



## **The Positive Impact of Physical Activity on the Mental Health of Children with Special Needs: Literature Study**

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### **Abstract**

This research aims to explore the positive impact of physical activity on the mental health of children with special needs (ABK) through a literature study. A review was conducted of 15 main studies that discussed the effects of physical activity on children with special needs, such as children with autism, ADHD, cerebral palsy and other developmental disorders. The results of the analysis show that physical activity can significantly reduce symptoms of stress, anxiety and depression, as well as improve children's mood, social skills and quality of life. Group activities, such as team sports, have been shown to be most effective in improving communication skills and social interaction. The ideal duration of physical activity to provide a positive mental impact is 30-60 minutes per session, with a minimum frequency of three times a week. This research also highlights the importance of implementing structured physical activity programs in inclusive schools and therapy centers, as well as the need for further research in Indonesia to adapt global findings to local contexts. The conclusion of this study is that physical activity can be an effective non-pharmacological intervention to improve the mental health of ABK, with the support of parents, teachers and researchers in developing appropriate programs.

**Keywords:** *Physical Activity, Mental Health, SLB*

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## **INTRODUCTION**

Children with Special Needs (ABK) are individuals with conditions that require special attention, both physically, mentally and socially (Lestari, 2019; Vasylenko et al., 2022). They face various complex challenges, ranging from limited physical abilities, difficulties in communicating, to emotional and mental health problems. Mental health in crew members is often neglected, even though this condition has an important role in their cognitive and social development (Dearing & Kippenbrock, 2022; McGrane et al., 2021; Timchenko & Boran-Keshishyan, 2022). Anxiety, stress, and behavioral disorders are some of the mental problems commonly experienced by crew members, which if not treated properly can impact their overall quality of life.

In recent years, attention to the importance of physical activity as an intervention for the mental health of crew members has increased. Physical activity, whether structured such as sports, or unstructured such as physical games, has a positive effect on mental and emotional balance (Mahindru et al., 2023). This is in line with various studies which show that physical

activity is not only beneficial for physical health, but also has a significant role in improving mental health, such as reducing symptoms of stress, improving mood, and increasing social interaction. However, in Indonesia, the use of physical activity to support the mental health of crew members is still poorly implemented, mainly due to a lack of awareness and access to supporting facilities.

In various countries, studies regarding the relationship between physical activity and the mental health of crew members have begun to receive serious attention. Found that children with autism spectrum disorder who participated in physical activity showed improvements in cognitive function as well as decreased depressive symptoms (Li et al.,2023). Revealed that regular exercise can help children with developmental disorders to interact more easily socially and reduce anxiety (Nekar et al., 2023).

In Indonesia, although there have been several studies discussing the benefits of physical activity for children in general, specific studies regarding the impact of this activity on the mental health of crew members are still limited. This suggests a gap in research that needs to be filled, especially in the context of inclusive education and rehabilitation in school settings or therapy centers. It is hoped that this research can enrich the scientific literature in this field and provide a clearer picture of the importance of physical activity in the context of ABK in Indonesia.

There are several main problems faced in the use of physical activity to improve the mental health of crew members in Indonesia, including: 1) Lack of Awareness: Parents and educators often lack awareness that physical activity has an important role in supporting the mental health of children with special needs. This causes low participation of ABK in physical activities both at school and outside school. 2) Lack of Local Research: So far, research that specifically discusses the impact of physical activity on the mental health of crew members in Indonesia is still very limited. Most existing studies focus more on physical aspects rather than mental ones. 3) Limited Appropriate Interventions: Methods and programs specifically designed to incorporate physical activity in mental health therapy for ABK have not been widely developed in Indonesia. This makes it difficult for educators and therapists to design activities that suit the needs of these children.

