

Periodontal Diseases and Quality of Life

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Mini Review

Oral health related Quality of life (QoL) research since 2011 has changed in character. Investigation refocused to include aspects of life such as psychosocial, professional and overall health. More specific methods and design appear in investigations. This review explores current literature since the 2011, which use these specific methodologies: validated QoL measurement instruments, no geographic identifiers, and no confounding systemic conditions, on the relationship between periodontal diseases and QoL

Quality of life is defined by Collins Dictionary as the general well-being of a person or society, in terms of health and happiness, rather than wealth [1]. The World Health Organization Global Oral Health Program 2003 recognizes the importance of oral-health-related quality of life (QoL). [2] Campaigns portray images of pain free living; aesthetic images show attractive smiles as the image of well-being. In 2011, the Journal of Dental Research article by Sicher et al. refocused investigation to consider how oral health affects far reaching aspects of life such as psychosocial interaction, self-esteem, intimacy, overall health and performance at work. [3] They evaluated interrelationships between traditional variables like dental diagnosis, data from dental examinations and patient-centered subjective health experience which is visible in people's comfort eating, sleeping and functioning in situations ranging from social to occupational. [4] Traditionally, dental investigations approach QoL from the perspective of pathogenesis, risk factors and outcomes. Clinical variables, such as both chewing force, and neither individual patient perspective, nor farther reaching psychosocial variables are investigated. Instruments to measure QoL, such as the Oral Health Impact Profiles (OHIP), are used to measure oral- health-related QoL, dental focused instruments like OHIP address functional limitations related to pronouncing words, physical pain and disability which do impact far reaching areas of life. These instruments are developed for a variety of hospital settings and for a range of dental diseases and developmental abnormalities [5]. It stands to reason that just as any chronic inflammatory condition, periodontal disease would produce as wide range of effects that over time would tax these dimensions

of wellness. This review paper reviews current literature since the 2011 refocusing efforts on the QoL effects of periodontal disease in adults without any particular geographic identifiers or diseases which may be confounders.

Periodontitis is a chronic inflammatory condition in which host inflammation response triggered by the buildup of plaque bacterial biofilm on dental surfaces. The inflammation up regulates osteoclasts in alveolar bone and leads to its hydrolysis. Its endpoint is tooth loss. A recent CDC investigation highlighted the importance of periodontal disease awareness when it reported that one out of every two adults over age 30 and 70% over age 65 have the condition [6]. During its pathogenesis, signs and symptoms of chronic Periodontitis are not noticeable to the patient. Late in its pathogenesis, acute events such as abscess, cellulitis occurs or the end points of disease when the tooth is lost patients are able to take notice. Like other chronic conditions, signs and symptoms of Periodontitis wax and wane, in the form of low grade inflammation over long periods of time. Sometimes these reach acute presentation, with obvious pain, fever, which can keep the patient from working or socializing or swelling which causes obvious facial asymmetry, an outcome which transiently but clearly interferes with appearance desired for social, and work related activity. But, more often patients suffering from chronic Periodontitis do not present with such obvious acute presentation. It stands to reason that in the absence of acute presentation the condition impact quality of life, but in a less obvious way.

A 2017 Haag et al published a review focusing on oral conditions, not just Periodontitis and QoL [7]. Since the review itself is within the time scope of this article, we mention it here. It found only seven studies investigating this association of which only two falls after the 2011 demarcation that is the current focus. Both of these found that Periodontitis was associated with worse QoL [8,9]. Overall the Haag review found that 4 of the 7 articles reviewed concluded there is a negative association between periodontal disease and QoL. One of these did not perform an adjusted analysis because its purpose was to assess disability weights for Periodontitis [10]. Another,

reported gingival bleeding was associated with better mental component score [11]. Each of the studies was very different in methodology identifying periodontal disease, and in assessing QoL.

The Oral Health Impact Profile short version (OHIP-14) is a questionnaire having 14 functional and psychosocial impacts and measures self-report functional limitations, discomfort and disability; it has been validated in several geographic and age related populations and is accepted as a gold standard [12,13]. Several studies using OHIP-14 as a measurement instrument find that periodontal disease patients have lower QoL. For instance, when using the benchmark of marginal bone loss measured off a radiograph, individuals having greater than one third root length bone loss on more than 30% of teeth scored lower on the OHIP-14 [14]. Similarly, a separate study identified that when bone loss of greater than 50 % of the root length not only was the masticatory performance statistically worse, so was OHIP-14. [15] Furthermore, in 2016, Eltas et al reported OHIP-14 scores in subjects with both gingivitis and Periodontitis are worse than in periodontally healthy individuals. However this study found no statistically significant difference existed between the gingivitis and Periodontitis groups. [16] The effect of specific periodontal disease diagnosis and severity require more investigation.

