

GROWTH AND DEVELOPMENT SCREENING IN PRESCHOOL-AGE CHILDREN BASED ON DENVER DEVELOPMENT SCREENING TEST II

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Abstract. Early detection of child growth and development deviations is a major global theme in modern child health services in the first 5 years of life. Detection activities are intended to assess whether there are deviations in child growth and development, and influencing risk factors, so that intervention actions can be carried out as early as possible. This study aims to determine the results of growth and development screening in the kindergarten A group at Darma Wanita Persatuan Medalem Kindergarten. This study used a type of descriptive research that used total sampling with respondents as many as 25 kindergarten A students by using the DDST II observation sheet research instrument which then the screening results were processed in the form of data tabulation. From the research conducted, it was found that in the four sectors of growth and development tasks, the results of caution and delay were the most in the language sector, namely caution 12% and delayed 4%, while personal social 1 delayed 8% and 2 delayed 4%, and in the gross motor and fine motor sectors the results were 100% normal. The success of stimulation is influenced by when the initial time is given, how long, and how to do it. Some factors that can cause caution or delayed results are, lack of concentration, lack of stimulation, and children are still unfamiliar with people they just met.

Keywords : Early detection, Growth and development, Denver Development Screening Test II

1 INTRODUCTION

The toddler period or the first 5 years of child growth and development is often said to be the golden age (*Golden Period*) (Hafiz & Anisa, 2022) (Qureshi et al., 2022). This happened because at that time the physical condition and all abilities of children are developing rapidly and high levels of brain abilities that are important for the learning process and development of intelligence, motor skills, language, and social emotions (Puspita & Umar, 2020). In kindergarten-aged children, the development of children's abilities that develop rapidly is physical and motor (Phillips, 2021)(Yaswinda et al., 2021) (Hudson et al., 2021). The process of children's motor growth and development is related to the process of growth and development of children's movement abilities which can be seen clearly through the various movements and games they do (Dini, 2022)(Supartini et al., 2020). Another development that is also related to children's motor skills is that children will react faster, better eye and hand coordination, and children will be more agile in moving (Fabiana Meijon Fadul, 2019)

Early detection of developmental deviations is intended to assess whether there are deviations in child growth and development, and assess the influencing risk factors so that intervention actions can be carried out as early as possible (McLaughlin, 2018) (Asthiningsih & Muflihatin, 2018). The developmental screening kit consists of several

devices, one of which is the Denver Development Screening Test (DDST). DDST is one of the screening methods for child development disorders, this test is not a diagnostic test or IQ test. This DDST assessment assesses children's development in four sectors, namely personal, social, fine motor, language, and gross motor assessments. This DDST test is not only performed on children suspected of having growth and development problems, but all children have the right / opportunity to do this test (Humaedi et al., 2021).

Based on UNICEF data in 2019, it shows that the incidence of growth and development disorders in children is 27.5% or equivalent to 3 million children experiencing disorders. The rate of delay in growth and development is still quite high, reaching 5-10%, considering that the Central Statistics Agency (BPS) noted that the child population in Indonesia reached 30.83 million people in 2021.

Based on the background description above, the research problem from initial observations is that students and students at Kindergarten Darma Wanita Persatuan Medalem class A with 11 boys and 14 girls and Kindergarten B class with 11 boys and 7 girls have never done a DDST II (*Denver Development Screening Test*) test to assess whether there is a delay in their supporting growth and development, The kindergarten does have teaching and learning activities to train children's motor and social skills but without knowing whether the student / student has a growth and development disorder or not.

2 RESEARCH METHOD

This study used a descriptive study design to screen children's growth and development using a total sampling technique where all student populations and students of Darma Wanita Medalem Kindergarten were 25 kindergarten A students.

This research instrument uses the DDST II test sheet and data is collected through growth and development measurements contained in the test sheet consisting of 4 sectors, namely personal, social, fine motor, language, and gross motor. Data analysis of this study began since the researcher collected data carried out by observation through direct observation and measurement, Furthermore, the author will group the test results with criteria whether the child's growth and development is normal, dubious or suspect, and cannot be tested. Respondent consent and respondent data collection are also obtained through the consent of the student's parents. After the data is collected, researchers will process the data in the form of tabulations and conclusions will be drawn from the data.

