

Religiosity and Self-Efficacy in Complete Denture Wearer

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ABSTRACT

Objective: Religiosity has been reported to contribute to psychological well-being. Psychological well-being has a significant influence on satisfaction of complete denture treatment among other factors. Satisfaction of complete denture results in improved self-efficacy. It is expected that there should be a significant association between religiosity and self-efficacy of denture treatment in complete denture wearer. The objective is to determine the association between religiosity and self-efficacy among complete denture wearer.

Methods: Participants wearing complete denture for a minimum period of 2 years were administered standardized psychological instrument (19 items) used to test for religiosity and 12 items for self-efficacy. A Likert scale of maximum score of 4 was used for each item. Data was gathered and analysed using IBM SPSS version 21. Categorical variables were presented as frequencies and percentages. Spearman Correlation test was performed.

Results: Thirty participants were recruited but only 28 conformed to study protocol. Mean age was 62 ± 0.50 years, 18 (64.3%) participants were males while 10 (35.7%) were females. Religious affiliations of participants were either Christian (21; 75%) or Islamic religion (7; 25%). Median score of spirituality was 43.5 and denture self-efficacy was 30. Spearman rank correlation test to determine the relationship between spirituality and denture self-efficacy values showed a weak positive monotonic relationship ($r_s = 0.13$, $n = 28$, $p = 0.40$).

Conclusion: There is a weak positive association between religiosity and denture self-efficacy, which is not significant. Religiosity does not necessarily determine self-efficacy in denture wearers.

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INTRODUCTION

There is a global increase in the population of older people and decline in edentulism (Idowu & Al-Shamrani, 1995; WHO, 2003). The population of the older people is projected to be 20% of the world's population by 2050 (WHO, 2003). This implies that there will be an increase in the need for complete denture because of years of cumulative effect of dental caries, periodontal disease, trauma and dental treatment that eventually leads to edentulism (Akinboboye et al., 2013).

This increase in complete denture need and possibly demand will require improvement in its

management especially when it is the most popular treatment option for complete edentulism because of its affordability (Akinboboye et al., 2013).

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Factors affecting complete denture treatment include pretreatment expectations, psychosocial variables, satisfaction with the dentures, and

mental health (Diehl et al, 1996). Previous studies have demonstrated individual differences in reaction and behaviour to clinical procedures, with personality factors suggested as being the relevant predictors of health behaviour (Al Quran et al., 2001; Marchinii, 2014). Personality reflects the cognition, opinion, habits, feelings and behaviours of individuals (Van der Waas, 1990; Strassburger et al., 2006; Fergusson, 2013). Neuroticism, openness to experience and conscientiousness are other factors reported as significant personality traits predicting satisfaction with different aspects of oral treatments (Van der Waas, 1990). Previous study has reported a correlation between religiosity and positive personality trait that contribute to psychological well-being (Gbolamreza et al., 2012). Psychological wellbeing is one of the factors reported to have a significant influence on satisfaction and self-efficacy of complete denture (Syrial et al., 1990; Greenfield, 2007; Kakudate et al., 2008; Hantash et al., 2011). High average level of satisfaction with complete dentures have been reported among a few proportion of edentulous people not adapting to the treatment (Medina-Solis, 2008). No predictors for this proportion have been found till date (Medina-Solis, 2008).

Self-efficacy influences affective, cognitive, motivational aspect of an individual and also affects adaptation to life, demands or treatment. Self-efficacy, which refers to the extent to which an individual believes in his or her capability to carry out a task, is essential for edentulous patients in terms of adaptation and tolerating their dentures as well as maintaining the dentures in the mouth (Greenfield, 2007).

Religious activities have been reported to be strongly associated to social wellbeing (Greenfield, 2007), since there is documentation that religiosity has a correlation with positive personality (Gbolamreza et al., 2012) and personality has been implicated as one of the predictors of complete denture treatment success (Hantash et al., 2011). Evidence also abounds of religion in being the coping mechanism for physical illness or stress (Koenig & Shohaab Saad Al, 2014).

The objective of this study is therefore to determine if religiosity has an influence on the self-efficacy of denture therapy with the aim of predicting edentulous patient who will adapt and tolerate complete denture treatment. The null hypothesis is that there will not be a significant positive correlation between religiosity and self-

efficacy of patients towards maintaining their denture.

MATERIALS AND METHODS

This study was conducted in the Outpatient Clinic of the Prosthetic unit of a Teaching Hospital. Ethical approval was obtained from the Ethical Board of the University Teaching Hospital. Participants were recalled from the study group that participated in a previous study titled "Relating Formal, Informal Religious Activities with Complete Denture Satisfaction." This initial study group (which had a sample size of 39) was recruited using the convenience sampling method. Informed consent, both written and verbal, was obtained from the selected patients before commencement of the study. Non-consenting selected patients were exempted in the study.

A total of 30 patients were able to come for recall visits and only 28 conformed to the protocol of the study. The other 2 patients could not complete the 2 sections of the psychological instrument of measurement, so they were excluded in the analysis.

