Implementation of Learning from Home as a Determinant of Social Development Problems for Preschool Children

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Abstract
Background: Learning From Home (BDR) policy since 2019 in controlling the transmission of Covid-19 in Indonesia is suspected to be able to cause children to be limited in getting stimulation for partnerships that should be built between parents, the community, and teachers. Forty percent of preschoolers are prone to social development problems. Researchers intend to know the implementation of BDR as a determinant of social development problems of preschool-age children (5-6 years). Methods: The study design of this research was analytically observational with a cross-sectional approach. The variables include the implementation of BDR, the mother's education, the child's gender, the child's nutritional status, and the child's social development. The instrument used is Denver II. The sampling method used a simple random sampling technique with as many as 113 samples. Data analysis was performed in a bivariable manner, with a chi-square test. Results: This study showed that the implementation of BDR was related to the problem of children's social development (p-value = 0.012, OR = 1.639, 95% CI = 1.16-2.31). Mother's education is related to children's social development problems (p-value = 0.045, OR = 2.227, 95% CI = 1.93-5.3). Conclusion: Online BDR is a determinant of social development problems aged 5-6 years. The community and government need to anticipate problems that can occur through early detection of developments so that they can be overcome as early as possible. Parents should be involved in online BDR assistance to manage screen duration following safety standards for health.

Introduction
The Covid-19 pandemic has created an unprecedented health, employment, economic and social crisis. This condition has a profound impact on developing countries (Fegert et al., 2020; Howard-Jones et al., 2022; Palacio-ortiz et al., 2020). Research in Australia suggests there are indirect effects of COVID-19 that will have long-term impacts beyond the immediate pandemic period, including mental health and well-being risks, disruptions to family income, and stressors that produce social impacts affecting families and children (Howard-Jones et al., 2022; Palacio-ortiz et al., 2020). Schools are one of the public areas suspected of increasing the number of Covid-19 cases if their activities are not restricted. Public health organizations have advocated preventive policies to limit the virus, including stay-at-home orders closing businesses, daycares, schools, playgrounds, and children's learning (Williams et al., 2021). Indonesia controls the transmission of Covid-19 with the Study From Home (Belajar Dari Rumah/BDR) policy for students. Through the Circular Letter of the Minister of Education and Culture Number 4 of 2020 and strengthened by Circular Letter Number 15 of 2020, the BDR policy applies to all levels of education, Pre-school (PAUD), Kindergarten (TK), Elementary (SD), Junior High School (SMP), Senior High School (SMA), and Higher Education. The implementation of the policy aims to ensure the fulfillment of the rights of students to obtain educational services, protect
education unit residents from the adverse effects of the spread and transmission of Covid-19 in education units and ensure the fulfillment of psychosocial support for educators, students, and parents. It forces a process of adaptation to the whole world of learning life. Studying and working from home should pay attention to a good level of productivity, achieve the right level of activity balance, and maintain a good level of physical and mental health (Birimoglu Okuyan & Begen, 2022).

The pandemic has changed the lives of homes and preschool programs, making it more challenging for parents and communities to provide an optimal learning experience for children. These changes are likely to have significant consequences for children's learning and development (Barnett & Jung, 2021; Stites et al., 2021). This phenomenon has created fear and anxiety worldwide, which has short-term and long-term implications for the psychosocial and mental health of children and adolescents (Singh et al., 2020). Fear of infection and possible job loss has stressed parents. Parents who can work from home face challenges at work and in providing caring child care (Deoni et al., 2021). Mother's anxiety during the Covid-19 pandemic is a vital determinant of early childhood development. It affects speech-language, sensory-motor, and socio-emotional development (Jeličić et al., 2021). They are required to regulate themselves socially and in their daily routines. They are also severely affected by sudden withdrawal from school, social life, and outdoor activities (de Figueiredo et al., 2021). Learning policies during the COVID-19 pandemic require educators, students, and parents to adapt quickly to the online learning environment and to develop innovative ways to exchange information and provide remote support (Sim et al., 2021). This condition can increase the learning gap between children from wealthy families who can continue distance learning and children from the poor who will be left behind (UNICEF, 2020).

