

**CORRELATION BETWEEN PARENTS KNOWLEDGE LEVEL AND
ORTHODONTIC TREATMENT NEEDS BASED ON THE INDEX OF
ORTHODONTIC TREATMENT NEED (IOTN) IN ADOLESCENTS OF SMA
NEGERI 1 PINRANG**



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**DENTAL EDUCATION
FACULTY OF DENTISTRY
HASANUDDIN UNIVERSITY
MAKASSAR
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THESIS

Submitted to complete one of the requirements

To obtain a Bachelor of Dentistry degree



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As one of the requirements to achieve a bachelor's degree

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At

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DEPARTMENT OF ORTODONTIC
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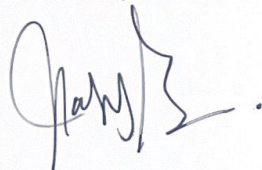
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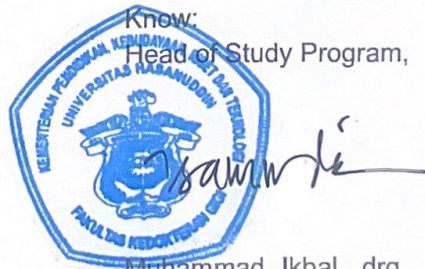
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STATEMENT OF THESIS AUTHENTICITY AND COPYRIGHT TRANSFER

I hereby declare that, the thesis entitled "Correlation Between Parents Knowledge Level And Orthodontic Treatment Needs Based On The Index Of Orthodontic Treatment Need (IOTN) In Adolescent Of SMA Negeri 1 Pinrang" is my true work under the guidance of my supervisor doctor Nasyrah Hidayati, drg., M.KG., Sp.Ort., Subsp. DDPK (K). This scientific work has not been submitted and is not being submitted in any form to any university. Sources of information originating or quoted from published or unpublished works from other authors have been mentioned in the text and are included in the Bibliography of this thesis. If in the future it is proven or can be proven that part or all of this thesis is the work of someone else, then I am willing to accept sanctions for such actions based on applicable regulations.

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APPERICATION REMAKS

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ABSTRACT

Background: A person's need for orthodontic treatment may be caused by improper tooth relationship, inadequate oral function, and/or psychosocial problems related to self-image. Adolescents with malocclusion should undergo orthodontic treatment early on, but the lack of parents' role in motivating children to undergo dental treatment is the cause of severe dental problems in children. **Research Objective:** To determine the relationship between parents' knowledge levels and the need for orthodontic treatment based on the Index of Orthodontic Treatment Need (IOTN) in adolescents at SMAN 1 Pinrang. **Research Method:** Descriptive observational research with a cross-sectional research. The sample used was 190 respondents. Data analysis used univariate and bivariate analysis. **Research Results:** Adolescents at SMAN 1 Pinrang who predominantly need orthodontic treatment based on the Index of Orthodontic Treatment Need (IOTN) are students whose parents work as entrepreneurs, as many as 7 students (50%) and those who are dominantly in great need of orthodontic treatment based on the Index of Orthodontic Treatment Need (IOTN) are students whose parents also work as entrepreneurs, as many as 7 students (41.2%). Adolescents at SMAN 1 Pinrang who predominantly need orthodontic treatment based on the Index of Orthodontic Treatment Need (IOTN) are students whose parents have a high school education background, as many as 11 students (78.6%) and those who are predominantly in great need of orthodontic treatment based on the Index of Orthodontic Treatment Need (IOTN) are students whose parents also have a high school education background, as many as 13 students (76.5%). Based on the Spearman test, a significance of 0.741 was obtained for parents' occupation with the level of adolescent orthodontic treatment needs at SMAN 1 Pinrang ($p\text{-value} > 0.05$) meaning that there is no relationship between parents' occupation and the level of adolescent orthodontic treatment needs at SMAN 1 Pinrang. Furthermore, based on the Spearman test, a significance of 0.000 was obtained for parents' education with the level of adolescent orthodontic treatment needs at SMAN 1 Pinrang ($p\text{-value} < 0.05$) meaning that there is a relationship between parents' education and the level of adolescent orthodontic treatment needs at SMAN 1 Pinrang. **Conclusion:** first, there is no relationship between parents' occupation and the level of orthodontic treatment needs of adolescents at SMAN 1 Pinrang, second, there is a relationship between parents' education and the level of orthodontic treatment needs of adolescents at SMAN 1 Pinrang, meaning that the higher the parents' education, the lower the level of orthodontic treatment needs of adolescents at SMAN 1 Pinrang.

