



# The impact of adolescent marriage on child stunting: Socio-cultural dynamics and policy implications in rural communities

Basir<sup>1,\*</sup>, Sahrul Aril<sup>2</sup>, Nasywa Salsabila Nasaruddin<sup>3</sup>, Aliyah Meilidya<sup>4</sup>, Risdy Devina Ayu Setiawan<sup>5</sup>, Nur Rahma Rahman<sup>3</sup>, Rini<sup>6</sup>, A. Filsa Salzabila Ramadhani<sup>3</sup>

<sup>1</sup> Environmental Health Department, Public Health Faculty, Universitas Hasanuddin, Makassar City, South Sulawesi 90245, Indonesia;

<sup>2</sup> Health Promotion and Behaviour Science Department, Public Health Faculty, Universitas Hasanuddin, Makassar City, South Sulawesi 90245, Indonesia;

<sup>3</sup> Occupational and Safety Health Department, Public Health Faculty, Universitas Hasanuddin, Makassar City, South Sulawesi 90245, Indonesia;

<sup>4</sup> Biostatistics Department, Public Health Faculty, Universitas Hasanuddin, Makassar City, South Sulawesi 90245, Indonesia;

<sup>5</sup> Epidemiology Department, Public Health Faculty, Universitas Hasanuddin, Makassar City, South Sulawesi 90245, Indonesia;

<sup>6</sup> Health Administration and Policy, Public Health Faculty, Universitas Hasanuddin, Makassar City, South Sulawesi 90245, Indonesia.

\*Correspondence: baz.rasyid@gmail.com

Received Date: January 24, 2025

Revised Date: February 28, 2025

Accepted Date: February 28, 2025

## ABSTRACT

**Background:** Early marriage often involves partners who are socially and emotionally immature, leading to significant negative consequences. These consequences include an increased risk of domestic violence, divorce, poverty, stunting in children, and cultural deviation. The phenomenon impacts the quality of life of individuals, family welfare, and societal development. **Method:** This descriptive study was conducted with 114 participants, who were surveyed using a random sampling technique. The survey targeted 101 households in Pappalluang Village. Data were collected through interviews to gather insights on the prevalence of early marriage in the village. **Findings:** The study revealed that early marriage is highly prevalent among teenagers in Pappalluang Village. The main factors contributing to early marriages include family pressure, economic challenges, a desire to preserve the family's reputation, and local community traditions. **Conclusion:** Early marriage in Pappalluang Village is significantly influenced by social and cultural factors. Addressing the issues of family pressure, economic struggles, and traditions is crucial in reducing early marriages and their negative consequences on individuals, families, and the broader community. **Novelty/Originality of this article:** This study highlights the specific socio-cultural dynamics of early marriage in Pappalluang Village, offering unique insights into the interplay between family pressure, economic conditions, and local traditions. It provides a localized perspective that can inform targeted interventions in similar communities.

**KEYWORDS:** early marriage; stunting; teenagers; parenting patterns.

## 1. Introduction

Stunting is a condition of growth failure that hinders a child's physical and cognitive development, which is defined by the Ministry of Health of the Republic of Indonesia in the

### Cite This Article:

Basir, Aril, S., Nasaruddin, N. S., Meilidya, A., Setiawan, R. D. A., Rahman, N. R., ... & Ramadhani, A. F. S. (2025). The impact of adolescent marriage on child stunting: Socio-cultural dynamics and policy implications in rural communities. *EcoVision: Journal of Environmental Solutions*, 2(1), 15–30. <https://doi.org/10.61511/evojes.v2i1.2025.1753>

**Copyright:** © 2025 by the authors. This article is distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).



Indonesian Health Survey as a health problem that arises due to a long-lasting lack of nutrition during the first 1000 days of life. This period starts from pregnancy until the child is 24 months old. The risk of stunting increases if there is an imbalance in the child's growth and development process, which can be caused by various factors such as malnutrition, recurrent infections, and lack of psychosocial stimulation. Stunting is often reflected in measurements of a child's height for age which is more than two standard deviations below the median child growth standard (WHO, 1995). This shows that even though these children appear normal in other physical developments, they experience delays in height growth, which risks affecting long-term health (Akbar et al., 2023).

The competitiveness of Indonesia as a whole and the caliber of its human resources are seriously threatened by stunting. In addition to affecting physical growth failure and short height, this disorder also impacts brain development, which can have long-term effects on an individual's cognitive capacities, academic performance, productivity, and creativity during their working years (Clemente-Suárez et al., 2024). Because stunting limits the potential of future generations, its effects go beyond the individual and have an impact on society as a whole. Because stunting is influenced by a variety of factors at the individual, household, and community levels, tackling it necessitates cooperation across several sectors.

One of the primary direct causes of stunting in young children is insufficient nutritional intake combined with recurrent infections, both of which hinder proper growth and development. Malnutrition, in particular, is closely linked to low dietary diversity, where children consume a limited variety of food groups, such as staple carbohydrates, protein sources, vegetables, fruits, and adequate hydration. Children who lack dietary diversity are at a higher risk of experiencing stunting, as their nutritional intake may not meet the essential requirements needed for optimal growth and brain development.

According to the Indonesian Nutrition Status Survey (SSGI), the stunting rate in Indonesia in 2022 will still reach 21.6%, although there is a decrease from 24.4% in 2021. This shows that although there are efforts to reduce the prevalence of stunting, the results are not yet significant. This figure is also still far from the target set in the National Medium Term Development Plan (RPJMN) which aims to reduce stunting by up to 14%. In South Sulawesi, the prevalence of stunting was recorded to be even higher, reaching 27.2%, with Jeneponto Regency recording the highest figure in the region, namely 39.8% in 2022 (BPS, 2023b).

Latets prevalence according to data from the 2023 Indonesian Health Survey (SKI), Jeneponto Regency recorded a stunting rate of 36.3%, which is significantly higher than the national average prevalence for South Sulawesi, recorded at 27.4%. This alarming figure highlights the urgent need for targeted interventions and comprehensive strategies to address nutritional deficiencies and child growth issues in the region (Awani et al., 2025). This situation illustrates the inequality in achieving reductions in stunting rates in various regions in Indonesia, with several regions still facing major challenges.

Children who suffer from stunting may have lifelong developmental and cognitive problems that impact their future productivity, health, and capacity for learning. Stunting can cause cognitive problems in children that limit their ability to interact with their environment and may potentially increase their vulnerability to degenerative diseases in the future (Martony, 2023). Early-life stunting has been shown to increase the risk of malnutrition-related diseases, as well as to cause slower physical development and a more pronounced deterioration in cognitive function than children without stunting (Koech, 2025).

