

**EFFECT OF COUNSELING WITH THE MOTIVATIONAL INTERVIEW METHOD ON DENTAL AND ORAL HEALTH STATUS OF TEENAGERS IN GORONTALO CITY****Nur Alifya R. Rahmin^{*1}, Irwan², Chairunnisah³**^{1,2,3}Master of Public Health, Gorontalo State University, Indonesia.

Article Received: 30 October 2025

Article Revised: 19 November 2025

Article Published: 01 December 2025

***Corresponding Author: Nur Alifya R. Rahmin**

Master of Public Health, Gorontalo State University, Indonesia.

DOI: <https://doi.org/10.5281/zenodo.17748406>**How to cite this Article:** Nur Alifya R. Rahmin^{*1}, Irwan², Chairunnisah³, (2025). Effect Of Counseling With The Motivational Interview Method On Dental And Oral Health Status Of Teenagers In Gorontalo City. World Journal of Advance Healthcare Research, 9(12), 49–53.

This work is licensed under Creative Commons Attribution 4.0 International license.

ABSTRACT

Dental and oral hygiene in teenagers remain one of the health issues that require special attention. One of the efforts made to improve dental and oral health status is the Motivational Interview (MI) counseling method. This study aimed to analyze the influence of counseling with the motivational interview (MI) method on the dental and oral health status of teenagers in the Gorontalo City area. This quasi-experimental research used a pretest-posttest control group design, where 20 teenagers were given the MI intervention and 20 other samples were placed in the control group. The data found were analyzed using an independent t-test to determine the OHI-S values before and after the intervention. Based on the analysis, the OHI-S status of teenagers before MI intervention had a Mean value of 3.842 and experienced a significant decrease after MI was given. Conclusion: Motivational Interview is effective in reducing the status of OHI-S in teenagers in Gorontalo City.

KEYWORDS: *Motivational Interview (MI), Tooth Brushing Practice, Oral Hygiene Index Simplified.***INTRODUCTION**

The WHO Global Oral Health Status Report (2022) estimates that oral diseases affect nearly 3.5 billion people worldwide, with 3 out of 4 affected individuals living in middle-income countries. The prevalence of major oral diseases continues to rise globally with urbanization and changing living conditions. This is primarily due to inadequate exposure to fluoride (in water supply and oral hygiene products such as toothpaste), the availability and affordability of sugar-rich foods, and poor access to oral healthcare services in the community. (WHO, 2023).

Oral and dental health is one of the most important aspects of human life and is a part of overall health that needs to be paid attention to by society. Experts state that oral health is an integral part of overall health, yet many people are unaware that the oral cavity plays an important role in overall bodily health. A healthy oral cavity allows a person to communicate effectively, enjoy a variety of foods, improve their quality of life, boost self-confidence, and have a better social life (Ministry of Health of the Republic of Indonesia, 2023).

Dental and oral health education should ideally be provided early to children of school age. School-aged children still have limited knowledge and understanding of how to maintain oral hygiene, and the high prevalence of dental caries among children is partly due to poor dental care (Aditya Ferdiana Arief et al., 2021).

Metode MI (Motivational Interviewing) counseling is an evidence-based counseling practice. This counseling style aims to strengthen a person's motivation and commitment to change. It employs a communication style that is oriented toward and intended to pay special attention to language and speech directed at change. This method is designed to strengthen the motivation and commitment within an individual that leads toward specific goals (Basheer N et al., 2024).

Counseling theory constantly evolves with each era. In its development process, counseling theory is a series of activities that greatly support the advancement of guidance and counseling science. One of the developments in counseling is Motivational Interviewing (MI) (Suparjiya & Sa'adah, 2021).

Motivational interviewing will not work well during the counseling process if the counselor believes that the counseling has a problem and needs to make a change, leading them to give direct advice. However, the motivational interviewing method encourages the client to make their own choices without any coercion from the counselor (Cascaes et al., 2014).

Skills in the counseling process involve four processes required in practice using MI. These four stages are engagement (building a relationship), focusing (establishing focus), evoking (eliciting motivation), and planning (developing an action plan).

According to (Suparjiya & Sa'adah, 2021), through interviews, the counselor conducts counseling by being caring, non-judgmental, and open. The counselor also believes that counseling has the ability, resources, and competence, which will help the counselee awaken their internal motivation to want to be healthy and desire positive change.

