GROSS MOTOR DEVELOPMENT OF CHILDREN WITH MENTAL DISORDER AGED 8-10 YEARS

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This study aims at determining the development of gross motor among children aged 8-10 years with mental disorder. This research was conducted at a Special School in Surakarta. Data collection techniques were interviews, observation and documentation. Data analysis techniques used descriptive qualitative by the Miles and Huberman model. Based on the results of this research, some children with mental disorder aged 8-10 years experienced no physical abnormalities, but have problems in walking, running, jumping, balancing, turning, bending, throwing, catching, and kicking. Thus it can be concluded that children with mental disorder aged 8-10 years experienced delay in motor development. This is due to the intelligence level which is under 70/75 that have created difficulty in coordinating their movement. Hence, these children require continuous training in learning, especially in sports lessons that can improve their gross motor skills.

Keywords: Gross motor development, children with mental disorder

INTRODUCTION

Growth and development are two things that go together but have different meanings. Growth is the addition of body size or increase in various organs (physical) caused by an increase in the size of each cell in the unit of cells that make up organs or increase the total number of cells (Salim, 2007), whereas development is a more perfect process of direction (Mubarok, 2017). Development is not just the addition of body size or enhancement of ability, but rather an integration process of many complex structures and functions. Development is an increase in capacity in complex body structures and functions as a result of the differentiation of cells and tissues of the body, organs and systems that are organized in such a way that each can function (Salim, 2007). Monitoring the development of children is something that deserves more attention for parents and teachers, because by monitoring the children, parents and teachers can find out whether the development is in accordance with age or experiencing delays. If the children are detected to be delayed then the parent

should immediately provide treatment before it is too late. When the children have experienced obstacles in their development, they are unable to complete the task of the development of their age. So parents and teachers must identify what capabilities are constrained to provide treatment in accordance with their needs.

Physical development has a direct influence on the child because it determines what the child can do. Four aspects relate to physical development of the child, namely 1) The nervous system that affects the development of intelligence and emotion, 2) The muscles that affect the development of strength and motor ability, 3) endocrine glands that cause new behavioral patterns, 4) physical structure consisting of height, weight and proportion. One of the physical development that plays an important role is the development of gross motor skill. Gross motor is a body movement that uses large muscles or most or all of the limbs that are affected by the maturity of the child itself (Delphie, 2012). Gross motor is the ability to coordinate the movement of large muscles, namely the hands, feet and limbs (Yenny, 2017). Gross motor is using most of the major muscles or whole limbs that are affected by the maturity of the child itself including locomotor, non-locomotor, and manipulative (Gustiana, 2011).

Gross motor skills make a person perform normal activities such as walking, running, sitting, lifting objects, throwing objects, and so forth (Yenny, 2017). Heredity, environment, psychic function and child activity involving ability and emotion are factors that can influence motor development of child (Kartono, 1995). Isaacs (2012) mentions some gross motor skills of running, walking, jumping, punching, kicking, and so forth.

Children with mental disorder (DSM-5, 2013) are those who significantly experience obstacles and developmental backwardness mental-intellectual under 70/75, thus having difficulty in completing their duties (Garnida, 2015). Children with intellectual disabilities have significant below average intelligence accompanied by an inability to adapt behaviors that arise in development (Kustawan, 2013). According to Kemis (2013) characteristics of children with mental disorder are those who experienced physical action and development of motion. Physical state of the children with mental disorder are generally not much different from those of normal children, especially in children with mental disorder. However, because children with mental disorder experience obstacles in intellectual function, they also experience obstacles in their motor development. Yusuf (2018) explains that the children with mental disorder have low motor coordination and a less dynamic posture. The presence of disorders of the brain's nerves in the children with mental disorder also leads to obstacles in providing responses related to motor movement (Andayani & Himawanto, 2015). Physical appearance is unbalanced in children with mental disorder, such as the head is too small or too large, Down syndrome, causing less movement or coordination and often uncontrolled movements (Direktorat Pembinaan Sekolah Luar Biasa, 2009).

Motion is an important aspect in life, so the ability of motion in children should be considered to monitor its development. Children with mental disorder have good movement skills, but are not as good as normal children especially in complex movements, barriers in simple motor movement due to limited intelligence and low concentration in the children with mental disorder (Rahyubi, 2016). Children with mental disorder find it difficult to follow a sport activity that is easy for a normal child; they find it difficult to perform basic movement of walking, running, jumping or throwing, but the movement is the basic motion that must be mastered in early childhood (Hasan, 2015).