The study period was 3 years. Participants were examined and dentures were fabricated by trained prosthodontist. Three calibrated investigators assessed fabricated complete denture before fitting.

The quality of dentures was assessed based on quality of fit, aesthetic, extension, vertical relation, and occlusion using a rating scale of 1-5 (Celebic et al., 2003.). The rating was as follows: - Quality of fit = 1, extension = 1, vertical relation = 1, aesthetics = 1, and occlusion = 1. The total sum is 5 and was assessed as follows: - 1 was rated poor quality, 2 was rated fair quality, 3 was rated good quality, 4 was rated very good quality and 5 was rated excellent quality (Celebic et al., 2003).

Participants wore their dentures for a minimum of 2 years. They were recalled and a psychologist administered the structured psychological instrument of measurement.

Instruments of measurement

First Section

Two psychological scales were utilised for measuring the two variables of interest. The spirituality/religiosity scale with sigma (σ).91 is a 9-item scale (Peterson & Seligman, 2004). The 9-item scale measured the level of spirituality/religiosity of the participants. 7 items

were positively worded while 2 items were negatively worded (Peterson & Seligman, 2004).

Second Section

The second instrument, denture self-efficacy scale measured the belief in the participants' ability to maintain their dentures after new sets have been fixed. The denture self-efficacy scale was adapted from the Self-Efficacy for Rehabilitation Outcome Scale with sigma (σ) .94 (Waldrop et al., 2001). The original Waldrop et al. (2001) scale was measured using a response format ranging from 1 to 10, however for this study, a response scale of 1 to 4 was used. The response scale presented to participants were denoted as follows; 1= Not at all true, 2= Hardly true, 3= Moderately true, 4= Exactly true were presented to the participants. This response format was adopted to forestall confusion and loss of the intensity of responses in the process of responding to the measure. The items were reviewed to serve the purpose of this study. Data was analysed with IBM SPSS version 21. Spearman rank Correlation test was done and the level of significance was put at ≤ 0.05 .

RESULTS

The total number of participants who consented to take part in this study was 30. However, the data collected and fit for analysis was obtained from 28 participants. Mean age was 62 ± 0.50 years. Amongst these, 18 (64.3%) of the participants were males while 10 (35.7%) of them were females. Furthermore, 9 of the participants (32.1%) had high school education, 13 (46.4) of the participants obtained a bachelor degree, 5 (17.9) of the participants obtained a higher national diploma degree, while 1 (3.5%) of the participants had acquired a post graduate degree. On religious affiliation, participants were either Christian (21; 75%) or were of Islamic religion (7; 25%).

Median score of spirituality was 43.5 and median score for denture self-efficacy was 30. Spearman rank correlation test to determine the relationship between spirituality and denture self - efficacy values showed a weak positive monotonic relationship that was not significant ($r_s = 0.13, n = 28, p = 0.40$).

Table 1. Sociodemographic variables

Variables	Frequency (%)
Gender	
Male	18 (64.3)
Female	10 (35.7%)
Age (years)	
21-30	1 (3.6)
41 -50	4 (14.3)
>50	23 (82.1)
Marital status	
Single	8 (28.6)
Married	11 (39.3)
Divorced	1 (3.5)
Widowed	5 (17.9)
Separated	3 (10.7)
Educational Status	
WAEC/high school	9 (32.1)
First degree	13 (46.4)
HND	5 (17.9)
M. Sc and above	1 (3.6)
Total	28(100)

Table 2: Individual total score of spirituality/religiosity

Religiosity score	Frequency (%)
31	1(3.6)
34	1(3.6)
35	1(3.6)
36	1(3.6)
37	2(7.1)
39	1(3.6)
40	1(3.6)
41	1(3.6)
43	5(17.9)
44	3(10.7)
46	2(7.1)
47	3(10.7)
48	6(21.4)
Total	28(100)
Average	42.79±4.93
Median	43.5
Skewness	- 0.805
Kurtosis	-0.302

Table 3: Individual total score of Self Efficacy

Self Efficacy score	Frequency (%)
9	1 (3.6)
14	1(3.6)
15	2 (7.1)
16	1 (3.6)
21	1 (3.6)
24	1 (3.6)
25	1 (3.6)
27	1 (3.6)
29	3(10.7)
30	3(10.7)
31	1 (3.6)
32	1 (3.6)
33	2(7.1)
34	2(7.1)
35	1(3.6)
36	3(10.7)
38	2(7.1)
39	1(3.6)
Mean	28.5 ± 8.23
Median	30
Skewness	- 0.921
Kurtosis	-0.085

