that the risk of tooth loss [6]. The impact that prosthodontic care need has on daily life may be associated with untreated caries and the need for periodontal care, and this may increase as the number of lost teeth increases [1]. Thus, the factors related to the need for prosthodontic care and its results on daily life are involved in a complex network with inter-related factors.

In recent decades, the advantage of preventive dentistry helps decrease the risk factors for tooth loss and edentulism, In developed countries, They observed rapid increase in elderly individuals and the increase of adults retaining to for prosthodon¬tic treatment [7]. This history includes successful oral health care systems approaches to properly treat prosthodontics patients and reduce current healthcare access inequalities.

There are several strategie which are highly effected for treatment of tooth loss by using conventional and implant treatments for a broad range of prosthodontic needs. Although the treatment depend on a clinical ceses which is a wide variation start from simple single tooth loss to complex and extensive treatment for complete edentulism [8]. However, oral health care which are marked barriers that affected and damages overall seek for treatment. Not only the barries also get the total demand dependent on available treatment options and resources from both the care provider and society, in addition to several social and psychological processes that transform need into demand and demand into performed utilization [9].

Aim of Work

The objective of work was to recognize the impact of attitudes, social norms, and control beliefs, also to clinical and socioeconomic variables, on patients' intentions and behaviors for predicting readiness to undergo prosthodontic care.

Materials and Methods

This was a descriptive cross sectional study conducted on 300 participants, including males and females; age range over 25 years of age, with some degree of tooth loss, general dental conditions, and treatment needs. No patients under current dental treatment. Online survey occurred between October and November 2018.

A proposed in a previous study there a set of 42 questions on the survey was based on 15 predictive fac¬tors of the TPB (ATB (n = 6), SN (n = 5), and PBC (n = 4)) [10]. The intention and behavior which are the impact components of TPB were also evaluated in the survey and regarded as separate dependent variables. The intention to undergo prost¬hodontic treatment was assessed as an answer to the question, "If you had a new tooth loss, would you intend to undergo treatment within six months?" Answers were measured by using a seven-point Likert scale

- 1 = Definitely Not,
- 2 = Probably Not,
- 3 = Maybe Not,
- 4 = Neu¬tral,
- 5 = Maybe Yes,
- 6 = Probably Yes, and
- 7 = Definitely Yes.

After that, depend on the answer subjects were dichotomized using the median value of the distribution of scores. The data was analysis by IBM-SPSS 20.0 software.

Results

Table 1 a 300 subjects completed the questionnaire; 51.3% were female and aged from 25 years to 65 years. Table 1 Exhibits the characteris¬tics of the sample according to the occurrence of previous prosthodontic treatment. The most tooth loss was only posterior edentulous for both maxilla (43.3%) and mandible (71.4%). Anterior and posterior maxillary tooth loss (n = 79; 32.9%) and anterior and posterior Mandibular tooth loss (n = 25; 8.9%). Only ten participants (4.2%) were lost all the Maxillary teeth. As well as eight respondents (2.9%) were lost all the mandibular teeth.

Variables	N = 300 (%)
Treated	175 (58.3%)
Untreated	125 (41.7%)
Sex	
Male	146 (48.7%)
Female	154 (51.3%)
Age (years)	
< 25	36 (12%)
25 - < 45	149 (49.7%)
45 - < 65	75 (25%)
≥ 65	40 (13.3%)
Maxillary tooth loss	240 (80%)
Posterior-only	104 (43.3%)
Anterior only	47 (19.6%)
Anterior and posterior	79 (32.9%)
All teeth	10 (4.2%)
Mandibular tooth loss	280 (93.3%)
Posterior-only	200 (71.4%)
Anterior only	47 (16.8%)
Anterior and posterior	25 (8.9%)
All teeth	8 (2.9%)
Intention	
Definitely yes	245 (81.7%)
Probably yes	25 (8.3%)
Maybe yes	18 (6%)
Neutral	4 (1.3%)
Maybe not	2 (0.7%)
Probably not	2 (0.7%)
Definitely not	4 (1.3%)

