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INTERVENSI ADHD CHILD COMMUNICATION INTERVENTION

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Abstract

This article is intended to dissect more deeply about the communication intervention of children with ADHD (Attention Deficit Hyperactivity Disorder) where the child is suffering from Attention Deficit Disorder accompanied by hyperactivity. ADHD (Attention Deficit Hyperactivity Disorder) is a mental disorder in which children have difficulty concentrating and exhibit impulsive and hyperactive behavior. ADHD can affect perkembangan a child's cognitive development, behavior, socialization, and communication. Intervention in children with ADHD is divided into two categories, among others: pharmacological therapy and non-pharmacological therapy. pharmacological therapy is a treatment that uses a medical approach in which it is done to suppress the symptoms caused by the diagnosis of ADHD.
Keywords: ADHD, ADHD communication intervention, pharmacology

PENFIRST

The term special needs is addressed to children who are considered to have abnormalities/ deviations from the average condition of normal children in general, in terms of physical, mental and social behavior characteristics Efendi (Abdullah, 2013). Children with special needs are children who have deficiencies or even more than themselves so that they have differences with children in general and require special handlers. The following are children who are classified as children with special needs basedon disability and abnormalities in aspects;1. Vision. 2.Hearing. 3.physical or motor. 4.Superior (gifted) child. 5.Social emotions.

ADHD is gangguana brain development disorder in children that increases motor activity and causes children to become hyperactive, impulsive, and aggressive. Common characteristics of ADHD children are impulsivity, aggression, low self-esteem, hyperactivity. If not treated promptly, it can affect a child's emotional, behavioral, and social development.

individuals suffering from ADHD disorders may already be recognized by those around them early on.This is because ADHD children, unlike children in general, they show special and abnormal behavior patterns.According to Martin (2008), ADHD is a condition in which individuals are unable tocontrol their own behavior, are unable to predict their own behavior, are unable to make decisions, and have difficulty stopping themselves from doing things they want to know so that ADHD children can immediately respond

to situations or events, in progress.The main problem of ADHD children is the inability to focus. Therefore, the absorption of the information obtained is not maximal. Another problem is excessive activity that disturbsthe person and others around him. Activities of concern includerunning, jumping, screaming, difficulty sitting still, and difficulty gettingout of quiet and relaxing activities or games in the room.

Discussion

ADHD is one of the most common and common disorders in schools. Early childhood suffering from Attention Deficit Hyperactivity Disorder and attention deficit hyperactivity disorder leads to impaired social interaction with others. Children are often considered naughty or difficult to control because teachers and parents do not understand how to interact and communicate with them. Attention dan Deficit Disorder and behavioraldisorders that occur in children cause children to be unable to control their own actions so that children are difficult to interact with their environment and require a lot of energy. According to the Morris Study (Hidayat, 2011), children with ADHD have abnormalities in their thought processes, which makes it moredifficult to use communication for social purposes. ADHD children tend to have difficulty communicating such as: difficult to ask questions, tend to talk a little, and often angry because they feel teachers and peers do not understand what they want. So that teachers and parents are very difficult to deal with children with ADHD disorders, especially children who have hadrunkenness on interpersonal communication.

Interpersonal communication is the process of exchanging information between two or more people face to face or offline. In this case, appropriate treatment is needed to improve interpersonal communication in ADHD children, so as to support the child's learning process and overcomethe worsening behavior problems. Without guidance andpersonal guidance in children, anak tichildren are not able to regulate their behavior and continue to experience obstacles in social interaction with peers in their environment.

To cope with children with ADHD using a cognitive-behavioral approach, discovering elements and stimuli from the environment through various cognitive skills and abilities, studying roles, understanding the roles of others, and learning about culture, language, values identifying views, distinguishing the morality of society, the relationship between the surrounding nature and its functions and meanings, and it is important to understand with different knowledge about the world around us, especially the skills of children suffering from ADHD.