Various factors influence the incidence of stunting in children, including social, economic, educational and health factors Early marriage, also known as child marriage, is a global humanitarian issue that significantly impacts the well-being, health, and rights of children and young adults worldwide. According to UNICEF (2018), child marriage is defined as any formal marriage or informal union in which at least one of the individuals is under 18 years old. This practice is widely recognized as a violation of fundamental human rights, as it deprives children especially girlsof their rights to education, autonomy, and

bodily integrity. Early marriage has serious social, health, and economic consequences, especially for young girls. It limits their education, forcing them to take on household responsibilities and making them financially dependent on their spouse. Health risks include early pregnancies, childbirth complications, and higher maternal and infant mortality rates. Additionally, child brides face a greater risk of domestic violence, sexual abuse, and social isolation, increasing their overall vulnerability (Alqahtani & Alqahtani, 2021).

A number of governments and international organizations have started campaigns to stop early marriage. The United Nations Sustainable Development Goals (SDGs) aim to eliminate child marriage by 2030, calling for global action to promote gender equality, improve access to education, and strengthen legal protections. Organizations like UNICEF, Girls Not Brides, and the International Center for Research on Women (ICRW) actively work to empower young girls, educate communities, and implement policies that prevent child marriage.

Despite these efforts, challenges remain, particularly in regions affected by conflict, economic instability, and humanitarian crises, where child marriage is sometimes seen as a survival strategy. Addressing early marriage requires a multifaceted approach, including community awareness, stronger legal frameworks, and economic support for vulnerable families. By ensuring that girls have access to education, healthcare, and legal protection, societies can break the cycle of child marriage and create a future where children can reach their full potential.

Early marriage is one of the social factors that significantly contributes to the risk of stunting among children. According to (Astuti et al., 2023), early marriage is defined as a union that takes place before the legally recommended age of 18 years. Although it remains a tradition in several regions of Indonesia, its negative impact on maternal and child health cannot be ignored. Women who marry at a young age often face limitations in knowledge, economic stability, and access to proper healthcare, which in turn affects their ability to provide adequate nutrition and care for their children. These factors create a cycle where children born to young mothers are at greater risk of malnutrition and stunted growth, further exacerbating the issue of stunting in Indonesia.

Child marriage remains a pervasive challenge across Indonesia, with significant implications for health outcomes, particularly affecting mothers and their children. Research indicates that this practice is more common in rural communities than in urban areas, influenced by an interplay of traditional beliefs, faith-based practices, financial circumstances, and community norms. The issue is frequently rooted in economic hardship and gender-based disparities, where financially strained households often perceive early marriage as a means of alleviating their monetary pressures. Although parents may view arranging marriages for their young daughters as a path to economic security, this decision often compromises the girls' opportunities for educational advancement, healthcare access, and overall life prospects.

Additionally, social pressure and cultural norms continue to normalize and even encourage early marriage in certain communities. Many parents believe that marrying their daughters early will protect them from social stigma or maintain family honor. Unfortunately, this practice often leads to reduced educational opportunities, early pregnancies, and increased vulnerability to domestic violence, all of which contribute to poor maternal health outcomes and higher rates of stunting among children.

According to data from the Central Statistics Agency (BPS, 2023a), approximately 6.92% of Indonesians are involved in early marriage, with the prevalence in South Sulawesi Province reaching 7.48%. In Jeneponto Regency, specifically, 0.352% of women married and gave birth before the age of 20 in 2023. These figures underscore the urgent need for intervention to address early marriage, given its far-reaching consequences on both mothers and children. People who engage in this practice tend to have a low level of education, which in turn affects their understanding of nutrition, good parenting patterns, and the importance of health care for children (Yulius et al., 2020).

Beyond its social consequences, early marriage has significant effects on women's reproductive health, often leading to severe complications during pregnancy and childbirth. Young mothers, whose bodies are not yet fully developed for childbearing, are at a higher risk of experiencing maternal health issues that can endanger both their well-being and that of their babies. Common complications include anemia, postpartum bleeding, and preeclampsia, which can pose serious threats to the mother's life and hinder her ability to care for her newborn properly. Moreover, the risks are not limited to the mother alone.

Babies born to young mothers face greater health vulnerabilities, including premature birth, low birth weight (LBW), and a higher likelihood of experiencing stunted growth. These conditions are often linked to inadequate maternal nutrition, limited access to prenatal care, and the mother's lack of knowledge about proper pregnancy management. The first 1,000 days of life from conception until the child's second birthday are a crucial period for brain and physical development. Any disruption during this phase, whether due to poor maternal health, insufficient nutrition, or medical complications, can have long-term consequences on a child's growth and cognitive abilities.

Babies born to moms who are not emotionally and physically prepared for pregnancy are far more likely to suffer from stunting and other health issues, including developmental delays (Kurniawati & Saputro, 2022). Children struggle to develop to their full potential in an environment when poor mother health, inadequate nutrition, and limited access to quality medical care are all present. This perpetuates the problem of early marriage and poor health outcomes in subsequent generations by reinforcing the intergenerational cycle of poverty and hunger, where children born to young mothers may experience similar difficulties as they grow older.

Marriage stands as a deeply significant ritual in human society, marking the spiritual and physical union of a man and woman as life partners, with the fundamental purpose of creating a lasting, harmonious household founded on religious values. The age at which individuals first marry carries substantial implications across various aspects of life, most notably in areas of fertility and maternal health, which ultimately shape children's growth and developmental outcomes. Adolescent brides face increased medical risks during pregnancy and delivery periods, potentially leading to negative consequences for their newborns. Scientific studies reveal that women entering marriage before age 18 frequently exhibit less effective parenting approaches, which may lead to poor nutritional outcomes and higher stunting rates in their children (Karniati et al., 2023). This finding is reinforced by (Sari et al., 2024) research, which establishes a direct link between early marriage practices and elevated childhood stunting prevalence.

The impact of early marriage extends deeply into reproductive health outcomes, with increased risks of pregnancy-related complications including anemia, preeclampsia, and premature delivery (Miller et al., 2023). These maternal health challenges often result in low birth weight infants and subsequent health issues, particularly stunting. Draper et al. (2024) highlights that infants born to adolescent mothers face greater vulnerability during their first 1000 days of life, a crucial window for both physical and cognitive development. Understanding the connection between early marriage and stunting becomes particularly relevant in regions like Jenepono Regency, where child marriage rates remain high. Supporting this concern, research conducted by Bari et al. (2025) demonstrates that communities with elevated rates of early marriage typically experience higher instances of childhood stunting, reflecting the intricate relationship between maternal wellbeing, childcare practices, and children's nutritional outcomes.