3 RESULT

Based on research that has been conducted on child growth and development with the DDST II method, here are the results:

1. Characteristics of the Research Subject

Table 1. Characteristics of Respondents by Sex in Darma Wanita Persatuan Medalem Kindergarten February 2023

Gender	Frequency	Percentage
Man	11	44%
Woman	14	56%
Total	25	100%

Table 2. Characteristics of Respondents by Age in Darma Wanita Persatuan Medalem Kindergarten February 2023

Age	Frequency	Percentage
4 years	4	16%
5 years	18	72%
6 years	3	12%
Total	25	100%

Based on the table above, respondents in group A were at most 14 women and 11 boys with a maximum age range of 5 years as many as 18 children. This age is obtained through the calculation of chronological age by adding up the date of examination with the date of birth of the child.

Special research data from the Denver Development Screening Test II aims to present the results of the Denver Development Screening Test II interpretation which is divided into 4 sectors consisting of personal, social, fine motor, language, and gross motor as shown in the table below:

1. Results of the interpretation of the social personal sector

Table 3. Results of Social Personal Interpretation in Darma Wanita Persatuan Medalem Kindergarten February 2023

Interpretation of the Social Personal Sector		
Result	Total	Percentage
Usual	22	88%
1 delayed	2	8%
2 delayed	1	4%
1 caution	0	0%
2 caution	0	0%
Total	25	100%

In the personal social sector, 88% of test results were normal, 8% of children had 1 delayed results, and 4% had 2 delayed results. In this sector there are no cautionary results.

2. Results of interpretation of the fine motor sector

Table 4. Results of Interpretation of the fine motor sector in Darma Wanita Kindergarten Medalem Association February 2023

Fine Motor Sector Interpretation		
Result	Total	Percentage
Usual	25	100%
1 delayed	0	0%
2 delayed	0	0%
1 caution	0	0%
2 caution	0	0%
Total	25	100%

In the fine motor sector, 100% of group A children have normal results, there is no delay or caution in the test results.

3. Results of interpretation of the language sector

Table 5. Language sector Interpretation Results in Darma Wanita Kindergarten Medalem Association February 2023

Language Sector Interpretation		
Result	Total	Percentage
Usual	21	84%
1 delayed	0	0%
2 delayed	0	0%
1 caution	3	12%
2 caution	1	4%
Total	25	100%

In the language sector, 84% of children had normal test results, 12% had 1 caution result, 4% had 2 caution results. No interpretation of delayed test results was found in this sector.

4. Results of interpretation of the gross motor sector

Table 6. Results of Interpretation of the gross motor sector in Kindergarten Darma Wanita Persatuan Medalem February 2023

Interpretation of the Gross Motor Sector		
Result	Total	Percentage
Usual	25	100%
1 delayed	0	0%
2 delayed	0	0%

1 caution	0	0%
2 caution	0	0%
Total	25	100%

In the gross motor sector has 100% results of children who have normal test results. There is no caution or delayed interpretation in this sector.

4 DISCUSSION

1. Interpretation of *Denver Development Screening Test II* with normal results

Based on the results of growth and development examinations conducted on 25 children using the *Denver Development Screening Test II method* at Darma Wanita Persatuan Medalem Kindergarten, it showed that most of them had normal test results, namely 21 children (84%). Other normal test results are 100% obtained in the fine motor and gross motor sectors. Then 88% are normal in the personal social sector and 84% are normal in the language sector.

Based on brief interviews conducted by researchers with educators, it was found that every day children receive learning related to 4 sectors with APE (Educational Game Tools) supporting methods as a support to train stimuli to improve motor and cognitive functions. In the examination process, these children were indeed more prominent in their motor skills, both gross motor and fine motor. In terms of language they are able to grasp meanings and commands when instructed and some have the confidence to get along and tell about themselves.

Through this way of playing, it can train the child's growth and development process because Play for children does not just fill their free time, but through play, children learn to control and coordinate their muscles, involving feelings, emotions, and thoughts (Panchal et al, 2023) (Khosasi et al., 2018)(Indrayasa & Suryanti, 2023) (Saripudin, 2019). So that by playing children get various life experiences and glue the relationship between children and parents (Hickey-Moody, 2020) (dr. kania nia spA., 2006). Children's developmental abilities have a distinctive characteristic, which has a fixed pattern and occurs sequentially, so that early stimulation carried out must be directed and emphasized first to form basic abilities before developing more complex cognitive and behavioral abilities (Rangkuti, 2021) (Charlesworth et al., 2019).