Hidayat (2015) describes the teaching process in ADHD children whose behavioral therapy approach is repeated until the child responds independently and without help (prompt). The child's reactions are then recorded and evaluated according to the objective status of the child, simple answers are systematically constructed and combined into complex answers, which change as the child grows older and can further expand and generalize the skills and abilities acquired by the child in unstructured situations. (For example, random or "natural" odds). Groups then gradually move from private lessons with mentors and children to small groups until larger groups appear.

UNDERSTANDING KOMUNIKASI INTERPERSONAL COMMUNICATION

Cognitive limitations of children with ADHD based on Hidayat (2011) research suggests that children with ADHD experience deficits in understanding the relationship between language, sounds, and symbols. This

limitation means that children with ADHD often experience emotional distress, are unable to understand their differences, lack communicationskills, and withdraw from their environment. In this case, ADHD children need help to distinguish various sounds and symbols from their environment, so that they can integrate visual and auditory processes simultaneously (Hidayat, 2011). Therefore, ADHD children need personal help fromothers to be able to improve children's communication skills, especially interpersonal communication skills.

As for some experts who argue:

- According to De Vito (April 2011), interpersonal communication is communication that occurs between two people who have a clear relationship and are connected satu to each other in some way.
- According to Deddy Mulyana (April 2011), Komunikasiinterpersonal communication is communication between people who are face to face where each participant can immediately feel the reaction of others both verbally and nonverbally.
- According to Barnlund in Humairah (2017), interpersonal communication is interpersonal communication that occurs face to face in a social situation and interacts through the exchange of verbal and nonverbal cues. From the definition above, we can conclude that interpersonal communication is communication between two or more people who interact directly, both verbally and nonverbally.

According to Suranto (Safitri,2018),the components of interpersonal communication are:

a. A news source or communicator is someone who dimana wantsto share thoughts, situations, or emotional and informational information with others.

b. Endocing is the internal activity of a communicator whose purpose is to use verbal and nonverbal symbols to create a message in a grammatical form that matches the characteristics of the recipient of the message.

c. The message consists of verbal symbols andnonverbal lamb ang komunikator delivered to the recipient of the message.

d. A channel is aphysical medium used to send a message, acting as a communicator that connects with the recipient of the message.

e. The receiver / communicator of a message is the person who receives, understands, and interprets the message received from the communicator.

f. Decoding is an internal activity of the communicant himself. PenerThe receiver of the message receives the form of the message

in the form of symbols and words through the five senses and must modify it in order to be understood meaningfully by the recipient.

g. Response is the feedback that the communicator gives to the communicator in response to a message.

Based on a component of interpersonal communication above we know the message / information to be conveyed because an interpersonal communication requires someone tosend a message and someone else to receive the message.

SebaAs a reaction, there is a cognitive process forinterpreting messages and physical means to streamline and maximize interpersonal communication.

According to Prizant & Schuler (in Wijaya, 2017), there are two main challenges in building interpersonal communication and language in children with special needs. First, the ability to engageand pay attention, or the child's ability to pay attention, communicate emotions, express desires, and conductreciprocal social interactions with others. Second, the ability to understand symbols, that is, children are able to understand all information, including meaning, which is conveyed through body language, words, and other forms of language, and are able to understand objects and objects to be addressed also have the ability to communicate through imaginative play.

Establishing more effective communication patterns allows parents to clearly express their needs and desires towards the child. Clear and understandable self-expression is an important step in incorporating into the third stage of Adlerian play therapy. One of the activities that improve communication is building communication. This activity allows parents to really understand how communication can be misunderstood, and complicated by abstract comments and reports. To begin "communication," instruct the parents to keeptheir backs to each other (so they can't see each other), who will be the listener for the ADHD Child and who will be the communicator (speaker) for the ADHD child.