Even though the Covid-19 epidemic demands a policy of limiting learning activities, the government must still pay attention to health development goals to achieve optimal health degrees for all residents in Indonesia. One of the target population groups for the health development program is children aged 5-6 years, the preschool category. Childhood is a unique and special period in the life of every human being. This period is the foundation for forming health and personality. Failure at the level of the child period will have an impact on the success of his life in the future (Matluba, 2021). Social development is one of the most valuable aspects of this period. It should be noted that the psychological readiness of a school child depends in many ways on the situation. The number of preschool children (5-6 years) is 3.57% of the total population of Indonesia. Provinces with the highest number of preschool children are West Java 0.65%, East Java 0.43%, and Central Java 0.04% (Kemenkes RI, 2020). Indicators of the success of fostering child growth and development are not only increasing the growth and nutritional status of children but also aspects of development. Proper stimulation will stimulate the development of movement, speech/language, social and independence skills so that they take place optimally according to the child's age (Kemenkes RI, 2020)

Preschool children aged 5-6 years who are at the kindergarten education level need attention because they are considered a critical age that cannot be ignored by parents and teachers regarding their social development (Ölçer & Aytar, 2014). Policies at the beginning of the pandemic resulted in reduced children's physical activity, increased screen time, sleep duration, and decreased sleep quality. Any significant impact on preschool children should be noted (Aguilar-Farias et al., 2021). The BDR policy is suspected to make children get limited stimulation from the teacher. The method of implementing online BDR is distance learning in a network by gadgets or laptops through several portals and online learning applications. When offline BDR is distance learning outside the network using television, radio, self-study modules, worksheets, printed teaching materials, teaching aids, and learning media from various objects around the environment. Stimulation of partnership should be built between parents, community, and teachers. Research shows that 40% of preschool children in kindergarten are vulnerable to social develop-
ment problems (McDonald et al., 2018). The inhibition of aspects of preschool children's social development must be considered because it is a vital predictor of school readiness and subsequent success (Biermann et al., 2020; Mayar, 2013). The delay in aspects of social development of preschool children harms behavior when entering school age which is indicated by poor social function abilities and academic difficulties, and also affects language delay disorders. Thus requires appropriate intervention through family support and the surrounding environment (Mayar, 2013; McDonald et al., 2018).

Based on the description above, the researcher intends to know the implementation of BDR as a determinant of social development problems for preschoolers (5-6 years), which need to be anticipated as early as possible through early detection of social development using the Denver Development Screening Test (DDST) II. This research is expected to identify and anticipate the phenomenon of child development problems that are suspected to occur in the future so that prevention and solutions can be carried out earlier.

**Method**

This study used observational analysis with a cross-sectional design. The type of data collected in this study is primary data directly taken or obtained from respondents by using a questionnaire. The sampling technique used consecutive sampling in several areas in Central Java Province. Namely Semarang City, Kendal, Grobogan, and Blora Regency. In consecutive sampling, subjects who met the criteria were included in the study to meet the minimum sample size. The criteria are parents who have preschool children (5-6 years). Determination of sample size using the formula based on identical research on child development, with a P1 value of 0.66 and a P2 value of 0.38. The sample size obtained in this study amounted to 113 respondents. The data collection instrument in this study was a structured questionnaire for the variables of BDR implementation and questions on the Denver Development Screening Test (DDST) II questionnaire for the variables of children's social development. DDST II was developed as an assessment tool widely used as a screening test for delays in four developmental aspects. Namely social, fine motor skills, gross motor skills, and language. The examination produced by Denver II is not a substitute for a diagnostic evaluation but is more about comparing a child's developmental abilities with other children of the same age. Denver II is used to detect children at risk of developmental disorders and assess their age-appropriate developmental level for signs of developmental delays and healthy children (Ga & Kwon, 2011; Shahshahani et al., 2011; Srinithiwat & Ularntinon, 2014). Data analysis in this study is non-parametric. It uses the chi-square test to see the relationship between two categorical variables. The significance level in the study was 95%, which was accompanied by the calculation of the Prevalence Rate (PR) 95% CI value to assess the magnitude of the influence of the determinant on the incidence of children's social development. This research has complied with the ethical principles of the Health Research Ethics Commission (KEPK) Semarang State University, number 118/KEPK/EC/2021.

**Result and Discussion**

The respondents of this study were 113 children aged 5-6 years who live in Semarang City, Blora Regency, Kendal Regency, and Grobogan Regency. The statistical test results are presented in bivariable and multivariable analysis. The variables of interest include the implementation of BDR, the Mother's Education, the Child's Gender, and the Child's Nutritional Status. The results of the bivariable analysis with a categorical scale showed that maternal education and gender were not related to the social development of children, with p-values of 0.071 (> 0.05) and 0.812 (> 0.05). However, the p-value of the BDR implementation variable is 0.012 (<0.05), and the p-value of the child's nutritional status variable is 0.044 (<0.05). So there is a relationship between the implementation of BDR and the social development of children. And between the nutritional status and the child's social development. BDR related to children's social development shows that during the implementation of BDR, parents have not been able to build positive, responsible
relationships with children, so the children are disturbed emotionally and socially. This condition is in line with research in India that social and emotional learning between children and parents requires a sense of understanding and can manage emotions, with the hope that it will have a positive impact that is full of empathy and responsibility (Nagaraj & Rajaraman, 2021). Parents who can control emotions affect interactions in children's cognitive, motor, and language development (Thomasgard & Metz, 2004). The nutritional status of children related to social development can be interpreted as an indirect impact of changes in the main sectors in the family economy, income, food system, and care services which are indirectly related to access and fulfillment of nutritious food, access to clean water, and sanitation (Ntambara & Chu, 2021).