2. Interpretation of *Denver Development Screening Test II* with delayed results

The results of the examination showed that in the personal social sector there was 1 delayed as much as 8% and 2 delayed as much as 4%. This delayed interpretation is given when the child is unable to perform tasks for items to the left of the age line or items that are not exposed to the age line which is intended for children younger than his age which of course are easier tasks.

According to brief observations made by researchers, children whose test results are delayed look embarrassed, tend to be silent, and perform tasks if researchers repeat in-

structions. The causative factor can come from lack of concentration in the child and lack of stimulation (Rahayu, 2019). In addition to these factors, the most common cause of failure in the personal social sector is anxiety. Anxiety is one of the disorders that arise in children and requires special intervention when it affects social interaction and child development (Chronis-Tuscano et al., 2018) (Fegert et al., 2020) (Kendall et al., 2018). Delayed results were obtained in the personal social sector, where many students failed at the task of dressing without assistance. The way that can be done in training children's personal social, especially in the independence of their clothing, is the first through the interaction of teachers and children through *Mediated Learning Experience* (MLE), where this intervention program is designed to awaken children's ability to learn through new things from their environment through mediators who act as translators of objects and events in the environment by providing stimuli that will be presented and will be faced so that children are easier to recognize and able to receive these stimulation (Wicaksono, 2021).

In addition to school, the role of other environments around children is very important to facilitate children in fulfilling personal social development tasks so that the next child can develop normally and healthily and can be used as a provision for children to enter social life in the next age stage (Warmansyah et al., 2022) (Guru-siswa & Hertinjung, n.d.).

3. Interpretation of *Denver Development Screening Test II* with caution results

The results of the examination showed that the interpretation of 1 caution in the language sector was 12% and 2 caution was 1%. and language. Assessment of caution results is obtained if the child gagal (fail) or refuse (refusal) on the age line item which is at the percentile of 75% - 90%, at that age the majority of children should be able to do the task well. This is only in the language sector, this supports the theory (Tulungagung, 2019), where language skills are a combination of the entire child development system ranging from psychological, emotional, and behavioral. Children respond to stimuli that come from themselves and their environment, and they also learn to interpret visual and auditory stimulation (Dari, 2020).

Students who fail in the language sector get a lot of cautionary interpretation on the task of interpreting words, for example they are unable to name the opposite of the size of objects, weather, or time. In this case, in addition to the role of the teacher, parents must also stimulate continuously when the child is at home. Examples of stimulation that can be done to increase children's vocabulary are by means of language stimulation in terms of the form of media (visual stimulation, audio stimulation, tactile stimulation) and language stimulation from language activities (stimulation in the form of simple questions, instructions, singing, and storytelling activities) (Damayanti, 2020).

5 CONCLUSION

Based on the results of research conducted on growth and development screening in preschool children with the Denver Development Screening Test II Method at Darma Wanita Persatuan Medalem Kindergarten, the following conclusions were obtained:

1. Interpretation of 4 sectors, namely personal social found 22 children (88%) normal, 2 children (8%) had 1 delayed, and 1 child (4%) had 2 delayed. Then in the fine motor sector 25 (100%) the results were normal, the language sector 21 children (84%) were normal, 3 children (12%) 1 caution, and 1 child (4%) 2 caution. The last sector was gross motor, 25 children (100%) had normal results.
2. Test results on 25 students of group A, obtained delayed interpretation in the personal social sector and caution interpretation in the language sector.

6 SUGGESTION

1. For Respondents

It is expected that respondents are able to follow the learning process and stimulation of growth and development according to their age, both given by parents and teachers at school.

2. Share research sites

The availability of an educational curriculum on cognitive and motor development is something that can support the growth and development of students in the kindergarten, but it is better for teachers to promote the importance of providing continuous stimulation, because the child's time at home is longer than the child's time at school so that parents or caregivers continue to provide stimulation while at home and there are times when bringing children to a health care facility to do a growth check Development

3. For Researchers

Providing education to educators and parents about checking children's growth and development with the *Denver Development Screening Test II* method, so as to enable children to have normal growth and development.

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