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A questionnaire based survey on factors responsible for screw loosening of dental implants among dental practitioners

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ABSTRACT:

Statement of problem: Screw loosening remains a common mechanical complication in implant dentistry, potentially compromising prosthesis stability and implant longevity. Understanding the perceptions and experiences of dental practitioners regarding factors contributing to screw loosening is crucial for improving implant success rate.

Aim: The aim of this study was to identify and analyze the various factors perceived by dental practitioners as responsible for screw loosening in dental implants

Methodology: A descriptive cross-sectional web based study was done amongst general dental practitioners. Considering 95% of confidence level minimum 133 sample size was required. A total of 137 participants responded in survey through web-based questionnaire; which composed of validated 14 open and multiple choice questions. After completion of data collection it was analysed using descriptive analysis.

Results: A total of 137 responses were obtained in the study, out of which 32.1% observed screw loosening within 6 months of implant placement, 43.1% observed within 6-12 months, 18.2% observed between 1-3 years and 11.7% observed after 3 years. 43% screw loosening was found in straight abutment, 41.6% was observed in angled abutment, 32.8% was observed in Ti-based abutment and 13.1% was observed in custom abutment. Excessive occlusal forces (Bruxism) (70.1%) was the most significant cause of screw loosening, 39.4% was inadequate

torque application, 31.4% was implant design flaws and 25.5% was biological factors (peri-implantitis).

Conclusion: This study concluded that screw loosening in dental implants is influenced by multiple factors. Awareness and adherence to correct clinical protocols are crucial to minimizing complications and improving implant longevity.

Keywords: Dental implants, screw loosening, mechanical complications, occlusal load.

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