Gross motor skills are the basis of a skill that requires guidance, practice and development so that children can do well and perform them smoothly as directed (Indardi, 2015). Motor development requires coordination between nerve, muscle and psychic functions that include cognitive, affective and conative (Gustiana, 2011). According to Andayani and Himawanto (2015) motor obstacles of the children with mental disorder are: 1) Inability in doing motion with efficient coordination, balance, and agility. This is due to the inability of the nerve to identify something, 2) muscle properties more or less result in an inability to perform movement efficiently, 3) Inability to coordinate gross motor movements, lack of coordination balance, problems with body movement and joints, as well as the strength of muscle and bone stiffness.

Ideally motor skill development continues to increase in childhood. According to Fudyartanta (2012) children aged 6-12 years exhibit motor development such as running, jumping, throwing, receiving, kicking, hitting, swimming and dexterity in using simple tools. For that, we need to know the gross motor development of children with intellectual disabilities in the Special School of Surakarta, whether it is in accordance with the task of development or not so that teachers can design appropriate intervention programs for children with mental disorder.

METHODS

This research was conducted in the State Special School Surakarta with subjects consisting of 10 children aged 8-10 years with mental disorders. The sampling technique was purposive sampling, that was the sampling technique of data source with a certain consideration (Sugiyono, 2016). The researcher tries to make the subject in the research to represent the whole object of the research, so that the researcher determines the criteria specified as the sample.

This type of research was qualitative descriptive. According to Sugiyono (2016) qualitative research is used to examine the condition of natural objects and researchers as a key instrument. The data collection techniques used triangulation, data analysis is inductive and qualitative so that the results of qualitative research more emphasize the meaning than generalization. The data collected in this study comes from several sources, namely parents and teachers

who teach children with mental disorder. The data collection techniques included:

1. Interview

It is a meeting of two people to exchange information and ideas through the answer, so it can construct meaning in a certain topic (Sugiyono, 2016). In this research, the researcher uses structured interviews because in conducting the interview the researcher has prepared the research instrument in the form of questions written; alternatives of the answer have been prepared (Sugiyono, 2016). The interview questions were:

No	Question
1.	Physical abnormalities in the children with mental disorder
2.	Obstacles of children with mental disorder in walking
3.	Obstacles of children with mental disorder in running
4.	Obstacles of children with mental disorder in jumping
5.	Obstacles of children with mental disorder in balancing
6.	Obstacles of children with mental disorder in spinning
7.	Obstacles of children with mental disorder in bending
8.	Obstacles of children with mental disorder in throwing
9.	Obstacles of children with intellectual challenges in kicking

Figure 1. The instrument for interview.

2. Observation

Observation is an activity with regard to an object using all the senses (Arikunto, 2013). The type of observation is participative observation, or the type of observation that involves the researcher in the observed activity so that the data obtained is more complete, sharper at the level of meaning of each behavior (Sugiyono, 2016). The data collection involved using observation sheets to collect data on motor abilities of the children with mental disorders.

3. Documentation

Documentation is a complement of interview and observation methods in qualitative research (Sugiyono, 2016). In carrying out the documentation, researchers investigate written objects such as books, magazines, documents, regulations, diaries and so on (Arikunto, 2013). This documentation method is used to complement the research in order to obtain a clear picture of the research conducted. The document required a record of the ability of the mental disorders children in learning sports.

Data analysis technique used qualitative descriptive by Miles and Huberman model (Sugiyono, 2016) consisting of three steps: (1) data reduction,

(2) data presentation, (3) drawing conclusion. The steps of data analysis model of Miles and Huberman according to Sugiyono (2016) are:

1. Data reduction

That is summarizing, choosing the main thing, focusing on the important things and throwing out the unnecessary; thus the data has been reduced to give a clearer picture to facilitate gathering the next data. At this stage the researchers do data reduction on data derived from interviews, observations and documentation.

2. Data presentation

In qualitative research, data presentation is done in the form of short description, chart, relationship between categories, flowchart and the like. Through the presentation, the data are organized and arranged in a pattern that make the relationship more easily understood, and the most often used is with a narrative text. In this research, the data presentation is done in the form of narrative text from interview, observation and documentation results.

3. Conclusion

The third step in qualitative analysis according to Miles and Huberman is the conclusion. Thus, the conclusions in qualitative research can answer the formulation of predetermined problems.

RESULTS

Gross motor is an important aspect that must be controlled by children, including children with mental disorders. Based on the results of interviews and observations made on 10 children (aged 8-10 years) with mental disorders in Surakarta Special School, it can be seen that:

There are three children with mental disorders who have physical abnormalities, one has abnormalities on one leg, one child has polio, and one child has abnormalities in both hands. There are seven children who experience obstacles in walking, three children can walk with minimum assistance, four children can walk with full assistance.

