

Early detection of child growth and development and developmental screening training at TK ABA Pringwulung, Sleman

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Abstract

Growth and development problems in preschool children are often undetected early, which may lead to persistent developmental disorders. This community service activity aimed to improve teachers' knowledge and skills in conducting early detection of child development using the Developmental Pre-Screening Questionnaire (KPSP). The method included coordination with the school, teacher training, student growth and development assessment through anthropometric measurements and KPSP, as well as evaluation and follow-up through a parenting class with parents. Results showed that 32 students were examined, with 30 found to be within the normal developmental stage and 2 requiring further examination. The training was attended by 12 teachers, showing increased understanding based on pretest and posttest scores. This activity indicates that KPSP training is effective in enhancing teachers' competence and encourages parental involvement in child development stimulation. Therefore, this community service activity can serve as a model for empowering teachers and parents to support optimal preschool child development.

Keywords: early detection; child development; kpsp; teacher training; parenting class

1. Introduction

Children are the nation's next generation whose growth and developmental quality must be nurtured from an early age. In Indonesia, developmental problems among preschool-aged children remain relatively high, including growth delays, speech disorders, and behavioral issues that often go undetected. The first five years of life represent the *golden age*, a critical period in which optimal growth and development strongly influence children's future cognitive, emotional, and social abilities (RI, 2007).

Several previous studies have emphasized the importance of improving teachers' competence in early detection of child development. Structured training using the *Kuesioner Pra Skrining Perkembangan* (KPSP) significantly improved teachers' knowledge and skills, which in turn enhanced the accuracy of identifying developmental problems among young children (Yuniwati et al., 2020). Similarly, research by Lestari and Fauziah (2021) reinforced these findings by reporting that KPSP training interventions for kindergarten teachers were effective in improving their understanding, which is a crucial initial step to ensure optimal early detection (A. Lestari & Fauziah, 2021).

Beyond teacher training, collaboration with parents is also an essential factor in the success of early detection programs. Continuous stimulation at home greatly depends on parents' active involvement; therefore, synergistic partnerships between teachers and parents are needed (Santoso & Hidayat, 2022). Furthermore, an analysis by Suryani and Ningsih (2023) identified several barriers in implementing the SDIDTK program at early childhood education institutions, including limited teacher training and inadequate facilities. These findings underscore the need for community service programs that focus on strengthening teachers' capacity and providing school support in monitoring child development (Suryani & Ningsih, 2023a).

Therefore, early detection of growth and development is highly important to identify possible deviations as soon as possible, enabling timely interventions. The Indonesian Ministry of Health has introduced the Stimulation, Detection, and Early Intervention of Child Development (SDIDTK) program as a preventive effort. One of the primary instruments used is the KPSP, which has been proven effective in assessing children's developmental milestones across multiple domains such as motor, language, and social independence (Irnawati, 2007). Nevertheless, public awareness and implementation of developmental screening in educational institutions remain limited.

TK ABA Pringwulung, Sleman, as a community service partner, had never received structured training on monitoring child growth and development. Teachers were mainly focused on learning

activities and motor stimulation but lacked sufficient competence to conduct systematic developmental screening. Meanwhile, several children were suspected of experiencing developmental delays, such as speech delay and hyperactivity, yet both teachers and parents had limited knowledge on how to address these issues. This situation highlights the urgency of empowering teachers and parents to actively participate in early detection and stimulation of children's development, both at school and at home.

This community service program was therefore designed to provide training for teachers on early detection of growth and development using KPSP, as well as to conduct developmental assessments of students. The objectives of this activity were: (1) to improve teachers' knowledge and skills in developmental monitoring, (2) to detect possible developmental deviations among preschool children, and (3) to engage parents in follow-up stimulation strategies at home. Strengthening teacher competence through this program is expected to support early intervention, prevent long-term developmental problems, and contribute to the government's efforts in optimizing children's growth and development.

2. Method

This community service program was carried out using a participatory approach, involving collaboration between the community service team, teachers, parents, and the school management. The activities were implemented in three systematic stages: preparation, implementation, and evaluation.

The preparation stage involved several activities designed to ensure the program was aligned with the needs of the partner institution. First, a site observation was conducted to identify the learning environment, facilities, and current practices related to child development monitoring at TK ABA Pringwulung. Second, coordination meetings were held with the school principal and teaching staff to obtain approval, identify target participants, and schedule the activities. Third, training materials were developed, which included modules on early detection of child growth and development, introduction to the KPSP instrument, and guidelines for conducting developmental screening. The materials were prepared in simple and practical formats to accommodate the varying educational backgrounds of the teachers.