Table 1: *Demographic characteristics.*

Table 2 shows that 175 respondents have previous prosthodontic treatment while the rest 125 have not. Most (33%) of the treated participants were female. The majority (37.3%, P = 0.002) of the treated respondents were from 25-45 in age. The majority (33.3%, P = 0.001) of participants who have posterior maxillary tooth loss were untreated while only 1.3% were treated. The majority (23.3%, P = 0.001) of participants who have anterior and posterior maxillary tooth loss were treated while only 3% were untreated. Regarding mandibular tooth loss respondents, the majority (13.3%, P = 0.001) of participants who have anterior tooth loss were treated while only 2.3% were untreated. 48.3% of respondents were answered by 'definitely yes' about the treatment intention.

Variables		Previous treatment N (%)		P-value
		Untreated (125)	Treated (175)	
Sex				
Male	146 (48.7%)	70 (23.4%)	76 (25.3%)	0.3
Female	154 (51.3%)	55 (18.3%)	99 (33%)	
Age (years)				
<25	36 (12%)	30 (10%)	6 (2%)	
25-<45	149 (49.7%)	37 (12.3%)	112 (37.3%)	0.002
45-<65	75 (25%)	38 (12.7%)	37 (12.3%)	
≥65	40 (13.3%)	20 (6.7%)	20 (6.7%)	
Maxillary tooth loss	240 (80%)			
Posterior-only	104 (43.3%)	100 (33.3%)	4 (1.3%)	
Anterior only	47 (19.6%)	17 (6.7%)	30 (10%)	0.001
Anterior and posterior	79 (32.9%)	9 (3%)	70 (23.3%)	
All teeth	10 (4.2%)	0 (0%)	10 (3.3%)	
Mandibular tooth loss	280 (93.3%)			
Posterior-only	200 (71.4%)	96 (32%)	104 (34.7%)	
Anterior only	47 (16.8%)	40 (13.3%)	7 (2.3%)	0.001
Anterior and posterior	25 (8.9%)	10 (3.3%)	15 (5%)	
All teeth	8 (2.9%)	0 (0%)	8 (2.7%)	
Intention				
Definitely yes	245 (81.7%)	100 (33.3%)	145 (48.3%)	
Probably yes	25 (8.3%)	15 (5%)	10 (3.3%)	
Maybe yes	18 (6%)	8 (2.7%)	10 (3.3%)	0.4
Neutral	4 (1.3%)	2 (0.6%)	2 (0.6%)	
Maybe not	2 (0.7%)	0 (0%)	2 (0.6%)	
Probably not	2 (0.7%)	0 (0%)	2 (0.6%)	
Definitely not	4 (1.3%)	0 (0%)	4 (1.3%)	

Table 2: *Clinical variables according to the occurrence of previous prosthodontic treatment.*

Table 3 shows the characteristic values of the TPB and OHIP scales and the independent variables. Additionally, the accumulative repeat distribution of the scores on the ATB, SN, and PBC scales are shown in table 3. Partici¬pants had positive attitudes, SNs, and PBC toward prosthodontic treatment. ATB (5.2 ± 1.1) and SN (6 ± 0.6) were observed higher scores more than in PBC (4.8 ± 0.9). The intention and behavior in our results showed were associated with all of the TPB components ($P < 0.05$) and the overall TPB scale ($P < 0.01$). Positive intention and behavior were related to age, upper tooth loss, and anterior tooth loss.

TPB component	Mean (SD)	Min-max	Intension P-value	Behavior P-value
ATB	5.2(1.1)	3.2-6.9	0.02	0.001
SN	6(0.6)	3.4-7	0.003	0.02
PBC	4.8(0.9)	1.8-6.8	0.002	0.04
Overall TPB scale	5.3(0.5)	3.7-7	0.001	0.007
Upper tooth loss	-	-	0.08	0.001
Anterior tooth loss	-	-	0.2	0.001
Age	41.9(12.8)	18-83	0.4	0.002
OHIP score	7.7(9)	0-43	0.6	0.3

Table 3: *The association between intention or behavior (dependent variables) and predictive factors of the TPB.*
TPB: Theory of Planned Behavior; Min-max: Minimum-Maximum; SD: Standard Deviation; ATB: Attitude Toward the Behavior; SN: Subjective Norm; OHIP: Oral Health Impact Profile; PBC: Perceived Behavioral Control.

