



Sensory Integration Program to Increase Concentration Ability in ADHD Children

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Abstract

This research shows the positive effect of a sensory integration program on improving concentration abilities in ADHD children. Therefore, this research aims to examine the impact of a sensory integration program on children with ADHD to improve concentration. The type of research used is a case study. The subjects in the study were 2 ADHD children. Data collection techniques use interviews, observation and Documentation. The research results show that the sensory integration program positively affects learning concentration in children with ADHD. The reduced frequency of distraction evidences this after being given intervention and the increased focus duration when working on a task. Sensory Integration in the Cahaya Kautsar Inclusion Islamic Kindergarten is implemented in a particular sensory integration room. Various types of games and movements stimulate the sensory system and are modified by the therapist so that sensory integration activities are delightful.

Keywords: Sensory Integration, Concentration, ADHD



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INTRODUCTION

Development is a more complex body structure and function in gross motor skills, fine motor skills, speech, language, socialization and independence (Junita & Mere, 2023). Development as interconnected dimensions. Physical, cognitive, social, spiritual and emotional development influences each other. Development and learning occur continuously due to interaction with people, objects and the surrounding environment. The pattern of child development is the same for all children, but the speed differs from child to child. Early childhood development is the basis for the future learning process, shaping experiences and determining the development children will carry throughout their lives. As an initial foundation, early

childhood determines a child's readiness and success in learning in subsequent education. In reality, some children experience difficulty carrying out daily activities when the child is over two years old and the challenges that currently occur in children who are normal and healthy but whose stimulation is less than optimal, either due to ignorance or reluctance of parents or caregivers. to provide sensory stimulation in infancy (Tanfidiyah, N., & Utama, 2019). At an early age, the process of physical, mental and psychological growth and development takes place very quickly and requires more attention from parents. During the growth and development phase, deviations may occur where the child's growth and development process is hampered or unnatural.

According to statistical data published by the Coordinating Ministry for PMK in June 2022, the disability range for children aged 5-9 years is 3.3%, while the population at that age (2021) is 66.6 million. Thus, the number of children aged 5-19 years with disabilities is around 2,197,833 people. Child growth and development deviation is abnormal or disturbed in the growth and development process. Several types of deviations that are often found in children include Attention Deficit Hyperactive Disorder (ADHD). Attention deficit hyperactivity disorder (ADHD), is often seen and is usually found, which has difficulty concentrating, not being able to sit still, confusion, impulsiveness and difficulty coordinating or clumsy. In the typical development course, hyperactivity and impulsivity appear earliest and often at 3 or 4 years of age, and attention problems appear in the early school years, around 5 to 7 years of age.

Special services for children with Attention Deficit Hyperactivity Disorder (ADHD) are needed to improve concentration when studying. Children with Attention Deficit Hyperactivity Disorder are often found in everyday life in school-aged children to teenagers, even if it is not treated immediately it will affect a person's future. There are several things that children with Attention Deficit Hyperactivity Disorder need, namely related to the need for self-control related to reducing or eliminating hyperactivity, increasing attention span and controlling impulsivity. The second is related to the learning needs that require a different learning method from other normal children.

Based on previous research, it is stated that special services for children with Attention Deficit Hyperactivity Disorder (ADHD) are really needed to be able to overcome and reduce the symptoms of hyperactivity in children. ADHD is often found in everyday life in school-aged children to teenagers, even if it is not treated immediately it will have an impact. to someone's future. Children with this disorder require special services to meet the needs for self-control related to reducing hyperactivity, increasing attention.

Sensory integration is a method developed by Dr. Jean Ayres is an occupational therapist and neuropsychologist who has spent her career conducting research and developing theories, strategies and interventions to help understand and treat children with learning and behavioral disorders. Sensory integration therapy is a form of

therapy that invites a child to further develop his physical abilities. One effective way is to use several combinations of movements, because by moving they will be more enthusiastic and directed to concentrate and focus their attention. The effectiveness of sensory integration therapy has led to the need for a product design that can direct a child with ADHD to sit more quietly and pay attention to things.

Concentration is focusing all the power of attention on a learning situation. Concentration can also be interpreted as a person's effort to focus attention on an object so that they can comprehend and comprehend the object being paid attention to. The learning process requires concentration, therefore every child who takes part in learning at school is expected to be able to concentrate well. The child's ability to concentrate will influence the speed in capturing the material provided by the teacher in the learning process. Lack of concentration in learning will cause difficulties in class.

