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Local Government Roles in School-Based Hypertension Prevention Among Adolescents in Tasikmalaya City

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Abstract: Adolescent hypertension has become a global public health concern due to its potential to increase the risk of cardiovascular diseases in adulthood. Early prevention efforts through school-based initiatives are essential; however, policy implementation at the local level continues to face significant challenges. This study aims to analyze the role of the Tasikmalaya City local government in school-based hypertension prevention among adolescents. A qualitative case study design was employed, with data collected through in-depth interviews, focus group discussions, observations, and document reviews. Participants consisted of officials from the Health and Education Departments, school principals, teachers, healthcare workers from community health centers, and student representatives. Data were analyzed thematically using NVivo software for coding. The findings show that the local government has implemented several programs, including non-communicable disease screening, Posyandu Remaja (Youth Integrated Health Post), Usaha Kesehatan Sekolah (School Health Unit/UKS), and Promosi Kesehatan Reproduksi Remaja (Adolescent Reproductive Health Promotion). Key barriers identified include a limited number of healthcare workers, inadequate facilities, budget constraints, and uneven program outreach. Nevertheless, opportunities for improvement were observed through the planned development of a Mayor's Regulation, strengthened intersectoral coordination, and the empowerment of school health cadres. This study concludes that while the local government has taken steps toward adolescent hypertension prevention, efforts remain suboptimal and require enhanced local policies, resource allocation, and multisector collaboration to improve program effectiveness. Overall, the study contributes to strengthening evidence on the role of local governments in implementing adolescent health policies at the school level in Indonesia.

Keywords: adolescent hypertension; local government; schools; health policy; non-communicable disease prevention.

1. Introduction

Hypertension is a global health issue that not only affects adults but is also increasingly found in adolescents. The World Health Organization (WHO) reports that the prevalence of hypertension in adolescents has significantly increased over the past two decades and has become a major risk factor for cardiovascular diseases in adulthood (Rudan et al., 2025). This condition is known as the "silent killer" because it often goes undetected early, while its impact can reduce the quality of life of the younger generation (Nature, 2023).

In Indonesia, data from the 2018 Basic Health Research (Riskesdas) shows an increase in cases of hypertension among younger age groups, including adolescents (Wijayati et al., 2024). Sedentary lifestyles, fast food consumption, academic stress, and low physical activity are the dominant factors triggering the risk of hypertension in school-age groups. International studies also reveal additional risk factors such as obesity, family history, and the psychosocial conditions of adolescents (Setiawan, 2025).

Schools are seen as strategic arenas for promotive and preventive interventions because they are the primary environment for adolescents (Kayuningtyas & Ismayani, 2020). School-based programs, such as Health Promoting Schools, have proven effective in reducing hypertension risk factors through the integration of health education, habitual physical activity, and nutritional supervision (Marpatmawati et al., 2025). However, the effectiveness of these programs is highly influenced by cross-sectoral involvement and the consistency of local policies. In several developed countries, the implementation of comprehensive school health policies has had a real impact on adolescent health. Conversely, in Indonesia, various studies have found a gap between national policies and local implementation, thus the effectiveness of hypertension prevention in adolescents remains debatable (Wijayati et al., 2024).

Differences in research findings also highlight controversies in the effectiveness of prevention approaches. Some studies emphasize the importance of school-based health education, while others argue that without local government support and adequate resource allocation, school health programs cannot run optimally. These differing findings underscore the importance of critically examining the role of local government in the local context (Kayuningtyas & Ismayani, 2020).

Tasikmalaya City, as one of the regions with a significant adolescent population, faces major challenges in controlling non-communicable diseases (NCDs). The local government has implemented several programs, such as Youth Posyandu (Posrem), NCD screening, and School Health Efforts (UKS), but there are still barriers in implementation, ranging from limited healthcare human resources, inadequate facilities, to uneven socialization (Kayuningtyas & Ismayani, 2020).