Another studies have consistently shown a significant relationship between early marriage and child stunting, reinforcing the argument that adolescent marriage negatively impacts child health outcomes. A study in the Work Area of the Prabugantungan Health Center found a p-value of 0.007 in a Pearson Chi-Square test, confirming that higher rates of early marriage correlate with an increased risk of stunting (Susilawati & Yuliwati, 2023). This aligns with WHO findings, which highlight early marriage as a key contributor to Indonesia's high stunting rates. In 2018, 1 in 9 girls married in Indonesia. Female aged 20-24 years who married before the age of 18 in 2018 it is estimated to reach approx 1,220,900

and this figure places Indonesia in 10 countries with absolute figures child marriage is the highest in the world (UNICEF, 2020). However, early marriage remains prevalent, continuing to pose serious risks to child growth and development. This findings provide strong empirical support for studying this issue in Pappalluang Village, West Bangkala, Jeneponto Regency, emphasizing the need for delayed marriage and maternal health education to reduce stunting and improve child well-being.

In Pappalluang Village, West Bangkala District, Jeneponto Regency, the prevalence of stunting remains alarmingly high, requiring serious attention. This concerning trend is closely tied to the high rate of early marriage, where many teenage girls marry before reaching the legally recommended age of 18. Data shows that early marriage is still widespread in Indonesia, particularly in South Sulawesi and Jeneponto Regency, where both stunting and child marriage rates are significantly above the national average. Given these figures, it is essential to examine the direct relationship between early marriage and stunting, particularly in areas where both issues are deeply entrenched.

The strong link between early marriage and stunting underscores a critical issue affecting maternal and child health in Indonesia. Young mothers often lack the physical, emotional, and financial readiness to care for their children properly. This results in poor maternal nutrition, higher risks of pregnancy complications, and limited access to healthcare, all of which contribute to low birth weight (LBW), premature births, and inadequate infant nutrition. Since the first 1,000 days of life are crucial for a child's physical and cognitive development, disruptions during this period due to maternal malnutrition and poor childcare practices significantly increase the risk of stunted growth and long-term health complications.

Beyond its impact on individual health, stunting also has far-reaching social and economic consequences. Children affected by stunting often experience cognitive impairments, reduced academic performance, and lower productivity in adulthood, limiting their contributions to national development. Regions with high early marriage rates, such as Jeneponto Regency, also tend to have higher stunting prevalence, highlighting the strong connection between social, economic, and cultural factors in perpetuating both issues. Families in low-income communities often see early marriage as a financial solution, believing it can reduce household burdens. However, this leads to long-term disadvantages, particularly for young mothers who have limited education and financial independence, making it even harder to provide proper care for their children. The persistence of early marriage and stunting in Indonesia reflects a complex interplay between health, education, and economic stability, making it a major obstacle to national progress.

This research seeks to analyze how early marriage contributes to stunting, while also identifying a clearer correlation between the two issues. (Wells et al., 2022). Young mothers, who often lack sufficient nutritional knowledge, emotional maturity, and economic stability, may struggle to provide adequate care and nourishment for their children, increasing the likelihood of stunting.

Given these concerning trends, further in-depth research is needed to develop targeted intervention strategies aimed at reducing both early marriage and stunting rates. Addressing these interconnected issues requires a comprehensive approach, including improving education for young women, increasing community awareness, and strengthening legal frameworks to delay marriage age. A better understanding of the relationship between early marriage and stunting will serve as a foundation for effective intervention programs. By raising awareness about reproductive health, education, and children's rights, efforts to reduce early marriage can contribute to lowering stunting rates across Indonesia. Moreover, approaches that involve expanding healthcare services, improving education, and empowering women are crucial to ensuring that the next generation can grow up healthy and reach their full potential. Stakeholders at both local and national levels must collaborate to create policies that support healthier, later marriages while also prioritizing initiatives to reduce stunting prevalence nationwide (Jaya et al., 2025).

## 2. Methods

This research was carried out in Pappalluang Village, West Bangkala District, Jeneponto Regency, South Sulawesi. This village has an area of 9.62 km<sup>2</sup> and is inhabited by 1,705 people spread across six hamlets. This study adopted a descriptive approach, starting with meetings with village officials and supporting community health centers to conduct field observations to collect initial information about the health conditions of the local community.