Table 4 shows that Positive intention was only predicted by PBC (P = 0.02), while positive behavior was associated with tooth loss position; upper and lower tooth loss (P = 0.001), and PBC (P = 0.02).

Variables	Reference category	P-value
Intention		
PBC	-	0.02
SN	-	0.06
Anterior tooth loss	Posterior tooth loss	0.08
Behavior		
Upper and lower tooth loss	Lower tooth loss	0.001
Upper tooth loss	Lower tooth loss	0.001
Anterior tooth loss	Posterior tooth loss	0.001
PBC	-	0.02

Table 4: *Results of factors predicting intention and behavior, including clinical, socioeconomic, and TPB components as independent variables.*
SN: Subjective Norm; PBC: Perceived Behavioral Control.

Discussion

The present results showed that the majority (33.3%, P = 0.001) of participants who have posterior maxillary tooth loss were untreated while only 1.3% were treated. The majority (23.3%, P = 0.001) of participants who have anterior and posterior maxillary tooth loss were treated while only 3% were untreated. Regarding mandibular tooth loss respondents, the majority (13.3%, P = 0.001) of participants who have anterior tooth loss were treated while only 2.3% were untreated. 48.3% of respondents were answered by 'definitely yes' about the treatment intention.

Previous evidence shows that the site of edentulous spaces determinde the demand¬ing and utilizing prosthodontic care. Most of the individual likely to replace anterior than posterior missing teeth [11]. The missing tooth site and patient satisfaction are highly effective relation between them [12].

For the replacement of posterior missing teeth there are multiple strategies such as the shortened dental arch concept assure masticatory function, occlusal support, and dental arch stability for the majority of elderly patients [13]. This concept related with patients for preserved anterior teeth and premolars is sufficient for acceptable levels of satisfaction with functionality, appearance, comfort, improved oral hygiene, and reduced costs; and it has been proven that functionally oriented treatment is a more cost-effective and feasible approach for subjects with limited physical and/or financial resources [14]. The concept of Treatment shortened dental arch concept was 1.84 times more cost-effective than conventional removable prostheses in a group of the partially dentate older population. The affecte of extent and position of edentulous spaces in the oral condition is higher the number of lost teeth, the higher the impairment of oral health-related quality of life [15].

To detect and evaluate reliable factors which affected individual patterns of health services use, social cognition models and health behavior theories have been performed to oral health care, using concepts from behavioral science research these models, like the theory of planned behavior (TPB) [16], trial to identify and explain how expectations, beliefs, judgments, and intentions lead to different behaviors concerning oral health care [17,18]. The social cognition models of health behavior are the notice that although social structural factors such as age, sex, and SES are reliably related to health actions, it is often difficult and sometimes impossible to modify these factors. The knowledge rather than social structure variables could identify by modeling the determinants of health behaviors [19].

Our study found that partici¬pants had positive attitudes, SNs, and PBC toward prosthodontic treatment. Lower scores were observed for PBC (4.8 ± 0.9) compared to ATB (5.2 ± 1.1) and SN (6 ± 0.6). The intention and behavior in our results showed were associated with all of the TPB components ($P < 0.05$) and the overall TPB scale ($P < 0.01$). Positive intention and behavior were also related to age, upper tooth loss, and anterior tooth loss.

According to Young., et al. [20], attitude toward the behavior (ATB), subjective norm (SN), and perceived behavior control (PBC) are considers three independent TPB determinants of intention, that in turn include the conse¬quent behavior. In prosthodontics, these factors (behavioral, normative, and control beliefs) identify a corresponding set of behavior-related beliefs which reflect the underlying cognitive structure of the TPB [10].

The current results showed that the positive intention was only predicted by PBC ($P = 0.02$), while positive behavior was related to the position of tooth loss (upper and lower tooth loss) ($P = 0.001$), and PBC ($P = 0.02$).

