

## ORIGINAL RESEARCH ARTICLE

# Factors related to the collaboration of cadres in stunting prevention

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Dian U. P. Putri

Public Health Study Program, Faculty of Health, Universitas Mitra Indonesia, Lampung, 35145, Indonesia

\*For Correspondence: Email: [dian@umitra.ac.id](mailto:dian@umitra.ac.id); Phone: +62 813-6991-9766

## Abstract

In the implementation of stunting prevention, the lack of cooperation between stunting cadres, no direct communication media and no one who facilitates the cooperation of stunting cadres to carry out data collection tasks as indicators of stunting achievement and for stunting prevention. This can result in repeated data collection, unequal data, and irrelevant data accuracy. Stunting cadres, who are community health workers selected and trained to monitor and prevent stunting at the village level, play a crucial role in these efforts. If stunting cadres collaborate, the performance of both will be more effective and efficient. This study aims to find out the factors related to the collaboration of stunting cadres in stunting prevention efforts. A quantitative research method with a cross-sectional study design was employed. The research sample consisted of 63 stunting cadres. Data analysis was conducted using univariate and bivariate analysis. The results showed that variables such as trust (p-value 0.032), communication (p-value 0.021), agreement (p-value 0.002) and added public value (p-value 0.001) were significantly related to the collaboration of stunting cadres. The conclusion of this study is that stunting cadre collaboration is important in stunting prevention efforts and has an impact on optimizing stunting prevention programs. (*Afr J Reprod Health 2024; 28 [10s]: 111-117*).

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**Keywords:** Stunting cadres; collaboration; prevention; child growth

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## Résumé

Dans la mise en œuvre de la prévention du retard de croissance, le manque de coopération entre les cadres chargés du retard de croissance, l'absence de moyens de communication directs et personne qui facilite la coopération des cadres chargés du retard de croissance pour mener à bien les tâches de collecte de données comme indicateurs de réussite en matière de retard de croissance et pour la prévention du retard de croissance. Cela peut entraîner une collecte de données répétée, des données inégales et une précision des données non pertinente. Les cadres chargés du retard de croissance, qui sont des agents de santé communautaires sélectionnés et formés pour surveiller et prévenir le retard de croissance au niveau des villages, jouent un rôle crucial dans ces efforts. Si les responsables du retard de croissance collaborent, la performance des deux sera plus efficace et efficiente. Cette étude vise à découvrir les facteurs liés à la collaboration des cadres en matière de retard de croissance dans les efforts de prévention du retard de croissance. Une méthode de recherche quantitative avec un plan d'étude transversal a été utilisée. L'échantillon de recherche était composé de 63 cadres en retard de croissance. L'analyse des données a été réalisée à l'aide d'une analyse univariée et bivariée. Les résultats ont montré que des variables telles que la confiance (valeur p 0,032), la communication (valeur p 0,021), l'accord (valeur p 0,002) et la valeur publique ajoutée (valeur p 0,001) étaient significativement liées à la collaboration des cadres en retard de croissance. La conclusion de cette étude est que la collaboration entre les cadres concernés est importante dans les efforts de prévention du retard de croissance et a un impact sur l'optimisation des programmes de prévention du retard de croissance. (*Afr J Reprod Health 2024; 28 [10s]: 111-117*).

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**Mots-clés:** Cadres en retard de croissance; collaboration; prevention; croissance de l'enfant

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## Introduction

Stunting cadres in Indonesia are community health workers based in villages who are selected and appointed through a community agreement. They have received monthly incentives from the government for their work<sup>1</sup>. Their primary role is to support villages and communities in monitoring and ensuring the integration of seven essential service

packages during the first 1000 days of a child's life within households. These packages include maternal and child health<sup>1</sup>, integrated nutrition counseling, clean water and sanitation, social and health protection, early childhood education, parenting classes, and family food security. Stunting cadres are responsible for monitoring the implementation of stunting prevention programs using specific tools and instruments, which are applied monthly and

quarterly<sup>2</sup>. The role of these cadres is crucial in the successful prevention of stunting, and their collaboration is essential to ensure accurate data collection and effective program implementation.

Collaboration is defined as the “mutual engagement of participants in a coordinated effort to solve a problem together.” Collaborative interactions are characterized by shared goals, symmetrical structures, and a high degree of negotiation, interactivity, and interdependence<sup>3</sup>. Effective collaboration can improve organizational flexibility and strengthen the ability to handle sudden changes<sup>4</sup>.