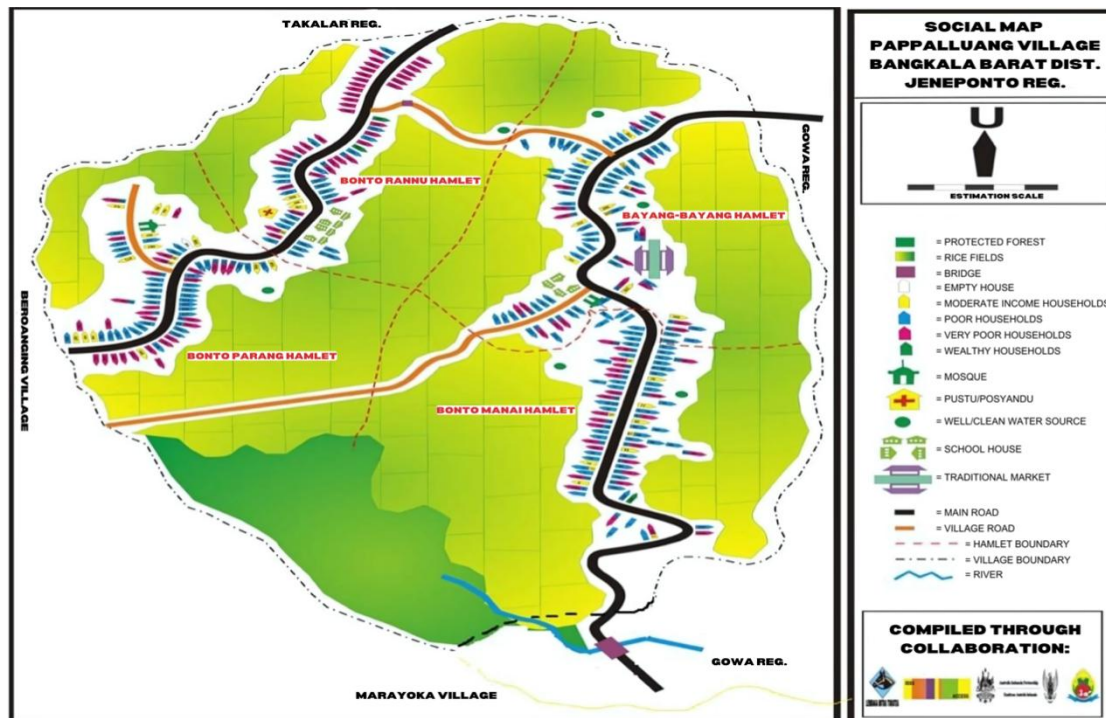


Fig. 1. Social map in Pappalluang Village, West Bangkala, Jeneponto Regency

The data collection process was conducted through a comprehensive survey utilizing random sampling techniques, targeting 101 households and involving 114 individuals. This study employs a descriptive survey design with random sampling to ensure a representative selection of participants. This approach ensured a diverse and representative sample of the village population, allowing for a more accurate assessment of the community's health conditions. The survey was designed to capture a wide range of health-related factors, including access to healthcare services, nutritional status, environmental conditions, and common illnesses experienced by residents. To facilitate efficient data collection, an online questionnaire was developed and administered via the Kobo Collect application, ensuring accessibility and ease of use for both respondents and data collectors.

Once collected, the primary data underwent bivariate analysis to examine the relationship between key health determinants and the demographic characteristics. This analytical approach enabled researchers to identify significant correlations between early marriage and stunting prevalence. The findings from this study serve as a critical foundation for developing targeted interventions and policy recommendations aimed at improving the overall health and well-being of the village community.

The results of the analysis show six main health problems found in Pappalluang Village. These problems were then discussed in a Focus Group Discussion (FGD) involving the local community to gain a deeper understanding of the socio-economic and cultural factors influencing early marriage and stunting. To determine priority issues that require immediate intervention, the research team, in collaboration with village health cadres, used the USG (Urgency, Seriousness, Growth) method with a scoring technique.

A health intervention strategy that addresses the many health issues in Pappalluang Village is developed based on the identified problem priorities. By taking a community-based approach, the intervention should offer long-lasting and efficient ways to enhance the inhabitants' general health and well-being. The success of this intervention will also be greatly dependent on cooperation with local government representatives, medical specialists, and pertinent organizations.

### 3. Results and Discussion

Marital status is a crucial demographic variable that plays a significant role in maternal and child health outcomes. In particular, early marriage is often linked to unplanned pregnancies, short birth intervals, and limited access to adequate prenatal healthcare services. These factors contribute to a higher risk of pregnancy complications, including maternal malnutrition, anemia, and delays in detecting health issues during pregnancy. Without proper medical attention, young mothers face greater challenges in ensuring a healthy pregnancy, which can directly impact the well-being of both mother and child.

Additionally, the lack of physical and emotional readiness in young mothers can negatively affect fetal growth and development. Babies born to mothers who marry at an early age have a higher likelihood of low birth weight (LBW) and premature birth, both of which pose serious health risks. LBW infants often experience incomplete organ development, making them more vulnerable to infections and diseases during their early years. If these health issues are not properly managed, the risk of stunting increases, potentially leading to long-term cognitive impairments and reduced quality of life in the future.

Based on Table 1, the highest percentage is found among individuals who are married, accounting for 78.9% of the respondents. This indicates that the majority of participants in this study are in a marital relationship. Meanwhile, the lowest percentage, 0.9%, is observed among individuals who are either divorced or widowed. This significant difference illustrates the distribution of marital status, which is predominantly composed of individuals who are still married.

Table 1. Characteristics of interviewed individuals in Pappalluang Village, Bangkala Barat District, Jeneponto Regency based on marital status in 2024

Marital status	n	Percentage (%)
Unmarried	22	19.3
Married	90	78.9
Divorce life	1	0.9
Divorce death	1	0.9
Total	114	100

Based on Table 2, the majority of respondents married between the ages of 10-19 years, accounting for 65.9%. Meanwhile, 33% of respondents married between 20-29 years old, and the remaining 1.1% married between 30-39 years old.

Table 2. Characteristics of mothers/women of reproductive age (WUS) interviewed in Pappalluang Village, Bangkala Barat District, Jeneponto Regency based on age in 2024

Marital status	n	Percentage (%)
10-19	60	65.9
20-29	30	33.0
30-39	1	1.1
Total	91	100

Stunting is caused by various factors, one of which is maternal age at pregnancy. The mother's age is a crucial factor that not only affects her physical condition during pregnancy but also influences her psychological state, which directly impacts child-rearing practices. Mothers who become pregnant at a more mature age tend to be mentally prepared to face

the challenges of pregnancy and childbirth. This readiness includes the ability to undergo labor safely and provide optimal care for their children.

Maternal age also significantly influences fetal growth. Women who conceive at an ideal age and receive adequate nutrition during pregnancy are more capable of providing an optimal environment for fetal development. However, many women marry and give birth at a very young age, often under 19 years old. These young mothers often lack the mental readiness needed to handle pregnancy, childbirth, and childcare responsibilities. This condition increases the risk of stunting, as psychological stability and adequate nutrition during pregnancy are essential for a child's growth and development.

Children born to young mothers have a higher risk of experiencing nutritional issues, such as stunting (short stature), wasting (underweight), and malnutrition. Several factors contribute to this, including the mother's physical immaturity, limited access to healthcare services, and low knowledge of child nutrition. Young mothers often lack the experience and education necessary to ensure their children receive adequate nutrition during the critical growth period.

The practice of marriage before reaching age 20 carries significant health implications for both mothers and their children. Studies reveal that adolescent mothers face increased susceptibility to pregnancy complications, encompassing conditions such as anemia, preterm birth, and higher mortality risks for both mother and infant (Lubis & Yusuf, 2021). Research also indicates that young maternal age also increases the risk of low birth weight (LBW) infants, which is a major factor in child growth disorders. Pregnancies among young mothers also highly turn to high-risk pregnancies that can lead to complications affecting both maternal and fetal health, including preterm birth and impaired infant growth (Bayuana et al., 2023). Several factors contribute to LBW, including maternal age, gestational age, parity, pregnancy spacing, and pregnancy complications (Hasibuan et al., 2023).

According to Mu et al. (2024), parents who marry at a young age are more likely to adopt an authoritarian parenting style, where they demand strict obedience from their children without allowing room for discussion or understanding. This parenting approach is often driven by limited parenting experience and emotional maturity. Young parents tend to rely on strict rules and punishment as their primary method of discipline, without considering the emotional needs of the child or allowing them to understand the rules imposed. This high-pressure environment does not only affect a child's behavior but also has negative psychological and social effects. Children raised in authoritarian households are often more anxious, less independent, and struggle with social skills and self-confidence. For children who also suffer from stunting, these effects are worsened, as nutritional deficiencies during early childhood impair not only physical growth but also cognitive and emotional development.