The implementation stage was divided into three major components. **Teacher Training:** A total of 12 teachers participated in the training sessions. The sessions were delivered using interactive methods such as lectures, group discussions, and demonstrations. The lectures provided theoretical knowledge about child development and the importance of early detection. Group discussions encouraged teachers to share experiences, challenges, and strategies in handling children with suspected developmental delays. Demonstrations were conducted to familiarize teachers with the use of the KPSP and anthropometric measurements, including weight, height, and head circumference.

Developmental Screening of Students: Developmental assessments were conducted for 32 students at TK ABA Pringwulung. The screening process included physical growth measurements (weight, height, and head circumference) and developmental assessments using the KPSP. Each child was observed and assessed individually with the assistance of both the community service team and teachers. The results showed that 30 children were within the normal developmental range, while 2 children fell into the "doubtful" category, indicating the need for further clinical evaluation. These findings provided real evidence of the importance of systematic screening in educational institutions.

Presentation of Results: Following the screening, the results were shared with teachers and parents. The feedback session allowed teachers to better understand the developmental profiles of their students and provided parents with information about their child's current growth and developmental status. Recommendations for further follow-up and home-based stimulation were also communicated to parents, particularly for children who showed signs of possible developmental delays.

The evaluation stage was conducted through a parenting class involving both teachers and parents. During this session, the results of the developmental screenings were discussed, and strategies for home-based stimulation were introduced. Parents were guided on simple activities they could implement at home to support their child's motor, language, and social development. The parenting class also served as a forum for parents to share experiences and ask questions regarding developmental challenges. In addition, teachers were encouraged to monitor children's developmental progress continuously and to maintain communication with parents regarding any concerns.

Throughout the program, the school provided strong institutional support, ensuring the availability of facilities and encouraging active participation of teachers and parents. This participatory model fostered collaboration and built shared responsibility in monitoring and supporting child development.

3. Results and Discussion

The community service program at TK ABA Pringwulung was a multifaceted initiative designed to improve the early detection of child development. It was implemented in three key phases: teacher training, student developmental screening, and parental monitoring through parenting classes. The program's outcomes demonstrated a positive impact on all three groups: teachers, students, and parents. The success of this approach is supported by various national and international studies that highlight the importance of early detection and collaborative efforts in early childhood education.

The first stage was teacher training on early detection of child development using the *Kuesioner Pra Skrining Perkembangan* (KPSP). The training was attended by 12 teachers who served as homeroom teachers and educators at TK ABA Pringwulung. Based on the evaluation results from the pretest and posttest, there was an increase in teachers' knowledge and skills in monitoring child development. This finding is consistent with Yuniwati, Wulandari, and Puspitasari (2020), who reported that structured training significantly enhances teachers' competence in conducting early detection of child development, enabling them to better identify potential developmental deviations at an early stage. This improvement is crucial because teachers are the closest figures to children in the school context and are therefore in a strategic position to perform regular monitoring (Yuniwati et al., 2020). Similarly, a study by Priyanti et al. (2021) in Indonesia found that KPSP training not only improved teachers' knowledge but also increased their confidence in identifying developmental delays, reinforcing their role as a critical first line of defense in a child's educational journey (Priyanti et al., 2021). Riyanto and Susilo (2022) further confirmed this, noting that consistent, skills-based training can empower educators to better utilize screening tools, thereby ensuring the early identification of potential issues (Riyanto & Susilo, 2022).

A study developed an expert system based on KPSP to detect developmental deviations in children aged 0–24 months using the certainty factor method. The trial results demonstrated that the system achieved 100% accuracy across 75 tests conducted by experts, suggesting that this model has the potential to be used as a digital innovation to support healthcare professionals and parents in early developmental screening (Uyun, S., Wiryawan, Y., Gumilang, R., & Wibowo, 2022)

Another study emphasized optimizing the implementation of the Stimulation, Early Detection, and Early Intervention of Child Development (SDIDTK) program at the village midwife level. Through KPSP-based training, there was a significant increase in midwives' knowledge, with the average score improving from 69.08 to 96.89 after the intervention. These findings strengthen the evidence that KPSP is effective not only as a detection tool but also as an educational medium for healthcare workers in early childhood developmental screening (Katili, A., & Irwan, 2023).

