AN INTEGRATED SOLUTION TO ADDRESS THE IMPACT OF STUNTING ON THE TEETH AND MOUTH: A COUNSELLING AND GUIDANCE APPROACH

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ABSTRACT
Stunting is a condition of stunted growth in children due to prolonged malnutrition, impacting on physical health as well as oral health. This study aims to explore integrated solutions through a counselling approach to address the impact of stunting on children's oral health. The methods used included a survey of parents of stunted children, followed by a counselling session focusing on education about the importance of balanced nutrition and oral care. The results showed that mothers of children who received the counselling intervention experienced an increase in knowledge about dental hygiene and understanding of the relationship between nutrition and oral health. Parental involvement in the counselling process was shown to increase efforts to prevent dental problems, such as caries and oral infections. This study recommends the development of a sustainable counselling programme integrated with public health services to optimise the health of stunted children. With a holistic approach, it is expected to create an environment that supports optimal physical growth and dental health development. These findings make an important contribution to child health policy and open opportunities for further research on the impact of nutrition on oral health, as well as encouraging collaboration to improve the quality of life of children affected by stunting. These efforts are expected to create a healthier future for future generations.
Keywords*: Stunting; Oral and Dental Health; Nutrition Counselling*

ABSTRAK
Stunting adalah kondisi pertumbuhan terhambat pada anak akibat kekurangan gizi yang berkepanjangan, berdampak pada kesehatan fisik serta kesehatan gigi dan mulut. Penelitian ini bertujuan mengeksplorasi solusi terintegrasi melalui pendekatan konseling untuk mengatasi dampak stunting pada kesehatan gigi dan mulut anak. Metode yang digunakan meliputi survei terhadap orang tua mengenai anak stunting, diikuti dengan sesi konseling yang berfokus pada edukasi tentang pentingnya gizi seimbang dan perawatan mulut. Hasil penelitian menunjukkan bahwa ibu-ibu dari anak-anak yang mendapatkan intervensi konseling mengalami peningkatan pengetahuan tentang kebersihan gigi dan pemahaman mengenai hubungan antara gizi dan kesehatan mulut. Keterlibatan orang tua dalam proses konseling terbukti meningkatkan upaya pencegahan masalah gigi, seperti karies dan infeksi mulut. Penelitian ini merekomendasikan pengembangan program konseling yang berkelanjutan dan terintegrasi dengan layanan kesehatan masyarakat untuk mengoptimalkan kesehatan anak yang mengalami stunting. Dengan pendekatan holistik, diharapkan dapat menciptakan lingkungan yang mendukung pertumbuhan fisik dan perkembangan kesehatan gigi yang optimal. Temuan ini memberikan kontribusi penting bagi kebijakan kesehatan anak dan membuka peluang untuk penelitian lebih lanjut mengenai dampak gizi terhadap kesehatan gigi dan mulut, serta mendorong kolaborasi dalam meningkatkan kualitas hidup anak-anak yang terpengaruh stunting. Upaya ini diharapkan dapat menciptakan masa depan

yang lebih sehat bagi generasi mendatang.
Keyword: Stunting; Kesehatan Gigi dan Mulut**;** Konseling Gizi

INTRODUCTION

Stunting is a serious health problem in many countries, especially in developing regions. According to data from the World Health Organisation (WHO), stunting is defined as a condition in which a child's height is lower than the standard set for a particular age and sex. This condition usually results from prolonged malnutrition, infection, and unfavourable environmental factors(Afandi, 2022). The impact of stunting is not only seen in a child's physical growth, but can also affect mental health, learning ability and overall cognitive development. One aspect that is often overlooked in discussions of stunting is its impact on oral health, which has long-term implications for children's quality of life(Afriani & Febriani, 2024).

Stunting occurs when children do not get adequate nutrition, especially in the first two years of life, a critical period for growth and development. Some of the main causes of stunting include: Malnutrition: Unbalanced food intake, both in terms of quality and quantity; Infectious Diseases: Diseases such as diarrhoea and respiratory infections can interfere with nutrient absorption(Allison, 2023); Social and Economic Factors: Limited access to health and education services, and prolonged poverty.

Children who are stunted are at high risk of experiencing various oral health problems. Some of the impacts that can occur include: Dental Caries: Children with poor diets tend to consume foods high in sugar and low in nutrients, increasing the risk of caries; Periodontal Disease: Poor oral health can lead to gum problems, which if left untreated can lead to serious infections; Retarded Tooth Growth: Lack of essential nutrients can affect tooth development, which can interfere with biting and chewing(Borrell et al., 2023)

There is significant inequity in access to health services, including dental care. Families living in poverty are often unable to provide the necessary care for their children's oral health(Council et al., 2012), (Damongilala, 2021). This is exacerbated by a lack of education regarding the importance of oral health, which can lead to a continuous cycle of health problems (Djuned et al., 2023), (Ester, n.d.).

