

Short communication

Evaluating the Impact of Clinician-Led Motivation on Periodontal Treatment Success: A Clinical Study of 50 Referred Cases in Tripoli

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Abstract

Periodontal treatment failure in general dental practice is often attributed to patient neglect; however, clinical observations suggest that inadequate communication and insufficient patient education may play a greater role. This study aimed to evaluate the impact of clinician-led motivation and structured oral hygiene instruction on the outcomes of non-surgical periodontal therapy in referred cases. A total of 57 patients referred for persistent periodontal inflammation following initial treatment in general practice were screened. After excluding 7 patients who were lost to follow-up, 50 patients completed the study. All patients underwent a comprehensive periodontal assessment followed by scaling and root planing combined with intensive oral hygiene instruction and behavioral motivation. Clinical outcomes were reassessed after three months using probing pocket depth (PPD) and bleeding on probing (BOP). At baseline, 82% of patients were unaware that periodontitis is a chronic disease, and 90% had not received instruction in interdental cleaning techniques. Following the intervention, 80% of patients achieved clinical stability, defined as PPD < 4 mm and absence of BOP. The remaining 20% did not respond adequately, mainly associated with heavy smoking and uncontrolled diabetes. The findings suggest that most periodontal treatment failures are potentially reversible when adequate clinician-led motivation and patient education are provided. Communication and behavioral intervention play a critical role in treatment success.

Keywords. Clinician-Led Motivation, Periodontal Treatment, Clinical Study.

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Introduction

Successful periodontal therapy depends not only on mechanical debridement but also on long-term patient adherence to oral hygiene practices. Although non-surgical periodontal therapy remains the standard of care, treatment outcomes in general dental practice are often inconsistent, with frequent disease recurrence. Many of these failures are attributed to patient non-compliance; however, this may reflect inadequate communication and insufficient patient education rather than true neglect (Al-Hadi et al., 2024).

Periodontitis is a chronic biofilm-mediated disease requiring continuous management rather than a single intervention. Effective therapy, therefore, relies on both professional treatment and sustained behavioral modification.

Previous studies have shown that patient engagement and understanding are essential for long-term stability, as inadequate oral hygiene leads to rapid disease recurrence (Carra et al., 2022). The concept of “treatment ownership,” where patients actively participate in their care, is therefore essential. Despite this, many general practitioners focus primarily on mechanical treatment and underestimate the importance of patient motivation and education. As a result, patients often fail to understand the chronic nature of the disease or the importance of interdental cleaning, leading to poor outcomes. Additionally, some patients may show limited response due to systemic or behavioral risk factors such as smoking and uncontrolled diabetes, which are known to affect periodontal healing (Müller, 2024). This study aimed to evaluate whether periodontal treatment failures in general practice are reversible when both mechanical therapy and clinician-led motivation are combined, and to identify factors associated with non-response.

Methods

This prospective interventional clinical study was conducted at a specialized periodontal clinic in Tripoli, Libya. Fifty-seven patients referred from general dental practices due to persistent or recurrent periodontal inflammation were screened. Inclusion criteria included age ≥ 18 years, previous periodontal treatment, and at least 15 natural teeth. While patients with major systemic conditions were excluded from the initial cohort, detailed medical monitoring was maintained throughout the study to identify any changes in health status or previously undiagnosed conditions. Seven patients were lost to follow-up, leaving 50 patients for final analysis. At baseline, full periodontal charting was performed, including probing pocket depth (PPD) and bleeding on probing (BOP). Structured interviews assessed patient awareness of periodontal disease

and prior oral hygiene instructions. All patients received non-surgical periodontal therapy consisting of scaling and root planing under local anesthesia, combined with intensive oral hygiene instruction and individualized behavioral motivation. Patients were educated about the chronic nature of periodontitis and trained in interdental cleaning techniques. Re-evaluation was performed after 3 months. Clinical success was defined as PPD < 4 mm and absence of BOP. Data were analyzed descriptively

Results

At baseline, all patients presented with probing depths greater than 5 mm, and 76% showed residual subgingival calculus despite previous treatment. Regarding patient knowledge, 82% were unaware that periodontitis is a chronic disease, and 90% had never been instructed on interdental cleaning techniques. After 3 months, 80% of patients achieved clinical stability with reduced probing depths and absence of bleeding on probing. The remaining 20% failed to respond adequately. Upon clinical re-evaluation, this lack of response was associated with heavy smoking and uncontrolled or poorly managed diabetes identified during the study follow-up period.

Table 1. Baseline Characteristics and Clinical Results of the Study Participants (n = 50)

Variable	Value
Total patients screened	57
Patients completed the study	50
Mean age (years)	Not stated
Patients unaware of periodontitis as a chronic disease	82%
Patients without prior interdental cleaning instruction	90%
Residual subgingival calculus at baseline	76%
Baseline probing pocket depth (PPD)	> 5 mm (all patients)
Clinical stability after 3 months (PPD < 4 mm & no BOP)	80%
Non-responders after treatment	20%
Main factors associated with non-response	Heavy smoking, uncontrolled diabetes

Discussion

The findings demonstrate that a large proportion of periodontal treatment failures in general practice may be reversible when both mechanical and behavioral components are addressed simultaneously. These results align with Carra et al. (2022), who emphasized periodontal therapy as a behavioral change process in addition to mechanical debridement. The European Federation of Periodontology (2020) guidelines also highlight the importance of patient education and oral hygiene instruction as essential components of successful therapy.

Similarly, Sanz and Chapple (2024) demonstrated that interdental cleaning plays a crucial role in controlling biofilm accumulation and maintaining periodontal stability. Although technical shortcomings such as incomplete debridement were observed, they do not fully explain treatment failure. Instead, the interaction between clinical execution and patient behavior appears to be the key determinant of outcome, consistent with Tonetti et al. (2023). The non-responsive group was mainly associated with systemic and behavioral risk factors, particularly smoking and uncontrolled diabetes. This is consistent with Papapanou et al. (2018/2025), who described the role of systemic conditions in periodontal disease progression, and Müller (2024), who highlighted biological resistance in refractory cases. A limitation of this study is the absence of a control group, which limits causal interpretation.

Conclusion

Most periodontal treatment failures in general dental practice are potentially reversible when effective mechanical therapy is combined with proper patient education and motivation. A minority of cases remain resistant due to systemic or behavioral risk factors.

Conflict of interest. Nil

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