Other data show that six children have difficulties in running, three children can run with minimal help and three can run with full help. The data also found that as many as seven children experienced obstacles on jump, four children could jump with minimum assistance and three children could jump with full help. Four children have difficulty in balancing, all need full help. One child has an obstacle in bending. Five children experience throwing obstacles. Four children can throw with minimum help and one child throws with full help. Six children suffered obstacles in capturing the object, all needed full support

because of difficulties in hand-eye coordination. Five children experience obstacles in kicking. Three children can kick with minimal help and two can kick with full help.

With these results, it can be concluded that children with mental disorders aged 8-10 years in carrying out gross-motion activities, they experienced difficulty while walking, running, jumping, balancing, turning, bending, throwing and when kicking objects.

DISCUSSION

Based on the results of the study, it was found that children with mental disorders aged 8-10 years who had difficulty in carrying out gross-motion activities experienced difficulty in walking, running, jumping, balancing, turning, bending, throwing and kicking objects. The condition of mental disorder must receive serious attention from parents and teachers, including sports teachers. Parents have an important role in parenting. Not all parents, especially fathers, can practice parenting in the right and adequate way. Nevertheless, parenting children with mental disorder at home requires good care from parents. Parents can stimulate children with mental disorder in the right ways when the children are standing, walking, jumping, twisting, pushing, pulling, kicking, and so forth. So the gross motion skills that are trained at school can be continued by parents at home. Then when the child is in school, the responsibility for stimulation and learning is on the teacher. According to Andayani and Himawanto (2015) teachers, especially sports teachers, must pay special attention to children who experience difficulty in gross motion. Even Aini (2011), Basyri (2015) and Mubarok (2016) emphasized the need for teachers to adapt or accommodate in sports education.

Modifications in learning adaptive on physical education according to Widya (2010) can be categorized in four types: 1) curriculum (total or partial), 2) Strategy of learning (replaced or adjusted), 3) Materials and tools (media), 4) Class settings (technique teach), 5) Environment.

In general, there are four main components in the curriculum that can be adapted, namely (1) objectives (2) content/material (3) process and (4) evaluation (Salim, Gunarhadi, & Anwar, 2015; Yusuf & Salim, 2018).

a. Objectives: educational objectives are expressed in graduate core competencies (GCC), core competencies (CC), basic competencies (BC) and indicators.

   Graduate Core Competency are criteria regarding the qualifications of graduates' abilities which include attitudes, knowledge, and skills. General teachers and physical education teachers of mental disorder children can adapt these educational goals.

Core Competence (CC) is the operationalization of GCC in the form of quality that must be possessed by students who have completed certain educational units. Core competency functions as an organizing element for basic competencies. Core competencies are designed in four interrelated groups which are related to religious attitudes, social attitudes, knowledge, and application of knowledge.

Basic competency (BC), is a number of abilities that must be mastered by students in certain subjects as a reference for preparing competency indicators in a lesson.

Indicators are measures, characteristics, processes that contribute/ demonstrate the achievement of a basic competency. Teachers can develop each basic competency into two or more indicators of learning achievement.

b. Learning material or the content that can be used by students to be able to achieve the set goals can be in the form of information, concepts, theories, and so forth. The scope of the material that is specific to each subject is formulated based on the Competency Level and Core Competence to achieve competency at a minimum at certain levels and types of education. Things that need to be considered in the matter of content / learning material include (1) Adjusting the context with the environment around the school / region.(2) Integrating learning with topics that are currently being discussed.

c. Learning process is an activity that will be undertaken by students so they can master the material taught and can achieve the learning objectives that have been set or a series of learning activities carried out by students with teachers both inside and outside the classroom. Adaptation of the learning process is related to the teacher's adaptation to the use of teaching methods, the use of instructional media, time allocation, the use of learning resources, classroom management, and others.

d. Assessment is a process that is carried out to determine the success rate of achieving predetermined educational goals. Matters that get attention in the assessment adaptation are assessment material, methods, time of assessment and tools used for assessment.

The Directorate of Special Education Development and Special Service Education has initiated implementing this adaptive physical education. Among the initiatives is the form of designing an adaptive physical education curriculum (Kementerian Pendidikan dan Kebudayaan Republik Indonesia, 2018).

CONCLUSION AND RECOMMENDATION

Based on the results of interviews conducted with classroom teacher and gym teacher and observation in the Special School at Surakarta, it can be concluded that some children with mental disorder aged 8-10 years who have physical abnormalities also have problems in walking, running, jumping, balancing, spinning, bending, throwing, and kicking. Thus it can be drawn that the gross motor development of children with mental disorder age 8-10 years are under achieved as compared to normal children. This is due to their intelligence being below 70/75 that have created difficulty in coordinating movements. Hence, it required continuous training in learning, especially in sports lessons so they can improve their gross motor skills.

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