TO EVALUATE AND COMPARE THE EFFECT OF THREE DIFFERENT COMMERCIALLY AVAILABLE DISINFECTANTS ON ALGINATE IMPRESSION BY SPRAY METHOD – AN INVITRO STUDY.

By

DR. RAHOUL SHEKAR SHETTY

Dissertation submitted to the

Rajiv Gandhi University of Health Sciences, Bangalore, Karnataka

In partial fulfillment

Of the requirements for the degree of

MASTER OF DENTAL SURGERY (M.D.S)

In

PROSTHODONTICS

Under the guidance of

DR. RAMESH NADIGER

PROFESSOR

DEPARTMENT OF PROSTHODONTICS

S.D.M COLLEGE OF DENTAL SCIENCES & HOSPITAL

DHARWAD

2017-2020

ABSTRACT

Background and Objectives: Alginate is a irreversible hydrocolloid widely used in dental practices for making diagnostic impressions , During impression making procedures a lot of body fluids are in contact with the impression surface making way for cross contamination, dentists and staff who handle these materials are in danger of acquiring diseases or spreading them. This study is aimed to evaluate the efficacy of 0.5% NaOCl solution, 4% Chlorhexidine solution and 0.5% AgNo3 solution on disinfection of Alginate impressions and to compare the efficacy of each disinfectant for Antibacterial and Antifungal properties on contaminated Alginate impression material .

Methodology: Alginate was mixed in a sterile bowl and cut into 45 circular discs. A lawn of microorganisms of *Pseudomonas* species, *Staphylococcus* species and *Candida* species was incubated for 1hr and transferred in BHI medium and SDA medium. 3 sets of 15 alginate discs were sprayed with one of the disinfectants for 10 mins and transferred into the culture media with the lawn of organisms and left for 24hrs for the organisms to grow. The zone of inhibition around the discs was measured in mm, these results were tabulated and the results were then statistically analysed.

Results . Results of the study showed that, Of the three disinfectants , 0.5% NaOCl showed larger zone of inhibition (32.20 mm) when compared to 4% Chlorhexidine (29.80mm) and 0.5% AgNo3(14.40mm) against *Staphylococcus* . significantly better disinfection was seen in 0.5% NaOCl(25.60mm) when compared to 4% Chlorhexidine(18.20mm) and 0.5% AgNo3(23.60mm) against *Pseudomonas* species. 0.5% NaOCl(24.0) showed larger zone of inhibition than both 0.5% AgNo3(14.40) and 4% Chlorhexidine(19.80) against *Candida* species.

Conclusion: Antimicrobial efficacy of 0.5%NaOCl is found to be better than 4% Chlorhexidine and 0.5% AgNo3 against the commonly found species such as staphylococcus, pseudomonas and candida .

Keywords: NaOCl, Chlorhexidine, AgNo3, Irreversible hydrocolloids.