Table 1. Characteristics of Research Respondents

<table>
<thead>
<tr>
<th>Variables</th>
<th>Suspects</th>
<th>Normal</th>
<th>Total</th>
<th>P-value</th>
<th>PR (CI 95%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Implementation of BDR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Online</td>
<td>54</td>
<td>93,1</td>
<td>43</td>
<td>78,2</td>
<td>97</td>
</tr>
<tr>
<td>- Offline</td>
<td>4</td>
<td>6,9</td>
<td>12</td>
<td>21,8</td>
<td>16</td>
</tr>
<tr>
<td>Mother's Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Low</td>
<td>51</td>
<td>87,9</td>
<td>40</td>
<td>72,7</td>
<td>91</td>
</tr>
<tr>
<td>- High</td>
<td>7</td>
<td>12,1</td>
<td>15</td>
<td>27,3</td>
<td>22</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Male</td>
<td>35</td>
<td>60,3</td>
<td>31</td>
<td>56,4</td>
<td>66</td>
</tr>
<tr>
<td>- Female</td>
<td>23</td>
<td>39,7</td>
<td>24</td>
<td>43,6</td>
<td>47</td>
</tr>
<tr>
<td>Child's Nutritional Status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Abnormal</td>
<td>28</td>
<td>48,3</td>
<td>13</td>
<td>23,6</td>
<td>41</td>
</tr>
<tr>
<td>- Normal</td>
<td>30</td>
<td>51,7</td>
<td>42</td>
<td>76,4</td>
<td>72</td>
</tr>
<tr>
<td>Total</td>
<td>58</td>
<td>51,3</td>
<td>55</td>
<td>48,7</td>
<td>113</td>
</tr>
</tbody>
</table>

Source: Primary Data, 2021

Multivariable analysis in this study was performed using a logistic regression test. Variables included in the multivariable analysis are those with a p-value <0.25 in the bivariable analysis. Those having a p-value <0.25 include the implementation of BDR, Child Nutrition Status, and Mother's Education. The results showed that the BDR implementation variable was not related to the social development of children, with a p-value of 0.052 (> 0.05). Meanwhile, the nutritional status variable remained related to the social development of children after considering other variables, with a p-value of 0.017 (<0.05). The mother's education variable is related to the child's social development after considering other variables, with a p-value of 0.044 (<0.05).

Table 2. Multivariable Analysis Results between BDR Implementation With social development

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>Wald</th>
<th>P-value</th>
<th>PR (CI 95%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementation of BDR</td>
<td>1,243</td>
<td>3,791</td>
<td>0,052</td>
<td>3,4 (0,992 – 12,110)</td>
</tr>
<tr>
<td>Child's Nutritional Status</td>
<td>1,018</td>
<td>5,678</td>
<td>0,017</td>
<td>2,77 (1,198 – 6,393)</td>
</tr>
<tr>
<td>Mother's Education</td>
<td>1,068</td>
<td>4,046</td>
<td>0,044</td>
<td>2,9 (1,028 – 8,235)</td>
</tr>
</tbody>
</table>

Source: Primary Data, 2021

The results obtained from the bivariable analysis showed that the implementation of BDR was related to the social development of children 5-6 years old with a p-value of 0.012 (<0.05). Children who carry out online BDR have a risk of 1.63 times experiencing suspected social development compared to children who have offline BDR. The implementation of online BDR will increase the duration of screen time (time spent watching screens) more than the international recommendation limit, where preschoolers are only allowed to watch screens and spend no more than 1 hour per day accompanied by parental supervision. Children
who watch screens for 2-3 hours per day are more likely to experience behavioral problems, developmental delays, and low vocabulary mastery. Especially if not accompanied by their parents. (John et al., 2021; McArthur et al., 2021).