Choose one. Once people have chosen their roles, give them each a bag of identical LEGO pieces. The communicator builds a structure with blocks that are invisible to the listener, and after building the structure , instructs the listener how to build the same structure.Listeners are not allowed to ask

questions and must follow instructions through active listening.After the listener has followed all the instructions, ask the parents to compare the structure. The process with people, how the communication processworks, and what challenges there are in communication. If you have children, have them monitor you for misleading communications during the activity sothat you can integrate them into the process once the activity is complete. Consultants can use thisas an opportunity to highlight the power of communication and the potentialof the growing field of communication.

INTERVENSI ADHD CHILD COMMUNICATION INTERVENTION

Intervention in children with ADHD is divided into two categories, among others: pharmacological therapy and non-pharmacological therapy. pharmacological therapy is a treatment that uses a medical approach in which it is done to suppress the symptoms caused by the diagnosis of ADHD.

While non-pharmacological treatment in ADHD children is generally in the form of psychosocial therapy, including behavioral therapy, cognitive therapy, ora combination of cognitive and behavioral therapy (Cognitive Behavioral Play Therapy/CBPT) in the form of play therapy. With the aim of maximizing the functioning of children with ADHD, this Matis system training and treatment modification program is implemented using a direct pediatric approach or with parents (DuPaul et al, 2020). Thepharmacological intervention that has been implemented it has certainly had disadvantages including drug side effects, no change in behavior and prolonged therapy time (Bashiri et al., 2017)

One of the solutions toovercome the current problem of children'S ADHD interventions is to develop digitalisasi-based ADHD interventions that take advantage of advances in science and technology. The use

of Information Technology in the health sector is alsoincluded in the Strategic Plan of the Ministry of Health (Lenstra) for 2020-2024, as one of the initiatives to improve the quality of basic health facilities and referrals (Ministry of health) of the Republic of Indonesia, 2020). Currently, interventions for ADHD children have been developed based on digitization, ranging from web-based applications to the use of smartphones and virtual reality.

The use of Information Technology in the intervention of ADHD children includes the concept of digital application-based play therapy which is widely used in medicalpractice.Web Health Application (WHAAM) is an example of an application that supports evidence-based practice in functional behavioral assessmentbased onapplied behavioral Analysis (ABA) based on the concepts and techniques of functional behavioral assessment (FBA) or functional behavioral assessment.For children with ADHD the features on the WHAAM app are inspired by multimodal interventions in ADHD children, including behavioral interventions, parent/teacher involvement in activities and education, and analysis of the child's medical history (Merlo et al., 2018).

A similar study of a smartwatch prototype for intervention in children with ADHD that provides emotion recognition and Game recognition capabilities resulted in the development of this prototype into an app that incorporates non-pharmacological interventions for children with ADHD. However, there are concerns from parents and teachers about the disruption of the messages of the application and the risk of becoming addicted to the game if its application does not follow the correct procedures (Tavakoulnia et al, 2019). The use of digital interventions above can help reduce symptoms such as inattention and hyperactive behavior that occur in ADHD children. Therefore, this study aimsto analyze the benefits of digital intervention by examining the effect of digital intervention on improving self-regulatory behavior in children with ADHD, as well as literature investigating increased attention.

Basedon the discussion of the characteristics ofADHD children who experiencedifficulties in interpersonal communication, the author describes the communication process that occurs in ADHD children as follows:

1. Interpersonal communication can help parents and teachersinteract with children with ADHD because there isa closer and more personal relationship in caring for children.
2. Interpersonalcommunication that occurs in children with ADHD has not been effective if the child is not able to participate directly in the communication process due to lack of abilityto focus attention and listen to the conversation properly.
3. Interpersonal communicationterpersonal terjalin dengan bais established when teachers, parents, and children meet characteristics and elements inherent in interpersonal communication, including theability to decode messages and provide feedback.