The results of previous research show that concentration can be trained with play therapy, the bunchen play method, sensorimotor play, using educational game tools which shows that children with ADHD conditions cause disturbances and obstacles for children in carrying out their daily functions, such as interacting with friends, readiness. learning, not focusing, not being able to stay still, being defiant, destructive, tireless, impatient and nosy, having low intelligence, stated that by providing various kinds of interventions, these can have an effect on changes in behavior and concentration in ADHD children.

Meanwhile, the research currently being conducted discusses a sensory integration program to improve concentration abilities in ADHD children using several combinations of interventions.

METHODOLOGY

Type of Research

In this research, the researcher used a qualitative approach with a case study research type and was descriptive. A case study is a qualitative research in which the researcher explores a program, event, process, or activity with one or more people. Denzin and Lincoln state that qualitative research uses a natural background to interpret occurring phenomena. It is carried out by involving various methods available in qualitative research. The techniques usually used are interviews, observations and use of documents. (Dr. Umar Sidiq, M.Ag Dr. Moh. Miftachul Choiri 2019). In general, qualitative research is defined as research that aims to understand the phenomena experienced by research subjects. For example, behaviour, perception, motivation, action, and so on, holistically in a descriptive manner in a particular, natural context without any human intervention and by making optimal use of scientific methods that are commonly used. (Umar Sidiq & Miftachul Choiri 2019).

Qualitative research data is data in the form of words, sentences, and paragraphs that have meaning related to the research. (Helwig, Hong, and Hsiao-wecksler, n.d.) In this research, case study research is used. According to Suharsimi Arikunto, a case study is an intensive, detailed and in-depth approach to certain

symptoms (Helwig, Hong, and Hsiao-wecksler, n.d.). Meanwhile, the nature of the research is a procedure that produces descriptive data in the form of written or spoken words from people and behavior that can be observed in the field.

Time and Place of Research

Research time

This research was carried out on 5-26 October 2023 and was carried out during school days or school hours, namely 07.30-11.00 WIB.

Research Place

The place for this research was carried out at the Cahaya Kautsar Islamic Inclusion Kindergarten, East Jakarta.

Research Design

The design used is case study research, which emphasizes research only on one case unit (Nursalam 2016). So researchers focus on one particular object and study it as a case. Case study data can be obtained from all parties concerned and collected from several sources. The main research objective does not lie in generalizing the results, but rather in the success of a treatment at a certain time. The advantage of using this research design is that changes can be made in the middle of research or intervention for clients.

Sample

The sample is a part of the population that will be investigated or it can also be said that the population is in mini form (miniature population). Based on this, the sample in this study was 2 (two) students, 1 female and 1 male, aged 4-5 years.

Sample Collection Techniques

Research subjects were selected using a purposive sampling technique, meaning that research subjects must be adjusted to the research characteristics, objectives, and subjectivity in selecting subjects without ignoring the researcher's code of ethics. The research subjects used were students with special needs who were diagnosed with ADHD. They are students of Cahaya Kautsar Inclusion Islamic Kindergarten who experience a lack of concentration. This can be seen from the results of a psychological examination carried out by the school involving a psychologist, showing that the subject was an ADHD child.

Research Instruments

Data collection technique

a. Observation (Observation)

Observation is a data collection technique carried out by systematically, logically, objectively and rationally observing and recording various phenomena, both in actual situations and in artificial situations to achieve certain goals. This research uses participant observation, namely the researcher is directly involved with the activity being observed (during the learning process). Observation is the main instrument for measuring student learning concentration during learning.

b. Interview

Interviews are conducted to explore information researchers cannot observe during the observation process. Researchers conducted direct interviews with teachers to know the child's concentration in learning compared to other friends.

According to Moleong, an interview is a conversation with a specific purpose. This conversation is carried out by two parties: the interviewer who asks questions and the interviewee who answers questions. (Hyperactive 2021)

c. Documentation

Documentation is used to obtain information and explanation of knowledge and evidence, in this case the researcher's Documentation is photos, videos and child data.

Data Analysis Techniques

In processing the data, the author uses a descriptive method, namely data analysis techniques where the author first explains the data obtained, then describes the existing findings based on written sources. Researchers use Documentation as a supporting method to complete data that researchers did not obtain through observation and interviews. This research is a qualitative case study research which is the result of observations, interviews and Documentation that the researcher has carried out. This research was conducted by researchers at the Cahaya Kautsar Inclusion Islamic Kindergarten, Jakarta on October 5 – October 26 2023. It can be seen that the number of students was 15 children consisting of 10 boys and 5 girls and 2 teaching staff. The author focuses more on two children, namely C and R, who experience hyperactivity, such as talking excessively, interrupting other people's conversations, both children moving excessively, such as children running around, climbing onto tables and bookshelves in situations where teaching and learning activities are in progress. , children play with their hands or feet, move around in chairs and children are unable to concentrate when studying or other activities.

