DOI: https://doi.org/10.52131/pjhss.2022.1002.0218

Pakistan Journal of Humanities and Social Sciences

Volume 10, Number 2, 2022, Pages 541–545
Journal Homepage:
https://journals.internationalrasd.org/index.php/pjhss

Impact of Dental Anxiety on Oral Health QOL among Dental Patients: Exploring Mediating Effect of Cynical Hostility

Sana Khan[1], Sarwat Sultan[2], Hina Khan[3]

[1] M.Phil. Scholar, Department of Applied Psychology, Bahauddin Zakariya University, Multan, Pakistan.
Email: sanakhan.twu@gmail.com
[2] Chairperson, Department of Applied Psychology, Bahauddin Zakariya University, Multan, Pakistan.
Email: sarwatsultan@hotmail.com
[3] Clinical Psychologist & Demonstrator of Behavioral Science, Ibn E Sina Hospital Multan, Pakistan.
Email: hinakhanmahsud@gmail.com

ARTICLE INFO

Article History:
Received: April 04, 2022
Revised: May 29, 2022
Accepted: June 04, 2022
Available Online: June 04, 2022

Keywords:
Cynical
Dental Anxiety
Hostility
Oral Health

Funding:
This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

ABSTRACT

The purpose of the study was to examine the dental anxiety predicting poor oral health quality of life (OH QOL) and explore mediating effects of cynical hostility among dental patients. Using the survey questionnaire methodology, the study further analyzed the demographic differences (age, gender) among dental patients. The researchers wanted to see if there was a link between dental anxiety and oral health quality of life (QOL) as well as cynical hostility in a group of dental patients. The Modified Dental Anxiety Scale (MDAS), Cynical Distrust Scale (CDS), and Oral Health Impact Profile (OHIP) were all completed by 353 dental patients. Additionally, demographic information was gathered. Regression analysis shows that dental anxiety results in poor oral health QOL ($p<.05$). Mediation analysis via Hayes process macro showed cynical distrust impact as a mediator in a relationship between dental anxiety and oral health QOL was significant. The mediation found that cynical hostility was a significant factor in the link between dental anxiety and oral health quality of life. Results of the study have major implications in domain of oral health and can be used in health programs to improve the quality of treatment.

Corresponding Author's Email: sanakhan.twu@gmail.com

1. Introduction

Dental anxiety is a reaction to an unknown risk, and dental phobia is similar to fear, but considerably more intense, in which the "fight-or-flight" response is elicited just by thinking about or being reminded of the frightening circumstance (Armfield, 2010). Those who avoid dental treatment, it was found the significant role is played by dental anxiety. Cynical hostility is a psychological characteristic that has been associated with negative health impacts and health-damaging behaviors and has been shown to interact with education and social support (Haukkala, 2002; Smith, 1994). Individuals that are hostile have a skeptical, distrustful, and frequently contemptuous attitude toward others, as well as a cynical outlook on their surroundings and social interactions. Strong associations have also been reported between cynical hostility and education, income, and occupation (Barefoot et al., 1991; Carroll, Smith, Sheffield, Shipley, & Marmot, 1997). A major attention is drawn in oral health field by dentists and researchers about its importance and how it influences a subject QOL. Oral health QOL intends quantifying people's perception about how their oral condition brings a serious damage to their QOL. It causes shame and disgrace especially in those who suffer from severe mouth and tooth issues. A visit to a dentist may provoke feelings of anxiety due to factors such as fear of pain, sense of loss of control, taboos, and beliefs. Dental anxiety affects people of all ages and gender (Moore, Birn, Kirkegaard, Brødsgaard, & Scheutz, 1993; Wardle, 1982) and is influenced by a variety of elements including one's familial and social surroundings, general fear, pain and traumatic events, and unpleasant experiences. Dental anxiety has previously

eISSN: 2415-007X

been shown to be a predictor of poor dental attendance (Milgrom, Newton, Boyle, Heaton, & Donaldson, 2010).

