Youth Empowerment in the Integration Program for Stunting Prevalence Reduction in East Java Province during Covid-19 Pandemic:
A Document Review

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Abstract
Introduction: More than 25% of East Java regencies and cities had stunting prevalence rates higher than the national figure. The involvement of the youths to reduce stunting is important in helping to overcome this national health problem. This study aimed to identify areas in East Java that have stunting prevalence rates above the national rate and assisted in the preparation of a program called the Youth Empowerment for Stunting Reduction Program (YESREP).

Methods: This descriptive study used document review by PRISMA stages. At the initial stage, 453 documents were filtered from Google Scholar (n=29), Pubmed (n=12), SagePub (n=20), Semantic Scholar (n=6), others (n=136), while the remaining (n=260) were discarded. The search keywords were 'youth empowerment', 'stunting', and 'Covid-19'. The inclusion criteria were stunting cases, youth empowerment, and the Covid-19 pandemic. The documents screened were journals with quantitative, qualitative, document review methods, year of publication:2017-2022, focusing on youth empowerment and stunting, and in English or Indonesian languages. The tool used for the final document selection used PICOT model.

Results: Youth empowerment was one of the effective methods in reducing the stunting prevalence. However, training programs, orientation, continuity, guidance, and follow-up are needed. The challenges were in funds, time, and readiness of the human resources involved in the implementation of YESREP.

Conclusion: YESREP as a concept, was effective in reducing stunting prevalence, but still have some limitations. This study recommends conducting experimental research through a pilot project.

Keywords: youth empowerment, stunting prevalence, reduction, covid-19, East Java

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Introduction

East Java was one of the provinces where the stunting prevalence rate (24.5%) was below the national scale in 2021 (25.4%).\(^1\) However, out of 38 cities and regencies, 10 of them had prevalences of more than 25%, namely Nganjuk regency (25.1%), Malang regency (25.7%), Malang city (25.7%), Surabaya city (28.9%), Mojokerto regency (27.4%), Sumenep regency (29.0%), Bangkalan regency (38.9%), Lumajang regency (30.1%), Bondowoso regency (37.0%), and Pamekasan regency (38.7%).\(^1\) What's interesting was that of the 10 regions that account for more than 40% of the area in East Java, 4 are located in the northern coastal areas (Surabaya, Bangkalan, Sumenep, and Pamekasan). The average stunting prevalence of the 10 cities and regencies in East Java was 30.65%, still far above the national target in 2024, which is 14.0%. From the socio-demographic point of view, three cities are located on the island of Madura. Meanwhile, from the economic point of view, all of these regions will experience a decline in economic growth in 2021, between -1.71% (Nganjuk regency) to -5.59% (Bangkalan regency). Uniquely, the city of Kediri which also experienced a decline in the economic growth of -6.25%, and the city of Batu -6.26% were not included in the high prevalence category.\(^2\) Many studies linked between economic levels, food quality, and the number of stunting cases in children who experience malnutrition.\(^3-5\) These three conditions are interesting to study.

Meanwhile, the population in East Java Province in 2021 reached 40.6 million with a population density of 851 people per square kilometer.\(^6\) This population growth was up 0.7%, below the national growth rate of 1.25%.\(^7\) East Java is one of the most populous province in Indonesia after Jakarta, Central Java, West Java, and Yogyakarta. In terms of population composition, adolescents aged between 10-19 years amounted for 6,112,820 or more than 15% of the total population.\(^8\) This position of youth is very important and becomes part of future development strategies.\(^9\) Many studies have explored the role and empowerment of youth in the development of various fields such as information technology, education, health, and human resources.\(^10,11\) Their involvement in handling stunting cases is no exception. Integrating the youth role for the handling of stunting in various medium and developing economies is part of the national development strategy.\(^12\)

Based on the above considerations, we conducted this research using the document review method, due to various limitations, in this Covid-19 era where many changes occurred in the government regulations.\(^13-15\) At the beginning of 2022, we faced a new variant of Omicron that requires extra care to prevent the spread of this infection to a larger population.\(^16\) The purpose of this study was to identify areas in East Java that had stunting prevalence above the national level and were expected to assist in the preparation of programs to decrease stunting prevalence. The implication of this research is the creation of a proposal which we call the Youth Empowerment for Stunting Reduction Program (YESREP) which is also expected to have a positive impact on national integration programs across sectors, on health, population, welfare, education, and the quality of Indonesian human resources.