The pandemic has transformed preschool learning programs and family life into a more challenging learning experience for children. These changes have significant consequences for children's learning and development (Barnett & Jung, 2021). The BDR policy resulted in a significant loss of important school learning opportunities for children (Barnett & Jung, 2021; Blanuša Trošelj et al., 2020). Children's participation in preschool programs has fallen sharply. Social interaction between teachers and students also seems to have decreased (Blanuša Trošelj et al., 2020). The situation shows that the BDR implementation does not only depend on preschool teachers but requires parental support and commitment in assisting the child's learning process (Barnett & Jung, 2021). A partnership between parents and schools in education programs is needed. The partnership is a strategy for dealing with social and education-based health problems (Sim et al., 2021). Even though in its implementation, online BDR is riskier for child development problems, the two choices of online and offline BDR require the role of parents in the following: 1) agree on a way to communicate with the school, 2) discuss inclusive learning plans with teachers according to conditions, 3) Prepare learning tools, 4) Ensure that students are ready to take part in learning, 5) Setting up a time to support the online learning process, 6) Encourage children to be active during the learning process, 7) Parents/guardians ensure that children fill out activity sheets as material for daily learning monitoring, 8) Collect photos of activity sheets and assignments every day, 9) Actively discuss with teachers regarding the challenges and obstacles faced, 10) during the online learning process, and 11) Ensure comfortable learning places and facilities. The results are in line with a similar study in Canada which stated that children who did not participate in informal play groups showed more tendencies to delay in socio-emotional competence than children who attended informal play groups (McDonald et al., 2018).

In addition to the BDR implementation, nutritional status is an aspect related to children's social development based on bivariable analysis with a p-value of 0.045 (<0.05). Children with abnormal nutrition status have a 2.22 times greater risk of experiencing suspected social development than children with normal nutritional status. Abnormal nutritional status is indicated by the measurement results in undernutrition or overnutrition. Food consumption patterns of preschoolers that do not meet their macro or micronutrient needs will affect their nutritional status. The existence of external factors in ensuring the consumption of diverse food sources to improve nutritional status, one of which is influenced by the mother's education and care (Modjadi et al., 2020). The problem of inappropriate sources of food in a pandemic situation has also occurred in the UK, where parents report that their children eat more snacks when less activity and screen time increases (Clarke et al., 2021).

Mothers as parents have a vital role in the development of children. Mothers must understand how to do early detection in children. The mother's educational history will determine how the pattern of parenting given. The comparison the percentage of respondents who experienced suspected social development from mothers with low education was 87.9%, while those from mothers with higher education were 12.1%. It shows a significant difference in the number of children who develop suspicion from mothers with low education was 87.9%, while those from mothers with higher education were 12.1%. It shows a significant difference in the number of children who develop suspicion from mothers with low education compared to children from mothers with high education. In line with research in Chile, children of uneducated mothers are thought to be exposed to harsh forms of parenting associated with the cognitive and social-emotional development of early childhood in Chile. The firmer the parenting pattern, the stronger the association with child development problems, especially at the age of 5 years. Children's exposure to parental aggression at home is associated with less verbal skills and more behavioral problems (Berthelon et al., 2020).

Especially in the situation of implementing learning policies during the pandemic. When parents have a big challenge in assisting the implementation of BDR, resulting in
mental pressure on mothers. Parenting patterns of depressed mothers can also affect children's social-emotional development, as research conducted in Canada on children <5 years (McDonald et al., 2018). By looking at the results of the multivariable analysis after considering the variables of maternal education and the implementation of BDR, it is not surprising that children with abnormal nutritional status have a 2.77 times greater risk of experiencing suspected social development compared to children with normal nutritional status. And children of mothers with low education have an increased risk of up to 2.9 times higher experiencing suspect social development compared to children of mothers with higher education. Mothers as parents have a vital role in the development of children. The mother's educational history will determine how the parenting will be. This condition must be considered through several programs to address parenting problems and nutritional needs that are not being met properly (DiGirolamo et al., 2020).

Developmental problems in children can be reduced by early detection and intervention through periodic screening for developmental delays during preschool age (Wijedasa, 2012). Countermeasures needed in tackling the problem of child development after the BDR implementation is through early detection of suspect development of all aspects in early childhood. The implementation of a comprehensive BDR policy in the territory of Indonesia certainly requires thorough detection as well. The involvement of health influencers is very much needed starting from the basic line of the community accompanied by health-trained cadres (health volunteers). Trained health volunteers have been shown to increase the detection rate of children with delayed child development (Fauzi et al., 2018). If the detection can be earlier, then the treatment can be done earlier, considering that developmental delays at an early age will be difficult to pursue at a later age level (Anggorowati et al., 2021).

Conclusion

Based on the analysis of the results and discussion, online BDR is a determinant of social development problems aged 5-6 years. The community and the government need to anticipate the expected impacts through a series of countermeasures. Early detection of child development problems must be carried out by the government by involving trained people in the health sector. Parents must be fully involved in assisting the implementation of online BDR. Screen time management needs to be implemented by parents so that the duration of screen exposure does not exceed safety standards that can affect children's health.

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