Family income directly influences a child's nutritional status. A study Munnawarroh et al. (2022) conducted in Puskesmas Sungai Puar, Batang Hari Regency, Jambi Province, found that family income has a significant impact on stunting rates among children. The study revealed that 50% of children from families earning below the Regional Minimum Wage, suffered from stunting, whereas among families earning at or above the minimum wage, only 8.1% of children experienced stunting. Limited financial resources make it difficult for low-income families to purchase a diverse range of nutritious foods, such as animal protein, vegetables, and fruits. As a result, children's diets often consist mainly of staple foods like rice or other carbohydrates, which may not provide the essential nutrients needed for optimal growth.

Additionally, economic hardship affects healthcare access. Low-income families may struggle to afford routine check-ups and immunizations for their children, leading to delayed detection of growth problems and increased risk of malnutrition. Limited healthcare access also means a higher likelihood of recurrent infections, which further contribute to stunting. Moreover, low family income is often linked to low parental education levels, particularly among mothers. As found in this study, mothers with lower education levels are more likely to have stunted children due to a lack of awareness about

proper nutrition, effective parenting, and managing resources efficiently in a low-income setting.

Primary data collected from interviews with residents in Pappalluang Village, Bangkala Barat District, revealed that the prevalence of early marriage among adolescents remains extremely high. Many young individuals choose to marry early due to family pressure, economic difficulties, and deeply rooted traditions. Economic constraints often push families to view early marriage as a way to reduce financial burdens, while maintaining family honor serves as another strong motivator, reinforcing the practice. The firmly established traditions in the community further normalize early marriage, making it seem both acceptable and expected. This phenomenon highlights that early marriage remains a major social challenge requiring urgent intervention.

Many studies have shown that early marriage is strongly influenced by a combination of socioeconomic status, education, and cultural norms. Research indicates that parental education and income levels play a crucial role in determining early marriage rates (Dini et al., 2024). Similarly, economic hardship, limited educational opportunities, and parental influence have been identified as key drivers of early marriage in various regions (Arifin et al., 2023). Furthermore, sociocultural factors such as age group, school attendance, education duration, and daily activities significantly shape decisions related to early marriage (Fatmawati et al., 2023). This issue is not confined to Indonesia, as similar patterns have been observed in Bangladesh, Ghana, and Iraq, where economic and cultural pressures continue to drive early marriage. To effectively address this issue, comprehensive interventions are needed, including improving access to education, challenging societal norms, and empowering young women to make informed life decisions (Said et al., 2024).

One of the most concerning consequences of early marriage is its impact on maternal knowledge and preparedness, which directly influences child health and nutrition. A mother's care and support, combined with proper nutritional practices, are key factors in preventing stunting in children. A mother who has a strong understanding of the importance of nutrition is more capable of providing a well-balanced diet, ensuring that her child receives routine immunizations and regular health check-ups, and creating a nurturing environment that fosters optimal growth and development. However, maternal knowledge and preparedness are often influenced by a mother's age at marriage, which can significantly impact a child's nutritional and health outcomes.

Beyond nutritional fulfillment, a mother's attentiveness in providing early stimulation, emotional security, and responsive parenting also plays a vital role in shaping a child's overall health and cognitive abilities. When a child receives adequate nutrition alongside proper healthcare and a supportive environment, they have a higher chance of reaching their full potential, both physically and intellectually. However, young mothers may struggle to provide these essential aspects of parenting due to limited knowledge, lower education levels, and financial instability.

Studies have shown that the younger a mother is at the time of marriage, the higher the likelihood of her child experiencing malnutrition. This is due to several factors. Young mothers often have lower education levels and insufficient knowledge about balanced nutrition, effective parenting, and the importance of providing nutritious foods. Additionally, young mothers are at a higher risk of malnutrition during pregnancy, as their bodies are not yet fully prepared for childbearing, leading to poor fetal development. Consequently, children born to young mothers are more vulnerable to stunting and early childhood malnutrition, reinforcing the cycle of poor maternal health and inadequate child nutrition (Jauhari et al., 2024). On the other hand, poor parenting practices can significantly increase a child's risk of stunting. Good parenting is not just about ensuring that a child consumes enough food; it also involves various essential aspects that contribute to optimal growth and development. More than simply making sure that a child finishes their meals, proper parenting includes providing a well-balanced diet, creating an environment that supports cognitive development, and fostering positive interactions to encourage social and emotional growth.

Children who receive high-quality parenting tend to have stronger immune systems, better learning abilities, and enhanced brain development compared to those who experience nutritional deficiencies and lack parental attention. Furthermore, a mother's role in maintaining health, providing nutritious food, offering emotional support, and stimulating child development is crucial in reducing stunting risks. A mother who is attentive, patient, and deeply invested in her child's growth can help them reach their full potential physically, cognitively, and emotionally (Mualem et al., 2024).

Good parenting should involve providing stimulation according to the child's developmental stage, as parents especially mothers play a crucial role in supporting a child's growth and development. Effective parenting not only ensures the fulfillment of a child's basic needs but also includes developmental stimulation, attention to health, and the introduction of healthy eating habits from an early age. By implementing proper parenting practices, children can grow optimally in physical, cognitive, and socio-emotional aspects, ensuring a brighter future.

One of the key elements of parenting is providing developmental stimulation that aligns with a child's age. This stimulation includes various activities that enhance brain development, motor skills, and social abilities. For example, actively communicating with children, reading books, playing together, and teaching basic skills such as walking and speaking all contribute to a child's development. When children receive adequate stimulation, they tend to develop intellectual and social skills more quickly and effectively.

Apart from developmental stimulation, fulfilling health needs is also a major factor in proper parenting. Immunization and regular health check-ups are essential measures to ensure that children grow up healthy and are protected from various diseases that could hinder their development. Immunization helps shield children from dangerous illnesses, while routine check-ups enable early detection of any health or nutritional issues. With proper health monitoring, parents can take immediate action to ensure their child remains in optimal condition for growth and development. Another equally important aspect of parenting is introducing healthy eating habits from an early age.

Proper nutrition plays a crucial role in preventing stunting and ensuring that children receive the energy and essential nutrients needed for growth. Children must be introduced to a variety of healthy foods, including animal protein sources such as fish, meat, eggs, and milk, which are essential for tissue formation and repair. However, inadequate parenting practices can increase the risk of stunting, a condition where a child's growth is hindered due to prolonged nutritional deficiencies. Factors such as poor dietary intake, lack of developmental stimulation, and delayed access to healthcare services can prevent a child from achieving optimal growth. Therefore, parents must understand that proper parenting not only impacts a child's health during early years but also affects their overall quality of life in the future (Ravens-Sieberer et al., 2022).