Methods

This descriptive study used document review method by PRISMA analysis. PRISMA Analysis is widely used by previous researchers in similar research areas and is considered an effective method in the pandemic era.\(^17,18\) Descriptive study design was carried out to support the elaboration of data that requires explanation which is also widely used as an approach of choice in various studies.\(^19,20\) This PRISMA analysis distinguishes the distribution of review documents into 3 stages, namely the document identification stage, the screening stage, and the included stage.

In the initial identification stage, 453 documents were obtained from search engines with eligible details filtered according to titles from Google Scholar.

(n=29), Pubmed (n=12), SagePub (n=20), and Semantic Scholar (n=6), while the remainder (n=396) was discarded. The search keywords were ‘youth empowerment’, ‘stunting’, and ‘Covid-19’. At the Screening stage, we narrowed the search area by including the inclusion criteria for stunting cases, youth empowerment, and the Covid-19 pandemic. The documents screened were journals with quantitative, qualitative, document review methods, year of publication: 2017-2022, focusing on youth empowerment and stunting, and in English or Indonesian languages. Meanwhile, at the Included stage, eligible journals were taken, emphasizing where data and concrete problems can be obtained by the direction and objectives of the research. The tool used for the final document selection at this stage is the PICOT model (Population, Intervention, Comparison, Outcome, and Time).

Results

The results of this document review study were presented in four parts. The first part is the results of obtaining documents from search engines that are entered into the database. The second part is the results of the selection of documents that are entered into the PRISMA analysis (Figure 1). The third part is the results of the PICOT model (Table 1). The last part is the eligible document table which we analyzed as the focus of the problem along with alternative solutions which will be discussed in the Discussion section of this article.

Documents were taken from a search engine that is entered in the database with keywords based on the title. At this initial stage, the majority of documents were obtained from Google Scholar (n=29), followed by SagePub (n=20), Pubmed (n=19), Semantic Scholar (n=6), and others (n=136). Other documents were discarded because they were not relevant, duplications, and other reasons that did not.

Figure 1. Analysis of Results Based on PRISMA Diagram
match the topic (n=260). Document details are contained in PRISMA Analysis in Figure 1. This Figure shows a summary of the Identification stage where 713 documents were screened, and 453 were recorded in the database, 200 of which were eligible and 260 were deleted due to duplication, non-eligible and other reasons. In the Screening stage, from 200 documents, 64 records were taken for retrieval, and 136 were not included because they were out of focus.

Meanwhile, in the final stage (Included), 11 records were reviewed after deleting 3 documents that did not meet the requirements. Table 1 is a summary of the eligible journals, supported by Table 2 PICOT model which identifies documents according to population, intervention, comparison, outcome, and time.

Table 1. List of Eligible Documents

<table>
<thead>
<tr>
<th>No.</th>
<th>Title, Authors, Year of publication</th>
<th>Country and research methods</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Community participation in the utilization of village fund for stunting prevention: Case study in two villages in Gianyar Regency, Prabasari et al, 2021</td>
<td>Indonesia, Qualitative</td>
<td>The majority of proposals for stunting prevention programs came from cadres of community health posts, health care workers, and village assistants. The decision-making in the planning stage was depending upon the village government. 21</td>
</tr>
<tr>
<td>2</td>
<td>A Method of Stunting Reduction Intervention Based on Community and Local Culture, Hariyani et al., 2021</td>
<td>Indonesia, Quantitative-Qualitative Descriptive</td>
<td>The development of community-based and local culture-based stunting reduction intervention methods covers five domains, namely: Core domains: analysis of potential, constraints, disadvantages, and advantages. 22</td>
</tr>
<tr>
<td>3</td>
<td>Social Demographic Analysis with the Growth and Development of Children in the Era of the COVID-19 Pandemic in Indonesia, Fitriahadi et al., 2021</td>
<td>Indonesia Quantitative</td>
<td>The socio-demographics related to the growth and development of children under 5 were maternal education with p = 0.001 and family income with p = 0.000. 11</td>
</tr>
<tr>
<td>4</td>
<td>Collaborative governance to achieve SDGs social development: Preventing stunting lesson from Pandeglang, Candarmaweni, et al., 2020</td>
<td>Indonesia Qualitative</td>
<td>The researchers provide recommendations for strengthening resources support and capacity building for all components involved in this program. 23</td>
</tr>
<tr>
<td>5</td>
<td>Stunting and Poverty Management Strategies in the Palembang City, Indonesia, Hidayat and Erlyn, 2021</td>
<td>Indonesia Qualitative and Quantitative</td>
<td>The strategies to accelerate stunting reduction is family food security and parenting that determine nutritional adequacy and strengthened by the coordination of poverty alleviation programs, as well as the empowerment of micro and small businesses. 5</td>
</tr>
</tbody>
</table>
Table 1. List of Eligible Documents (Continued)