If you are traveling witha child with ADHD, you should be more careful in social interaction and communication, dengby understanding the characteristics of the ADHD Child and understanding the factors that cause him to experience interpersonal communication barriers, then parents can better support andguide

their child's behavior and develop their child's skills (inscription, 2014). Outlined five roles of parents in caring for children with ADHD disorders: first, parents are the most important companion who serves as the first and most importantcompanion in the child's growth and development process. Second, parents as teachershave the task of educating, training and developing various basic skills of children, especially social communication skills. Third, parents as a source of information are tasked with being the source of all data on child development in order to evaluate and intervene in various treatments for children. Fourth, parents as diagnosticians are tasked with observingand recording every child's daily behavior in order to determinethe nature of the child's special needs. Slaghir, parents as therapists can help provide direct intervention to regulate and regulate children's behavior, especially regarding language development and social communication.

RESEARCH METHODS

The methodology used in this study is a systematic review based on the PICO framework that summarizes clinical questions: (1) population/problem, (2) interventions, and (3) outcomes. This article was written using a literature review as part of an online database search. Pencarian literatur dilakukan secara sistematis menggunakan tiga database online: ScienceDirect, Proquest, dan Scopus. Istilah pencarian yang digunakan adalah children OR pediatric OR paediatric, digital intervention OR digital therapeutic, attention And Behavioral self-regulation, ADHD or Attention Deficit Hyperactivity Disorder. PenResearchers use ' AND ' as a Boolean operator tocombine different concepts. You can narrow down the document to be

retrieved by using a term or aspect as a search term.

This researcher sets the search filter used in accordance with the inclusion criteria that have been set, namely research articles that discuss the effect of digital therapy interventions on improving the attention and self – regulation behavior of ADHD children, the year published in this article with a range of 2017-2021 which is an English article, and types of articles using quantitative and qualitative methods. Karakteristik artikel yang termasuk bagian dalam pencarian yaitu artikel *Randomized Controlled Trial* (RCT), *cohort studies, case control, quasi experimental*. There are a total of 4513 articles that have been found according to keywords that have been formulated. After the article is evaluated according to the inclusion criteria and exclusioncriteria that have been set to obtain 8 articles for review. The details of the search strategy for Qualified Articles are reviewed and analyzed using *flowchart* the PRISMA flowchart.

Digital interventions that are already used as a form of therapy for ADHD children have been widely adapted in health services. The intervention is usually packaged in the concept of play therapy either in the form of video games, applicative, or short stories and daily activity information with structured scheduling that has been specifically designed according to the prerequisites of ADHD child therapy. The benefits that will be achieved from digital intervention are able to reduce ADHD symptoms such as hyperactivity, impulsivity, inatensi and able to improve executive functions such as planning functions, Organization of behavior and daily activities of children.

The results of the analysis of 8 articles that are appropriate and relevant to the topic, show that there is an influence of digital intervention on increased attention or attention and self-regulation including time management and planning or organizing in ADHD children. In addition, there are 2 themes found from the

results of the study of 8 articles, namely:(1) digital characteristics of ADHD Child Intervention; (2) the benefits of digital intervention to increase attention or attention and self-regulation in ADHD children.One form of utilization of Information Technology in the field of Health is the application of digital therapy as an intervention in children with mental disorders or children with ADHD hyperactivity

disorder.Digital therapy that is carried out as an intervention for ADHD children, especially with Attention Deficit Disorder problems, interactive, implusive, has been approved by *the Food Drug Administration* (FDA) on June 15, 2020 (Pandian et al., 2021).Digital interventions that are beginning to develop today are seen as based on multimodal therapy as an alternative therapy, for mental health problems such as depression, anxiety, ADHD, emotional control and other mental problems. The interventions developed are generally designed in the form of digital games, *virtual reality*, short stories and other types that target symptom reduction from mental problems and adaptive behavioral changes (Shah et al., 2018).
Digital interventions for children with ADHD are primarily developed using play therapy concepts. Play therapy is a type of game that is primarily designed as a manual game or therapeutic game adapted to a computer system and aims to improve impulse control skills in ADHD children (Crepaldi et al., 2020). Playis a natural way for children to express themselves. It provides the most developmentally appropriate means for communication and growth, andprovides an opportunity to gradually reduce emotions, tension, incongruity, anxiety, aggression, and fear of disturbance (Kholilah & Solichatun, 2018).