Since dental anxiety, cynical hostility are associated with poor oral health (Mettovaara, Suominen-Taipale, Uutela, Martelin, & Knuuttila, 2006; Suominen-Taipale et al., 2009), their interrelationship needs to be studied in detail. We hypothesized that dental anxiety's relationship with poor oral health QOL may vary because of several factors such as cynical hostility. A search of the literature revealed that the concepts of dental anxiety and cynical hostility and their relationship with oral health QOL have been studied separately but not together. It was felt that a deeper understanding of the interplay between the three factors would help administrators and psychologists to improve health-care access by tailoring specific health promotion programs. It was also felt that the findings from this study could be relevant in understanding health-care seeking behavior in developing countries. Hence, the goal was to assess the relationship between dental anxiety and cynical hostility among dental patients.

2. Materials and methods

The participants in this cross-sectional study were dental patients. The participants were 353 dental patient's age range 15-60 years old visiting the outpatient department of hospital and private clinics with several dental issues. The study sample was informed about the nature of the study and their permission was obtained through verbally and written paper was filled by them. Participants are almost same with regard to cultural background, but were different on education, gender, age, occupation and monthly income.

The patient recruitment was done by the receptionist in the waiting area of the centers. They were approached and asked if they could spare 5 min of their time to fill an anonymous questionnaire which did not collect their personal details/direct identifiers. The patients were informed that the study's goal was to better understand three significant elements that could influence access to dental care, namely, dental anxiety, cynical hostility, and oral health QOL. They were also told that refusing to participate in the study would not affect their treatment in any way. Patients, who provided informed consent, were adult (≥15 years) and understand Urdu language were included in this study. Disabled patients (who were not capable of comprehension and communication) and the seriously ill were excluded from the study.

Participants were given a self-administered questionnaire that included a previously validated version of the modified dental anxiety scale (MDAS) (Acharya, 2008) and the eight-item cynical mistrust scale (CDS) used by Everson et al. (1997). as well as the Oral Health impact profile. The original English version of cynical hostility was translated twice into the local tongue by a professional translator, and the two versions were combined into one. To eliminate any uncertainty, these versions were back-translated into English. Urdu version of MDAS and OHIP was used. It was also felt that the findings from this study could be relevant in understanding health-care seeking behavior in developing countries. As a result, we set out to investigate the link between dental anxiety and cynical hostility in a group of dental patients.

The MDAS (A Likert-type scale) had five questions. Each question had scores ranging from "not anxious" to "extremely anxious" in an ascending order from 1 to 5. The score range of scale is 5-25. High score indicate high dental anxiety.

The Cynical Distrust Scale (CDS) was developed by Greenglass and Julkunen (1989) developed this scale. In the original hostility scale the response options were true or false. In this scale the Likert format was used which consist of four options. The scoring range lies between 0-24. The low scores indicated the distrust towards others. At the end the scores of each item are summed to generate total score.

The short version of the Oral Health Impact Profile-14, which comprises of 14 core questions that infer about people's perspectives on the impact of oral health and its involvement in their overall health, was used to measure oral health-related quality of life. The short version of 14 items as the original version contains 49 items. It includes seven domains which further include 2 items. Responses in this scale were made on a 5-point scale, coded.

Demographic data were also collected from the respondents which include information about age and gender.

3. Statistical analysis

Data was analyzed using Statistical Package for Social Sciences (24th Edition). Mean and standard deviation, frequency and percentage was evaluated for all the demographic variables. Regression analysis and Process macro was used for the mediation analyses of cynical distrust and their impact between dental anxiety and oral health QOL.

Through the use of a third variable, known as a mediator variable, mediation analysis attempt to uncover and explain the mechanism or process that underpins an observed relationship between an independent and a dependent variable. According to the mediation model, the independent variable affects the mediator variable, which then affects the dependent variable. As a result, the mediator variable clarifies the nature of the link between the independent and dependent variables. In this study, we used mediation analysis to see if CDS may be a mediator in the association between dental anxiety and OH QOL.

4. Results

Table 1 shows descriptive statics of patient's gender and age.