<table>
<thead>
<tr>
<th></th>
<th>Title</th>
<th>Country</th>
<th>Method</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>A multi-level qualitative analysis of sensitive intervention stunting program: from regulation to action, Purnama et al., 2021</td>
<td>Indonesia</td>
<td>Qualitative</td>
<td>The families of stunting infants are not familiar with activities and are still focused on specific packages. Coordination and collaboration, both intern level and between levels, have not been implemented. The development of innovations in regulation has no impact on public health.</td>
</tr>
<tr>
<td>7</td>
<td>Risk Factors for the Prevalence of Stunting in Young Children and Its Prevention, Linasari, D., 2021</td>
<td>Indonesia</td>
<td>Quantitative</td>
<td>The highest risk factor for stunting to happen in children was maternal knowledge with an OR score of 3.03. Stunting prevalence was affected by the mother’s behavior in parenting. Attitudes and knowledge are also important.</td>
</tr>
<tr>
<td>8</td>
<td>Multisectoral Integration of Nutrition, Health, and Agriculture: Implementation Lessons From Ethiopia, Bach et al., 2020</td>
<td>Ethiopia</td>
<td>Qualitative</td>
<td>Multisectoral collaboration has helped reduce under-nutrition in Ethiopia. The accountability structures are vital to effective coordination, monitoring, and evaluation in multisectoral governance.</td>
</tr>
<tr>
<td>9</td>
<td>Exploring the conceptualization and research of empowerment in the field of youth, Martinez et al, 2016</td>
<td>Spain</td>
<td>Systematic Review</td>
<td>The main dimensions associated with youth empowerment are identified as growth and well-being; relational; educational; political; transformative; and emancipative.</td>
</tr>
<tr>
<td>10</td>
<td>Healthy &amp; Empowered Youth: A Positive Youth Development Program for Native Youth, Rushing et al., 2016</td>
<td>USA</td>
<td>Qualitative</td>
<td>The media enhancements were central to the success of the program, reinforcing and personalizing lessons in the classroom.</td>
</tr>
<tr>
<td>11</td>
<td>Youth empowerment in preventing early marriage and stunting, Marcelina et al., 2021.</td>
<td>Indonesia</td>
<td>Quantitative</td>
<td>Adolescents are the hope to continue their potential. The impact of youth empowerment is optimizing their productivity, besides they are the representatives of cadres who understand adolescent reproductive health and can become the sources of information for their peer group.</td>
</tr>
</tbody>
</table>

Table 1 shows a summary of 11 eligible documents. Eight studies were conducted in Indonesia, and 3 were conducted in the USA, Italy, and Ethiopia. The 8 documents involving public and healthcare professionals during the Covid-19 pandemic, and 3 documents focused on youth empowerment. One study used a review method, two mixed methods, 4 quantitative, and 5 qualitative. All documents produce recommendations on the importance of integration programs in stunting management. Meanwhile, 7 studies recommend the involvement of the
community and youth in stunting prevention. The problem was that these 11 journals did not explain what form of youth involvement and to what extent.