In the implementation of integrated stunting prevention and reduction interventions, several issues may arise<sup>5</sup>, including constraints in coordination, communication, integration of service implementation, and limited support. The handling of these problems requires involvement from all parties in the integration of stunting reduction efforts<sup>4</sup>. Factually, it has been recognized that teamwork and collaboration form the basic foundation for effective work method<sup>5</sup>. If collaboration can be carried out well, the ability of a person or organization will become stronger in handling sudden changes<sup>6</sup>. Teamwork not only makes the completion of tasks more manageable but also easier<sup>7</sup>. On the other hand, completing work collaboratively is seen as a smart and more flexible approach. Collaboration in the context of public health, if well executed, can significantly enhance the efficiency and effectiveness of stunting prevention programs.

The research aims to identify the factors related to the collaboration of stunting cadres in stunting prevention efforts. By understanding these factors, the research seeks to provide valuable insights into how collaborative practices among stunting cadres can be optimized. This is particularly significant given the critical role these cadres play in implementing stunting prevention programs at the grassroots level<sup>8</sup>. Effective collaboration among stunting cadres can lead to more accurate data collection, enhanced program efficiency, and ultimately, a more significant reduction in stunting

rates. The findings of this study could inform policy recommendations and strategies to strengthen the health system's capacity to address stunting, contributing to improved public health outcomes in Indonesia and potentially serving as a model for similar contexts globally.

## Methods

### *Study design*

This study employed a quantitative research approach using a cross-sectional research design. The research aimed to identify factors related to the collaboration of stunting cadres in stunting prevention efforts. The cross-sectional design allowed for the analysis of data collected at a single point in time to understand the relationship between variables.

### *Respondents*

The study population comprised stunting cadres located in 131 villages in Pringsewu Regency, Lampung Province, Indonesia. A total of 224 stunting cadres were identified as potential participants. From this population, a sample of 63 respondents was selected using a cluster random sampling technique. The respondents were predominantly women aged 26-45 years.

### *Data collection*

Primary data were collected through structured questionnaires distributed to the respondents. The questionnaire was designed to capture information on various variables, including collaboration, age, knowledge, education, perceived benefits, collaborative leadership, trust, communication, interests, mutual understanding, and effective teamwork. The questionnaire was adapted from previous research and tested for validity and reliability, with a Cronbach's alpha value 0.962, indicating high internal consistency. Respondents provided informed consent before participating, and the questionnaire was administered with guidance from the researcher to minimize bias.

**Data analysis**

Data were univariate and bivariate statistical techniques. Descriptive analysis was conducted to determine the frequency and percentage of each variables, presented in tables and graphs. Logistic regression analysis was employed to assess the relationships between the independent variables and the collaboration of stunting cadres. The results were reported with corresponding p-values to determine the significance of the associations.

**Ethical clearance**

The study was conducted in accordance with ethical guidelines, and ethical clearance was obtained from Mitra Indonesia University in Lampung, with reference no. S.25/005/FKES10/2022. No Ethical issues arose during the study, and all participants provided informed consent before data collection began.

**Results**

**Univariate analysis**

**Human development cadre collaboration**

Collaboration is a fundamental process that foster trust, integrity, and innovation through consensus, ownership and cohesiveness within an organization. Table 1 shows the frequency distribution of collaboration among stunting cadres in stunting prevention efforts in Pringsewu Regency, Lampung Province.

Based on Table 1, it is known that 57.1% of the cadres (36 individuals) have a negative attitude towards collaboration on stunting prevention efforts, while 42.9% (27 individuals) have a positive attitude towards such collaboration.

**Characteristics of stunting cadres**

Table 2 represents the frequency distribution of stunting cadres' characteristics, including age, education, knowledge, trust, communication, leadership, added public value, deliberation, and interest.

**Table 1:** Frequency distribution of attitudes towards human development cadre collaboration in stunting prevention efforts in Pringsewu Regency, Lampung Province

Collaboration	Frequency (n=63)	Percentage (%)
Negative	36	57.1%
Positive	27	42.9%
Total	63	100%

**Table 2:** Frequency distribution of stunting cadres' characteristics

Variable	Frequency (n=63)	Percentage (%)
Age		
18 – 25 years	15	23.8%
26 – 45 years	48	76.2%
Education		
Low	41	65.1%
High	22	34.9%
Knowledge		
Not good	23	36.5%
Good	40	63.5%
Belief		
Negative	43	68.3%
Positive	20	31.7%
Communication		
Not good	35	55.6%
Good	28	44.4%
Collaborative leadership		
Negative	46	73%
Positive	17	27%
Deliberation		
Negative	32	50.8%
Positive	32	49.2%
Added public value		
Negative	35	55.6%
Positive	28	44.4%
Interest		
Negative	35	55.6%
Positive	28	44.4%

The results in Table 2 indicate that the majority of respondents were aged 26-45 years, with a smaller number aged 18-25 years. This shows that the willingness to become cadres is dominated among those aged 26-45 years, who are considered adults. The findings suggest that education, trust, communication, added public value and

**Table 3:** Factors associated with collaboration among stunting cadres in stunting prevention efforts in Pringsewu Regency, Lampung Province