Based on the results of observations made by researchers and based on the characteristics above, these two children are classified as hyperactive, attention deficit disorder (low concentration) and behavior. Sensory integration therapy activities to treat ADHD children at the Cahaya Kautsar Inclusion Islamic Kindergarten turned out to produce quite good treatment. For further clarity, the author presents the discussion and data analysis as the next step in drawing conclusions as follows:

Data processing Analysis obtained through research carried out where the researcher obtained the data from the results of interviews and observations as the main method in collecting data, to make an objective decision and can function as a fact. This research began with observations made by researchers at the Cahaya Kautsar Islamic Inclusion Kindergarten, Jakarta, to observe how children with ADHD were treated through sensory integration therapy. In analyzing the data, researchers used the case study method, which means this method draws conclusions from observations and interviews in activities for handling ADHD children at the Cahaya Kautsar Islamic Inclusion Kindergarten, Jakarta. What the researchers analyzed was

that the sensory integration program could improve concentration abilities in ADHD children.

All the data is analyzed and the data analysis used in this research follows the Moles and Huberman model, namely data reduction, data presentation, verification or concluding. (Simatupang, Dorlince & Ningrum 2020)

Data Reduction (Data Reduction)

Data reduction is summarizing, selecting the main things, focusing on the essential things, looking for themes and patterns and discarding what is unnecessary. In this way, the reduced data will provide a clearer picture and make it easier for researchers to collect further data. In this regard, the researcher reduces the data obtained from observations and interviews and summarizes them individually, making it easier for the researcher to focus on the data. Data unrelated to the problem is not presented in report form. In this study, researchers reduced the data to focus on students diagnosed with ADHD.

Presentation of data

In qualitative research, the process of presenting data can be carried out in the form of brief descriptions, charts, relationships between categories, flowcharts, and so on.

Verification or drawing conclusions

Conclusions in qualitative research are new findings that have not previously existed. Findings can be in the form of a description or picture of an previously unclear object.

RESULTS AND DISCUSSION

Case observation

Research Subject I

C is a research subject at the Cahaya Kautsar Islamic Inclusion Kindergarten, Jakarta. Since childhood, C has had difficulty controlling his behavior. Very active behavior makes C unable to sit still and do whatever he wants. C also has difficulty concentrating in studying. The difficulties faced are not being able to focus when studying in class, not being able to do assignments independently, not paying attention to teacher instructions, not being able to sit for long periods of time, doing activities outside of class learning activities.

When the researcher observed C in class, C had difficulty focusing on learning activities in class, because C was unable to learn in silence. C often stands up from his seat, C often walks and runs in class during the teaching and learning process. Usually C climbs onto the table or bookcase, apart from that C also walks around the classroom looking for something.

When studying in class, C is always reminded by the teacher to always return to his seat. To do his assignment, the teacher must focus on C so that C can do his assignment until completion. At school C follows the sensory integration program 3 times/week.

Research Subject II

R is a research subject at the Cahaya Kautsar Islamic Inclusion Kindergarten, Jakarta. Since childhood, R has had difficulty controlling his behavior. Very active behavior makes R unable to sit still, doing activities as he pleases. R also has difficulty concentrating in studying. The difficulties faced are not being able to focus when studying in class, not being able to do assignments independently, talking a lot at will, not being able to sit for long, doing activities outside of class learning activities.

When studying in class, R is always reminded by the teacher to always return to his seat. R always talks, asks anything. To do his assignment, the teacher must focus on R so that R can do his assignment until it is finished. At school, R takes part in a sensory integration program 3 times/week.

Description

a. Study Concentration Research Subject I

The subject's concentration on learning seems less focused, this is because the subject cannot study while sitting for a long time, likes to run around in class, looking at his friends. So far, the subject's lack of focus on studying can be seen from the behavior of the subject who likes to do other things. outside of classroom learning activities. During the teaching and learning process subjects often do not listen to the teacher's instructions and often get out of their seats.

When in class the subject prefers to play alone, running around in the classroom, climbing onto tables or book cases. Sometimes he shouts in annoyance and throws things if he doesn't get what he wants. Subjects have difficulty playing together and also have difficulty waiting their turn.

Based on the researcher's observations in class, the class teacher was very firm in dealing with the subject. When the subject does not carry out the teacher's orders, the subject usually gets punished. Conversely, if the subject is able to carry out the teacher's orders, the subject gets a reward.