The importance of nutrition in preventing stunting cannot be separated from the role of parents, especially mothers, in ensuring adequate nutritional intake and proper parenting. In addition to dietary habits and developmental stimulation, maternal age at marriage is also a significant factor contributing to stunting incidence. Mothers who marry at a young age often face various challenges, such as limited knowledge about nutrition, inadequate physical readiness for pregnancy, and economic constraints that affect their ability to meet their child's nutritional needs. These challenges are further supported by numerous studies that confirm the strong correlation between early marriage and stunting prevalence.

The relationship between adolescent marriage and child stunting has been widely documented, with multiple studies reinforcing its negative impact on child growth. The findings from a study in Wonosobo align with previous research, demonstrating a significant correlation between early marriage and the prevalence of stunting among children. The bivariate analysis using the Chi-Square test yielded a p-value of 0.004, indicating a strong relationship between marriage at a young age and stunting incidence. The data further revealed that children born to mothers who married young were 1.984 times more likely to experience stunting compared to those whose mothers married as

adults (95% CI: 1.243-3.168). Additionally, the prevalence of early marriage remains high, with 51.55% of respondents marrying before adulthood, further emphasizing the urgent need to address this issue (Mustajab & Indriani, 2023).

These findings align with previous research, such as Yulius et al. (2020) in Tawalian District, Mamasa Regency, which found that maternal age at marriage significantly impacts stunting incidence. The study showed that 75% of children born to mothers who married before 19 years old experienced stunting, compared to only 27.8% of children from mothers who married at 19 or older. Among 50 respondents, 32 mothers married before 19, while 18 married at 19 or older. The results emphasize that the younger a mother is at marriage, the higher the risk of her child experiencing stunting. This is largely due to physical, mental, and economic limitations faced by young mothers, which hinder their ability to provide adequate nutrition for their children.

Similarly, study by Afriani & Abidin (2022) in Anreapi District, Polewali Mandar Regency, also investigated the relationship between early marriage and stunting in toddlers, yielding consistent results. The data showed that mothers who married before the age of 19 had children with a higher risk of stunting compared to those who married at a more mature age. From the total respondents, only 24% of children from mothers who married young had normal nutritional status, while 63.6% were stunted. In contrast, among mothers who married at 19 years or older, 76% of their children had normal nutritional status, and only 36.4% experienced stunting. This data reinforces the finding that the younger a mother is at marriage, the higher the likelihood that her child will suffer from growth disorders.

Young mothers often face multiple challenges, including physical immaturity, lack of nutritional knowledge, and economic difficulties. As a result, children born to mothers who married young are more vulnerable to malnutrition, leading to stunting. On the other hand, mothers who marry at a more mature age have a greater opportunity to provide sufficient nutrition and better parenting practices, allowing their children to grow with a healthier nutritional status.

#### **4. Conclusions**

A mother's age at pregnancy significantly affects the risk of stunting in children. Mothers who give birth at a more mature age tend to have better mental preparedness and nutritional intake, supporting fetal development and child growth. In contrast, early marriage and pregnancy increase the risk of stunting due to inadequate mental readiness, limited nutritional knowledge, and economic constraints, which hinder proper childcare and nutrition.

This study has limitations, as it focuses only on Pappalluang Village, limiting generalizability to other regions. Future research should expand the study area, incorporate qualitative insights, and use longitudinal data to track child growth. To mitigate the effects of early marriage on stunting, policies should promote education, improve maternal healthcare access, and enhance nutritional support for young mothers. Further studies are needed to explore long-term child health outcomes and integrated intervention strategies.

#### **Acknowledgement**

The author would like to express deepest gratitude to all parties who have provided support and contributions in the implementation of this research. A sincere thank you is extended to the Head of Pappalluang Village, Bangkala Barat District, Jeneponto Regency, along with all officials, for granting permission, providing support, and facilitating the data collection process in the field.

#### **Author Contribution**

All authors contributed equally to the conceptualization, methodology, analysis, and writing of this review. They collaboratively reviewed and approved the final manuscript for submission.

## Funding

This research received no external funding.

## Ethical Review Board Statement

Not available.

## Informed Consent Statement

Not available.

## Data Availability Statement

Not available.

## Conflicts of Interest

The authors declare no conflict of interest.

## Open Access

©2025. The author(s). This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made. The images or other third-party material in this article are included in the article's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this license, visit: <http://creativecommons.org/licenses/by/4.0/>

## References

- Afriani & Abidin, U. W. (2022). Hubungan pernikahan usia dini terhadap kejadian stunting di Kecamatan Anreapi. *Jurnal Ilmiah Manusia Dan Kesehatan*, 5(3), 291-297. <https://doi.org/10.31850/makes.v5i3.1742>
- Akbar, R. R., Kartika, W., & Khairunnisa, M. (2023). The effect of stunting on child growth and development. *Scientific Journal*, 2(4), 153-160. <https://doi.org/10.56260/sciena.v2i4.118>
- Alqahtani, J., & Alqahtani, I. (2021). COVID-19 and child marriage: A red flag. *Journal of Clinical Nursing*, 31(7-8), E6. <https://doi.org/10.1111/jocn.16130>
- Arifin, A. Z., Maulana, A., Wuri, D. K., Fajrin, F., Rahmawati, I., Nada, K., ... & Napsiyah, S. (2023). Analysis of Factors Causing Early Marriage for Women in Pameungpeuk Hamlet, Kadudampit District, Sukabumi Regency. *Jurnal Pendidikan Sosiologi dan Humaniora*, 14(1), 1-11. <https://doi.org/10.26418/j-psh.v14i1.59583>
- Astuti, I. N., Multazam, A. M., & Alwi, M. K. (2023). Silariang Dalam Pernikahan Dini dan Dampaknya Terhadap Kesehatan Reproduksi Remaja Perempuan Desa Kareloe Kecamatan Bontoramba Kabupaten Jeneponto. *Journal of Muslim Community Health*, 4(2), 30-42. <https://doi.org/10.52103/jmch.v4i2.1203>
- Awani, A. T., Wahyuni, F., Yusuf, K., Masithah, S. M., & Rahmaniar, A. R. (2025). Hubungan Jarak Kelahiran Dan Jumlah Anak Dengan Status Gizi Balita Usia 6 – 59 Bulan. *Lontara Journal of Health Science and Technology*, 6(1), 18-25. <https://doi.org/10.53861/lontarariset.v6i1.503>
- Bari, K., Sadik, F., & Faraz, N. (2025). Child Marriage and Its Effect on Maternal and Child Health in Pakistan. In *Research and Reflections on Child Wellbeing in Pakistan* (pp. 93-116). Cham: Springer Nature Switzerland. [https://doi.org/10.1007/978-3-031-82648-1\\_7](https://doi.org/10.1007/978-3-031-82648-1_7)
- Bayuana, A., Anjani, A. D., Nurul, D. L., Selawati, S., Sai'dah, N., Susianti, R., & Anggraini, R. (2023). Komplikasi Pada Kehamilan, Persalinan, Nifas dan Bayi Baru Lahir: Literature

