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Anti Pathogenic Ultraviolet LED Lighting

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ABSTRACT

The present review was directed to assess the antibacterial movement of Miswak concentrates on periodontal pathogenic microbes. Materials and Methods: Miswak sticks were grounded to fine powder and after that ethanol furthermore, watery extraction were detailed. Chlorhexidine (Oradex) mouth wash utilized as positive control and sanitize distal water utilized as negative control. Dental biofilm microorganism examined including Eikenella corrodens, MBC comes about uncovered that half w/v ethanol Miswak remove mouthwash hindered 100% of microorganisms development. Be that as it may, half w/v watery Miswak separate mouthwash repressed 20-60% of the bacterial development. Under SEM ethanolic concentrate of Miswak and Oradex created evident adjustments to the bacterial morphology while no progressions were seen after treatment with watery Miswak extricate. Conclusion: Miswak ethanol remove has more grounded antibacterial activity against periodontal pathogenic microscopic organisms, it can be proposed as a decentelective mouthwash to control and repress periodontal pathogenic microscopic organisms To collapse the DNA structure of the bacteria by using ultra violet source. Using ultra violet led lighting source destroys the bacteria with help of pulse flashing controller.

Keywords: Miswak concentrates, bacterial morphology and antibacterial activity.

1. INTRODUCTION

Advancement of dental biofilm is primarily in charge of the start and movement of periodontal infections. Oral wellbeing could be kept up by mechanical and concoction dental biofilm control. Lacking consideration or administration of the oral wellbeing can prompt to pathogenic microscopic organisms excess. The oral organisms play basic parts in oral wellbeing and are specifically connected to infections for example, dental caries, periodontal infection and halitosis. Perceptions recommend that mechanical cleaning alone by a significant extent of people is inadequately great to keep up gingival wellbeing, in the powerless individual, to anticipate periodontal ailment event and movement or repeat Antimicrobial mouth washes like chlorhexidine with clinically demonstrated hostile to dental biofilm and against gingivitis viability have been utilized as subordinates to patient's mechanical control of oral cleanliness. In any case, the occurrence of symptoms, for example, undesirable tooth staining, unsavory taste, dryness and blazing sensation in the mouth debilitate patients to utilize these mouthwashes. The customary tooth brush or biting stick (Miswak) is profoundly established in Islamic culture. It has been appeared that utilizing this home grown prescription or its concentrate would bolster periodontal wellbeing, and decreases the collection of dental biofiim, seeping amid brushing and control gingivitis what's more, periodontal sicknesses. The World Health Association (WHO) has suggested and empowered the utilization of biting stick (Miswak) as a successful apparatus for oral cleanliness control because of its mechanical activity of the delicate wood strands, and its restorative activity of a substance constituent. This review was intended to assess the antibacterial impacts of miswak concentrates by assurance of Minimum Inhibitory Concentration (MIC), Minimum Bactericidal Concentration (MBC), and to assess the bacterial morphology of periodontal pathogenic microscopic treatment with Miswak extricates by examination under Scanning Electron Microscope (SEM).

2. EXISTING SYSTEM

The oral organisms play basic parts in oral wellbeing and are specifically connected to infections for example, dental caries, periodontal infection and halitosis. Perceptions recommend that mechanical cleaning alone by a significant extent of people is inadequately great to keep up gingival wellbeing, in the powerless individual, to anticipate periodontal ailment event and movement or repeat. Antimicrobial mouth washes like chlorhexidine with clinically demonstrated hostile to dental biofilm and against gingivitis viability have been utilized as subordinates to patient's mechanical control of oral cleanliness. In any case, the occurrence of symptoms, for example, undesirable tooth staining, unsavory taste, dryness and blazing sensation in the mouth debilitate patients to utilize these mouthwashes. The customary tooth brush or biting stick (Miswak) is profoundly established in Islamic culture. It has been appeared that utilizing this home grown prescription or its concentrate would bolster periodontal wellbeing, and decreases the collection of dental biofiim, seeping amid brushing and control gingivitis what's more, periodontal sicknesses. High range of continuous light source is used to destroy the bacteria 70% of the bacteria were destroyed in this system and harmful to human beings

3. PROPOSED SYSTEM

Uses a pulse flashing controller as lighting source which does not have radiation in continuous manner Lighting is used in this system is general led with the low power and radiation less. The World Health Association (WHO) has suggested

and empowered the utilization of biting stick (Miswak) as a successful apparatus for oral cleanliness control because of its mechanical activity of the delicate wood strands, and its restorative activity of a substance constituent. This review was intended to assess the antibactrial impacts of miswak concentrates by assurance of Minimum Inhibitory Concentration (MIC), Minimum Bactericidal Concentration (MBC), and to assess the bacterial morphology of periodontal pathogenic microscopic organisms after treatment with Miswak extricates by examination under Scanning Electron Microscope (SEM).