On the other hand, OHIP-14 has not been validated in the postmenopausal subpopulation. The Utian Quality of Life Survey is the only one QoL validated in this population. [17] Oral health studies using this instrument identify that periodontal disease patients have lower QoL in separate facets of life such as occupational, sexual, emotional, systemic health and overall wellness. [18] Women are living longer more vibrant lives than ever before. Reportedly, postmenopausal women are driven to facial esthetics focusing on the lower third of the face as opposed to other women who tend to focus esthetic demands on the skin and nose [19]. It is easy to infer that dental esthetics drive self-image and leads to the hypothesis that oral health impacts the sense of well-being in multidimensional ways in the climacteric cohort.

All of the available evidence published since 2011 reports periodontal disease has a negative impact on QoL, although prior to that time evidence was mixed and inconclusive. Consistent evidence identified in this review may be result of three factors. First, the reviews since 2011 used fewer measurement instruments and fewer disease diagnoses than those prior to the refocusing of QoL research. Second, it may be due to the use of validated measurement instruments such as OHIP and Utian. Finally, this review used tight controls, such as focus solely on adults, those with no systemic conditions associated with reduced QoL, and no geographic focus. As such, controlled reviews and additional studies using validated instruments, well controlled diseases and conditions, and no specific geographic focus are indicated for the future.

References

1. HarperCollins (2010) Collins English Dictionary.
2. Petersen PE (2005) Priorities for research for oral health in the 21st century-the approach of the WHO Global Oral Health Programme. *Community Dent Health* 22(2): 71-74.
3. Sischo L, Broder HL (2011) Oral Health-related Quality of Life. *J Dent Res* 90(11): 1264-1270.
4. McGrath C, Comfort MB, Lo EC, Luy Y (2003) Can third molar surgery improve quality of life? A 6-month cohort study. *J Oral Maxillo fac Surg* 61(7): 759-763.
5. Page RC, Eke PI (2007) Case definitions for use in population based surveillance of periodontitis. *J Periodontol* 78(7 Suppl): 1387-1399.
6. Eke PI, Dye BA, Wei L, Slade GD, Thornton-Evans GO, et al. (2013) Self-reported measures for surveillance of periodontitis. *J Dent Res* 92(11): 1041-1047.
7. Haag DG, Peres KG, Balasubramanian M, Brennan DS (2017) Oral Conditions and Health Related Quality of Life: A Systematic Review. *J Dent Res* 96(8): 864-874.
8. Sim SJ (2014) Association between Oral health Status and Perceived General health. *J Dent Hyg* 14(3): 364-370.
9. Moghadam AS, Abdollahi Z, Risbaf Fakour S, Ansari MA, Kini F, et al. (2015) The Relationship Between Periodontal Disease and Public Health: A Population-Based Study. *Glob J Health Sci* 8(7): 110-115.
10. Brennan DS, Spencer AJ, Roberts-Thomson KF (2007) Quality of Life and Disability Weights Associated with Periodontal Disease. *J Dent Res* 86(8): 713-717.
11. Marino R, Schofield M, Wright C, Calache H, Minichiello V (2008) Self-reported and Clinically Determined Oral Health Status Predictors for Quality of Life in Dentate Older Migrant Adults. *Community Dent Oral Epidemiol* 36(1): 85-94.
12. Slade GD (1997) Derivation and validation of a short-form oral health impact profile. *Community Dent Oral Epidemiol* 25(4): 284-290.
13. McGrath C, Comfort MB, Lo EC, Luy Y (2003) Can third molar surgery improve quality of life? A 6-month cohort study. *J Oral Maxillo fac Surg* 61(7): 759-763.
14. Jansson H, Wahlin A, Johansson V, Akerman S, Lundegren N, et al. (2014) Impact of Periodontal Disease Experience on Oral Health-Related Quality of Life. *J Periodontol* 85(3): 438-445.
15. Borges TdeF, Regalo SC, Taba M, Siessere S, Mestriner W, et al. (2013) Changes in masticatory performance and quality of life in individuals with chronic periodontitis. *J Periodontol* 84(3): 325-331.
16. Eltas A, Uslu MO, Eltas SD (2016) Association of Oral Health-related Quality of Life with Periodontal Status and Treatment Needs. *Oral Health Prev Dent* 14(4): 339-347.
17. Utian WH, Janata JW, Kingsberg SA, Schluchter M, Hamilton JC (2002) The Utian Quality of Life Scale: development and validation of an instrument to quantify quality of life through and beyond menopause. *Menopause* 9(6): 402-410.
18. DeBaz C, Shamia H, Hahn J, Mithani S, Sadeghi G, et al. (2015) Periodontitis impacts quality of life in postmenopausal women. *Climacteric* 18(4): 637-642.
19. Sezgin B, Findikcioglu K, Kaya B, Sibar S, Yavuzer R (2012) Mirror on the wall: a study of women's perception of facial features as they age. *Aesthet Surg J* 32(4): 421-425.



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