Keywords: Orthodontic Treatment Needs, Index Of Orthodontic Treatment Need (IOTN), Parents' Education, Parents' Occupation

ABSTRAK

Latar Belakang: *Kebutuhan seseorang akan perawatan ortodonti mungkin disebabkan oleh hubungan gigi yang tidak tepat, fungsi mulut yang tidak memadai, dan/atau masalah psikososial terkait citra diri. Seorang remaja yang mengalami maloklusi seharusnya melakukan perawatan ortodonti sejak dini namun kurangnya peran orang tua dalam memotivasi anak untuk melakukan perawatan gigi menjadi penyebab parahnya permasalahan gigi pada anak.* **Tujuan Penelitian:** *Untuk mengetahui hubungan tingkat pengetahuan orang tua terhadap kebutuhan perawatan ortodonti berdasarkan Index of Orthodontic Treatment Need (IOTN) pada remaja di SMAN 1 Pinrang.* **Metode Penelitian:** *Penelitian observasional deskriptif dengan cross sectional research. Sampel yang digunakan yaitu 190 responden pada. Analisis data menggunakan analisis univariat dan bivariat.* **Hasil Penelitian:** *Remaja di SMAN 1 Pinrang yang dominan membutuhkan perawatan ortodonti berdasarkan Index of Orthodontic Treatment Need (IOTN) yaitu siswa yang orang tuanya bekerja sebagai wirausaha sebanyak 7 siswa (50%) dan yang dominan sangat membutuhkan perawatan ortodonti berdasarkan Index of Orthodontic Treatment Need (IOTN) yaitu siswa yang orang tuanya juga bekerja sebagai wirausaha sebanyak 7 siswa (41,2%). Remaja di SMAN 1 Pinrang yang dominan membutuhkan perawatan ortodonti berdasarkan Index of Orthodontic Treatment Need (IOTN) yaitu siswa yang orang tuanya berlatar belakang pendidikan SMA sebanyak 11 siswa (78,6%) dan yang dominan sangat membutuhkan perawatan ortodonti berdasarkan Index of Orthodontic Treatment Need (IOTN) yaitu siswa yang orang tuanya juga berlatar belakang pendidikan SMA sebanyak 13 siswa (76,5%). Berdasarkan uji Spearman diperoleh signifikansi sebesar 0,741 untuk Pekerjaan Orang Tua dengan dengan tingkat kebutuhan perawatan ortodonti remaja di SMAN 1 Pinrang ($p\text{-value} > 0,05$) artinya tidak ada hubungan antara Pekerjaan Orang Tua dengan dengan tingkat kebutuhan perawatan ortodonti remaja di SMAN 1 Pinrang. Selanjutnya berdasarkan uji Spearman diperoleh signifikansi sebesar 0,000 untuk Pendidikan Orang Tua dengan tingkat kebutuhan perawatan ortodonti remaja di SMAN 1 Pinrang ($p\text{-value} < 0,05$) artinya ada hubungan antara Pendidikan Orang Tua dengan dengan tingkat kebutuhan perawatan ortodonti remaja di SMAN 1 Pinrang.* **Kesimpulan:** *pertama, tidak ada hubungan antara Pekerjaan Orang Tua dengan dengan tingkat kebutuhan perawatan ortodonti remaja di SMAN 1 Pinrang, kedua, ada hubungan antara Pendidikan Orang Tua dengan dengan tingkat kebutuhan perawatan ortodonti remaja di SMAN 1 Pinrang artinya semakin tinggi Pendidikan Orang Tua maka semakin rendah tingkat kebutuhan perawatan ortodonti remaja SMAN 1 Pinrang.*

Kata Kunci: *Kebutuhan Perawatan Ortodonti, Index of Orthodontic Treatment Need (IOTN), Pendidikan Orang Tua, Pekerjaan Orang Tua*

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CHAPTER 1 INTRODUCTION

1.1 Background

A person's need for orthodontic treatment may be due to improper tooth relationship, inadequate oral function, and/or psychosocial issues related to self-image. Psychosocial issues and facial aesthetics play an important role in determining the need for orthodontic treatment. Therefore, it is difficult to determine the need for orthodontic treatment based solely on the patient's clinical condition or based solely on the patient's radiographs. Assessment of dental aesthetics is important to help better treatment as expected (Hadi *et al.*, 2021).