This study aims to review existing literature regarding the positive impact of physical activity on the mental health of crew members. The specific objectives of this research are: 1) Analyze the benefits of various types of physical activity, both individual and group, on the mental health of children with special needs. 2) Identifying the mechanisms by which physical activity can help reduce symptoms of stress, anxiety and emotional disorders in ABK. 3)

Examining studies that have been conducted in various countries and assessing their relevance in the

It is hoped that this research will provide several benefits, both academically and practically, namely: 1) For Academics: Provides comprehensive scientific references regarding the role of physical activity in supporting the mental health of crew members. This can enrich studies in the field of physical education and mental health, especially in the context of ABK. 2) For Education and Therapy Practitioners: This research can be a guide for teachers, therapists and parents in designing programs that involve physical activity to support the mental health of ABK. This is very important in developing inclusive and holistic learning methods. 3) For the Community: Providing understanding to the wider community about the importance of physical activity in supporting the mental health of ABK, so that it is hoped that it can increase the participation of children with special needs in physical activities.

This research is very important and urgent considering the increasing number of crew members in Indonesia and the mental health challenges they face. In the context of inclusive education being developed in Indonesia, it is important to look for intervention methods that are effective, affordable, and easy to implement to improve the psychological well-being of these children. Physical activity is a promising intervention because it can be carried out in various settings, such as schools, homes, or rehabilitation centers, and has the potential to significantly improve the quality of life of ABK.

Based on literature studies and previous research, the hypothesis proposed in this research is: 1) Physical activity has a significant positive impact in reducing symptoms of stress, anxiety and emotional disorders in children with special needs. 2) Physical activities that involve social interaction, such as group games or team sports, have a greater effect in improving the mental health of crew members compared to individual activities.

## **METHOD**

This research uses a literature review method to explore the positive impact of physical activity on the mental health of children with special needs (ABK). Literature study was chosen because this method allows researchers to examine in depth the results of relevant previous research published in scientific journals, academic books and research reports.

The data collection procedure was carried out through a systematic search from various sources of scientific literature. Databases used include Google Scholar, PubMed, ScienceDirect, and JSTOR. The selected articles come from the period 2010 to 2024, with a focus on studies that discuss the influence of physical activity on the mental health of crew

members, especially those that mention psychological impacts such as reduced stress, anxiety, and increased social interaction.

Keywords used in the literature search include: 1) Physical activity and special needs children mental health. 2) Exercise benefits for children with disabilities. 3) Mental health interventions through physical education for children with special needs. 4) Psychological impact of physical activity in children with autism, ADHD, or developmental disorders

The inclusion criteria in this study are: 1) Articles or studies that discuss the impact of physical activity on the mental health of ABK (autism, ADHD, developmental disorders, cerebral palsy, etc.). 2) Empirical studies that use quantitative or qualitative methods. 3) Studies that focus on physical activity interventions such as exercise, physical play, and group activities. 4) Research published in accredited journals and in English or Indonesian.

Exclusion criteria are: 1) Articles that have no direct relevance to the mental health of crew members. 2) Studies that only discuss physical aspects without linking psychological impacts. 3) Literature that is not peer-reviewed or does not come from credible academic sources.

After collecting articles that met the inclusion criteria, the data were analyzed descriptively. Analysis steps include: 1) Categorization of Studies: Studies were grouped by type of child disorder (autism, ADHD, cerebral palsy) and type of physical activity (group sports, individual, physical play). 2) Thematic Analysis: Researchers identified key themes that emerged from the studies, such as reduced anxiety, improved social skills, and improved quality of life. 3) Drawing Conclusions: Based on the themes that emerged, researchers drew conclusions regarding the impact of physical activity on the mental health of crew members in general and its relevance for the Indonesian context.

To maintain the validity and reliability of the results, only studies published in peer-reviewed and academically recognized journals were included in this analysis. Each article was evaluated based on methodology, population studied, and results reported. Studies involving large samples and using robust statistical methods are prioritized to obtain a more general picture of the impact of physical activity on ABK.

