

Clinical Study of Professional Care using Oral Hygiene Gel

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Fluoride containing oral hygiene gel based on bio-polymers (Chitosan, Hydroxyethylcellulose, Aloe barbadensis, Hydrogenated Castor Oil), mild antibacterial ingredients and flavoring substances (o-Cymen-5-ol, fruit oils, flower extracts) could be an improvement for nursing home care and self-care for normal secretors and xerostomia individuals. The oropharyngeal edible gel has a physiologically proven long bioavailability and corresponds to all pharmaceutical, cosmetic and food quality parameters. It was, therefore, the aim of a clinical trial to assess (i) planimetric plaque control, (ii) reduction of gingivitis teeth, (iii) denture hygiene and (iv) Oral Health Impact Profile.

Material and Methods:

After ethical approval 22 residents of a nursing home received a complex oral professional care programme by dental hygienist for 28 days using nursing toothbrushes and oral hygiene gel two times per day. The gel formulation leads to extended bioavailability by balsam coating of teeth, and soft tissues up to four hours (lips and mucosa). DMF/S, **Planimetric PI** (Lang et al., 2011), GPM/T (Gingivitis G; Periodontitis P1, P2, P3; Missing), GI (Code 0-3) and OHIP-14 (German version) were assessed at baseline and at end-of-study. PPI via intraoral photography tooth by tooth was coded 0-2 per each single planimetric field out of 9 fields buccally and 9 fields orally also after second and third week. Oral health improvement underwent statistical approval (multiple t-test).

Results:

Highly significant plaque reduction at interdental and radicular caries and gingivitis risk areas was documented from baseline mean PPI buccally 1.29 to end of study mean 0.53 and PPI lingually from mean 1.47 to 0.72. Consequently, the number of gingivitis teeth have dropped from mean 14.73 (baseline) to 3.53 (end-of-study). Denture hygiene Index DHI (0-10) was reduced from mean 7.39 to 1.42. Oral Health Impact Profile has significantly improved. Subjects subjectively reported gentle brushing, good taste and less dryness.

Conclusions:

Professional tooth brushing and denture cleaning with nursing brushes and fluoride containing bio-polymer gels with antibacterial and flavoring ingredients are significantly improving oral health in nursing homes.
The gel formulation is recommended for institutionalized care as well as home self-care.

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