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Research Article

**A SHORT-TERM RESEARCH TO ASSESS THE HEAT
TREATMENT ACRYLIC GUM MICROHARDNESS AFTER AN
ANTISEPTICS MANAGEMENT**¹Dr Muhammad Shahid Kabir, ²Dr Kamran Malik, ³Muhammad Saqib Manzoor¹Punjab Medical College Faisalabad, ²Medical Officer, BHU Gakhra Kalan, Gujrat, ³DHQ
Narowal.**Article Received:** December 2018**Accepted:** February 2019**Published:** March 2019**Abstract:**

Objective: The aim of this research is to assess the consequence of antiseptics besides purified water on micro-stiffness of heat treatment acrylic gums.

Methods: This was short-term research which remained led at Services Hospital, Lahore from June to December 2018. Samples remained invented as of heat treatment acrylic gum quantifiable also they remained separated interested in 4 equivalent sets. Set 1 remained assessed at starting point also remained occupied as regulator set. Set 2 remained engrossed in purified water for 21 mins, set three in 2% sodium hypochlorite for 25 mins, also Set four in 3% alkaline glutaraldehyde for 15 mins. Altogether samples remained refined, kept in purified water for 20 hours preceding to experimentation. Altogether samples remained engrossed double day-to-day for the entire 65 days afterwards which they remained verified for Vickers micro-hardness trial. Numerical study remained led by one-way study of alteration also Tukey pole hoc test ($\alpha=0.06$).

Results: Here remained 76 samples alienated into 4 sets of 19 (25%) separately. Statistically substantial alterations remained to originate amongst altogether sets ($p<0.0002$). The stowing intermediate had the outcome on micro-hardness of heat treatment acrylic gums. Set four presented maximum discounts in stiffness worth that remained shadowed via Set three.

Conclusions: The rigidity of heat treatment acrylic gum remained exaggerated through antiseptics.

Keywords: Heat treatment acrylic gums, Vickers micro-hardness, Antiseptics.

Corresponding author:

Dr. Muhammad Shahid Kabir,
Punjab Medical College Faisalabad.

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INTRODUCTION:

Polymethyl methacrylate remains sole of greatest extensively practised resources in prosthetic dentistry. Meanwhile 1939 this substantial has been experienced for denture base manufacturing since of his little water sorption also solubility, absence of poisonousness, modest operation procedure, outstanding aesthetics also reparability. Firmness moulding system remains one of the most conservative means for remedial gums [1]. The method remains beneficial since the nonexistence of the want for somewhat exclusive or else cultured apparatus, his understanding for specialists also dentists, in addition, comfort of dispensation. Though the current method has rare drawbacks alike this might stretch increase to imprecisions in suitable of denture ignoble also dimensional variations that effect in high- processing anxieties throughout polymerization persuaded in gum [2]. This has been appealed that here remains the statistically substantial

association among denture stomatitis also inadequate sanitation of dentures. To uphold uttered well-being of denture-wearers, elimination of biofilm stays medically essential. It might remain completed through cleansing prosthesis correctly [3]. One research specified that to diminish devotion also colonization of microbes on denture improper, denture improving remains important [4]. Though, solitary research originates that afterwards denture enhancing micro-organisms might remain effortlessly communicated to patients. Research works have exposed that designed for reducing micro-organisms, the 0.6% sodium hypochlorite mixture might remain practice as the actual denture detergent to avoid uttered candidiasis.

Correspondingly, this has been recommended that on maxillary dentures sum of *Candida albica* (*C. albica*) colony-forming elements also bacterial panel might remain condensed via practising alkaline peroxide tablets [5]. Consequently, this remains actual significant to select suitable approaches for scrubbing of the denture to stop microbial bond when the purpose of events remains not to produce injury to denture base. The denture improper rigidity remains practised to assess variations in shallow features of acrylic gums also this outcome from denture cleaners, current steering toothbrush/dentifrice scratch also diverse schemes of denture sordid polymerization [6]. Research works presented that diverse acrylic gums existing meaningfully inferior rigidity afterwards being acquiesced to 4.79% sodium perborate mixture of 2% sodium hypochlorite in addition 5% chlorhexidine gluconate mixture. Earlier researches have exposed that rigidity of the denture ignoble stays not suggestively reduced through cleansing in 5%