If oral cavity hygiene is not maintained, it will cause plaque buildup on the teeth, known as debris. Over time, this debris will harden and become calculus. Calculus is a mass of calcified plaque that forms and adheres to the surface of the teeth. A person's oral hygiene can be measured using an indicator called the Simplified Oral Hygiene Index (OHI-S), which is obtained by measuring the debris and calculus covering the tooth surfaces, consisting of two components: the debris index and the calculus index. For OHI-S examination, Green and Vermillion determined that the index teeth used are four posterior teeth and two anterior teeth (Baitia Muhida, Isnanto, 2021).

If the index tooth is missing or only the root remains, the assessment can be carried out on a substitute tooth that can represent it, such as if the M1 RA or RB tooth is missing, then the assessment can be carried out on the substitute M2 RA or RB tooth. However, if the M2 RA or RB tooth is also missing, it can be replaced by the M3 RA or RB tooth, and if the M1, M2, M3 RA or RB teeth are absent, then the assessment cannot be conducted. If the right I1 RA or RB tooth is missing, the assessment is carried out on the left I1 RA or RB tooth; however, if both the right and left I1 RA or RB teeth are missing, the assessment cannot be performed. The OHI-S

examination can only be conducted if there are at least 2 index teeth (Jeanyvia Anggreyni Sodri, 2018).

Knowledge of dental and oral health is closely related to children's behavior in maintaining oral hygiene. Good knowledge of dental and oral health will encourage children to behave properly in caring for and developing attitudes towards maintaining dental and oral health, thereby affecting their dental and oral health status, as measured by the plaque index (Danendra et al., 2024).

Brushing skills refer to the ability to brush teeth properly and correctly and are a very important factor in oral health care. There are several tooth brushing techniques: for the tooth surfaces facing the cheeks, the Fones technique (circular) is used; for the surfaces facing the lips, the Vertical technique (up and down) is used; for the chewing surfaces of the upper and lower teeth, the Horizontal technique (back and forth) is used; and for the inner surfaces facing the tongue and palate, the Roll technique (scraping) is used (Ranum et al., 2023).

RESEARCH METHOD

This research is a type of quantitative research with a quasi-experimental method, using a Two Group Pre-test Post-test design. In this study, the samples were given a Pre-test to determine the knowledge and abilities of the samples regarding oral and dental health using the Motivational Interview method.

The sample was given knowledge about oral and dental health as well as proper tooth brushing techniques using the Motivational Interview method. The sample was given a post-test (final test) to determine the extent to which the Motivational Interview motivation changed the sample's knowledge and skills regarding oral and dental health. This study was conducted weekly over the course of one month.

The number of samples in this study was 40 adolescents, consisting of 20 samples given Motivational Interviewing (MI) counseling as the case group and 20 samples not given Motivational Interviewing (MI) as the control group. The technique used in this study was Accident Sampling, which involves taking samples accidentally by selecting available cases or respondents. The samples in this study were adolescents aged 12-15 in Gorontalo City based on inclusion and exclusion criteria.

RESEARCH RESULTS

Table 1: Characteristics of Respondents Based on Gender and Occupation of Adolescents' Parents in the Gorontalo City Area.

| Characteristics Adolescent | Group MI (Case) | % | Group Control | % |
|----------------------------|--------------------|-----|---------------|-----|
| | (n=20) | | (n=20) | |
| Jenis Kelamin | | | | |
| Male | 10 | 50% | 13 | 65% |
| Female | 10 | 50% | 7 | 35% |

| Pekerjaan Orang Tua | | | | |
|---------------------|----|-----|----|-----|
| Self-employed | 10 | 50% | 4 | 20% |
| Civil Servant | 1 | 5% | 3 | 15% |
| Farmer | 5 | 25% | 3 | 15% |
| Laborer | 4 | 20% | 10 | 50% |

Table 2: OHI-S Analysis in Adolescents Pre-Test and Post-Test.

| OHI-S | Control | | | | Case | | | |
|--------------|----------|-----|-----------|-----|----------|-----|-----------|-----|
| | Pre-Test | | Post-Test | | Pre-Test | | Post-Test | |
| | n | % | n | % | n | % | n | % |
| Good 0,0-1,2 | - | - | 4 | 20% | - | - | 7 | 35% |
| Fair 1,3-3,0 | 4 | 20% | 5 | 25% | 6 | 30% | 13 | 65% |
| Poor 3,1-6,0 | 16 | 80% | 11 | 60% | 14 | 70% | - | - |

Table 3: Independent T-Test of the Effect of MI Intervention on OHIS Status in Adolescents in Gorontalo City Area.

| Variabel | Mean | Std. Deviation | F | df | t | Sig | Sign |
|----------|-------|----------------|-------|----|-------|-------|-------------|
| OHI-S | 2.268 | 1.171 | 29.77 | 19 | 8.659 | 0,000 | Significant |

Based on Table 1, it is known that out of 40 respondents, there were 23 male adolescents (57.5%) and 17 female adolescents (42.5%). The number of respondents who were given MI consisted of 10 males (50%) and 10 females (50%). Meanwhile, those who were not given MI (control) included 13 males (65%) and 7 females (35%).

