
BEWARE OF THE IMPACT OF STUNTING ON COGNITIVE DEVELOPMENT IN EARLY CHILDHOOD

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Abstract

The purpose of making this journal is to analyze how to be aware of the impact of stunting on aspects of cognitive development in early childhood so that we can understand the various impacts of stunting which are increasingly widespread and may be difficult to overcome in a fairly short time. The technique used is a literature review where this research focuses on how to minimize the impact of stunting on aspects of cognitive development in early childhood. By participating in this research, there are several types of information through journals, articles, guidebooks, newspapers and magazines that discuss the impact of stunting on cognitive development in early childhood and case study/literature instruments.

Keywords: Impact, Stunting, Aspect of Cognitive Development, Early Childhood, Literature

Abstrak

Tujuan pembuatan jurnal ini adalah untuk menganalisis bagaimana mewasapadai dampak stunting bagi aspek perkembangan kognitif pada anak usia dini agar dapat mengetahui berbagai dampak stunting yang semakin luas dan mungkin sulit untuk diatasi dalam waktu yang cukup singkat. Teknik yang ini digunakan adalah literatur review dimana penelitian ini berfokus kepada bagaimana cara meminimalisir dampak stunting bagi aspek perkembangan kognitif pada anak usia dini. Dengan partisipasi dalam penelitian ini, ada beberapa macam informasi melalui jurnal, artikel, buku pedoman, koran serta majalah yang membahas tentang dampak stunting bagi perkembangan kognitif pada anak usia dini dan instrumen studi kasus/literatur.

Kata kunci: Dampak, Stunting, Aspek Perkembangan Kognitif, Anak Usia Dini, Literatur

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INTRODUCTION

Stunting also causes disturbances in child growth and development resulting in malnutrition which is the cause of stunting. The occurrence of stunting can be caused by several ingredients experienced by children starting from the womb. During its growth period, malnutrition in the early period until after the baby is born is the cause of the lack of malnutrition from the mother during pregnancy. According to WHO, there are most likely several factors that cause stunting, including the over-supply of breast milk and colostrum, the rules of consumption patterns in children, the presence of infectious diseases, limited access to food sources, and the impact on environmental health. According to Muhoozi in Aprihatin, n.d. stunting is at the age of 0-2 years, so it can interfere with aspects of cognitive, language, and motor development in children.

In the aspect of cognitive development, stunting also affects early childhood, between stunting and aspects of cognitive development that take place significantly. Because children also need a balanced nutritional intake so that the maturity of the central requirement organ (brain) can function as well as possible. Therefore, cognitive ability has a close relationship if there is

stunting in early childhood. The Ministry of Education stated that the growth process cannot be separated from the quality of children's growth.

According to the Ministry of Health also detailed a series of the Indonesian Nutrition Status Survey (SSGI), precisely on Wednesday (January 25, 2023), SSGI announced at the BKKBN National Work Meeting that the stunting rate in Indonesia had decreased from 24.4% in 2021 to 21.6% in 2022. In terms of quantity, the stunting rate has decreased the most in West Java, East Java, Central Java, North Sumatra, and Banten. WHO standards for stunting malnutrition must be below 20%, nutritional interventions in mothers before and during pregnancy are the mandate of the Ministry of Health and interventions in children aged 6 to 2 years. Based on the results of an interview with one of the Lecturers of the Faculty of Health Sciences (FIK) named Purnama Sari from Muhammadiyah University on website news on Kompas, he said that "several studies have been conducted that prove that children who experience stunting have a slow thinking power, when compared to children their age.". the results of the study (Alestaru, 2019: 40) are the relationship between nutritional status and weak children, lack of focus is also caused by poor nutrition, resulting in slow cognitive development in children.

The period of child development through this very rapid process is the golden age, the brain in children is able to absorb all the information it gets. From the information that has been absorbed, of course, it will increase the ability of knowledge in children, if the development of nerve cells in the brain does not grow and develop normally, the brain which is the link between activities will be disrupted to activities. Childhood is a period of child development through a very rapid process, whatever information is absorbed will be quickly applied by the child, cognitive development cannot be separated from development.

LITERATURE REVIEW

Concept of Stunting in Early Childhood

Disorders that occur in child growth and development result in malnutrition which is the cause of stunting, thus the disorders experienced occur due to the influence of malnutrition. The occurrence of stunting can be caused by several ingredients experienced by children starting from the womb. During its growth period, malnutrition in the early days until after the baby is born is also the cause of the lack of malnutrition from the mother during pregnancy, not only that the symptoms of stunting without realizing it also occur in children who experience a short body. However, the symptoms of stunting usually only appear in children at the age of 2 years. The symptoms that indicate a child is stunted include learning disabilities, disruptions in growth and development, slow bone growth, and the possibility of weighing less than children their age.