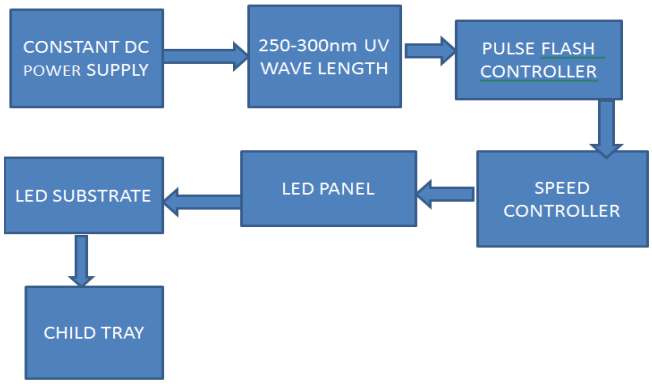

Fig.1. Block Diagram

4. ASSESSMENT OF ANTIBACTERIAL ACTIVITY

Six tubes were set up for the investigation. One for positive control (0.2ml of Oradex) and one for negative control (0.2ml of sd H 2 O). The other four tubes were containing miswak's concentrates in various concentrations.0.2 ml of bacterial juices (10 8 CFU/ml) was added to each tube and blend well with vortex blender. The tubes were incubated overnight at 37°C and the turbidity of each tube was watched. Tube saw with no turbidity was considered as the base inhibitory fixation .

5. MINIMUM BACTERICIDAL CONCENTRATION (MBC)

The assurance of Minimum Bactericidal Focus (MBC) in soup was ascertained by plating out the soup culture from each test tube (utilized as a part of MIC) into an agar plate and hatched overnight at 37°C. The MBC is the focus at which no bacterial development happens. To assess the antimicrobial action, the bacterial weakening with the miswak concentrates are refined on the BHI agar plate.

6. CONCLUSION

Both ethanol and watery Miswak extricates showed antibacterial impacts on certain periodontal pathogenic bacteria. However Miswak ethanol remove has stronger antibacterial impact against periodontal pathogenic bacteria, it can be proposed as a decent alternative mouthwash to control and hinder periodontal pathogenic bacteria.

REFERENCES

[1] Mandel I.D. Chemotherapeutic agents for controlling plaque &gingivitis, *J Clin. Periodontol.*1988. 15: 488-498.

[2] Norman S and Mosha HJ. Relationship between habits and dental health among rural Tanzanian children. *Comm Dent Oral Epidemiol* 1989: 17:317-21.

[3] Philip K, Wuen YT, Muniandy S, Yaakob H. Identification of Major Cultivable Aerobic Bacteria in the Oral Cavity of Malaysian Subjects. American Journal of Biochemistry and Biotechnology 2008; 4: 367-370.

[4] Brown, L.J., Albandar, J.M., Brunelle, J.A. & Lee, H. (1996). Early-onset periodontitis: progression of attachment loss during 6 years. *Journal of Periodontology* 67, 968-975.

[5] Hintao J, Teanpaisan R, Chongsuvivatwong V, Ratarasan, Dahlen G. The microbiological profiles of saliva, supragingival and subgingival plaque and dental caries in adults with and without type 2 diabetes mellitus. *Oral Microbiol. Immunology* 2007; 22:175-181.

[6] Addy M., Moran, M., Newcomb, R. & Warren, P. (1995a). The comparative tea staining potential of phenolic, Chlorhexidine and antiadhesive mouth-rinses. *Journal of Clinical Periodontology* 22, 929-934.

[7] Al-Otaibi M., Al-Harthy M., Gustafsson A., Classon R., Angmar-Mansson B.

[8] Wolinsky LE, Mania S, Nachnani S, et. al. The inhibiting effect of aqueous Azadirachta indica (Neem) extract upon bacterial properties influencing in vitro plaque formation. *J Dent Res.* 1996, Feb; 75(2):816-22.

[9] Subgingival plaque microbiota in Saudi Arabians after use of Miswak chewing stick and tooth brush. *J.Clin. Periodontal.* 2004; 31: 104853.

[10] Khoory T. The use of chewing sticks in preventive oral hygiene. *Clin. Prev. Dent.* 1983; 5:11-14.

[11] Firas A. AL-BayatiI, Khudir D. Sulaiman. In Vitro Antimicrobial Activity of Salvadora persica L. Extracts against Some Isolated Oral Pathogens in Iraq, *Turk J Biol.* 2008; 32: 57-62.