Digital intervention for ADHD children

ADHD children according to DSM V criteria have signs and symptoms including inattention, hyperactivity and impulsivity, combined and nonspecific symptom types (Wolraich et al., 2019). Based on several characteristics, related problemscan affect the quality of life of ADHD children, especially in school-age children. Children with ADHD and inattention problems often have difficulty concentrating, tend to get bored easily, have difficulty planning tasks and activities, lose items (pencils, books, toys), among others. Easily distracted by prolonged external stimuli. Such periods can leadto a decline in academic achievement (Colomer et al., 2017)that cience cells, associated with patterns of inattentionand/or hyperactivity-impulsivity that impair function and development, impact social life, behavioral regulation, and psychiatric disorders in children with ADHD (Merlo et al., 2018). One form of utilization of

Information Technology in the field of Health is the use of digital therapy as an intervention against children with mental disorders.Menurut Padilla et al. (2018), a digital system in the field of nursing or also called telenursing has the advantage that it can be used to transmit patient medical information, major complaints, and the type of disease they suffer from program system design with (mild, moderate, severe), data visualization in the form of images, audio, text and even video, patient health awareness through video mail and multimedia medical record technology related to health centers digital tools for using family medical history.Digital therapy as an intervention for children with ADHD, particularly those with Attention Deficit Disorder, was approved by the Food and Drug Administration (FDA) on June 15, 2020 (Pandian et al., 2021).

The digital intervention that began to be developed in the year is based on multidisciplinary therapy as an alternative treatment for mental health problems such as depression, anxiety, ADHD, emotional control and other psychological problems.The interventions developed are generally in the form of digital games, virtual reality, short stories, and other types of formats aimed at reducing the symptoms of psychological problems and adaptive behavioral changes (Shah et al., 2018).Digital interventions for children with ADHD have been developed primarily with the concept of play therapy .Play therapy is a type of game that is primarily designed as a manual game or therapeutic game adapted to a computer system and aims to improve impulse control skills in ADHD children (Crepaldi et al, 2020).

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Benefits of Digital intervention on improving the attention and self-regulation of ADHD children

Intervensi digital dalam bentuk permainan mampu meningkatkan rentang perhatian anak ADHD Avila-Pesantez (2018) melakukan penelitian terhadap penggunaan prototipe Augmented Reality Serious Game (ARSG).This prototype implements the

development of a serious game intervention in the field of psychotherapy for ADHD children.The nature of this game is as follows: designed to be more interactive and visual, it provides a focused effect on cognitive behavioral therapy and shows very effective results in improving the child's attention function.Penelitian sebelumnya oleh Bul et al,Kollins et al., (2020) and Wiguna et, al, (2021) state that although this type of digital intervention through play is generally designed in accordance with the standard requirements of play for children with ADHD, the arsg intervention adds and states that it does . The technology-Level approach to Augmented reality (AR) Game design integrates digital and physical informationin real time, allowing users to interact with the virtual and real world. ARGD technology can attract the attention of ADHD children and improve the communication process using experimental and simulated techniques that are manipulated through physical movements similar to the real environment.

The benefitsof digital interaction in self-regulation are primarily related to the useof schedule management tools, including reminder notifications regarding daily activities in ADHD children. The effectiveness of digitAl intervention for children with ADHD is considered aflexible alternative therapy that can be used at home or at school, potentially as individual therapy or early intervention. Digital interventions affect EEG imaging changes in the prefrontal cortex associated with attentional functions and regulationof self-regulation, including regulation of emotions and impulsivity, which are generally thought to manifest in symptoms in children with ADHD. This has proven possible. However, further in-depth research is needed to strengthen the effectiveness of digital intervention as an effective treatment combination to reduce anxietyin ADHD children (Lim et al., 2020). Similar research was conducted by Koch (2021) in this study, outpatient assessment methods based on smartphone applications with electronic diary functions and combinedwith body-worn devices (accelerometers, single sensor systems such as electrocardiograms, or electromodal activity) were used to study the emotions of ADHD children. It ispossible to take advantage of the physiological and behavioral parameters of daily life and