chlorhexidine mixtures or else 2% sodium hypochlorite for 2 minutes also in sodium perborate for 11 minutes [7]. Contrarywise, the rigidity of acrylic gums remains described to remain transformed thru explanations of 5% chlorhexidine, 3% glutaraldehyde or else 2% sodium hypochlorite. This remains probable that owing to clearing also sterilizing cures, superficial rigidity of acrylic gums might remain reduced that would affect in micro-organism devotion also the development of biofilm on dentures. Founded on those thoughts researchers prearranged existing research to measure the result of biochemical fumigation on superficial rigidity of acrylic gums.

MATERIALS AND METHODS:

This was short-term research which remained led at Services Hospital, Lahore from June to December 2018. Conservative (Vertex™ Fast Basic Holland) heat-polymerized acrylic gums remained practised to make four-sided models 14.0mm in measurement also 5.0mm in width. Those sizes remained to render to US Culture for Challenging also Material standard D 257-O7 a. The summit quick basic gum by the proportion of 2ml of fluid (monomer) also 3.4 gm of powder (polymer) remained operated rendering to builder's endorsement. Once this stretched bread phase, subsequent weight remained introduced in stainless steel mound also polymerized at 100°C for 25 minutes rendering to constructor's directions, experiencing curative cistern. Afterwards remedial mound, it remained bench-cooled at area fever for 31 minutes. Samples remained then occupied out as of mound also surplus limitations remained clipped by tungsten carbide seedpod. Afterwards, samples remained succumbed to concluding also polishing by 322-, 405- in addition, 610-silicon carbide newspaper. Concluding besides polishing events remained approved out for 9 seconds underneath the weight of 25 g. The samples remained then stowed in water at room temperature designed for 20 hrs.

They remained separated into 4 identical sets. Set 1 remained assessed at starting point also remained taken as regulator set. Set two remained engrossed in purified water designed for 25 mins, set 3 in 2% sodium hypochlorite for 21 mins, also Set four in 3% alkaline glutaraldehyde for 15 minutes. That remained completed rendering to American Dental Association conditions. Samples in switch set remained restrained at day 1. Altogether extra examples remained located in its individual vessels occupied by purified water. Afterwards, 20 hrz purified water remained castoff also vessel remained occupied by its individual denture cleaners. The samples remained washed by purified water also kept in purified water. That stayed repetitive two times for day for 62 days afterwards

which micro-hardness trial remained accepted out through Vickers micro-hardness sample (Wolpert W Set micro Vickers stiffness sample numeral auto-turret model number 403MVD). Samples remained located in purified water throughout storing. Statistical examination remained achieved experiencing SPSS. One-way examination of alteration (ANOVA) remained experienced for the measurable reliant on adjustable by the solitary issue (sovereign) adjustable. To recognize which of average varied meaningfully, Tuckey's Fairly substantial alteration remained practised at 0.06 implication phase.

There remained a total of 76 samples separated into 4 sets of 19 (25%) apiece. Statistically substantial variances remained to originate amongst altogether sets ($p < 0.0002$). The packing average had the consequence on micro-firmness of heat treatment acrylic gums. Set four presented the greatest decrease in firmness worth that remained shadowed through Set 3. Pole Hoc examination presented that when examples remained engrossed in purified water for 62 days also associated by examples at 1 day, variance remained not statistically momentous ($p = 0.068$). In Set 4, alteration remained substantial ($p < 0.0002$), also identical remained situation by Set four ($p < 0.0002$).

