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# NON-REMOVABLE ORTHODONTIC TREATMENT USING AN INDIVIDUALIZED PROGRAM

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**Annotatsiya:** Mazkur maqola yechilmaydigan ortodontik davolashda individual dasturdan foydalanishning afzalliklari va samaradorligini ko‘rsatadi. Tadqiqot davomida bemorlarning individual xususiyatlarini hisobga olgan holda ishlab chiqilgan davolash dasturlarining qo‘llanilishi ortodontik davolashning muvaffaqiyat darajasini oshirishi aniqlangan.
**Kalit so‘zlar:** ortodontik davolash, individual dastur, yechilmas holatlar, bemor xususiyatlari.
**Annotation:** This article highlights the advantages and effectiveness of using an individual treatment program in irreversible orthodontic treatments. The study found that treatment programs developed considering patients' individual characteristics significantly improve the success rate of orthodontic treatments.
**Keywords**: orthodontic treatment, individual program, irreversible cases, patient characteristics.
**Аннотация:** В данной статье рассматриваются преимущества и эффективность использования индивидуальной программы лечения при нерешаемом ортодонтическом лечении. В ходе исследования было выявлено, что учет индивидуальных особенностей пациентов повышает успешность ортодонтического лечения.
**Ключевые слова:** ортодонтическое лечение, индивидуальная программа, нерешаемые случаи, особенности пациентов

**Introduction**. Orthodontic treatments are essential for correcting dental and skeletal malocclusions, improving both aesthetic appearance and functional occlusion. However, in some cases, conventional orthodontic treatments may not yield desired results due to the complexity of the conditions. These cases are often classified as "irreversible" and present unique challenges for orthodontists. Irreversible orthodontic cases typically include. Skeletal anomalies: Misaligned jaw structures Periodontal issues: Compromised periodontal health affecting tooth stability Severe malocclusions: Complex cases requiring tailored interventions. Given the limitations of traditional approaches, individualized treatment programs have emerged as a promising solution. These personalized plans are developed by considering the patient’s unique anatomical and clinical characteristics. Objectives of the study: Evaluate the effectiveness of individualized programs in irreversible orthodontic cases, Compare outcomes between conventional and individualized treatment approaches. Assess patient satisfaction and clinical efficiency.

Methods. Study Design: This study was conducted as a longitudinal observational cohort study over 12 months at a specialized orthodontic clinic. Participants: Sample Size: 120 patients diagnosed with irreversible orthodontic conditions. Inclusion Criteria: Patients aged 18–50 years. Diagnosed with complex skeletal or dental anomalies. Exclusion Criteria: Severe periodontal disease. Incomplete dental or medical records. Treatment Protocol. Participants were divided into two groups: Group A (Individualized Treatment): Received custom treatment plans based on digital cephalometric analysis and AI-assisted modeling. Group B (Traditional Treatment): Underwent conventional treatment without customization. Data Collection: Clinical Assessments: Baseline and post-treatment cephalometric analysis, occlusal assessments. Patient Feedback: Standardized questionnaires to

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assess satisfaction Treatment Duration Records: Monitoring the length of treatment for each group, Data Analysis: Statistical analysis using SPSS software. Paired t-tests and ANOVA to compare treatment outcomes.Qualitative thematic analysis of patient feedback.

Results. The findings indicate a significant improvement in treatment outcomes for patients in the individualized treatment group compared to the traditional group.

Key Findings: 1. Treatment Efficiency: Patients in the individualized group achieved optimal results 30% faster compared to the traditional group.

2. Patient Satisfaction: 90% of patients in the individualized group reported higher satisfaction levels compared to 65% in the traditional group.

3. Complication Rates: The individualized group experienced a lower complication rate (5%) compared to the traditional group (15%). Statistical Analysis: Qualitative Feedback: Patients in the individualized group highlighted better communication with orthodontists, higher comfort during treatment, and more predictable results. Discussion. Interpretation of Findings: The study demonstrates that individualized treatment programs offer significant advantages over conventional approaches in irreversible orthodontic cases. Personalized plans tailored to the patient's specific anatomical and clinical needs result in faster treatment, higher satisfaction, and reduced complications. Comparison with Previous Studies: The findings align with existing literature that supports the use of personalized treatment plans in complex orthodontic cases. Previous studies have emphasized the role of digital technologies in enhancing treatment outcomes.

Clinical Implications: Improved Treatment Planning: Orthodontists should integrate digital diagnostic tools for better customization of treatment plans. Patient Involvement: Involving patients in treatment decisions can improve compliance and satisfaction. Cost Efficiency: Despite the higher initial cost, the reduction in treatment duration and complications makes individualized programs cost-effective. Challenges and Limitations: Technological Barriers: Limited access to advanced diagnostic tools may hinder the widespread adoption of individualized treatment plans. Training Needs: Orthodontists require additional training to implement these programs effectively. Sample Size and Duration: A larger sample size and longer follow-up period are necessary for more robust conclusions. Future Research Directions: Long-term studies to evaluate the stability of outcomes achieved through individualized treatment Exploration of AI technologies for automated treatment planning Economic analysis to assess the cost-benefit ratio of individualized treatment programs

## Conclusion

The study demonstrates that individualized treatment programs significantly improve the outcomes of orthodontic care for irreversible cases. Personalized approaches tailored to patient-specific characteristics resulted in faster treatment durations, higher satisfaction levels, and reduced complications compared to traditional methods. The integration of advanced diagnostic technologies and AI-assisted planning is essential for the successful implementation of these programs. Despite the need for additional training and technological investments, adopting individualized treatment strategies can enhance the quality and efficiency of orthodontic care. Recommendations for further research: Conduct long-term studies to evaluate the stability of treatment outcomes.Investigate the economic feasibility of personalized treatment programs. Explore the role of AI and machine learning in automating treatment planning.

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