

CHAPTER I

INTRODUCTION

1.1. Background

At the end of the 21st century, there are still many people who do not pay much attention to the condition of the development of their reproductive system, causing various diseases and conditions where sufferers will experience many problems with their reproductive system, for example micropenis. The incidence of micropenis itself is rarely realized by parents and children, one of the causes of the occurrence of micropenis itself is the abnormal body mass index (BMI) in the child. Followed by the current pandemic situation, where someone is forced to stay at home more often, making someone less likely to do sports so that BMI numbers tend to be abnormal. Research conducted so far has generally only focused on the micropenis in general, while the relationship between Body Mass Index (BMI) and the micropenis has rarely been assessed.

Research on the correlation of abnormal BMI and its effect on the micropenis is still very limited. In normal penis subjects, Basuki conducted a study on the incidence of micropenis in children with abnormal BMI, with the results showing that 2 out of 85 children in the prepubertal group (2.35%) had micropenis (Basuki et al., 2009). According to KEMENKES, there are about 18,8% of Indonesian children with overweight BMI status, and 10,8% with obesity (Kemenkes, 2018) . The average penis length for children aged 9-11 years has been studied, but the correlation between the average penis length for children aged 9-11 years and the BMI status of these children has not been studied much.

Abnormal BMI status increases a child's chances of developing a micropenis. Inadequate nutritional intake causes hormonal abnormalities, which will disrupt the process of androgen synthesis paper. If the process of androgen synthesis paper is disrupted, the esterification process is also disrupted and will interfere with the production of the hormone testosterone which will cause micropenis.

The negative side of micropenis in children isn't really having a huge impact. But It will be very dangerous if the micropenis is accompanied by undescended testes because it can cause malignancy and infertility in the future. (Jones *et al.*, 2018) it also can influence the sexual desire of the partner. Micropenis in children can be treated using hormonal therapy such as using testosterone treatment (IM/Topical). Testosterone treatment are considered as an adequate response if there's 100% increase in initial treatment (Hatipolgu et al., 2013) or if there's a 3,5-cm increase in penile length (Sultan 2000)

From the description above, it is known that the data regarding the case of BMI and its effect on the micropenis is still very limited. This research can be a solution as one of the data to assist in the preventive and or curative process of the case. This study will assess the relationship between micropenis and nutritional status in children aged 9-11 years using descriptive-observational techniques.

1.2. Problem statement

Is there any correlation between BMI and penile length in children aged 9-11 years?

1.3. Research Objective

1.3.1. General Objective

Proving the correlation between BMI and penile length in children aged 9-11 years.

1.3.2. Specific Objective

1. Describe the length of the penis in children aged 9-11 years.
2. Describe Body mass index in children aged 9-11 years.

3. Provides an overview of the average penis size in children in Surabaya.
4. Describe the correlation between BMI and Penile length in children aged 9-11 years old.

1.4. Research Benefits

1.4.1 Theoretical Benefit

Provide scientific information about the correlation between BMI and micropenis.

1.4.2 Practical Benefit

1. Encourage the development of research in the field of the male reproductive system.
2. Become a benchmark for determining the preventive and curative stages of the micropenis case in children aged 9-11 years old .