The main cause of stunting is the lack of adequate nutrition in a child's diet, especially in terms of protein, energy, iron, vitamins and minerals. The lack of these nutrients can affect the overall growth of bones, muscles, and organs which in turn causes the child to grow shorter than they should.

Impact on Early Childhood

This stunting affects the short term and also in the worse long term, not optimal physical size of the body, obstacles to cognitive and motor development also affect brain development, so

in this case the impact that occurs is in the short term that must be watched out for. Then, not only that, one of the body people who are most at risk of stunting is the brain.

The use of this brain is as a response in children such as in seeing an object, hearing all information, and thinking well in the learning process, so in this case there is a connection with nerve cells connected to the brain. However, in the long run there is a high risk of disruption to the structure, function of nerves and cells in the brain. Then intellectual capacity can decrease in the ability to absorb all the information absorbed.

Aspects of Cognitive Development

There is another term from the word cognitive which comes from the word cognition which means understanding. This cognitive development takes place since childhood, although other potentials, especially biological potentials, have been utilized since birth. Piaget said that the cognitive foundation of children is entering the phase (2-7 years) which is formed by the development of symbolic thinking functions.

Cognitive development refers to the development of intelligence and thinking skills in children, play is a common activity carried out by children. Play is the main activity carried out by children associated with playing while learning. So this has a positive impact on children's intelligence which increases, as well as being a child's thinking power that develops through play activities while learning that is not monotonous.

This preschool age is often referred to as children aged 3-5 years and is characterized by developments in the attitudes and behavior of children who are creative, free, and imaginative. Cognitive development is at the age of 3-6 years which occurs in the preoperational period. Chang, 2019 states that educational attainment and improved cognitive abilities in children trigger economic growth.

METHODS

This research is included in the literature review research category with the type of library study research. The method used is a secondary review, because this research must be carried out by collecting several references to determine the content of a problem. In this case the research is *Beware of the Impact of Stunting on Aspects of Cognitive Development in Early Childhood*. This research focuses on how to minimize the impact of stunting that occurs in Indonesia. By participating in this research, there is various kinds of information through journals, articles, manuals, newspapers and magazines which discuss the impact of stunting on aspects of cognitive development in early childhood and case study/literature instruments. The writing technique using a literature review is useful for a researcher to see the position of the research reported in the article. This means you can compare literature with the results of other research in the same field. This research will also determine the extent to which researchers provide answers to the problems that have been researched. Not only that, the scientific approach is also used as a theory to be developed, and the method for solving it is also a benchmark for researchers in carrying out their research. From this literature review, researchers will get an idea for conducting their research.

RESULTS AND DISCUSSION

Relationship between stunting and cognitive development in early childhood

Disorders that occur in child growth and development result in malnutrition which is the cause of stunting, not only that the effect of height on the child's body is also a cause of stunting, if it will experience a height that is less than the applicable provisions then it can be categorized as stunting. So in this case not only in terms of nutrition and height, stunting also affects various aspects of development that occur in children, especially those that occur in cognitive aspects. There is a significant relationship between stunting and cognitive development in children related to brain maturity and children's thinking power which requires balanced nutritional intake.

Chang, 2019 mentioned that to reduce the state of stunting, of course, it is necessary to have a pattern of change in mental abilities in cognitive development such as the ability to learn, focus attention, do activities and so on. For this reason, during the womb age in the first 1000 days (1000 HPK), nutritional improvement is carried out by pregnant women as a support in this regard.

Considering, assessing, connecting is a thought process in the ability of cognitive development in children. Thus, to express their ideas in the learning process, of course, intellectuals are needed in children in pouring thought power to make a decision, so it is closely related to general knowledge, science, symbols, letters, and numbers.

The results of research conducted by Dwi, Ardila (2019) examined permanent damage to cognitive development in changes in brain structure and function. In this case, there is a decrease in the level of learning achievement, thinking ability, and learning in children. Stunting experienced by children also affects cognitive development which is characterized by the thinking power and volume of children which can be seen from the small size of the child's head, with this small size, this is one of the immaturity and biochemical imperfections in the brain which has a reduced number of cells in the brain. With the conditions that occur in early childhood, it is predicted that the influence of intelligence on children and poor development occurs in terms of cognitive performance and psychological abilities for the continuation of life later. According to one of the results of research from Yadika (2019) that the results of his research explain the ability to learn, the development that occurs in IQ also affects cognitive development which is the cause of the nutritional status received by children.