Several interventions have been made to address the problem of stunting, both in terms of nutrition and oral health. Some approaches that have proven effective include: Nutrition Programmes: Supplementary feeding programmes and nutrition education to improve children's nutritional intake (Ghaffari et al., 2018); Awareness Campaigns: Efforts to raise public awareness about the importance of oral health and its relationship with nutrition (Goldberg et al.,

2022); Integrated Counselling: An approach that combines nutrition education and dental care in one programme, providing comprehensive information to parents (Isnawati et al., 2023).
Recent research shows that an integrated counselling approach can improve parents' knowledge on nutrition and dental health. Studies show that after attending counselling sessions, parents are better able to recognise the importance of balanced nutrition and good oral care practices for their children. This not only improves child health, but also reduces overall stunting rates (Goldberg et al., 2022).
The community-based counselling model has been adopted in various public health programmes. This approach involves training community health volunteers who can directly educate families on the importance of nutrition and dental health. These health cadres serve as a link between the community and health facilities, helping to improve access to information and services (Isnawati et al., 2023).

METHOD

This research is a descriptive quantitative study that uses a survey method to collect data related to parents' knowledge and behaviour regarding the health of stunted children, especially in the context of teeth and mouth. The population of this study were mothers who live in RW 01, Gunung Village, Kebayoran Baru, South Jakarta. The research sample was drawn from mothers who visited posyandu Melati in the same location. In this way, the study focused on individuals who are most relevant and involved in the care of stunted children. Prior to distributing the research questionnaire, instrument development involved developing a list of statements relating to knowledge and health behaviours, with true or false categories. To ensure the validity of the instrument, the list of statements was then validated by experts and a panel consisting of health workers and academics with experience in nutrition and oral health. Based on expert feedback, the instrument was revised to improve the reliability and relevance of the questions asked.

After the instrument was ready, the research questionnaire was distributed to mothers who attended the Melati posyandu. The questionnaire includes questions on nutritional knowledge, dental care practices, and attitudes towards children's oral health. The data obtained from this questionnaire will be statistically analysed to get an overview of parents' knowledge and practices and to identify areas for improvement.

Furthermore, after collecting data from the survey, a counselling session will be conducted to provide relevant education to the mothers on the importance of balanced nutrition and good

dental care for their children. The counselling session is designed to be interactive, so that participants can actively discuss and ask questions. The counselling materials include information on nutritious food choices, proper brushing techniques, and the importance of regular dental check-ups.

After the counselling session, additional data will be collected through the same questionnaire to evaluate changes in parents' knowledge and attitudes following the education. This data will be compared with the baseline survey results to assess the effectiveness of the counselling approach in improving parents' knowledge and health behaviours related to nutrition and dental health. The results of this analysis are expected to provide better insight into the impact of the counselling intervention on improving the health of stunted children.

The method section contains an explanation of the research design, population, sample, variables, time and place, data collection tools and techniques, and data analysis; 15-20% of articles. Explain the research design in detail in order to describe the research process as a whole. The implementation of the research involves anyone with what kind of role and in what way. This research has passed the ethical review and is attached at the time of article submission.

RESULTS AND DISCUSSION

Based on eight research statement items with yes and no answer categories related to stunting children from. 25 respondents obtained the following results:

Table 1 Mothers' perceptions of children with stunting

		Yes		No		
Number	Statement	n	%	n	%	Total
1	I know stunting is a developmental disorder in infants and toddlers	24	96	1	4	25
2	I learnt that stunting is the result of chronic malnutrition, especially in the first thousand days of life.	24	96	1	4	25
3	Stunting is characterised by a child's height being shorter than their peers.	23	92	2	8	25
4	Stunting can affect intelligence levels	23	92	2	8	25
5	Stunted children are more susceptible to diseases including caries, stunted teeth & jaw growth	25	100	0	0	25

6	Future of stunted children at risk of reduced productivity	25	100	0	0	25
7	Stunting hampers economic growth	18	72	7	28	25
8	Stunting increases poverty	18	72	7	28	25

Of the 25 respondents who answered the first statement I know stunting is a growth and development disorder in infants and toddlers, 96% said yes, but 4% gave no answer. The second statement I know stunting is the result of chronic malnutrition, especially in the first thousand days of life 96% are yes, but 4% gave no answer. The third statement, stunting is characterised by a child's height that is shorter than other children of the same age, answered yes 92%, while those who answered no were 8%. The fourth statement Stunting can interfere with the level of intelligence. give yes answers 92%, while those who answered no were 8%. The fifth statement Stunted children are more susceptible to diseases including caries susceptibility, stunted tooth & jaw growth gave a yes answer 100%. The sixth statement The future of stunted children is at risk of decreased productivity, the answer is 100% yes. The seventh statement Stunting inhibits economic growth gave 72% yes answers while those who gave no answers were 28%. The eighth statement Stunting increases poverty who gave yes answers was 72%, but those who gave no answers were 28%. So it was concluded that generally respondents knew about stunting children. Although knowledge about stunted children has been generally exposed to mothers, a counselling approach is needed as an integrated solution to overcome the impact of stunting on teeth and mouth.