Variable	Collaboration		Positive		Total		p-value	OR (95% CI)
	Negative n	%	n	%	n	%		
<b>Age</b>								
18 – 25 years	10	15.9%	5	7.9%	15	23.8%	0.579	
26 – 45 years	26	41.3%	22	34.9%	48	76.2%		
Total	36	57.1%	27	42.9%	63	100%		
<b>Education</b>								
Low	24	38.1%	17	27%	41	65.1%	0.970	
High	12	19.0%	10	15.9%	22	34.9%		
Total	36	57.1%	27	42.9%	63	100%		
<b>Knowledge</b>								
Not good	17	27.0%	6	9.5%	23	36.5%	0.076	
Good	19	30.2%	21	33.3%	40	63.5%		
Total	36	57.1%	27	42.9%	63	100%		
<b>Trust</b>								
Negative	29	46%	14	22.2%	43	68.3%	0.032	3.847 (1.257 – 11.773)
Positive	7	11.1%	13	20.6%	20	31.7%		
Total	36	57.1%	27	42.9%	63	100%		
<b>Communication</b>								
Not good	25	39.7%	10	15.9%	35	55.6%	0.021	3.864 (1.345 – 11.096)
Good	11	17.5%	17	27%	28	44.4%		
Total	36	57.1%	27	42.9%	63	100%		
<b>Collaborative leadership</b>								
Negative	30	47.6%	16	25.4%	46	73%	0.063	
Positive	6	9.5%	11	17.5%	17	27%		
Total	36	57.1%	27	42.9%	63	100%		
<b>Deliberation</b>								
Negative	25	39.7%	7	11.1%	32	50.8%	0.002	6.494 (2.129 – 19.807)
Positive	11	17.5%	20	31.7%	31	49.2%		
Total	36	57.1%	27	42.9%	63	100%		
<b>Added public value</b>								
Negative	27	42.9%	8	12.7%	35	55.6%	0.001	7.125 (2.328 – 21.809)
Positive	9	14.3%	19	30.2%	28	44.4%		
Total	36	57.1%	27	42.9%	63	100%		
<b>Interest</b>								
Negative	23	36.5%	12	19%	35	55.6%	0.200	
Positive	13	20.6%	15	23.9%	28	44.4%		
Total	36	57.1%	27	42.9%	63	100%		

collaborative leadership are related to stunting cadres collaboration. Interest in collaboration arises when cadres perceive added public value, and trust is built through deliberation and collaborative leadership support.

### ***Bivariate analysis***

#### ***Factors related to collaboration among stunting cadres in stunting prevention efforts***

The results in Table 3 indicates that 15 (23.8%) cadres were aged 18-25 years, with 10 (15.9%)

exhibiting negative collaboration and 5 (7.9%) exhibiting positive collaboration. Cadres aged 26–45 years comprised 48 (76.2%) of the study population, of whom 26 (41.3%) had negative collaboration and 22 (34.9%) had positive collaboration. The statistical test results showed a *p-value* of 0.579, indicating no significant relationship between age and the collaboration of stunting cadres in stunting prevention efforts in Pringsewu Regency, Lampung Province.

The analysis of the relationship between education and cadre collaboration showed that out of

41 (55.1%) cadres with low education, 24 (38.1%) had negative collaboration and 17 (27%) had positive collaboration. In contrast, among 22 (34.9%) cadres with higher education, 12 (19%) had negative collaboration and 10 (15.9%) had positive collaboration. The statistical test results showed a *p-value* of 0.970, indicating no significant relationship between education and the collaboration of stunting cadres in stunting prevention efforts in Pringsewu Regency, Lampung Province<sup>10</sup>.

The analysis of the relationship between knowledge and collaboration showed that out of 23 (36.5%) cadres with poor knowledge, 17 (27%) had negative collaboration and 6 (9.5%) had positive collaboration. In contrast, among 20 (31.7%) cadres with good knowledge, 19 (30.2%) had negative collaboration and 1 (3.3%) had positive collaboration. The statistical test results showed a *p-value* of 0.076, indicating no significant relationship between knowledge and the collaboration of stunting cadres on stunting prevention efforts in Pringsewu Regency, Lampung Province. Table 3

