

UNIVERSITI TEKNOLOGI MARA

**CLINICAL ASSESSMENT OF
ORTHODONTIC MINI IMPLANT
COVERS AND THEIR EFFECT ON
THE ORAL HEALTH QUALITY OF
LIFE:
A RANDOMISED CONTROLLED
TRIAL**

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PhD

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AUTHOR'S DECLARATION

I declare that the work in this dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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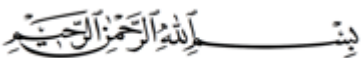
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ABSTRACT

Orthodontic treatment generally emphasises heavily on anchorage reinforcement and the success of its treatment highly relies on sufficient anchorage. Orthodontic Mini Implants (MIs) are an example of Temporary Anchorage Devices (TADs) that are often used in orthodontics, due to their benefits. However, there are some disadvantages associated with their use such as pain and ulceration due to the constant impingement of the MI head on the buccal mucosa. Several methods and materials have been proposed and marketed that claimed to help reduce the pain or eliminate trauma, however, none has proven its claims clinically. Thus, our objectives were to evaluate and compare pain levels and the oral health related quality of life (OHRQoL) between subjects using the Soft Flow (SF) covers, Composite (CR) covers and Control (no cover). Another objective was to compare the cost effectiveness of the two cover types. Methodology: The study design is a prospective parallel randomised clinical trial. Thirty-nine patients were recruited and randomised into three groups: Control – Ctrl (13 subjects); Soft Flow – SF (13 subjects) and Composite – CR (13 subject). Subjects were given a booklet (Pain diary) that includes the demographic details, Numeric Pain Rating Scale (NRS) and a modified Short Oral Health Impact Profile (S-OHIP14) questionnaire. The NRS consists of an 11-points scale from 0 (No pain) to 10 (Severe pain). The post-operative pain was measured using NRS at various time points starting from T₀ (Immediately after insertion) until TD₃₀ (30 days after insertion). The modified S-OHIP-14 questionnaire was used to evaluate patients' quality of life and was administered prior to the MI insertion (Baseline, B₀) and at TD₃₀. Results: There was a statistically significant difference in the pain scores between the Ctrl and SF groups ($P=0.002$) where by the Ctrl group showed higher pain levels when compared with SF. However, there were no significant difference between SF and CR groups as well as Ctrl and CR groups. With regards to the OHRQoL, Ctrl group showed statistically significant increase in the functional limitation and physical pain domain ($P=0.012$, $P= 0.022$) and CR group in the functional limitation domain ($P=0.02$). Conclusion: Pain levels of those with MI cover were generally lower than those without a cover. There was also a significant reduction in the OHRQoL for the Ctrl group in the functional limitation and physical pain domain and CR group in the functional limitation domain.

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