Figure 1: Monotonic Relationship of Religiosity and Self Efficacy

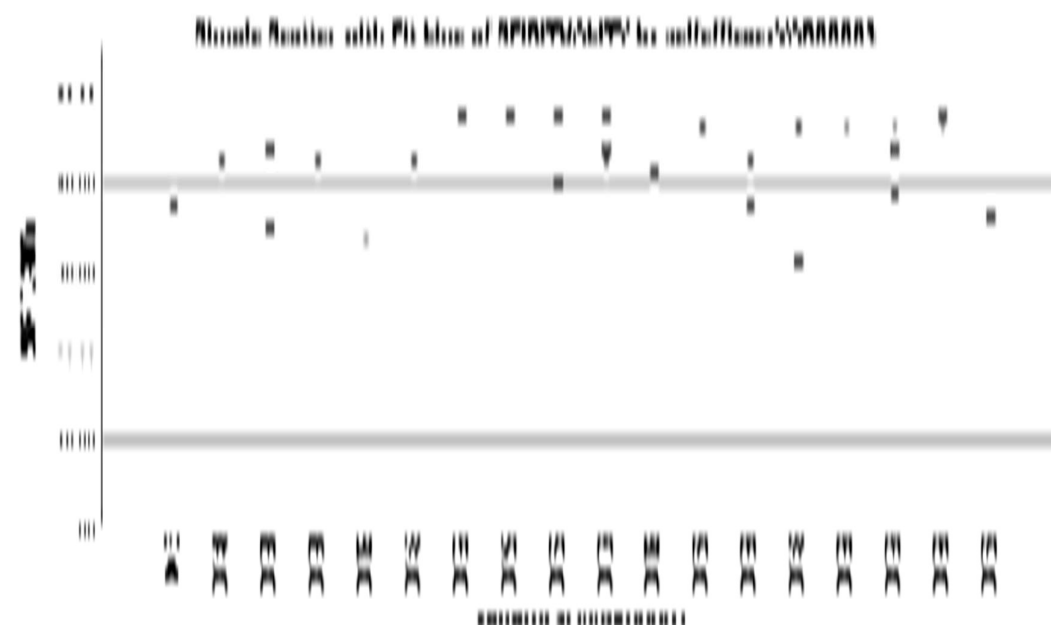


Table 4. Correlation table showing the relationship between religiosity and denture self-efficacy

		Religiosity
Denture Self efficacy	Spearman Rank Correlation	0.133
	Significant 2 tailed	0.50
	Kendall's tau	0.09
	Significant 2 tailed	0.51
	N	28

The result of the correlation test conducted (as shown in Table 2) suggests that there is a weak positive relationship between religiosity and denture self-efficacy that is not significant. In other words, the more religious an individual is, the higher the level of his or her denture self-efficacy, but it is not significant. Thus, the null hypothesis was accepted while the alternate rejected.

DISCUSSION

In this study there was no significant positive correlation between religiosity and denture self-efficacy. Although the positive correlation depicts that the more religious a person is, the higher the denture self-efficacy, the evidence found in this study was weak. Extensive literature search did not reveal any study determining correlation between religiosity and self-efficacy in complete denture wearers. A study done among cardiac patients revealed that negative forms of religious coping was associated with decreased confidence in patient's ability to perform physical tasks and self-efficacy (Miller et al., 2007). The significance of religion in influencing health behaviour and habits

has been documented by experts extensively across various health situations (Ironson et al., 2002; Hunter & Merrill, 2013) and the conclusion drawn from these studies is that religiosity and health behaviour are correlated. For instance, in the study done to determine religious motivation and cardiovascular reactivity (Masters & Knestel, 2011), engaging in prayers was reported to have positive effects on patients with coronary heart problems.

In dental care, the relationship between religiosity and dental caries experience has been established (Zim et al., 2012a), with the mediating influence of social support and spirituality. Another study reported that religion and involvement in religious activities help in coping with dental unfavourable condition (Heydecke et al., 2004). A study done in Israel to determine the correlation between religiosity and periodontitis reported a positive correlation between both religiosity and periodontitis (Zim et al., 2012b). The findings were explained using the two aspects of religiosity. The extrinsic (practical observance of religious doctrines including healthy behaviour) and intrinsic

aspect (coping and through spiritual beliefs and positive feelings) that may be a part of a causal chain leading to periodontal health (Zim et al., 2012B). It is noted that religiosity predispose to stronger social network and support which results in better oral and health behaviours (Heydecke et al., 2004). Religion was also reported to be a means for stress management (Zim et al., 2012B). The study however did not determine self-efficacy in performing periodontal regimens in these participants.

Self-efficacy involves people's confidence in their abilities to achieve a targeted level of achievement by their own actions. The expected outcome of efficacy depends on the peculiar task and setting the individual is confronted with (Zlatanovic, 2015). In this study, the skill was that of wearing a complete denture which requires adaptation and learning of skills. Most positive health behaviours including oral hygiene have been attributed with religious behaviours but has not been associated with self-efficacy (Nelson, 2009). Complete denture treatment involves psychological acceptance of dentures by the wearer. This psychological acceptance requires adaptation and learning of skills in wearing dentures (Mazurat & Mazurat, 2003). Though the finding in this study was a positive relationship between religiosity and self-efficacy, it was however weak and insignificant suggesting that religiosity cannot predict self-efficacy in complete denture wearer.

CONCLUSION

Religiosity has a weak predictive role on complete denture self-efficacy and cannot be considered as a predictor when managing edentulous patient in denture therapy.

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Conflict of interest

The authors declare that they have no conflicts of interest.

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