- Review. *Jurnal Wacana Kesehatan*, 8(1), 26-36. <https://doi.org/10.52822/jwk.v8i1.517>
- BPS. (2023a). *Statistik Indonesia 2023*. Badan Pusat Statistik. <https://www.bps.go.id/id/publication/2023/02/28/statistik-indonesia-2023.html>
- BPS. (2023b). *Statistik Perkawinan dan Stunting di Indonesia*. Badan Pusat Statistik. <https://www.bps.go.id/id/statistics-table/2/special-index-for-stunting-management-by-province.html>
- Clemente-Suárez, V. J., Beltrán-Velasco, A. I., Herrero-Roldán, S., Rodriguez-Besteiro, S., Martínez-Guardado, I., Martín-Rodríguez, A., & Tornero-Aguilera, J. F. (2024). Digital Device Usage and Childhood Cognitive Development: Exploring Effects on Cognitive Abilities. *Children*, 11(11), 1299. <https://doi.org/10.3390/children11111299>
- Dini, D., Budinurdjaja, P., Nugroho, A., Istiqomah, E., & Fatimah, H. (2024). Exploring Determinants of Early Marriage Among Adolescent Girls in Banama Tingang, Indonesia. *Heca Journal of Applied Sciences*, 2(1), 11–18. <https://doi.org/10.60084/hjas.v2i1.146>
- Draper, C. E., Yousafzai, A. K., McCoy, D. C., Cuartas, J., Obradović, J., Bhopal, S., ... & Okely, A. D. (2024). The next 1000 days: building on early investments for the health and development of young children. *The Lancet*, 404(10467), 2094-2116. [https://doi.org/10.1016/S0140-6736\(24\)01389-8](https://doi.org/10.1016/S0140-6736(24)01389-8)
- Fatmawati, F., Yantina, Y., & Susilawati, S. (2023). Factors Causing Early Marriage from Sociocultural View in The Working Area of Ketapang Health Center of South Sungkai Regency, North Lampung District in 2023. *MAHESA: Malahayati Health Student Journal*, 3(12), 3953–3971. <https://doi.org/10.33024/mahesa.v3i12.11891>
- Hasibuan, N. F., Raja, S. L., Fitria, A., Nasution, Z., & Wulan, M. (2023). Faktor–Faktor Yang Mempengaruhi Terjadinya Berat Badan Lahir Rendah (BBLR) di Rsu Delima Medan Tahun 2022. *Journal of Educational Innovation and Public Health*, 1(1), 149-164. <https://doi.org/10.55606/innovation.v1i1.863>
- Jauhari, M. T., Ardian, J., Solehah, N. Z., & Saputri, T. A. (2024). Relationship Between Early Marriage and Mother's Levels of Knowledge with Nutritional Status. *AgriHealth: Journal of Agri-food, Nutrition and Public Health*, 5(2), 142. <https://doi.org/10.20961/agrihealth.v5i2.92320>
- Jaya, P. H. I., Izudin, A., Aditya, R., & Saptoni, S. (2025). Exploring local experiences in reducing childhood stunting in Indonesia: towards an agenda of welfare provision. *Asia Pacific Journal of Social Work and Development*, 1-24. <https://doi.org/10.1080/29949769.2025.2485912>
- Karniati, I., Nurru, H., & Wulandari, W. (2023). Hubungan Pernikahan Dini Dan Pendapatan Keluarga Dengan Risiko Kejadian Stunting Di Puskesmas Lalang Luas Kabupaten Muko-Muko Tahun 2023. *KEMASKIA: Jurnal Ilmu Kesehatan*, 1(2), 165-174. <https://cendekiamedia.com/index.php/kemaskIA/article/view/37>
- Koech, D. (2025). A review on tackling malnutrition and strengthening the defense system of refugee children under the age of five years living in refugee camps-a scoping literature review. <https://doi.org/10.21203/rs.3.rs-1314101/v1>
- Kurniawati, A., & Saputro, N. T. (2022). Association of maternal age during pregnancy with stunting in children age 2-3 years. *Informasi dan Promosi Kesehatan*, 1(2), 52-63. <https://doi.org/10.58439/ipk.v1i2.17>
- Lubis, J., & Yusuf, S. F. (2021). Hubungan Pernikahan Usia Dini Dengan Gangguan Kehamilan di Wilayah Kerja Puskesmas Pijorkoling. *JIDAN (JURNAL ILMIAH KEBIDANAN)*, 1(2), 123–126. <https://doi.org/10.51771/jdn.v1i2.162>
- Martony, O. (2023). Stunting di Indonesia: Tantangan dan Solusi di Era Modern. *Journal of Telenursing (JOTING)*, 5(2), 1734–1745. <https://doi.org/10.31539/joting.v5i2.6930>
- Miller, F. A., Dulal, S., Rai, A., Gram, L., Harris-Fry, H., & Saville, N. M. (2023). “Can’t live willingly”: A thematic synthesis of qualitative evidence exploring how early marriage and early pregnancy affect experiences of pregnancy in South Asia. *PLOS global public health*, 3(10), e0002279. <https://doi.org/10.1371/journal.pgph.0002279>
- Mu, Y., Pei-Yin, S., Chi, L. K., & Saeid, M. (2024). Comparative analysis of parenting styles and their impact on children’s Well-Being: a cross-cultural perspective in Malaysia, China,