Parents who are entrepreneurs: 14 respondents (35%), civil servants: 4 respondents (10%), farmers: 8 respondents (20%), and laborers/housewives: 14 respondents (35%). The number given MI is 20 respondents with parents who are entrepreneurs. Based on Table 2, it shows that in the control group, no one had a good score in the pre-test, while in the post-test, 4 respondents (20%) were in the good category. For the moderate category, there were 4 respondents (20%) in the pre-test, which increased to 5 respondents in the post-test. For the poor category, 16 respondents (80%) were in the pre-test, which decreased to 11 respondents (55%) in the post-test. Meanwhile, in the case group, no one was in the good category in the pre-test, but it increased to 7 respondents (35%) in the post-test. The moderate category had 6 respondents (30%) in the pre-test, which increased to 13 respondents (65%) in the post-test, and there were no longer any respondents in the poor OHI-S category.

Based on Table 3, the independent t-test shows that the OHIS variable with an average of 2.268 indicates that the oral health status of adolescents is in the moderate category. A standard deviation of 1.171 indicates moderate variation in OHIS scores among respondents. The F value is 29.77 for checking the homogeneity among groups, the df value is 19, and the t value indicates a high positive difference, showing a significant difference between the mean of the control group and the intervention group. The higher the t value, the greater the effect. A significance value of 0.00, which is less than 0.05, means that MI has a significant effect on improving OHIS status.

DISCUSSION

Motivational interview (MI) counseling was provided to adolescents in the Gorontalo City area specifically for a group of 20 people. MI counseling was conducted over 4 weeks or 1 month. There are 4 stages in the MI process, namely engagement (building a relationship), focusing (establishing focus), evoking (eliciting motivation), and planning (developing an action plan). The time required for MI implementation each week is approximately 30-40 minutes. In this study, counseling was conducted routinely for 4 weeks through face-to-face sessions, accompanied by measurements of oral hygiene index (OHI-S) supported by knowledge and tooth brushing skills performed 3 times (stage 2, stage 3, and stage 4).

Motivational interviewing is one of the approaches for behavior change, standing out among school-, family-, and community-based approaches. MI is a collaborative style centered on the individual, aiming to enhance health behaviors. MI considers individual autonomy and the sociocultural context, which stimulates intrinsic motivation to make long-term behavior changes (Uguz *et al.*, 2023).

Various factors contribute to the lack of tooth-brushing skills observed in adolescents, including limited information, lack of awareness about the importance of oral hygiene, and ingrained daily habits (Gladstone *et al.*, 2018). The success of MI in improving proper tooth-brushing practices is due to oral health education conducted through interviews using the skills of questioning, listening, and affirming, allowing feedback between the counselor and adolescent students without judgment, coercion, and while respecting the patient's autonomy.

In this study, teenagers merely brushed their teeth back and forth, to the right and to the left, according to their habits at home, in a short time of less than 1 minute. Brushing teeth using only back-and-forth movements can lead to various serious oral health problems, such as gum

irritation, plaque buildup, sensitive teeth, and other dental health issues. To maintain optimal dental and gum health, it is recommended to use gentler and more effective brushing movements, such as circular or vertical movements at a 45-degree angle to the gum line (Nasrah & Mardelita, 2024).

Motivational Interviewing (MI) can have a positive effect on the oral hygiene status of adolescents (OHIS) because this technique can enhance an individual's intrinsic motivation to change and engage in positive behaviors, including oral hygiene practices. MI is effective in motivating behavioral changes in various health conditions, such as improving adherence to treatment and reducing risky behaviors, which is also relevant for maintaining adolescent oral hygiene. Providing MI can be more effective for preventing caries in children (Ulliana, 2022).

CONCLUSION

The research results can be concluded that the average (mean) OHI-S score was 2.268 with a standard deviation of 1.171, which means there is variation or differences in the level of oral hygiene among respondents, but still within a reasonable range. The calculated t-value of 8.659 indicates a difference between the intervention group (case) and the control group with degrees of freedom (df) = 19 and a significance value = 0.00. Since it is below the p-value = 0.05, it can be concluded that there is a significant effect of motivational interview intervention on oral hygiene status (OHI-S) in adolescents in the Gorontalo City area. Based on the results of the relationship before and after the intervention, both in the case group and the control group, a significance value of 0.00 was obtained.