Conclusion

It was concluded that the partici¬pants of the present study had positive attitudes, SNs, and PBC toward prosthodontic treatment. ATB and SN were observed higher scores than in PBC. Intention and behavior were linked to all of the TPB components and the in general TPB scale. In addition, positive intention and behavior were related to age, tooth loss position The positive behavior was connected with the position of tooth loss, and PBC. On the other hand, The positive intention was only prophecy by PBC.

Bibliography

1. Azevedo MS., *et al*. "Dental prosthesis use and/or need impacting the oral health-related quality of life in Brazilian adults and elders: Results from a National Survey". *Journal of Dentistry* 43.12 (2015): 1436-1441.

2. Chambrone L., *et al*. "Predictors of tooth loss during long-term periodontal maintenance: a systematic review of observational studies". *Journal of Clinical Periodontology* 37.7 (2010): 675-684.

3. Petersen PE., *et al*. "The global burden of oral diseases and risks to oral health". *Bulletin of the World Health Organization* 83.9 (2005): 661-669.

4. Burt BA. "Concepts of risk in dental public health". *Community Dentistry and Oral Epidemiology* 33.4 (2005): 240-247.

5. Vieira AH., *et al*. "Predictors of Prosthodontic Treatment-Related Behavior Using the Theory of Planned Behavior Framework". *International Journal of Prosthodontics* 29.2 (2016): 139-141.

6. Celeste RK., *et al*. "The role of potential mediators in racial inequalities in tooth loss: the Pro-Saude study". *Community Dentistry and Oral Epidemiology* 41.6 (2013): 509-516.

7. Wu B., *et al*. "Edentulism trends among middle-aged and older adults in the United States: comparison of five racial/ethnic groups". *Community Dentistry and Oral Epidemiology* 40.2 (2012): 145-153.

8. Narby B., *et al*. "Prosthodontics and the patient: what is oral rehabilitation need? Conceptual analysis of need and demand for prosthodontic treatment. Part 1: a conceptual analysis". *International Journal of Prosthodontics* 18.1 (2005): 75-79.

9. Narby B., *et al*. "Prosthodontics and the patient. Part 2: Need becoming demand, demand becoming utilization". *International Journal of Prosthodontics* 20.2 (2007): 183-189.

10. Vieira AH and Leles CR. "Exploring motivations to seek and undergo prosthodontic care: an empirical approach using the Theory of Planned Behavior construct". *Patient Preference and Adherence* 8 (2014): 1215-1221.

11. Elias AC and Sheiham A. "The relationship between satisfaction with mouth and number, position and condition of teeth: studies in Brazilian adults". *Journal of Oral Rehabilitation* 26.1 (1999): 53-71.

12. Elias AC and Sheiham A. "The relationship between satisfaction with mouth and number and position of teeth". *Journal of Oral Rehabilitation* 25.9 (1998): 649-661.

13. Gotfredsen K and Walls AW. "What dentition assures oral function?" *Clinical Oral Implants Research* 18.3 (2007): 34-45.

14. Armellini D and von Fraunhofer JA. "The shortened dental arch: a review of the literature". *Journal of Prosthetic Dentistry* 92.6 (2004): 531-535.

15. Baba K., *et al*. "Patterns of missing occlusal units and oral health-related quality of life in SDA patients". *Journal of Oral Rehabilitation* 35.8 (2008): 621-628.

16. Orbell S., *et al*. "Implementation Intentions and the Theory of Planned Behavior". *Personality and Social Psychology Bulletin* 23.9 (1997): 945-954.

17. Brennan DS., *et al*. "Dental service patterns among private and public adult patients in Australia". *BMC Health Services Research* 8 (2008): 1.

18. Luzzi L and Spencer AJ. "Factors influencing the use of public dental services: an application of the Theory of Planned Behaviour". *BMC Health Services Research* 8 (2008): 93.

19. Godin G., *et al*. "Social structure, social cognition, and physical activity: a test of four models". *British Journal of Health Psychology* 15.1 (2010): 79-95.

20. Young HM., *et al*. "Operationalizing the theory of planned behavior". *Research in Nursing and Health* 14.2 (1991): 137-144.

Volume 18 Issue 11 November 2019