Based on this background, this study aims to analyze the role of the local government of Tasikmalaya City in the prevention of hypertension in adolescents based on schools, focusing on the policies that have been implemented, the barriers faced, and the opportunities for improving implementation. The study's results are expected to provide strategic recommendations for strengthening school-based adolescent health policies at the local level. However, there is limited empirical evidence on how local governments translate national NCD policies into school-based prevention initiatives. Therefore, this study aims to answer: (1) How does the Tasikmalaya City government implement school-based hypertension prevention? (2) What are the barriers and opportunities in the process? (Wijayati et al., 2024; Marpatmawati et al., 2025).

2. Materials and Methods

This study uses a qualitative design with a case study approach to explore in-depth the role of the local government of Tasikmalaya City in the prevention of school-based hypertension in

adolescents. The choice of this design is based on the need to comprehensively understand the phenomenon from various stakeholder perspectives. The research was conducted in Tasikmalaya City, involving junior and senior high schools, Puskesmas Kawalu, Mangkubumi, and Kahuripan, as well as related government institutions such as the Health Office and the Education Office of Region XII. Participants in the study included local government officials, healthcare workers, school principals, teachers, and representatives from students and student organizations. The research subjects were selected using purposive sampling techniques, considering their direct involvement in adolescent hypertension prevention programs (Rashid, 2019).

Data were collected through in-depth interviews, focus group discussions (FGDs), observations, and document analysis of policies and program reports. Semi-structured interviews were used to explore participants' experiences, views, and evaluations regarding the implementation of adolescent health programs. FGDs involved cross-sector participants, including both education and health sectors, to obtain a collaborative perspective across institutions. Additionally, field observations were conducted to document actual activities in schools, such as the implementation of Youth Posyandu (Posrem), School Health Business (UKS), nutritional activities, and health screenings. Secondary data were obtained from official documents from the Ministry of Health, Riskesdas, Health Department reports, and relevant literature (Allsop et al., 2022).

Data analysis was carried out descriptively and qualitatively following Creswell's stages, starting with the transcription of interview and FGD results, reading through the entire data set to obtain an overall understanding, then coding to identify key themes. This coding process generated categories which were subsequently organized into themes, such as policy implementation, government role, barriers, and opportunities for improvement. To maintain data traceability, analysis was conducted with the assistance of NVivo software (Allsop et al., 2022). Data validity was ensured through source triangulation, member checking with participants, and systematic documentation of the research process (audit trail) (Allsop et al., 2022).

All twelve participants in this study were provided with an explanation of the research objectives and gave their consent through informed consent. The principles of anonymity and confidentiality were upheld by not disclosing participants' identities in the research report. All interview transcripts, research instruments, and coding results were stored in digital format and can be accessed for academic purposes while maintaining the confidentiality of the respondents. There were no limitations on data availability, except for participant privacy.

3. Results and Discussion

3.1 Policy Implementation

The results of the study show that the local government of Tasikmalaya City has implemented several school-based hypertension prevention policies, including non-communicable disease (NCD) screening for the 15–59 age group, Youth Posyandu (Posrem), the School Health Business (UKS) program, and Adolescent Reproductive Health Promotion (PKRS). As stated by one of the Health Department officials: “We have conducted NCD screening in several schools, but not all schools have adequate facilities to continue the program to its fullest.” This indicates that while the program has been implemented, limited facilities and human resources remain the main barriers to its successful execution.

According to policy implementation theory, the implementation of policies is often disrupted by factors such as weak intersectoral coordination and limited resources (Hill & Hupe, 2022; Aivalli et al., 2025). Although national policies are clear, their implementation at the local level still faces major challenges, particularly in terms of intersectoral coordination between the Health Department, the Education Department, and the schools. As explained by Aivalli et al. (2025), power

dynamics and unclear division of responsibilities between sectors can hinder the success of school-based health programs. Moreover, Mirzania et al. (2022) show that a lack of adequate human resources, as well as constraints in fund allocation, are significant barriers in the implementation of public policies, especially in countries with limited governmental capacity.

These findings are also in line with the study by Radandima et al. (2020), which emphasizes the importance of intersectoral coordination in the success of school-based health programs. They state that without full involvement from the relevant sectors, health programs in schools will struggle to be sustainable.