- and Taiwan. *Int J Child Health Nutr*, 13(1), 31-46. <https://doi.org/10.6000/1929-4247.2024.13.01.4>
- Mualem, R., Morales-Quezada, L., Farraj, R. H., Shance, S., Bernshtein, D. H., Cohen, S., ... & Biswas, S. (2024). Econeurobiology and brain development in children: key factors affecting development, behavioral outcomes, and school interventions. *Frontiers in Public Health*, 12, 1376075. <https://doi.org/10.3389/fpubh.2024.1376075>
- Munnawarroh, F., Murni, D., & Susmiati, S. (2022). Sosio Ekonomi dan Skor Keragaman Makanan Terhadap Kejadian Stunting. *LINK*, 18(1), 29–36. <https://doi.org/10.31983/link.v18i1.8424>
- Mustajab, A. A. & Indriani, F. (2023). Hubungan menikah usia anak terhadap kejadian stunting pada balita di Wonosobo. *Jurnal Keperawatan Widya Gantari Indonesia*, 7(1). <https://doi.org/10.52020/jkwgi.v7i1.5494>
- Ravens-Sieberer, U., Kaman, A., Erhart, M., Devine, J., Schlack, R., & Otto, C. (2022). Impact of the COVID-19 pandemic on quality of life and mental health in children and adolescents in Germany. *European child & adolescent psychiatry*, 31(6), 879-889. <https://doi.org/10.1007/s00787-021-01726-5>
- Said, H., Ahmad, M., & Ramadhany, S. (2024). Comparison of Early Marriage Age in Bangladesh, Ghana, Iraq and Indonesia. *International Journal of Religion*, 5(8), 416–427. <https://doi.org/10.61707/mysa6t15>
- Sari, R. K., Prasetya, A. R., Zanariyah, S., Famulia, L., Terina, T., Novalia, N., ... & Pahlevi, R. (2024). Reducing Stunting in South Lampung Regency through Preventing Early Marriage: A Critical Analysis. *Journal of Judicial Review*, 26(2), 261-282. <https://doi.org/10.37253/jjr.v26i2.9945>
- Susilawati, S., & Yuliwati, N. (2023). Analysis Of Early Marriage and Other Factors on Stunting Incidence In The Work Area of Prabugantungan Puskesmas Lebak District. *International Journal of Health Science*, 3(1), 96-103. <https://doi.org/10.55606/ijhs.v3i1.1211>
- UNICEF. (2018). *Current status + progress: child marriage is a violation of human rights, but is all too common*. United Nations Children's Fund. <https://data.unicef.org/topic/child-protection/child-marriage/>
- UNICEF. (2020). *Pencegahan Perkawinan Anak Percepatan yang Tidak Bisa Ditunda*. United Nations Children's Fund. <https://www.unicef.org/indonesia/media/2851/file/child-marriage-report-2020>
- Wells, J. C., Marphatia, A. A., Manandhar, D. S., Cortina-Borja, M., Reid, A. M., & Saville, N. S. (2022). Associations of age at marriage and first pregnancy with maternal nutritional status in Nepal. *Evolution, Medicine, and Public Health*, 10(1), 325-338. <https://doi.org/10.1093/emph/eoac025>
- WHO. (1995). Working Group on Infant Growth. An evaluation of infant growth: the use and interpretation of anthropometry in infants. *Bulletin of the World Health Organization*, 73, 165-174. <https://www.who.int/publications/i/item/WHO-NUT-94.8>
- Yulius, Y., Abidin, U. W., & Liliandriani, A. (2020). Hubungan Pernikahan Dini Terhadap Kejadian Stunting Pada Balita di Wilaya Kerja Puskesmas Tawalian Kecamatan Tawalian Kabupaten Mamasa. *Journal Pegguruang: Conference Series*, 2(1), 279. <https://doi.org/10.35329/jp.v2i1.1636>

### Biographies of Authors

**Basir**, Environmental Health Department, Public Health Faculty, Universitas Hasanuddin, Makassar City, South Sulawesi 90245, Indonesia.

- Email: [baz.rasyid@gmail.com](mailto:baz.rasyid@gmail.com)
- ORCID: 0000-0003-0325-5669
- Web of Science ResearcherID: N/A
- Scopus Author ID: 57202440851
- Homepage: <https://scholar.google.com/citations?user=FW6RQSGAAAAJ&hl=id>

**Sahrul Aril**, Health Promotion and Behaviour Science Department, Public Health Faculty, Universitas Hasanuddin, Makassar City, South Sulawesi 90245, Indonesia.

- Email: [arilsahrul23@gmail.com](mailto:arilsahrul23@gmail.com)
- ORCID: 0009-0000-8236-6839
- Web of Science ResearcherID: N/A
- Scopus Author ID: N/A
- Homepage: N/A

**Nasywa Salsabila Nasaruddin**, Occupational and Safety Health Department, Public Health Faculty, Universitas Hasanuddin, Makassar City, South Sulawesi 90245, Indonesia.

- Email: [nasywaathaya20@gmail.com](mailto:nasywaathaya20@gmail.com)
- ORCID: N/A
- Web of Science ResearcherID: N/A
- Scopus Author ID: N/A
- Homepage: N/A

**Aliyah Meilidya**, Biostatistics Department, Public Health Faculty, Universitas Hasanuddin, Makassar City, South Sulawesi 90245, Indonesia.

- Email: [aliyahmeilidya@gmail.com](mailto:aliyahmeilidya@gmail.com)
- ORCID: N/A
- Web of Science ResearcherID: N/A
- Scopus Author ID: N/A
- Homepage: N/A

**Risdya Devina Ayu Setiawan**, Epidemiology Department, Public Health Faculty, Universitas Hasanuddin, Makassar City, South Sulawesi 90245, Indonesia.

- Email: [devinaasetiawan@gmail.com](mailto:devinaasetiawan@gmail.com)
- ORCID: N/A
- Web of Science ResearcherID: N/A
- Scopus Author ID: N/A
- Homepage: N/A

**Nur Rahma Rahman**, Occupational and Safety Health Department, Public Health Faculty, Universitas Hasanuddin, Makassar City, South Sulawesi 90245, Indonesia.

- Email: [nurrahma820@gmail.com](mailto:nurrahma820@gmail.com)
- ORCID: N/A
- Web of Science ResearcherID: N/A
- Scopus Author ID: N/A
- Homepage: N/A

**Rini**, Health Administration and Policy, Public Health Faculty, Universitas Hasanuddin, Makassar City, South Sulawesi 90245, Indonesia.

- Email: [riniwulandari483@gmail.com](mailto:riniwulandari483@gmail.com)
- ORCID: N/A
- Web of Science ResearcherID: N/A
- Scopus Author ID: N/A
- Homepage: N/A

**A. Filsa Salzabila Ramadhani**, Health Administration and Policy, Public Health Faculty,, Universitas Hasanuddin, Makassar City, South Sulawesi 90245, Indonesia.

- Email: [icaaaandi967@gmail.com](mailto:icaaaandi967@gmail.com)
- ORCID: N/A
- Web of Science ResearcherID: N/A
- Scopus Author ID: N/A
- Homepage: N/A