provide interventions tailored to the needs of achild with ADHD, including self-regulation (emotion, perplanning and organization). The benefits of digital therapy in improving regulation in children with ADHD are also based on the results of a literature review on theuse of serious games (SG) as a form of nonpharmacological intervention with a play approach to improve regulation effectively for children with ADHD improve self-regulation in children with ADHD and have executive functions such as increased performance andlian diri (Alabdulakareem & Jamjoom, 2020). Based onthese statements, the methods usedin the application of digital interventionsto improve the self-regulation of ADHD children are: it is known that this can be done through structured games and applicable rules.

Digital interventions such as digital web-based applications, mobile and *virtual reality* that have been designed according to the prerequisites of ADHD child therapy with the concept of games, short stories, animated videos, scheduling and daily activity records with several assignments that must be completed by children it has been shown to be effective in improving attention function or attention and self-regulation behavior (emotions, planning and organizing) children with ADHD.

Intervention the web-based ADHD child monitoring algorithm Platform (Trivox health) allowsparents or caregivers to remotely report symptom reduction information and warn of worsening side effects, thus enabling informed medical decision-making.ut,This is done by doctors and members of the health care team when treating children with ADHD.Trivox Health global Functional Assessment scores improved ($p = 0.015$) in children with ADHD after intervention using a web-based application.

Conclusion

ADHD is a brain development disorder in children that increases motor activity and causes children to become hyperactive, impulsive, and aggressive. Common characteristics of ADHD children are impulsivity, aggression, low self-esteem, hyperactivity. If not treated promptly, it can affect a child's emotional, behavioral, and social development.

Children with ADHD have hambatan komunikasi interpersonal communication barriers caused by traits such as Attention

Deficit Disorder, impulsivity, and hyperactivity. In contrast to language disorders, where communication barriersarise due to disturbances in the process of language acquisition and Development, children find it difficult to carry out social interactions. The role of parents in helping children with ADHD meninimprove their interpersonal communication skills is that they are the child's most important companion, home Teacher, Resource, diagnostician, and therapist, who targets children on a daily basis and intervenes when the child is not in school. OranParents and teachers canprovidesupport appropriate to the characteristics ofthe child's needs. Inthiscase, especially through guidance inconducting interpersonal communication interpewith children. Teachers can communicate more often with children, so that children can develop their concentration during class learning. In general, the pattern of support that can be applied focuses on identifying the skillsthat the child has and developing these skills to the maximum, as well as helping ADHDthe ADHD childengidentifikasi identifywhat is lacking in incentives to further developskills and talents by continuing the ability of the talents they have. Intervention in children with ADHD is divided

into two categories, among others: pharmacological therapy and non-pharmacological therapy. pharmacological therapy is a treatment that uses a medical approach in which it is done to suppress the symptoms caused by the diagnosis of ADHD.

While non-pharmacological treatment in ADHD children is generally in the form of psychosocial therapy, including behavioral therapy, cognitive therapy, ora combination of cognitive and behavioral therapy (Cognitive Behavioral Play Therapy/CBPT) in the form of play therapy. With the aim of maximizing the functioning of children with ADHD, this Matis system training and treatment modification program is implemented using a direct child approach or with parents (DuPaul et al, 2020). Thepharmacological intervention that has been implemented it has certainly had disadvantages including drug side effects, no change in behavior and prolonged therapy time (Bashiri et al., 2017)

One of the solutions toovercome the current problem of child ADHD intervention is to develop digitalisasi-based ADHD

interventions that utilize advances in science and technology.

Advice

Based on the results of observations that have been done if thereare errors and shortcomings in this article, please allow readers to provide suggestions and keritiknya so that this article can be more perfect in the future.

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