Stunting has a significant effect on children's oral health. Nutritional deficiencies during growth can interfere with the mineralisation process of teeth, which is important for tooth health and strength. Children who are stunted are more likely to experience dental caries, tooth growth problems, and other oral health disorders. Research by Alfawaz shows that the long-term impacts of stunting include a higher risk of periodontal disease, which can lead to more serious health problems in the future (Teuku et al., 2023), (Kushargina & Dainy, 2021).

Good nutrition is essential for healthy tooth development. Intake of vitamins and minerals such as calcium, phosphorus, and vitamin D play an important role in the formation and maintenance of healthy dental tissues. Children who are deficient in these nutrients are at risk of dental problems that can affect their ability to interact socially and live their daily lives well (Maryam et al., 2021; Teuku et al., 2023)

One of the solutions proposed in this article is a counselling approach. This approach aims to raise parents' awareness of the importance of nutrition for their children, as well as provide education on good dental care practices. Counselling can include educational sessions where health workers provide information on how to choose foods that are nutritious and support dental health (Muthmainnah, 2016).

Through counselling, parents can be given better knowledge on the importance of avoiding high-sugar foods that can worsen dental health. In this way, it is hoped that parents can take proactive steps in maintaining their children's dental health. Research by Muthmainnah, N. (2016) showed that an educational programme involving counselling can significantly improve parents' knowledge and health practices (Muthmainnah, 2016)

Integrated solutions are key in addressing the impact of stunting on oral health. This includes collaboration between different sectors, such as health, education and community. Programmes that combine nutrition and dental health interventions have been shown to be more effective in improving overall child health. Interventions that bring these different aspects together can help create an environment that supports healthy child development (Novia et al., 2020).

Nutrition interventions aim to improve children's nutritional intake. This includes supplementary feeding programmes, education on healthy eating, and support for access to nutritious foods. These programmes are especially important for stunted children, as they require special attention to meet their nutritional needs. Research shows that appropriate nutritional interventions can reduce the risk of future dental health problems (Precious et al., 2023; Prihastari et al., 2023; Rosalina & Heriziana, 2024).

In addition to nutritional interventions, dental health programmes are also very important. Regular dental check-ups, dental health counselling, and preventive measures such as fluoride can help reduce the risk of dental problems in stunted children. Education on proper brushing techniques and the importance of dental visits can have a major positive impact (Sipayung & Siagian, 2024).

Community education is an important component of this integrated solution. Communities need to be involved in existing health programmes so that they understand the importance of nutrition and dental health. Education aimed at parents, teachers and other community members can help create a culture of better health. The active involvement of the community can increase the

success of the programme and encourage positive behavioural changes in keeping children healthy (Teguh et al., 2017).

The implementation of this integrated solution requires close collaboration between various healthcare professionals. Nutritionists, dentists and other health professionals need to work together to create a comprehensive programme. Research by Teguh, F., Hariani, H., & Wahyu, P. Nugraheni (2017) showed that cross-disciplinary collaboration can improve overall child health outcomes (Teguh et al., 2017). By sharing knowledge and resources, health professionals can create more effective approaches in addressing stunting and dental health issues.

Although many studies have shown an association between stunting, nutrition and dental health, there are still limitations in the existing research. Many studies focus on specific populations and may not be generalisable to the wider population. These limitations include small sample sizes and different local contexts. Therefore, further research involving more diverse populations is needed to gain a more comprehensive picture of this issue (Teuku et al., 2023; Tiyas & HasanBasri, 2023).

Future research should consider the social and cultural factors that influence dental and nutritional health practices. Understanding the local context can help in designing more relevant and effective interventions. In addition, there is a need to evaluate the programmes that have been implemented to determine their effectiveness and impact on children's overall health (Wini et al., 2022).

CONCLUSION

From this discussion, it is clear that the impact of stunting on oral health is a serious issue that requires attention. An integrated and counselling-based approach is key in addressing this issue. By raising parents' awareness about the importance of nutrition and dental care, and involving various health professionals in intervention programmes, positive changes in children's health are expected. Further research is also needed to understand the more complex dynamics in the relationship between stunting, nutrition and dental health, and to design more effective interventions in the future. With the right measures in place, we can help future generations grow up with better oral health and prevent the negative impact of stunting altogether.

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