Oral health conditions in Indonesia and the world are still a serious problem. The Global Burden of Disease Research estimates that nearly 3.5 billion people worldwide suffer from oral health problems. From 2013 to 2018, oral health problems increased in Indonesian society, from 25.9% to 57.6%. One of the most common oral health problems is malocclusion, which is a deviation from a normal bite. Malocclusion sufferers account for approximately 80% of the Indonesian population (Suala, Wibowo and Setyawardhana, 2021).

The goal of orthodontic treatment according to Graber and Swain is to achieve the best results for each individual. These goals include several aspects, namely improvement of facial aesthetics, dental alignment, static occlusal relationships and proper functioning, psychological benefits and maintenance of supporting tissue health so as to produce stable tooth position after treatment (Kornialia, 2018),

Orthodontic treatment is aimed at removing any influences that may interfere with the normal development of the teeth and jaws, preventing the malocclusion from becoming severe and returning it to a state of occlusion. A person's need for orthodontic treatment can be measured using a malocclusion index, the Index of Orthodontic Treatment Need (IOTN). This index includes an aesthetic component and an oral health component. The aesthetic component measures deviations in the patient's tooth arrangement viewed from the front in occlusion. The score is determined by selecting photos that are considered appropriate for the patient's dental condition. The purpose of this literature research is to analyze the need for orthodontic treatment based on the Index of Orthodontic Treatment Need (IOTN) in adolescents through searching for related literature (Suala, Wibowo and Setyawardhana, 2021). Parents' Knowledge Level to the level of understanding, information, or insight that parents have about various aspects related to childcare, education, health, and child development. This level of knowledge is very important because it directly affects how they educate, care for, and support their children.

Factors Affecting the Level of Parental Knowledge can be seen from the level of formal education of parents is often an indicator of how broad their knowledge.

Index of Orthodontic Treatment Need (IOTN) is an index that describes the need for orthodontic treatment in a population. The assessment of orthodontic treatment needs based on the Index of Orthodontic Treatment Need (IOTN) has been internationally agreed upon because this method has proven to be valid and reliable as a standard for assessing orthodontic treatment needs (*Kolonio, Anindita and Mintjelungan, 2016*)

In early adolescence, individuals will see illness in a simple way and depend on adults such as parents to determine whether they are sick or healthy. Parents play an important role in providing the first health education for their children. Therefore, parents' knowledge of dental health will affect children's dental health. The role of parents is important to motivate children to undergo orthodontic treatment if they experience malocclusion (Empindonta and Yusra, 2023).

Some people understand the importance of orthodontic treatment to prevent malocclusion but only a few understand the causes and signs of malocclusion. Not all levels of society know how to overcome malocclusion cases. According to (Kamal and Yusra, 2020) there are several factors that influence this such as educational background and occupation that affect a person's knowledge of the importance of overcoming malocclusion cases with orthodontic treatment.

Parents' level of education affects children's bad habits that cause malocclusion. Generally, parents with low education levels will have minimal knowledge of their children's dental health so that the majority of them consider it not important to carry out dental treatment when their children have signs of malocclusion. Malocclusion can be overcome by doing orthodontic treatment which if not treated early on, it will get worse in the period of permanent teeth. Contrary to this, parents with high knowledge and obtained through the education process will support their children to do dental care to prevent malocclusion from getting worse (Kamal and Yusra, 2020).

SMA Negeri 1 Pinrang is one of the seventeen high schools in Pinrang Regency that has the largest number of students compared to other high schools. For now there is no statistical data available in Pinrang Regency regarding the need for orthodontic treatment, so this is the basis for determining the location of this research.

Based on observations made on several relatives in Pinrang Regency, it was found that there was a lack of knowledge about orthodontic treatment needs and many conditions that require orthodontic treatment but there was a lack of interest in adolescents to do orthodontic treatment in Pinrang Regency.

Based on the explanation previously described, also encouraged by the information and research that does not yet exist regarding orthodontic treatment needs at SMA Negeri 1 Pinrang, the researcher is interested in conducting research with the title Relationship between Parents' Knowledge Level and Orthodontic Treatment Needs Based on Index Of Orthodontic Treatment Need (IOTN) in Adolescents at SMA Negeri 1 Pinrang.