In the sensory integration room, the subject looks happier because there are lots of games. But sometimes the subject refuses some movements because they are considered uncomfortable. When carrying out sensory integration therapy activities with several applicable rules, the subject seemed less obedient because he did not want to follow the rules that had been made. However, the therapist patiently guides the subject to learn to concentrate and obey the rules that apply during the sensory integration program process.

Currently, with indications that the subject has ADHD and the subject's difficulty in staying still and concentrating, the therapist focuses on stimulating tactile, vestibular and proprioceptive development.

Study Concentration Research Subjects II

During classroom observations, the researcher saw that the subjects were not focused on participating in learning activities. The subject always looks right and left, sometimes playing with himself. When there is a sound from outside, the subject immediately asks questions and switches attention. Subjects can answer questions

asked by the teacher and can respond with movements to what the teacher orders. Subjects preferred holding food and watching their friends' activities. The subject often repeats what the teacher said, the subject stands around the room picking up the toy he likes, but when the teacher reminds him, the subject understands and puts it back and this happens repeatedly. Subjects also had difficulty waiting their turn.

Subjects easily get bored when following lessons for too long, their attention is always diverted. The subject still has difficulty playing or having fun calmly, his movements are still rough, such as running as fast as possible and pushing friends.

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Discussion

Based on the results of data triangulation from researchers, the learning concentration of children with ADHD at the Cahaya Kautsar Inclusion Islamic Kindergarten consists of diverting attention when the teacher speaks or gives instructions on the subject. This includes biting toys, looking at his friends and annoying his friends. When called to do an assignment, the subject does not answer and sometimes answers but does not look at the teacher or ignores the teacher's orders. Teachers also often repeat instructions on the subject so that the subject focuses again. The behavior shown by the research subjects supports the statement of Pfiffner & Barkley (1990), which states that in the classroom children with ADHD often show behavioral problems. ADHD children have more difficulty responding to teaching and are less able to complete academic tasks compared to their peers.

The reason the subject was unable to focus was because the subject had ADHD. Another cause is when the subject starts to get bored of studying in class and has difficulty with the lesson.

In increasing the subject's learning concentration, researchers found three models of tutoring carried out by subjects at the Cahaya Kautsar Islamic Inclusion Kindergarten.

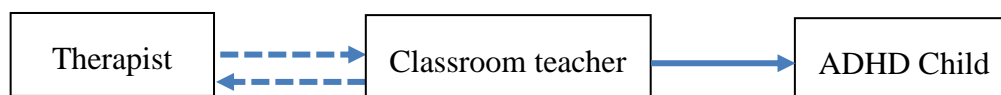


Figure 1. Guidance model 1

Information:

Consultation

Therapeutic interventions _____

The first tutoring model at the Cahaya Kautsar Inclusion Islamic Kindergarten, the teacher consults with the therapist when he finds problems during class, then the teacher can combine the treatment methods from the therapist and the teacher himself who addresses the subject directly. This guidance model is less effective because there are many other students in the class so they cannot focus on the subject.



Figure 2. Guidance model 2

In the second guidance model, the therapist provides a sensory integration program to increase subject learning concentration. The program provided is various kinds of games in the sensory integration room which are useful for stimulating tactile, vestibular and proprioceptive. This guidance model is very effective because in carrying out a sensory integration program only the therapist and subject focus on carrying out the program given.

Sensory integration is the mastery of senses such as motor balance, gravity and movement, muscles and joints, body posture, as well as the senses of sight, hearing, taste, smell and touch as well as organizing adaptive responses. Humans learn through self-regulation, organizing their behavior and thoughts in three stages, namely thinking ahead (effort is done before action), performance control (occurs during the learning process) and self-assessment (takes place after learning).

Learning concentration is the ability to focus attention, focus thoughts, feelings, will and all five senses on an object being studied by setting aside everything that is not related to the object being studied. Concentration is very important to hone, especially for ADHD children. When children are increasingly able to concentrate, they will automatically be able to capture lessons at school and the information they obtain. Children with ADHD are children who experience attention deficit disorder which shows characteristics and symptoms of lack of concentration, hyperactivity and impulsivity which can be detected early and can cause chaos in most of their activities. The sensory integration intervention approach begins by providing sensations, one of which is the sensation of movement, stimulation of each sensor, which can also be from

the environment, which is then processed and integrated by the brain, then creating thoughts and feelings as well as the child's body movements.

The selection of motor activities in the therapy process is also considered based on several elements, namely movements containing aspects of concentration, movements involving the child's motor skills, all of which can improve the tactile, vestibular and proprioceptive systems. The stages and movements of sensory integration are as follows:

Session 1: for tactile development, namely playing in the therapy ball pool, sensory ball gym and playdough.