Table 1: The distribution of the socio-demographic factors

Gender	N	Mean	SD	Percent
Female	212	1.70	.754	39.9
Male	141	1.44	.647	60.1
Age Groups	**N**	**Mean**	**SD**	**Percent**
15-30	203	1.67	.471	57.7
31-45	107	1.54	.501	30.3
46-60	43	1.42	.499	12.2

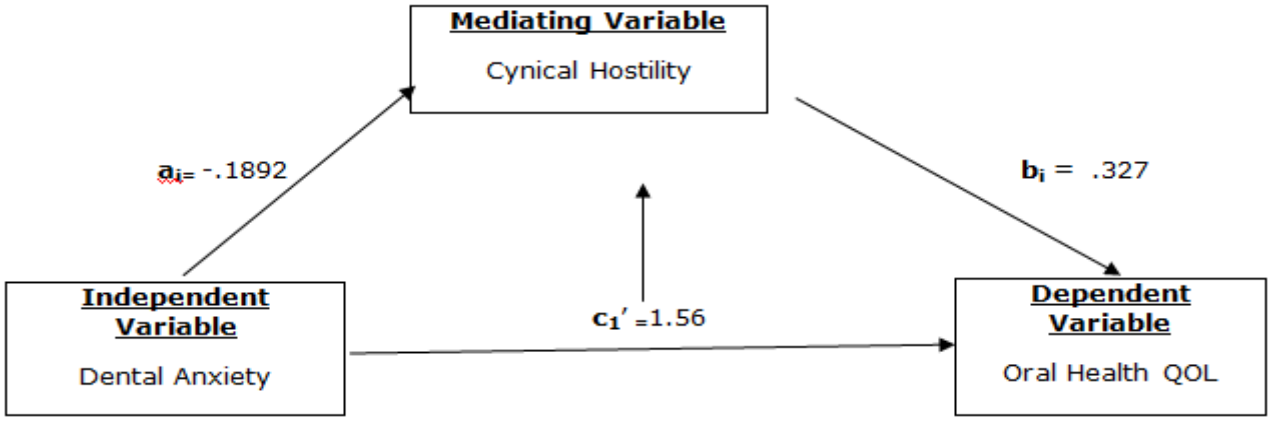
Table 2 shows significant dental anxiety's effect on oral health QOL as the results show with increase in dental anxiety, oral health QOL decreases.

Table 2: Regression Analysis for Dental Anxiety predicting poor oral health QOL

Variable	B	95% CI	B	t	p
Constant	5.650	1.263		4.472	.000
MDAS	.465	.100	.241	4.645	.005

Note. R^2= 0.33 *CI*= Confidence Interval for B

Figure 1: Structural Diagram of Hypothesized Model



Because the results were significant and the p value was.000, Table 3 model summary demonstrates that cynical distrust operated as a mediator between dental anxiety and oral health impact profile.

Table 3: Mediation analysis summary of Cynical Hostility between Dental Anxiety and Oral Health QOL

Variable	B	S.E	t	p
Step 1				
Constant	17.3102	.6015	28.7795	.0000
MDAS	-.1892	.0476	-3.9730	.0001
	R=.2077 , R^2=.0432			
Step 2				
Constant	.0192	2.295	.0083	.9933
MDAS	.5250	.1014	5.1764	.0000
CDS	.3272	.1114	2.9381	.0035
	R=.2832 R^2=.0802			

Although dental anxiety and cynical hostility have shown a decreasing trend with increasing oral health focus, a large population around the world suffered from dental anxiety. People found with high dental anxiety suffer from poor oral health, less supportive towards dental treatments and dissatisfied with their dental specialist. A study was conducted related to dental patients with aim to investigate dental anxiety predicting poor dental attendance, cynical hostility and oral health QOL exploring mediating effects. Differences in demographic characteristics were also explored in connection to dental anxiety. The role of cynical hostility as a mediator between dental anxiety and oral health quality of life was investigated. To achieve the study's goals, various statistical analyses were carried out.

5. Conclusion

The research investigated dental anxiety and several other variables are taken into account to find their association with oral health. Results revealed the presence of dental anxiety among majority of the study sample. Cynical distrust worked as a mediator results in high dental anxiety and low oral health quality of life. People with young age avoid visiting dental checkups results in suffering from high dental anxiety. There was no discernible difference between males and females in terms of dental anxiety in a given sample. High dental anxiety predicts poor oral health QOL in this study. More attention towards this specific domain of health predicts less oral issues among whole.