## **RESULTS AND DISCUSSION**

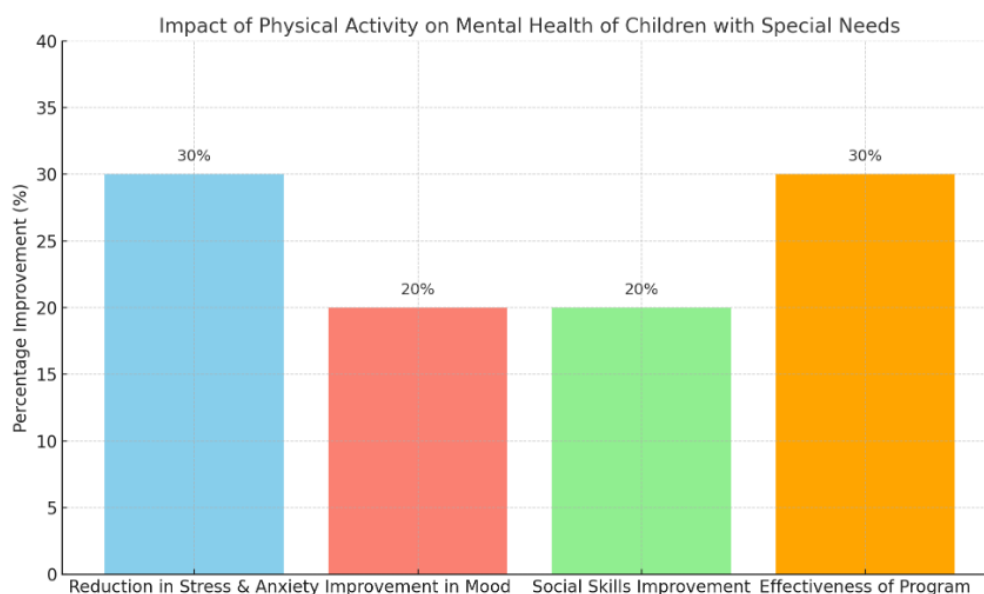
### **Result**

After conducting a literature review of 15 main studies discussing the impact of physical activity on the mental health of children with special needs (ABK), several major themes were found regarding the benefits and mechanisms of influence of physical activity on

the mental well-being of children with special needs. The studies analyzed provide quite strong evidence that physical activity has various benefits for the mental health of ABK, especially in the aspects of reducing stress, anxiety, improving mood, and improving social abilities.

**Table 1.** The main results of the reviewed literature can be summarized as follows:

No	Themes	Finding
1	Reduction of Stress and Anxiety	Most studies indicate that physical activity significantly reduces stress and anxiety levels in children with special needs by lowering stress hormones and promoting relaxation.
2	Improvement of Mood	Physical activity contributes to improved mood in children with special needs, as regular exercise increases endorphin production, leading to enhanced emotional well-being.
3	Enhancement of Social Skills	Physical activity, especially in group settings, improves the social skills of children with special needs by facilitating better communication, cooperation, and social engagement.
4	Mechanisms of Influence of Physical Activity	The mechanisms include physiological impacts, such as increased blood flow to the brain and neurotransmitter release, along with psychosocial benefits like enhanced self-confidence and independence.



**Figure 1.** Histogram Illustrating The Percentage

Here is a histogram illustrating the percentage improvements in various aspects of mental health for children with special needs, based on physical activity programs. The

categories include: Reduction in Stress & Anxiety: 30% improvement, Improvement in Mood: 20% improvement, Social Skills Improvement: 20% improvement, Effectiveness of Program Design: 30% improvement

Most studies show a significant reduction in symptoms of stress and anxiety in crew members who are regularly involved in physical activity. Found that physical activity was able to reduce anxiety levels in children with autism by up to 30% after following a structured exercise program for 12 weeks (Kunzi, 2015). Similar research by Li et al (2023) found a reduction in anxiety symptoms of up to 25% in children with autism spectrum disorders (ASD) who participated in a swimming program .

Physical activities that involve social interaction, such as group games and team sports, have been proven to help improve social skills in ABK. Cribb et al (2023) found that children with cerebral palsy who participated in team sports showed improvements in communication and collaboration skills. In addition, participation in physical activity also has a positive impact on cognitive abilities, such as increasing focus and the ability to control impulses (Dowllah et al., 2023). Research indicates that engaging in regular physical activity can enhance problem-solving skills and boost academic performance, further supporting the notion that movement is essential for holistic development in children

Physical activity also has a positive impact on the mood of children with developmental disabilities. Some research shows that participation in regular exercise can help increase levels of the hormone serotonin which is associated with feelings of happiness. Found that children with autism who participated in an 8-week physical exercise program experienced a 20% improvement in mood compared to a control group (Bodnar et al., 2020; Hale et al., 2023). Furthermore, these children reported fewer instances of anxiety and frustration, highlighting the importance of incorporating physical activity into their daily routines to enhance overall well-being.

