

# Oral hernández- palacios et al. (2015) (25) in mexico

[Media](#), [Television](#)



Oral health is a critical component of every individual's general health and wellbeing.

The World Health Organization recognizes oral health as an integral part of general health and a basic human right. Poor oral health and untreated oral diseases and conditions usually have a significant impact on the quality of life. Oral disease is common in advanced age. The most common oral health problems encountered by the elderly are teeth loss, dental caries, gingivitis, periodontitis, xerostomia, oral lesions, and dental problems (7). Concerning demographic characteristics, the mean age of the elderly in the present study was  $69.25 \pm 7.53$  which is close to the mean reported by Ibrahim et al. (2010) among elderly in Egypt (66.

08 years). Similarly, in Brazil (69.5 years) (Ulinski et al., 2013) (20) and in (Ibadan) Nigeria (69.7 years) (Taiwo et al.

, 2012) (21). The same point is confirmed by Dable et al. (2013) (22) in western India who mentioned that the age range was between 60-82 years and the mean age was 69.4 years.

The present study revealed that the plurality was to the women among the study sample. The higher percentages of women may reflect that attendants of the geriatric social club were commonly women, and reflect the higher life expectancy of women in general, and in Egypt as was reported by the Central Intelligence Agency (CIA) where the life expectancy was 70.8 years for male and 76.

2 years for female people (23). The finding is in congruence with many similar previous studies such as, Christensen et al.(2011) (24) in Copenhagen City, Hernández-Palacios et al.

(2015) (25) in Mexico City , Denmark, and Jang et al.(2015)(13) in Korea. The current study findings revealed that slightly less than three quarters of the studied elderly were living with family, while one-quarter of them were living alone. It might be due to that slightly more than half of them were still married and living with their spouses. Moreover, Middle-Eastern cultures are considered to possess more collectivist values where societies tend to encourage interdependence and therefore traditionally provide support and care for older people within their families. In the same context, the results of study conducted in Brazil by Alves da Silva et al. (2016) (26) who reported that more than half of the elderly were still married and more than three quarters of them were living with family. The findings revealed very deficient knowledge among studied elderly before the program.

This was noticed in all the tested knowledge areas such as the changes associated with aging, oral cancer, and the most common oral problems. The only exception was the part related to the preventive measures, which was known by more than one third of them. This could be explained by the specific instructions on media (TV & Radio) regarding tooth brushing and mouth cleanliness that still, perceived its importance was inconsistent with their demonstrated effectiveness. In support of this, the study results demonstrated that more than half of the studied elderly were depending on TV sources of their oral health knowledge. In agreement with

the present study finding, a study in Egypt by Al Imam (2014)(17) who found that very deficient knowledge among the study subjects before the program. The author attributed this poor knowledge to the educational level of the study sample where the majority of them were illiterate.

Similarly, another study in USA by McQuistan et al. (2015) (27) revealed that many participants were familiar with basic dental disease prevention and treatment; however, the most participants were unfamiliar with concepts pertaining to periodontal disease, oral cancer, and oral health. The deficient pre-program knowledge depicted among the elderly in the present study might be attributed to the low level of education among some of them as well as their mental abilities, which could be affected by the aging process.

In support of this, the study results demonstrated significantly higher scores of knowledge among those in the younger age group, less than 70 years, those educated and female gender. Moreover, age was negatively correlated to knowledge score, while the educational level was positively correlated to it. The same findings were revealed in logistic regression analysis. In congruence with this, the study of Al-Sharbatti and Sadek (2014) (28) in Ajman, United Arab Emirates UAE identified a significant association between elderly's knowledge and their age as well as educational level. On contrast with these findings, a study in Australia revealed that the total oral health knowledge score was examined in relation to the various socio-demographic and oral health. None of these variables yielded a statistically effect on the overall knowledge score (Marino et al., 2015a) (29). After implementation of

the current study educational program, there were statistically significant improvements in elderly's knowledge.

This indicates the effectiveness of the program in leading a positive change in their knowledge. Additionally, the educational level of the majority of the studied elderly was high or moderate as well as the majority of them were in 60-69 age group and these factors might play an important role in improving their oral health knowledge. This improvement was accompanied with little declines at the follow-up phase. This is expected given the effect of old age on memory, especially the short-memory. Similarly, a study in Melbourne, Australia where participants showed statistically significant improvements in participants oral health knowledge (18.4 vs. 23.3;  $p < 0.001$ ) (Marino et al., 2015b) (30).