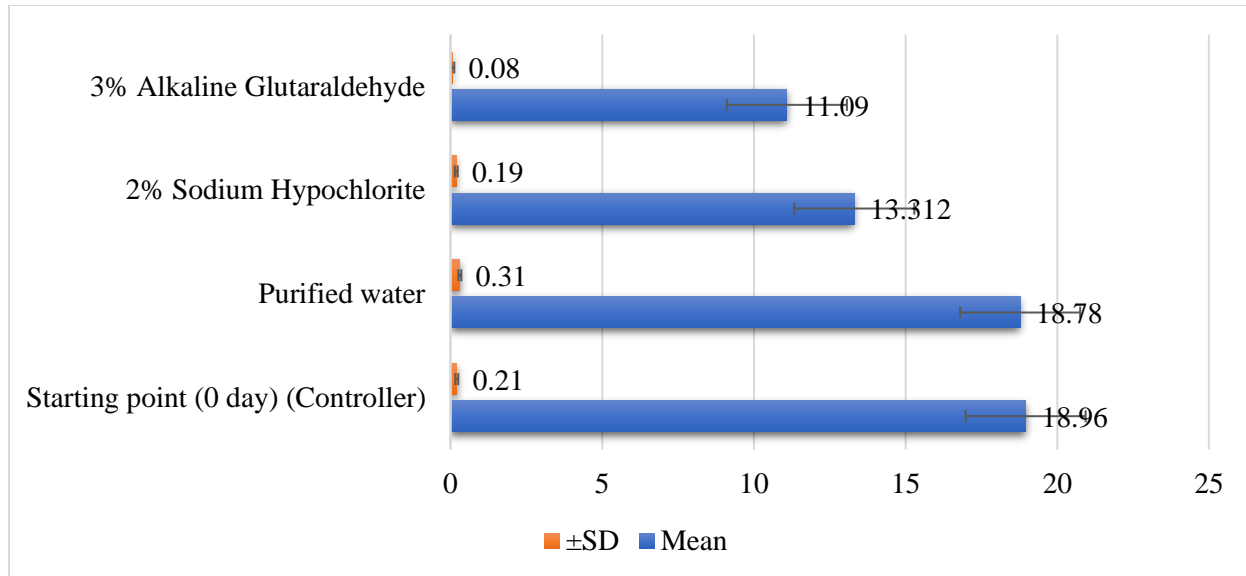
RESULTS:

Table – I: Solid experienced

Material	Type	Processing method	Manufacturer
Heat treatment acrylic gums	PMMA	Heat treatment polymerization 100°C for 25 minutes in the curative tank	Vertex™ Fast Abridged
Antiseptics	Hospital Founded Disinfectants	2% Sodium Hypochlorite for 25 min 3% Alkaline Glutaraldehyde for 15 mins	Universal Traders Chemical Provisions of Pakistan.

Table – II: Average of micro-hardness at the starting point (1 day) besides 60 days of involvement in numerous sets

Sets	Mean	±SD
Starting point (0 day) (Controller)	18.96	0.21
Purified water	18.78	0.31
2% Sodium Hypochlorite	13.312	0.19
3% Alkaline Glutaraldehyde	11.09	0.08



DISCUSSION:

The current research assessed the rigidity of denture ground acrylic gum afterwards contamination regulator procedure. The suggestion that together antiseptics might not produce somewhat opposing possessions on the rigidity of denture base remained excluded [8]. The research examined the consequence of antiseptic mixtures on the rigidity of denture base gums afterwards longstanding storing in antiseptics in addition purified water. Outcomes established that samples that remained deposited in 2% of sodium hypochlorite displayed statistically substantial variances in external rigidity when associated by samples that remained kept in purified water [9]. Not any substantial variances remained started amongst samples at starting point (regulator) (1 day) also at 62 days of stowage in purified water. Outcomes compete with these of the research study in which decontamination by hypochlorite mixture did not inspiration stiffness of denture improper substantial. Current outcomes remain alike to these of the research studies that presented that afterwards involvement in 2% sodium hypochlorite, here remained substantial reduction in rigidity worth of heat treatment acrylic gum. A minor alteration in outcomes might remain since our researches practised dissimilar varieties of quantifiable that holds a diverse therapeutic cycle in addition to possessions [10]. Involvement in antiseptics mixture practised in the current research did not go out to remain the harmless fumigation procedure for external stiffness of dentures. Though an existing research study has boundaries, in addition, it remains not likely to infer those consequences to extra kinds of denture improper gums with diverse arrangements or else diverse dispensation procedures

[11]. The result of antiseptics also cleaners on extra physical also chemical possessions afterwards extensive engagement phase remains also unidentified in our research.

CONCLUSION:

Involvement in sodium hypochlorite also alkaline glutaraldehyde shaped substantial variations on superficial stiffness of heat treatment acrylic gums, whereas involvement in purified water did not generate substantial variations.

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