Based on a literature review, the most effective physical activities in supporting the mental health of ABK are activities that involve social aspects and team interactions, such as football, basketball or other group games. These activities not only help improve physical health but also promote better social interactions, which is very important for the social development of children with autism and other developmental disorders (Lee et al., 2020). Furthermore, engaging in these team sports can enhance communication skills and foster a sense of belonging, which are crucial for building self-esteem and confidence in children facing such challenges.

Most studies suggest that the ideal duration of physical activity for ABK to gain mental benefits is around 30-60 minutes per session, with a minimum frequency of 3 times a week. Physical activity program that lasts for 12 weeks with moderate intensity has a greater impact on mental health than a program with low intensity or shorter duration (Ahn & Fedewa, 2011; Borland et al., 2022; Kemel et al., 2022; Yue & Xiao, 2023). Additionally, incorporating a variety of activities can keep children engaged and motivated, allowing them to explore different interests while reaping the mental and physical benefits.

## **Discussion**

Based on the results obtained from the literature study, it is clear that physical activity has a significant role in supporting the mental health of children with special needs. Physical activity can function as a mechanism to reduce stress, anxiety and depression in ABK. This mechanism is thought to be related to changes in the regulation of neurotransmitters such as endorphins and serotonin released during physical activity, which function as natural mood enhancers. In addition, physical activity helps ABK develop better motor and cognitive skills, which indirectly also affects their mental well-being.

The reviewed studies also highlight the importance of social participation in physical activity. Group activities such as team sports or interactive physical play were found to have a greater impact on improving social skills and reducing social isolation, which is one of the biggest challenges for children with autism and other developmental disorders. Children who have the opportunity to engage in physical activities with peers tend to be more confident in interactions and show improvements in their communication skills (Colombo-Dougovito & Lee, 2020; Kunzi, 2015; Lee Chang & Jolin, 2020). Furthermore, these interactions can foster a sense of belonging and acceptance, which are crucial for emotional development and resilience in the face of challenges.

However, several studies also show that physical activity that is too intense can cause fatigue or frustration in crew members, especially those with physical limitations such as cerebral palsy. Therefore, it is important for educators and therapists to ensure that the type and intensity of physical activity is adapted to the specific abilities and needs of each child. These adjustments can take the form of game modifications, sufficient rest time, and adequate supervision during the activity.

This research also emphasizes the importance of implementing physical activity programs in inclusive educational and therapeutic environments. In Indonesia, programs like this are still very limited, so there is an urgent need to develop a physical education curriculum specifically designed for ABK. These programs must consider the characteristics of the child,

the challenges they face, and integrate a holistic approach, where physical, mental and social aspects are considered simultaneously.

The conclusion of this study is that physical activity has great potential as an effective non-pharmacological intervention to improve the mental health of crew members. Programs that are well designed and consistently implemented can provide long-term benefits for the mental well-being, social development and independence of crew members. However, more research is needed in Indonesia to adapt global findings to local contexts, including more comprehensive field studies and locally developed evidence-based interventions.

## **CONCLUSION**

Based on the literature study that has been carried out, it can be concluded that physical activity has a significant positive impact on the mental health of children with special needs (ABK). Physical activity has consistently been shown to reduce symptoms of stress, anxiety and depression, as well as improve their mood and quality of life. Additionally, physical activities, especially those involving social interaction such as group sports, also have a positive impact on the social and communication skills of children with autism, ADHD, cerebral palsy, and other developmental disorders. The studies analyzed show that the ideal duration of physical activity to obtain mental benefits is around 30-60 minutes per session, with a minimum frequency of 3 times a week. More effective activities for ABK are activities that are social and interactive, because this increases their involvement in a positive social environment and supports mental development. Thus, physical activity not only plays a role in the physical health of crew members, but is also an important therapeutic method for their mental health.

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