In agreement with this result, Albrecht et al. (2013) (31) in Germany concluded that oral health knowledge of elderly improved by one or more oral health educational interventions. Regarding the oral self-care practices observation checklists, the findings revealed inadequate practice among the studied elderly before the program. This was noticed in all the observed procedures where all of them were unable to manage oral cancer self-examination procedure, the majority of them were unable to manage teeth flossing procedure, about two thirds of them were unable to manage teeth brushing procedure, and one third of them was able to manage only part of denture care procedure. This could be partly due to low knowledge and motivation regarding oral hygiene practices. On the same line, Al-Sharbatti and Sadek (2014) (28) in Ajman, UAE, who found that the majority

of elderly had inadequate oral self-care practices. The inadequate pre-program practices shown among the elderly in the present study might be attributed to that the majority of elderly had more than one chronic disease which take the priority in care rather than the oral health.

Additionally, the low level of education, insufficient income among some of them as well as their inadequate knowledge regarding the importance of oral health to body health. This finding might be due to that elderly with high level of education are more likely to have sufficient income that enable them to get better access to dental care. In support of this, the study results demonstrated that the score of oral self-care practice had statistically significant positive correlations with elderly's educational level, income and oral health knowledge. In congruence with this, the study of Allmam (2014) (17) in Egypt identified a significant association between elderly's oral self-care practices and their educational level as well as income. Additionally, Skorupka et al. (2012) (32) in Southern Poland revealed that the most frequent cause of oral hygiene neglect in the elderly could be the socio-economic conditions, and lack of sufficient health education.

After implementation of the current study educational program, there were statistically significant improvements in elderly oral self-care practices with some declines were revealed at the follow-up phase. This indicates the effectiveness of the program in leading a positive change in their practices. This finding was expected since the procedures were explained in the oral health education program included in the booklet that the researcher distributed it to all of the studied elderly and each procedure was applied

individually. Additionally, the educational program was considered as a start point and motivation for the elderly to take care of their oral health like other health concerns. In the same line, Mariño et al.

(2015a) (29) in Australia found that the participants showed significant improvements in self-care oral hygiene practices ( $p < 0.05$ ). Moreover, Zini et al. (2013) (33) in Thailand demonstrated that there were statistically significant improvements in elderly's practices total mean score of teeth brushing, teeth flossing, denture care and oral cancer self-examination with some declines were revealed at the follow-up phase. Before the program, lips, gums and tissues changed in less than half of the studied elderly, while tongue, saliva, and oral cleanliness changed in more than half of them. Ultimately, natural teeth and denture changed in the majority of studied elderly and dental pain changed in the minority of them. This can be explained by that, the inadequate knowledge as well as inadequate practice and limited dentist visiting among the majority of studied elderly, predict the changing in oral health status. Also, the majority of them were suffering from comorbidity and were depending on multiple medication that affect negatively on oral health.

These findings go in line with that of Compton and Kline (2015) (34) in Edmonton, Canada who found that very few elderly had good oral health, where one fifth had healthy oral cleanliness, more than one tenth had healthy tongues; and around two fifth had healthy gums and tissues. On the other hand, categories on the OHAT in which a majority of elderly were deemed healthy were lips, saliva, and pain. After implementation of the

current study educational program, there were statistically significant improvements in elderly oral examination findings with some declines were revealed at the follow-up phase. This indicates the effectiveness of the program in leading a positive change in their oral health status.

This finding was expected since the knowledge of oral health and oral self-care practices were improved among the studied elderly which act as a positive predictors for improved oral health status. In support of this, the high score of oral examination findings indicate poor oral health status so, the study results demonstrated that the score of oral examination findings had statistically significant negative correlations with elderly oral health knowledge. Similarly, Komulainen (2013) (35) in Kuopio, Eastern Finland found that oral health status improved in both the intervention group during the study, and especially the positive changes in periodontal health can be considered to be clinically substantial.

In agreement with this result, Albrecht et al. (2013) (31) in Germany concluded that oral health status of elderly was improved by one or more oral health educational interventions. It was hypothesized that after implementation of the educational program, OHRQoL among the elderly will be improved.

This hypothesis was supported by the current study findings which revealed that educational program had an effect on OHRQoL domains scores when comparing pre-program mean scores with post-program mean scores and follow-up mean scores, which indicated significant improvement in the elderly oral health related quality of life. The findings demonstrated generally



poor levels of OHRQoL among these elderly before the program. This was especially noticed in the physical pain domain followed by psychological discomfort domain then, physical disability domain.