REFERENCE

1. Abdullah, N. (2018). The Relationship Between Children's Oral and Dental Health Status and the Implementation of UKGS (School Dental Health Efforts) in Elementary Schools and Equivalent in Makassar City, 32: 32–38.
2. Adames-Vargas, H., Yunes-Fragoso, P., Ruiz-Matuk, C., & Feliz-Matos, L. (2024). The Effect Of Motivational Interviewing On Oral Hygiene Behavior In Patients With Fixed Orthodontic Appliances: A Randomised Clinical Trial. *Int. J. Odontostomatol.* (Print), 18(2): 219–225.
3. Aditya Ferdiana Arief, Rohmatul Fajriyah, & Punik Mumpuni Wijayanti. (2021). Information System Based on Analysis of Perception, Knowledge, and Dental Health Practices in Elementary School Children. *Infokes: Scientific Journal of Medical Records and Health Informatics*, 11(2): 1–9.
4. Arnett, M. C., & Gwozdek, A. E. (2017). Motivational Interviewing For Dental Hygienists. *Dimensions Of Dental Hygiene*, 15(5): 54–57.
5. Arnett, M. C., Rogers, K. M., Evans, M. D., & Reibel, Y. (2022). Effectiveness Of Brief Motivational Interviewing On Perceived Importance, Interest And Self-Efficacy Of Oral Health Behaviors: A Randomized Clinical Trial. *Pec Innovation*, 1: 100092.
6. Asriasih, N. Wayan Y. (2018). Perceptions About Dental Health Among Adults Who Seek Treatment at the Dental Clinic of Puskesmas III Abiansema in 2018. *International Journal Of Machine Tools And Manufacture*, 5(1): 86–96.
7. Baitia Muhida, Isnanto, H. S. (2021). Characteristics and Knowledge of the Elderly About Oral and Dental Health in Koloran Hamlet, Probolinggo Regency in, 2020; 1(2): 224–230.
8. Basheer N, A., Jodalli, P., Gowdar, I. M., & Almalki, S. A. (2024). Effectiveness Of Motivational Interviewing And Cross Platform Messaging Application In Improving Oral Health Knowledge, Attitude And Behaviours Among Pregnant Women- A Randomized Controlled Trial. *F1000research*, 13: 1–17.
9. Basuni, Cholil, & Putri, D. K. T. (2014). Overview of Oral Hygiene Index in Guntung Ujung Village, Banjar Regency. *Ii*(1).
10. Cascaes, A. M., Bielemann, R. M., Clark, V. L., & Barros, A. J. D. (2014). Effectiveness Of Motivational Interviewing At Improving Oral Health: A Systematic Review. *Revista De Saude Publica*, 48(1): 142–153.
11. Danendra, Arya, M., S, R. H. D., Wibowo, D., Wardani, I. K., & Dewi, R. K. (2024). The Relationship Between Knowledge of Dental Health Maintenance and the Condition of the Ohis Index in Students of Diktuba Spn Polda Kalsel, VIII(1): 29–34.
12. Eldarita, & Amanullah, R. (2021). The Effect of Toothbrushing Technique Guidance on the Oral and Dental Hygiene Status of Children with Intellectual Disabilities, 3(1): 63–71.
13. Gladstone, T, et al., (2018) Effect of Internet-Based Cognitive Behavioral, Humanistic, and Interpersonal Training vs. Internet-Based General Health Education on Adolescent Depression in Primary Care, *JAMA Network Open*.
14. Harijanto, W., Rudijanto A, Alamsya N., (2015). The Effect of Motivational Interviewing Counseling on Medication Adherence in Hypertension Patients. *Brawijaya Medical Journal*, Malang.
15. Imran, H., Garot, N., & Kecamatan, G. (2018). Knowledge About Brushing Teeth and Oral Hygiene Status in Elementary School Students. *Suara Forikes Health Research Journal*, 9: 258–262.
16. Jeanyvia Anggreyni Sodri, Et Al. (2018). The Relationship Between Knowledge, Attitude, and Oral Health Practices with Oral Cavity Hygiene Status in Smokers. *Ii*(1): 32–39.
17. Irwan, (2022). Scientific Writing Methods for Health Students. Gorontalo.
18. Jusuf Kristianto, Dwi Priharti, A. (2018). The Effectiveness of Oral and Dental Health Counseling Using Video Media via WhatsApp in Improving

