Psychomotor Therapy (PMT) for Autistic Child in the Setting of Inclusive School in Bandung

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Abstract. The purpose of the study is to discover the influence of psychomotor therapy (PMT) in decreasing autistic children’s hand flapping in inclusive schools. The method used is single subject research using A-B-A design. The site of the study is an inclusive school in Bandung namely Mutiara Bunda. The sample of this study is an autistic child identified to do hand-flapping. To collect the data needed, this study uses observation. The results show that the frequency of hand-flapping on baseline 1 (A1) happens most frequently (1 time), yet after having intervention (B), its frequency decreases into three time, and on baseline 2 (A2) there is the least frequency (1 time). Based on the results, it can be concluded that psychomotor therapy can decreases autistic children’s hand-flapping in inclusive schools.

1. Introduction

Within a few centuries ago, special needs children including autistic children must follow a special needs school to get a formal education. However, later in the development, the government issued law Number 20 Year 2003 on National Education System which provides new nuance in the provision for learners with disabilities. In the explanation, Article 15 and 32 state that special education is an education for learners with disabilities or students who have extraordinary intelligence which is held inclusively or organized as a unit at elementary and secondary levels [1].

The latest law about inclusive education is issued by The Ministry of National Education Law Number 70 Year 2009. It states that inclusive education as an organization of education system that provides opportunities for all learners with disabilities, and have the potential intelligence, and/or special talents to follow education and learning in an educational setting together with learners in general. [2] This is certainly a breakthrough of education services for children with disabilities in the form of implementation of inclusive education which is aimed to provide widest opportunities and create education management that appreciate diversity and non-discriminatory.

Autism is a pervasive disorder in children characterized by disruptions and delays in cognitive, language, behavior, and social interaction. Based on that opinion, it is stated that autistic children have problems in communication, behavior, and social [3]. Autistic children tend to only be able to speak one or two words, or do not speak at all. Autistic children will also have problems in their behavior, such as: body shaken, shake head, stared at the hand, hand flapping, or flapping an object.
In the social skills autistic children tend to be difficult to make eye contact with interlocutors, difficult to play with their friends, share toys with their friends, or do not want to interact with parents and friends at all. The three main characteristics of autism are delays and deficits in communication, behaviors, and social skill. Communication deficits can be fairly mild, where the child may speak at an inappropriate level (whisper; too loud for the context) or inappropriate ways (repeating words or phrases) [4].

Hand-flapping is one characteristic of behavioral problems that often happens to autistic children. Hand-flapping is included in the category of stereotypical behavior which means a problem of repeated psychomotoric behavior and non-functional (e.g., hand-flapping, patting hand, wringing hand, playing their fingers, waved both hands repeatedly), which disturbs daily activities or cause body injury and it continuously happens [5]. Behavioral problems such as hand-flapping in autistic children who attend inclusive schools make autistic children are seen to be frightening for normal students. When autistic children need to interact with normal friends at school [6].

Some autistic children who showed behavioral problem such as hand-flapping in school face difficulties to follow the learning instructed by the teacher. Autistic symptoms which are happened to autistic children at Mutiara Bunda junior High School are have no eye contact when talking to others [7]. Behavioral problem is hand-flapping such as patting hand, scratching the anus, hand-flapping, waved both hands repeatedly. Autistic children’s behavioral problems require treatment in order to interact with the community.

At school, children with social-emotional problems or behavioral problems often require special assistance. Psychomotor therapy (PMT) is offering this assistance, by providing physical experience and offer movement and playing with situations in which children can practice new behaviors. Thus, psychomotor therapy is suitable to children’s world by giving experience through gestures in sport situations. The purpose of psychomotor therapy is to give experience based on therapy to remove and/or reduce the problems or obstacles experienced by autistic children by using the body and movement-oriented methods [8].

Psychomotor therapy (PMT) in physical education learning starts from the connection of Adaptive Physical Activities (APA) and Adaptive Physical Education (APE) with psychomotor therapy. APA is any physical activities that are adjusted to the level and ability and skill of special needs students [9]. APE is an adaptive physical education, a type of teaching scene through physical activity. Physical activity is used as media or instrument for the fulfillment of special needs students.

Psychomotor therapy is a method to improve psychological disorders, as a result of the development of therapy given by psychiatrists around 1960 in the Netherlands. Although in this era psychiatric problems handling is concentrated on clinically, but the teachers of physical education started to get involved and tried to look for the possibility of handling the problem through movement mediation [10]. During that year many physical education teachers handled their clients’ health. The physical education teachers thought that when many patients are only sleeping all day long, then movement can be the media or instrument to improve their movement’s skill. The physical education teachers assumed that when psychiatry patients are treated in the form of movement, then their psychological condition will be better [11].

PMT tried to show concern (care not cure) on psychiatry issues through psychomotor therapy, because psychomotor is not only dealing with a system of muscles, bones or neurological, but also related to the behavior of psychotic patients. PMT combines two main important issues which are learning and participation in the context of caring and correction of the problems related to psychiatry [12].

PMT really concerns about correction effort of problems of psychiatry patients through physical activity/movement or exercise, either through participation or learning. That PMT (Psychomotoric therapy) is the most interesting subject, psychomotoric therapy, which is known as PMT is one of good methods to identify the care effort [13]. PMT is an attempt of physical therapy for treatment which is focused on the movement of the whole body. The result of this information makes it easier to follow up the treatment especially in the basic movement skills.
Meanwhile, general physical education concerns with the process of teaching-learning so that the students get a bunch of knowledge or movement skills or pedagogical value which are obtained significantly. Differences in physical education with adaptive physical education lie in the purpose and the setting of teaching and learning [14].