In this first session, the therapist focuses on tactile development, namely by playing in the ball pool. In this activity, the subject is initially asked to enter the ball pool. Let him 'swim' in it while the therapist explains the shape, color or texture of the ball to the child. The therapist can also play ball with him. In therapy activities with gym ball sensory, the subject is positioned on his stomach, the ball is placed on his body, then the therapist moves the ball from his back to his feet. In the playdough activity, the subject is given a piece of playdough and given the opportunity to create or shape the design they want to make. This therapy contains several elements, namely when playing with playdough, children will use their fingers to feel the texture of the playdough. Playdough therapy can teach children to be quiet for some time and train focus and concentration so that it can help reduce impulsive behavior and anxiety so that children can feel calmer in carrying out activities.

Session 2: For vestibular development, namely ladder-slide, balance bridge, balance board, wall climbing + monkey bar, plate form swing.

In this second session the therapist focuses on vestibular development. Subjects were asked to follow the rules given by the therapist, namely carrying out movements sequentially with 5 repetitions, starting with the movement up the stairs-slide, balance bridge, balance board, wall climbing + monkey bar, plate form swing (swing).

Session 3: For proprioceptive development, namely hand carts, flying fox, rock climbing.

In this third session, the therapist focuses on proprioceptive development, namely with handcart, flying fox and rock climbing activities. In this activity, the subject is initially asked to do a handcart movement with 10 steps forward, then flying fox, then rock climbing. In this session the subject was asked to repeat 5 times. After this activity is completed, the therapist evaluates the subject regarding today's therapeutic achievements, then the subject returns to class to continue further learning.



Figure 3. Guidance model 3

The third guidance model is that the therapist provides parents with sensory integration program handling and guidance for the subject when they are at home, then the parents can practice it directly with the subject. This guidance model is quite effective if parents use it to increase concentration in learning the subject. Because with proper and frequent guidance it will train children to be able to concentrate on studying.

In the research subjects at the Cahaya Kautsar Jakarta Islamic Inclusion Kindergarten, concentration on learning was shown by behavior in the form of being unable to focus in receiving the material provided by the class teacher. The subject also easily diverts attention to his friends, it is difficult to focus or concentrate because the subject is unable to study in silence.

The guidance model found by researchers at the Cahaya Kautsar Inclusion Islamic Kindergarten is that therapists provide training to class teachers, therapists intervene with ADHD children and therapists provide guidance to parents of ADHD subjects. Guidance models 2 and 3 are very effective if carried out intensively, because by providing appropriate treatment at school or at home it will result in increased learning concentration in ADHD children.

From the final data in handling children with ADHD that researchers obtained through observation, interviews, Documentation, it can be concluded that children with ADHD are starting to control their physical movements, can concentrate, pay attention to the teacher's orders and explanations because the process of handling children with ADHD with special treatment such as sensory integration can make children channeled. energy so that it can support the further learning process. An ADHD child's excess energy is channeled before class learning begins so that the child becomes calmer and more concentrated and then follows the class learning at the child's own pace.

Research Limitations

Research on sensory integration programs to improve concentration abilities in children with ADHD has limitations, namely that experts have not carried out the validity test of the observation guide. However, there are still practitioners in this research, namely physiotherapists and class teachers. The sample is very limited to only 2 (two) people, so different treatments on different subjects are possible for children with different characteristics.

CONCLUSION

Based on the research findings, several conclusions can be drawn regarding the behavior and interventions for ADHD children aged 4-5 years at Cahaya Kautsar Islamic Inclusion Kindergarten: Firstly, concerning the behavior of ADHD children aged 4-5 years, it was observed that hyperactive tendencies were exhibited by 2 students. These behaviors, such as running around, shouting, and disrupting classmates, impede their ability to concentrate and regulate their behavior in the

classroom. Secondly, the implementation of Sensory Integration within the kindergarten, particularly in the dedicated sensory integration room, has been instrumental. The room offers various stimulating activities and movements tailored by therapists to enhance the sensory experiences of the children, thereby making the integration process enjoyable and effective. Lastly, the results of the Sensory Integration Program have been promising in enhancing concentration among ADHD children. The program's success can be attributed to factors such as structured guidance models, well-utilized time, and appropriate facilities. Positive changes were noted in the reduction of distraction frequency post-intervention and an increase in focus duration during tasks, indicating the program's efficacy in improving learning concentration among ADHD children. In summary, the research affirms the positive impact of the sensory integration program in addressing concentration challenges among ADHD children aged 4-5 years at Cahaya Kautsar Islamic Inclusion Kindergarten.

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