- Oral and Dental Health Status at Yos Sudarso Orphanage, Jakarta, 1(1): 8–13.
19. Katili, D. I., Anwar, A. I., & Afandi, I. N. (2024). Motivational Interview in Dental Health Services.
 20. Ministry of Health of the Republic of Indonesia. (2023). Dental and Oral Health. In Kemenkes Bkpk.
 21. Kusumawardani, D. (2018). The Effect of Motivational Interviewing with a Spiritual Approach on Despair and Recovery Motivation of End-Stage Renal Disease Patients Undergoing Regular Hemodialysis, 1–157.
 22. Lestari, P. D., Himawati, M., & Nawawi, A. P. (2024). Correlation of Dental and Oral Health Perception with Public Interest in Visiting Dentists: A Cross-Sectional Study, 36: 331–338.
 23. Notoatmodjo, 2015. (2010). Oral and Dental Health Promotion, 8–17.
 24. Nur Khamilatusy Sholekhah, Et Al. (2023). Efforts to Improve Community Knowledge of Oral and Dental Health in Pongangan Village, Gunungpati, Semarang City. 1(December), 66–71.
 25. Nurzamilah, Et Al. (2020). Overview of Toothbrushing Skills in 5-Year-Old Children, 1(1): 229–236.
 26. Pay, M. N., Baunsele, N. P., & Nubatonis, M. O. (2022). The Effect of Attitude, Perception, and Infrastructure on Dental Health Behavior in 6th Grade Primary School Students. *Journal of Dental Health*, 9(1): 53–57.
 27. Ranum, M., Manampin, S., Dioptis, F., & Aulia, N. (2023). Toothbrushing Technique Skills Using Fones Method in Children Through Educational Video Counseling. *Journal of Oral Health Care*, 11(1): 36–42.
 28. Rusmali., Mery Sartika., Rita Herlina., (2023) Dental and Oral Health Counseling, Brushing Teeth Together, Measurement of DMF-T Index and OHI-S Index in 2023, E-Join: *Journal of Community Service*, Potekkes Pontianak.
 29. Samad, R., Irmadani Anwar, A., Husain Akbar, F., & Rahmayani, A. (2024). Effectiveness of the Motivational Interviewing Method on Changes in Oral and Dental Health Behavior of Pregnant Women at RSIA Sitti Khadijah 1 Makassar. *Makassar Dental Journal*, 13(1): 46–49.
 30. Septa, B., & Nurasiah. (2021). Pregnant Women's Behavior Towards Oral and Dental Hygiene (OHI-S) During Pregnancy. *Dental Health Media: Makassar Health Polytechnic*, 20(1): 23–28.
 31. Suparjiya, A. H., & Sa'adah, N. (2021). Drawing Art With Motivational Interviewing To Solve The Social Skills Problems Of Teenagers At Smp 1 Wonosari, Gunungkidul, Yogyakarta. *Ilomata International Journal Of Social Science*, 2(2): 92–104.
 32. Uguz, H. N., et al., (2022), Effectiveness of motivational interviewing on oral healthcare in pediatric patients, *Journal Of Clinical Pediatric Dentistry*, Turkey.
 33. Ulliana, Masrifan Djamil., Bedjo Santoso., Ari Suwondo., Sulus Juyo Sukendro. (2022) Effect of Motivational Interviewing Counseling Model On Toothbrushing Practice Among Adolescents, *Journal of Applied Health Management and Technology*, Semarang.
 34. Widjanarko, Hadi, L. S., Sunomo, Marjianto, & Agus. (2022). Differences in Tooth Brushing Skills Using Media (Dental Pop-Up Book) Among Students of SDI An-Nur Surabaya, 2(3): 244–256.
 35. Wowor, V. N. S., Mariati, N. W., Kalalo, M. J., Studi, P., Dokter, P., Fakultas, G., Universitas, K., & Ratulangi, S. (2024). The Relationship Between Parental Support for Children's Oral Health and Oral Hygiene Status. *E-Gigi*, 12: 117–124.
 36. Wu, L, et al., (2017), Motivational Interviewing to Promote Oral Health in Adolescents, *Journal of Adolescent Health*.
 37. Yuniarti, A., Safarini, F., Rahmadia, I., Putri, S., Biologi, P., Tanjungpura, U., & Artikel, I. (2023). Conventional Media and Digital Media in Learning, 4: 84–95.