1.2 Problem Formulation

What is the relationship between parents' knowledge level and the need for orthodontic treatment based on the Index of Orthodontic Treatment Need (IOTN) in adolescents at SMA Negeri 1 Pinrang?

1.3 Research Objectives

To determine the relationship between parents' knowledge level and the need for orthodontic treatment based on the Index of Orthodontic Treatment Need (IOTN) in adolescents at SMA Negeri 1 Pinrang.

1.4 Benefit of the Research

1.4.1 Academic Benefits

- a) Add scientific insight and expand the knowledge of researchers related to Correlation Between Parents Knowledge Level And Orthodontic Treatment Needs Based On The Index Of Orthodontic Treatment Need (IOTN) In Adolescent.
- b) Provide scientific information regarding the analysis of orthodontic treatment needs based on the Index of Orthodontic Treatment Need (IOTN) in adolescents.

1.4.2 Clinical Benefits

- a) As a consideration for clinicians in planning and implementing orthodontic treatment.
- b) Provide information to clinicians regarding the analysis of orthodontic treatment needs based on the Index of Orthodontic Treatment Need (IOTN) in adolescents.

1.4.3 Environmental/community Benefits

The public is expected to gain information and knowledge about the analysis of orthodontic treatment needs based on the Index of Orthodontic Treatment Need (IOTN) in adolescents and the importance of performing orthodontic treatment early to prevent malocclusion from getting worse.

CHAPTER II RESEARCH METHODS

2.1 Type of Research

The type of research used is descriptive research. According to (Arikunto, 2013) Descriptive research is research intended to investigate circumstances, conditions or other things that have been mentioned, the results of which are presented in the form of a research report.

2.2 Research Design

The research design used is a cross-sectional design, which allows data collection at one specific point in time to analyze the relationship between the variables studied. This research will explain the relationship between parents' knowledge level and the need for orthodontic treatment needs based on the Index of Orthodontic Treatment Need (IOTN) in adolescents at SMA N 1 Pinrang.

2.3 Research Location

The research was conducted at SMA Negeri 1 Pinrang which is located at Jl. Jenderal Sudirman No. 56 Pinrang, Kel. Macorawalie, Kec. Watang Sawitto, Kab. Pinrang Prov. South Sulawesi.

2.4 Research Population

The research population was adolescents of SMA Negeri 1 Pinrang

2.5 Research Sample

2.5.1 Sample Size

The sample size in this research amounted to 15% of the sample population and was selected based on the purposive sampling method. The purposive sampling technique is a data source sampling technique with certain considerations.

2.5.2 Research Sample Criteria

Inclusion Criteria

- 1) Adolescents of SMA Negeri 1 Pinrang
- 2) Willing to participate in the research

Exclusion Criteria

- 1) Not willing to participate in the research
- 2) Currently/having had performing orthodontic treatment

2.6 Research Variables

Dependent variable : Index of Orthodontic Treatment Need (IOTN)
 Independent variable : Parents' level of knowledge on orthodontic treatment need

2.7 Variable Operational Definition

a. Parents Knowledge Level

Parents' Knowledge Level to the level of understanding, information, or insight that parents have about various aspects related to childcare, education, health, and child development. This level of knowledge is very important because it directly affects how they educate, care for, and support their children. Factors Affecting the Level of Parental Knowledge can be seen from the level of formal education of parents is often an indicator of how broad their knowledge.

b. Index of Orthodontic Treatment Needs (IOTN)

Index of Orthodontic Treatment Need (IOTN) assessment is a scoring system that describes orthodontic treatment needs in a population.

2.8 Assessment Criteria

By obtaining intraoral photographs of the respondents, the researchers then classified the dental aesthetics according to the IOTN:

- 1) Category 1-4 : does not really need maintenance
- 2) Category 5-7 : requires maintenance
- 3) Category 8-10 : very much in need of care

2.9 Tools and Materials

- a. Stationery
- b. Sheet of 10 aesthetic component IOTN photos, then the photos are used as a reference to categorize the intraoral photos of the respondents
- c. Cheek retractor

- d. Diagnostic set
- e. Laptop (SPSS)

2.10 Data Type

The type of data used in this research is primary data. Primary data is data collected directly from the source (the results of respondents' intraoral photographs).

2.11 Data Analysis Plan

The data obtained is processed and analyzed using a computer system. The application used is the SPSS application.