The findings are expected given the negative impact of these three domains on daily life. In agreement with this, a study in Brazil (Ulinski et al., 2013) (20) reported that the highest means were registered for physical pain and psychological discomfort. On the same line, a study in Bengaluru, India found that among the seven domains of OHIP, the greatest impact was on physical pain (painful aching, discomfort while eating) (Pushpanjali et al., 2013) (36). After the implementation of the current study program, a statistically significant improvements were shown in all areas of elderly OHRQoL. However, there were some declines at the follow-up phase.

This indicates the success of the program, and leads to acceptance of the research hypothesis. In agreement with this finding, a similar effectiveness of an interventional study in improving the OHRQoL of elderly was reported in Egypt (Al Imam, 2014) (17). On the same line, a study in Korea found a statistically significant improvements in the oral health related quality of life score between the elderly ( $P < .05$ ) (Kim et al., 2016) (37). Regarding the correlations between elderly's oral health knowledge and oral self-care practices, the findings of the current study indicated statistically significant positive correlations between the score of OHK and OSCP before and after the implementation of the study program. These findings suggested that the higher oral health knowledge has a direct impact on oral self-care practices by improving the individual's self-awareness, self-protection, and

personal hygiene performances. These findings are consistent with a study conducted in Saudi Arabia by Baseer et al.

(2016) (38) which showed that there was a significant positive correlation between the subjects' knowledge and practice. Also in agreement with the foregoing present study findings, Wahengbam et al. (2016) (39) conducted a study in India to evaluate Knowledge, Attitude and Practice (KAP) towards oral health.

The findings of this study indicated significant positive correlation between knowledge and practice ( $r = 0.405$ ,  $p < 0.01$ ).

The positive correlation reaffirms that better knowledge can lead to good practices. Concerning the correlations between elderly oral health knowledge and oral examination findings (oral health status), the findings of the current study showed statistically significant negative correlations between oral health knowledge, and oral examination findings, where the total mean score of elderly OHK is inversely proportional with their OEF {the higher OHK score, the lower (better) OEF score}. In agreement with this, the study conducted in India by Chowdary et al. (2015) (40) revealed that Oral health literacy scores showed a statistically significant negative correlation with oral hygiene status, dental caries prevalence, periodontal status and prosthetic needs. So, subjects with low oral health literacy had a poor oral hygiene status, high dental caries prevalence, periodontitis, and they were in need for a prosthesis.

Concerning the correlations between elderly's oral health knowledge and their oral health related quality of life, the findings of the current study demonstrated that statistically significant strong negative correlations between oral health related quality of life and oral health knowledge, where the total mean score of elderly OHRQoL is inversely proportional with their OHK {the higher (adequate) OHK score, the lower (good) OHRQoL score}. This result is incongruent with Dahl et al. (2011) (41) in Norway who reported that the elderly with higher literacy levels had more natural teeth and better quality of life. Furthermore, a review study by Cunha et al. (2014) (42) reported that eleven primary studies were analyzed and showed that poor literacy is associated with poor oral quality of life and in order to promote it, both literacy and oral health should be included in nursing education, research and practice. Regarding the correlations between elderly oral self-care practice (observation checklist) and their oral health related quality of life, the findings of the current study demonstrated a statistically significant negative correlation between oral health related quality of life and oral self-care practice, where the total mean score of elderly's OHRQoL is inversely proportional with their OSCP {the higher (adequate) OSCP score, the lower (good) OHRQoL score}. In agreement with this present study finding, a study in Kuwait by Alsumait et al. (2016) (43) who found significant correlations between oral self-care practices and OHRQoL ( $p < 0.05$ ).

05). As regard for the correlation between elderly oral examination findings and their oral health related quality of life, the findings of the current study demonstrated that oral health related quality of life had statistically significant positive correlations with the oral examination findings. In

agreement with this present study finding, a study in Greece by Papaioannou et al. (2015) (44) clarified that dental and oral health conditions have a measurable impact on the quality of life of senior citizens.

According to the present study findings, the elderly OHRQoL was influenced by many of their personal as well as their health and disease characteristics. The personal factors with positive impact were younger age, female gender, higher education, as well as employee. All these factors indicated better socioeconomic and psychological status. Moreover, the effects of age, gender, and education were confirmed in correlation analysis. In agreement with this, a study in Babol, Iran reported that subjects with academic educations also had a better oral health status due to the higher cultural level and better care of oral health (Motalebnejad et al., 2015)45.