3.2 Implementation Barriers

Various barriers were also found in the implementation of the program, including the limited number of healthcare workers, inadequate facilities, and budget constraints. One of the teachers involved in the UKS (School Health Business) activities said: "We want to hold regular sports activities at school, but the lack of equipment and adequate space makes it difficult for us." This indicates that limited facilities and infrastructure affect the smooth running of the program (Kartini & Sri Sumarmi, 2023). The shortage of healthcare workers is also a significant barrier. As found in the study by Widodo (2020), the dual workload experienced by healthcare workers in the regions often limits their time and energy to carry out promotive activities such as those conducted in schools. In addition, the theory of multi-sectoral governance can also be used to analyze this barrier. Coordination between the education, health, and community sectors is still not optimal, which hinders the achievement of hypertension prevention goals among adolescents. As stated by Sulastri & Wijaya (2021), the success of health policy implementation at the local level highly depends on good coordination among the relevant sectors. More recent studies also show that the lack of cross-sectoral governance collaboration and low infrastructure capacity are major barriers in school health programs in Indonesia (Warnaini et al., 2025; Sasmito et al., 2025).

3.3 The Role of Government in Preventing Adolescent Hypertension

The role of the local government, although significant, still needs to be strengthened. The city of Tasikmalaya has provided screening tools and other supporting facilities; however, budget constraints and limited human resources hinder the full implementation of the program. According to an official from the Tasikmalaya City Education Office: "The local government has made efforts to support the health programs in schools, but the limited budget is a major barrier to further development." This is consistent with the findings of Kayuningtyas & Ismayani (2020), who state that school-based health policies will struggle to develop without adequate funding to support promotive and preventive activities in schools.

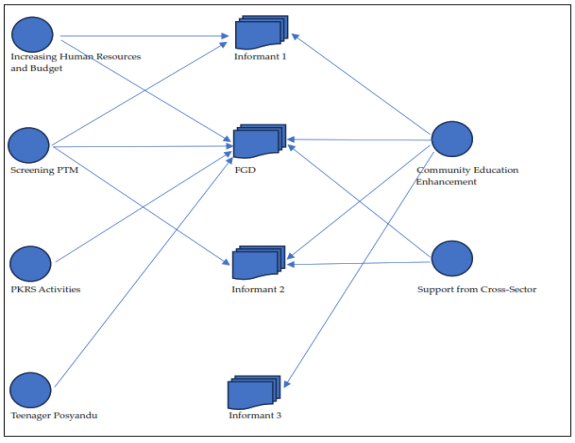

Figure 1. The role of government in preventing adolescent hypertension

The local government acts as a facilitator in connecting various parties, but more collaboration and commitment from other sectors are needed for the program to run more effectively. Policy implementation theory also highlights that intersectoral collaboration is crucial to accelerating the achievement of policy goals. Recent studies show that strong cross-sector governance and proper fund allocation directly impact the effectiveness of school health programs (Warnaini et al., 2025; Sasmito et al., 2025).

3.4 Opportunities for Implementation Improvement

Opportunities for improvement in program implementation were found, including the drafting of a mayoral regulation that clearly outlines the roles and responsibilities of the relevant sectors, as well as enhancing human resource capacity through training for healthcare workers and school cadres. One school principal stated: "If there were more training for teachers and healthcare workers, we could be more effective in implementing this program." Community involvement and support from schools are also important assets to strengthen the sustainability of the program.

These findings align with the study by Radandima et al. (2020), which emphasizes the importance of community participation and school empowerment in maintaining the sustainability of school-based health programs. Additionally, recent research shows that the use of digital technology can be a solution to monitor adolescent health more efficiently — for example, through mobile apps or digital educational modules, as described by Heinert S.W. et al. (2024) and Prafiantini E. et al. (2025). This technology allows for real-time monitoring, better data mobilization, and increased adolescent engagement, thereby enhancing the potential for program success..