Through the application of psychomotor therapy in physical education, it is expected to reduce behavioral problems of hand-flapping in autistic children during the process of learning physical education [15]. Based on empirical data proposed by Nijmegen (2011) who states that “PMT build self awareness for children with ADHD in school setting” the result of that study indicate that psychomotoric therapy which is conducted in schools helps children with ADHD in building self-awareness. This could be a reference that PMT helps children in reducing behavioral problems. Based on the problems, the researchers intend to examine the effect of psychomotor therapy for autistic children to reduce hand-flapping in the setting of inclusive school [16].

2. Method
This research uses single subject research (SSR) with A-B-A pattern as research design, which means this research has three phases that aims to examine the influence of a treatment that is given to each student, by comparing baseline conditions before and after intervention.

The basic structure of A-B-A design is presented on a graph as follows:

![Research Design](image)

The subject of this research is one male student with autistic problem and has not been getting any psychomotor therapy programs. This research is conducted at one junior high school which is SMP Mutia Bunda located in Bandung.

Data collection technique uses observation. The instrument is created in the forms of behavioral observation tables and observation indicator which is adapted to the behavior of the subject. The indicator and dimensions of the instrument are already validated by expert judgment of experts.

The procedures performed in this study consist of two stages which are observation to identify and determine autistic child who will be employed as the subject and gives psychomotor therapy programs and observation on SSR experiment which is performed during the implementation of baseline study 1-intervention- baseline 2. The implementation of intervention program is the provision of psychomotor therapy programs that is given three times a week and 8 sessions/meetings with 45 minutes duration in each meeting. Research core of research procedure at this stage is to discover the child’s ability to behave before, during and after a given intervention. Data collection is collected by recording each behavior which is specified during the observation. Visual analysis method used is by using direct observation of the data displayed in the graph, in the data analyzing process, SSR research mostly presented data into graph especially line graph. The purpose of using graph in the study is to make the researcher easier to explain subject’s behavior efficiently and detail.

3. Results and Discussion
3.1. Results

a. Research result of wiggling fingers behavior

![Graph 3.1](image1.png)

**Graphics 3.1** Hand Flapping behavior, wiggling fingers, in autistic child

![Graph 3.2](image2.png)

**Graphics 3.2** Hand flapping behavior: wiggling fingers of baseline 1 condition
Graphics 3.3 Hand flapping wiggling fingers of intervention condition

Graphics 3.4 Hand flapping, wiggling fingers, of baseline 2 condition
b. Research result of patting both hands

Graphics 3.5 Hand flapping in autistic child (patting both hands)

Graphics 3.6 Condition of baseline 1, hand flapping patting both hands
4. Discussions
Data presented on the graphics 4.1 shows that negative changes in reducing hand-flapping behavior in autistic child during the intervention.

Baseline 1 (1A) could be seen that at the third session hand flapping behavior, wiggling the fingers, appears 1 time. Thus, it could be seen that from the first session until the fourth session in A1 condition, hand flapping behavior appears.

Through the provision of intervention in psychomotor therapy program, the result shows that the direction that tends to remain began to change which is characterized by a reduced number of hand flapping behavior frequency. In the intervention condition (B), it appears that the target behavior occurs in the fifth and eight sessions. The highest frequency in this session occurred at the fifth session that is 2 times, and the lowest frequency occurs at the first, second, third, fourth, and seventh session which are 0. When the straight line drawn from the first session to the eight session in this condition, the result will be a rising line.
Differences in the number of frequency also occur in the baseline condition 2 (A2). In the second baseline condition (A2), the target behavior still happens, although not as many as in the intervention condition (B). Data obtained at the second session that hand flapping behavior appears 1 time, and target behavior does not appear at the first, third and fourth session. When a straight line drawn from the first session to the fourth session in this condition, it will obtain a rising line.

Data presented on the graphics 4.5 shows that the positive changes in reducing hand flapping behavior in autistic child during the intervention. Baseline 1 (A1) could be seen that at the second session hand flapping behavior, patting both hands, appears 1 time. It means that at the first session until the fourth session in A1 condition, the hand flapping behavior occurs. The employment of psychomotor therapy program intervention revealed that the data began to change which is characterized by decreasing number of hand flapping behavior frequency. In the intervention condition (B), it appears that the target behavior does not occur in every session. In the second baseline condition (A2), the target behavior also does not appear as in the intervention condition (B).

5. Conclusion
The frequency of hand flapping behavior that appears on the subject is moving the fingers behavior. The frequency of hand flapping behavior, moving the fingers, in autistic child shows that score at baseline condition 1 (A1) appears one time at most. Through the given psychomotor therapy program at intervention condition (B), the frequency of hand flapping, moving fingers, shows that increased score appears 3 times, it means that psychomotor therapy is less effective in helping reduce hand flapping behavior in autistic child. However, the frequency of hand flapping behavior shows that decreasing score at baseline 2 condition (A2) appears 1 time, it means that the employment of psychomotor therapy is less effective during the intervention condition, so that it takes a long process to decrease hand flapping behavior that can be settled for a long time period.

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