From the national context investigated teachers' knowledge and skills in using KPSP as an early childhood developmental screening tool. The results indicated that although some teachers already understood the concept of KPSP, their practical skills still required improvement through continuous training. This study highlights the importance of collaboration between healthcare professionals and early childhood educators in the implementation of KPSP (Yuniwati, N., Wulandari, R., & Puspitasari, 2020)

Meanwhile, research by Suryani & Ningsih (2023) analyzed the factors influencing the implementation of SDIDTK in early childhood education institutions. Their findings revealed that school policy support, parental involvement, and teacher competence were the main determinants of successful KPSP implementation. Barriers identified included limited teacher time and a lack of supporting resources. This study illustrates that the success of KPSP depends not only on the tool itself but also on a supportive educational and healthcare ecosystem (Suryani & Ningsih, 2023a).

The second stage was the developmental screening of children, which included the use of the KPSP, anthropometric measurements (weight, height, and head circumference), and behavioral observation. Of the 32 students assessed, 30 were found to be within the normal developmental range, while 2 were categorized as "doubtful" and recommended for further clinical evaluation. These results provide a real overview of the developmental conditions of children in the school. The presence of children with

“doubtful” results underscores the importance of early detection, as without timely intervention these conditions could potentially develop into more serious problems in the future. This aligns with the Ministry of Health’s guideline (RI, 2007), which emphasizes that SDIDTK activities should be conducted at least twice a year for preschool children to identify growth and developmental deviations as early as possible.

An international study by Lee and Park (2023) supports this, showing that consistent, multi-faceted screening programs are highly effective in identifying at-risk children in preschool settings, which can lead to better long-term developmental outcomes (Lee & Park, 2023). Pramono and Wibowo (2021) also highlighted that integrating anthropometric measurements with developmental screening provides a more holistic view of a child’s health and development, allowing for more precise interventions (Pramono & Wibowo, 2021).

The third stage was monitoring and parenting classes, which actively involved parents. During these sessions, teachers and the service team presented the results of the developmental screening and provided education on strategies for stimulating child development at home. Parental involvement in stimulation is highly important because school-based interventions must be consistently continued in the home environment. The sustainability of stimulation activities depends on parents’ active participation, thereby requiring strong collaboration between teachers and parents (Santoso & Hidayat, 2022).

Fauzi et al. (2020) found that parenting classes focused on developmental stimulation significantly improved parents' knowledge and their active participation in their children's learning, creating a stronger support system (R. Lestari & Fauziah, 2021). Aulia and Rahmawati (2022) further supported this, reporting that a strong partnership between teachers and parents is a major factor in the success of early childhood intervention programs, as it ensures that support is provided consistently across all environments (Aulia & Rahmawati, 2022). The high level of enthusiasm from all participants further suggests that this program was highly relevant to the community's needs.

In addition, the high enthusiasm shown by teachers, students, and parents throughout the program reflected that this activity was relevant to the community’s needs. Teachers reported gaining new skills, students benefited from health and developmental assessments, and parents acquired knowledge on how to support their child’s development at home. These results are consistent with the findings of Lestari and Fauziah (2021), who showed that KPSP training interventions effectively improved teachers’ understanding, which in turn contributed to the prevention of developmental delays among children (A. Lestari & Fauziah, 2021).

Nevertheless, several challenges were also encountered during the program, such as children’s emotional conditions that were sometimes unstable during assessments and the limited time teachers had to conduct monitoring due to their teaching responsibilities. This is in line with the findings of Suryani and Ningsih (2023), who noted that limited human resources and infrastructure are among the main obstacles in implementing the SDIDTK program in schools. Therefore, continuous collaboration between schools, parents, and health professionals is required to ensure sustainable child development monitoring (Suryani & Ningsih, 2023b).

Sari and Widiyanti (2021) echoed this, stating that schools often lack the necessary funding and support staff to carry out comprehensive, ongoing screening programs (Sari & Widiyanti, 2021). Kim and Choi (2024), in their review of international early childhood programs, suggested that a key to overcoming these barriers is to build sustainable, long-term collaborations between schools, parents, and healthcare professionals, which can help distribute the workload and ensure that all children receive the support they need (Kim & Choi, 2024).

Overall, the results of this community service program emphasize that KPSP training and parental involvement can serve as effective strategies in supporting the growth and development of preschool children. By enhancing teachers’ capacity and building partnerships with parents, early detection efforts can be carried out more comprehensively and sustainably. This program may serve as a model to be applied in other early childhood education institutions, thereby minimizing developmental problems from an early stage (Santoso & Hidayat, 2022).

4. Conclusion

The community service program at TK ABA Pringwulung successfully improved teachers' competence in conducting early detection of child development using the *Kuesioner Pra Skrining Perkembangan* (KPSP) and actively engaged parents in supporting developmental stimulation at home. The results showed that most children were developing according to their age, although some still required further monitoring. This program can serve as a model for empowering teachers and parents in promoting optimal growth and development of preschool children.

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