References

Acharya, S. (2008). Factors affecting dental anxiety and beliefs in an Indian population. *Journal of oral rehabilitation, 35*(4), 259-267. doi:https://doi.org/10.1111/j.1365-2842.2007.01777.x

Armfield, J. M. (2010). Towards a better understanding of dental anxiety and fear: cognitions vs. experiences. *European journal of oral sciences, 118*(3), 259-264. doi:https://doi.org/10.1111/j.1600-0722.2010.00740.x

Barefoot, J. C., Peterson, B. L., Dahlstrom, W. G., Siegler, I. C., Anderson, N. B., & Williams Jr, R. B. (1991). Hostility patterns and health implications: correlates of Cook-Medley Hostility Scale scores in a national survey. *Health Psychology, 10*(1), 18-24. doi:https://doi.org/10.1037/0278-6133.10.1.18

Carroll, D., Smith, G. D., Sheffield, D., Shipley, M. J., & Marmot, M. G. (1997). The relationship between socioeconomic status, hostility, and blood pressure reactions to mental stress in men: data from the Whitehall II study. *Health Psychology, 16*(2), 131-136. doi:https://doi.org/10.1037/0278-6133.16.2.131

Everson, S. A., Kauhanen, J., Kaplan, G. A., Goldberg, D. E., Julkunen, J., Tuomilehto, J., & Salonen, J. T. (1997). Hostility and increased risk of mortality and acute myocardial infarction: the mediating role of behavioral risk factors. *American journal of epidemiology, 146*(2), 142-152. doi:https://doi.org/10.1093/oxfordjournals.aje.a009245

Greenglass, E. R., & Julkunen, J. (1989). Construct validity and sex differences in Cook-Medley hostility. *Personality and Individual differences, 10*(2), 209-218. doi:https://doi.org/10.1016/0191-8869(89)90206-7

Haukkala, A. (2002). *Depressive symptoms and hostility in relation to socioeconomic status, smoking cessation, and obesity.* University of Helsinki, Helsinki, Finland.

Mettovaara, H. L., Suominen-Taipale, A. L., Uutela, A. K., Martelin, T. P., & Knuuttila, M. L. (2006). Cynical hostility as a determinant of toothbrushing frequency and oral hygiene. *Journal of clinical periodontology, 33*(1), 21-28. doi:https://doi.org/10.1111/j.1600-051X.2005.00864.x

Milgrom, P., Newton, J. T., Boyle, C., Heaton, L. J., & Donaldson, N. (2010). The effects of dental anxiety and irregular attendance on referral for dental treatment under sedation within the National Health Service in London. *Community dentistry and oral epidemiology, 38*(5), 453-459. doi:https://doi.org/10.1111/j.1600-0528.2010.00552.x

Moore, R., Birn, H., Kirkegaard, E., Brødsgaard, I., & Scheutz, F. (1993). Prevalence and characteristics of dental anxiety in Danish adults. *Community dentistry and oral epidemiology, 21*(5), 292-296. doi:https://doi.org/10.1111/j.1600-0528.1993.tb00777.x

Smith, T. W. (1994). Concepts and methods in the study of anger, hostility, and health. In A. W. Siegman & T. W. Smith (Eds.), *Anger, hostility, and the heart* (pp. 23-42). New Jersey: Lawrence Erlbaum Associates Inc.

Suominen-Taipale, A., Mettovaara, H. L., Uutela, A., Härkänen, T., Vehkalahti, M., & Knuuttila, M. (2009). Cynical hostility as a determinant of poor oral health status in an adult population. *European journal of oral sciences, 117*(2), 144-153. doi:https://doi.org/10.1111/j.1600-0722.2009.00611.x

Wardle, J. (1982). Fear of dentistry. *British Journal of Medical Psychology, 55*(2), 119-126. doi:https://doi.org/10.1111/j.2044-8341.1982.tb01490.x