The golden age period takes place when the child is 5 years old, at this time the brain growth takes place quickly and critically. To support this, the performance that occurs in the child's brain is needed by providing a balanced nutritional intake to obtain the formation of the child's brain cells. However, several studies, one of which is from (Zhamaroh et al., 2018) state that children who experience a lack of balanced nutrition will have an impact on changes in structure and function in the brain, thus inhibiting the formation of brain cells.

Understanding, reasoning and critical thinking in children occurs through the development of cells in the brain, to support this requires adequate nutrition. Therefore, if you do not fulfill nutrition in children, it will interfere with cognitive development, which has a relationship between stunting and cognitive development. If the nutritional adequacy of children does not

meet the standards, it will hamper the developmental tasks and the process of cognitive development in children.

The Impact of Stunting on Cognitive Development in Early Childhood

Stunting can affect the thinking power of children, so that the intellect in children does not take place optimally which causes their cognitive development, for that there are several impacts of stunting on aspects of cognitive development in early childhood: stunted children have limited vocabulary compared to normal children their age (Zhamaroh et al., 2018). Language acquisition is closely related to children's thinking and understanding of a concept. If this ability is low, it affects the decrease in self-confidence in children to be able to adapt wherever they are.

According to one of the results of research by (Rahmidini, 2020) which states that first, growth and development limitations occur due to lack of nutrition which affects the proportion of body structures that are not age-appropriate. Second, children's decreased intelligence is the cause of children who lose IQ 5-11 points, this is also included in the influence of stunting, because growth and development disorders in the brain result in the nervous system in the brain not being connected. If the fulfillment of nutritional and nutritional needs is not met, it will have an impact on the low cognitive abilities of children, besides that, the ability to learn in children also decreases as a result of the influence of stunting on children's IQ intelligence. Third, children's achievement and concentration decrease and are disrupted. Yadika et al, 2019 conducted his research stating that learning achievement in children is interconnected with a good level of concentration. Fourth, there is a decrease in curiosity and low thinking skills. The low ability to think critically is due to the lack of fulfillment of nutritional needs since the womb. With the fulfillment of nutritional needs in children from an early age, the development of thinking in children will be maintained.

The impact of stunting can occur in the short and long term. In the short term, it has an impact such as a disturbance in the structure and function of brain nerve cells, intellectual capacity which causes a decrease in the ability to absorb all the information captured by the child. However, the long-term impacts according to WHO include stunted growth which can cause inappropriate posture or when the child reaches adulthood. In addition, there is a risk of obesity and decreased reproductive health diseases, decreased learning ability and academic achievement, causing less optimal productivity and brain capacity. In the short-term impact according to WHO, stunting can cause an increase in morbidity and mortality rates to increase, the most severe impact is wasting, which is a child's health condition that has a high risk of death that is not treated properly. In addition, stunting can inhibit cognitive and motor skills, and health costs associated with treatment are not cheap.

Efforts to Prevent Stunting in Early Childhood

According to the Ministry of Health (kemenkes) there are several preventions of stunting including: (1) the main cause of stunting in children is lack of nutrition. Therefore, through the supplementary feeding program (PMT) the government is making efforts to improve nutrition for its people, through this program it will get optimal results, especially in improving the nutritional status of children, (2) the government conducts routine examinations and supplementary feeding for pregnant women, considering that stunting develops starting from children still in the womb, so the purpose of this is to provide sufficient iron and nutritional content for pregnant women, (3) providing education for mothers on exclusive breastfeeding

to babies, the government is determined to provide this knowledge so that mothers who have children in the exclusive breastfeeding period can apply it optimally, (4) by completing body measuring devices and scales by holding routine weighing activities, measuring height to toddlers, so that the government can monitor growth and development in toddlers. So that if there is a situation that is at risk of stunting, a direct referral will be made to the nearest hospital or health center.

CONCLUSION

Disorders that occur in child growth and development result in malnutrition, which is the cause of stunting. Not only that, if children experience less than optimal nutritional adequacy, it will have an impact on growth and development in children. If the fulfillment of nutrition is not optimal, the ability of thinking, especially cognitive development in children will result in a decrease in the absorption of information obtained by children. Therefore, it is important to fulfill nutritional needs in children, because it is closely related to aspects of cognitive development in early childhood.

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