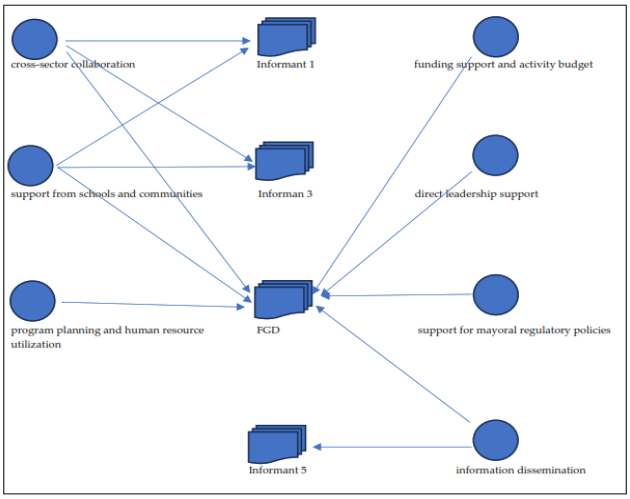

Figure 2. Opportunities for improving policy implementation

3.5 Implications and Directions for Further Research

The results of this study indicate that the role of the local government in adolescent hypertension prevention is ongoing, but still requires strengthening of regulations, resources, and collaboration. These findings have strategic implications for policymakers to design more targeted and sustainable hypertension prevention programs. Moving forward, further research could focus on evaluating the effectiveness of specific programs, such as Youth Posyandu (Posrem) or School Health Business (UKS), as well as utilizing digital technology in monitoring adolescent health, thereby providing more comprehensive data to support evidence-based policies.

Table 1. Summary of Research Results per Theme

Theme	Key Findings
Policy Implementation	NCD Screening for ages 15–59
	Youth Integrated Health Post (Posrem)
	UKS Program (health screening, immunization, counseling)
	PKRS (Adolescent Reproductive Health Promotion)
	Nutritional activities, exercise, and iron supplementation
Implementation Barriers	Limited health workers
	Lack of infrastructure
	Limited budget
	Uneven program outreach
	Low public understanding of healthy lifestyles
Role of Government	Facilitation of screening and education tools
	Cross-sector support with the Department of Education
	Involvement of teachers/educators in healthy lifestyle education
Improvement Opportunities	Drafting a Mayoral Regulation on Hypertension Prevention
	Improving Cross-Sector Coordination
	Empowering School Health Cadres
	Community and School Support for Program Sustainability

4. Conclusions

This study shows that the local government of Tasikmalaya City has implemented several policies in the prevention of school-based adolescent hypertension, such as non-communicable disease (NCD) screening, Youth Posyandu (Posrem), the School Health Business (UKS) program, and health promotion activities through Adolescent Reproductive Health Promotion (PKRS). Although these policies have been implemented, challenges such as limited healthcare workers, minimal facilities and infrastructure, and limited budgets still hinder the effectiveness of the program's implementation.

This study enriches the literature on school-based non-communicable disease prevention by highlighting the gap between national policies and their implementation at the local level. Therefore, it is important to strengthen local policies by developing more detailed and specific Mayor Regulations, as well as improving cross-sector coordination between local governments, educational institutions, and the community. Empowering school health cadres is also a crucial step to expand the program's reach and ensure its sustainability.

Practical recommendations to improve program implementation include: (1) the development of more detailed regulations, such as a Mayor's Regulation that clearly outlines the roles and responsibilities of each sector in adolescent hypertension prevention, (2) strengthening the capacity of human resources (HR) in health at the school level through training and incentives for healthcare workers involved in this program, (3) increasing the allocation of budget for facilities and infrastructure that support promotive activities, such as sports facilities and blood pressure measurement equipment in schools, and (4) utilizing digital technology to monitor adolescent health in real-time and provide more accurate data for evidence-based policy improvements.

This study also recommends conducting quantitative evaluations of the programs that have been implemented, as well as using digital technology as a tool for monitoring and evaluating adolescent health in schools. With these steps, it is hoped that adolescent hypertension prevention can become more effective and sustainable in the future..

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