The results of the analysis of the relationship between trust and collaboration in stunting cadres showed that out of 43 (68.3%) cadres who had negative trust, 29 (46%) had negative collaboration, while 14 (22.2%) had positive collaboration. Among 20 cadres with positive trust, 7 (11.1%) had negative collaboration, while 13 (20.6%) had positive collaboration. The results of the statistical test showed that the *p-value* was 0.032, which means that there was a significant relationship between trust and the collaboration of stunting cadres on stunting prevention efforts in Pringsewu Regency, Lampung Province. From the results of the analysis, an OR value of 3.847 was obtained, which means that cadres with negative trust have a 3.847 times risk of having negative collaboration compared to cadres with positive trust. The results of data analysis of the relationship between communication and collaboration in stunting cadres found that of 35 (55.6%) cadres who had poor communication, 25 (39.7%) had negative collaboration and 10 (15.9%) had positive collaboration. Among 28 (44.4%) cadres with good communication, 11 (17.5%) had negative collaboration, while 17 (27%) had positive collaboration. The results of the statistical test

showed a *p-value* of 0.021, which means that there is a significant relationship between communication and collaboration of stunting cadres on stunting prevention efforts in Pringsewu Regency, Lampung Province. From the results of the analysis, an OR value of 3.864 was obtained, which means that cadres with poor communication have a risk of 3.864 times having negative collaboration compared to cadres with good communication.

Analysis of the relationship between collaborative leadership and collaboration of stunting cadres shows that of the 46 (73%) cadres who have negative collaborative leadership, 30 (47.6%) had negative collaboration and 16 (25.4%) had positive collaboration. Meanwhile of the 17 (27%) cadres with good collaborative leadership, 6 (9.5%) had negative collaboration and 11 (17.5%) had positive collaboration. The results of the statistical test showed that the *p-value* was 0.063, which means that there is no significant relationship between collaborative leadership and the collaboration of stunting cadres on stunting prevention efforts in Pringsewu Regency, Lampung Province.

## Discussion

Interest in collaboration arises when cadres perceive added public value, and trust is built through deliberation and collaborative leadership support<sup>9</sup>. Collaborative leadership plays an important role in building trust among stakeholders and facilitating effective collaboration<sup>10</sup>. Collaborative efforts involving cadres, collaborative components, and collaborative leadership have shown a positive influence on consensus-building in stunting prevention. Empowering health cadres with knowledge and skills through educational media increases their understanding and improves community awareness about nutritional needs, thus accelerating the reduction in stunting prevalence<sup>11</sup>.

Trust arises when someone believes in the actions of others and it involves both processes and outcomes. Without mutual trust, collaboration among stunting cadres will not occur<sup>12</sup>. Trust, communication, interest, mutual understanding, and agreement all have an influence on time

effectiveness<sup>13</sup>. Trust in time has been found to have a significant impact on time effectiveness, with research showing that trust contributes to increased productivity and an organization's desired output<sup>14</sup>. Effective communication is also important for teamwork, as it promotes transparency, better understanding of assigned work, and smooth functioning of the organization, ultimately leading to increased productivity<sup>15</sup>.

The knowledge and ability of health cadres to educate the public is important in accelerating the reduction of stunting prevalence<sup>15</sup>. Collaborative governance processes, including leadership and communication forums, contribute to reducing stunting rates and developing health education network models<sup>16</sup>. Therefore, collaborative leadership and cadre characteristics are important components in fostering interest and effectiveness in stunting prevention efforts<sup>17</sup>. By increasing the knowledge and capacity of health cadres, they can actively contribute to stunting prevention programs. Collaborative processes between different stakeholders, including local governments, community groups, and the private sector, are critical in addressing and reducing stunting levels<sup>18</sup>.

Collaboration among stunting cadres supports broader research on interprofessional and intersectoral efforts in public health, as seen in Suratman et al.'s study, which emphasizes its role in reducing community-level stunting<sup>19</sup>. Evidence shows that children recovering from early stunting can achieve similar cognitive outcomes to those never stunted, highlighting the need for timely, coordinated interventions by community health workers<sup>20</sup>. Lessons from other settings, such as South Africa's approach to preventing learner pregnancies, show that effective leadership and communication are crucial<sup>21</sup>. However, sustaining long-term engagement in low-income communities requires addressing motivation and rewards for cadres<sup>22</sup>. This study has several limitations. Its cross-sectional design prevents causal conclusions, the small and localized sample limits generalizability, and reliance on self-reported data may introduce bias. Future research should use longitudinal designs and larger, more diverse samples for a fuller

understanding of collaboration in stunting prevention.

## Conclusion

This study highlights the critical role of collaboration among stunting cadres in enhancing the effectiveness of stunting prevention efforts. The findings demonstrate that factors such as trust, communication, agreement, and perceived benefits significantly influence the level of collaboration among these community health workers. Strengthening these factors can lead to more cohesive and effective teamwork, thereby optimizing the outcomes of stunting prevention programs. It is recommended that health authorities and policymakers focus on enhancing training programs that emphasize trust, communication, and collaborative leadership among stunting cadres. Additionally, establishing clear communication channels and introducing incentives for effective collaboration can further strengthen stunting prevention efforts.

## Authors contribution

Dian Utama Pratiwi Putri: Conceptualized and designed the study; collected and analyzed the data; wrote the manuscript

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