Table 2 is the summary of eligible documents screened from the last stage of PRISMA analysis (Included category). This Table show the evidence the integration program in managing stunting cases by empowering youth is significantly needed. The question arises is what type of youth empowerment and how to empower them in East Java? The answer is to be provided in the Discussion in the next chapter of this article.

PICOT Selection

Table 2. PICOT Selection of the Eligible Documents

<table>
<thead>
<tr>
<th>Population</th>
<th>Intervention</th>
<th>Comparison</th>
<th>Outcome</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 documents (No. 1-8) involved the public, and healthcare professionals, and 3 documents (No. 9-11) the population is adolescent.</td>
<td>All documents discussed stunting (No. 1-11), 8 mixed with Covid-19 pandemic (No. 1-8), and 3 (No. 9-11) are about adolescent empowerment.</td>
<td>The documents which were not discussed about stunting and youth empowerment.</td>
<td>All documents recommend the important role of the integration program (No. 1-8) with and the involvement of youth activities (no. 9-11).</td>
<td>During Covid-19 in particular (No. 1-8) but journals for the last 5 years were also considered (No.1-11).</td>
</tr>
</tbody>
</table>

The limitation of this study was that we did not conduct direct research to 10 cities/regencies in East Java due to time, effort, funds, and the pandemic era in which we are encouraged to keep our distance, minimize traveling, and direct contact according to government advice. This research, however, differs from previous studies which elaborate more about the effect of nutrition in the pandemic era on stunting cases. Thus, the results of this study can provide added value to the nuances of studies related to stunting.

Discussion

Table 1 indicates 3 issues related to youth empowerment. First, no document explains the extent of youth involvement during the Covid-19 pandemic. Second, there is no specific study in East Java that emphasizes the location of the largest stunting prevalence except for statistical reports available. The location of the case has impact on the socio-anthropological approach to research, including the approach to adolescents. The third problem is unavailability of the formulation or steps for empowering the youth, to increase their understanding. Those three points are not included in the 11 journals above. Those three issues are to be discussed in this section.

**Youth empowerment in stunting program during Covid-19 pandemic**

Eight journals of Table 1 recommended the importance of community and adolescent involvement in reducing prevalence (journals No. 1, 2, 4, 6, 8, 9, 10, 11). Communities and youth have a big role in every program that is carried out for the common interest in society, especially programs such as education, health, improvement of infrastructure facilities, and others in developing countries such as Nepal, Bangladesh, Nigeria. Many theories support the effectiveness of their involvement. The role of adolescents in programs to reduce stunting prevalence needs to be considered because adolescents are not only required to know the phenomena that occur in the community where they live. However, they as the younger generation need to know, learn, and
be involved in handling the problems that exist in society. Involving teenagers in every phenomenon that exists in the society will provide a vehicle for direct learning, with the principles of, by, and for them. In this pandemic era, it is very important to provide positive activities for teenagers so that they can use their energy, thoughts, and ideas, which of course within certain limits, but they can be guided and directed. Therefore, the empowerment requires a clear concept, directed goals. The program must measure the time, effort, and results to be achieved along with the preparation of reports, including an analysis of the program's strengths and weaknesses. Programs that provide an attraction for teenagers who have a great curiosity in their growth and development.

**Research on Stunting Location**

The documents in Table 1 with locations in Indonesia that are close to the topic of our research are documents number 1 and 11 (Table 1) which emphasize youth empowerment for stunting, only the locations are different. The focus of our research location is in 10 cities and regencies in East Java. Three of these cities are located on the island of Madura and in the coastal area. Understanding this location is very important considering that socioculturally, urban, mountain, and coastal communities have different characters and customs. In empowering adolescents, especially teenagers who are studying socio-cultural and anthropological materials, it is necessary to provide them with such provisions. Empowering youth who have knowledge and experience about locations where stunting cases occur will greatly assist the smooth running of the prevalence rate reduction program. Therefore, we recommend the need for further research on detailed locations in 10 cities/ regencies in East Java Province, which had high stunting prevalence to facilitate the programs.

**The formula on empowerment program**

Of the 11 journals above, none of them specifically mentions the formula for empowerment. The closest one to the topic of this research is the 11th journal (Table 1), namely youth empowerment in early marriage and stunting. However, the details of which empowerment involvement are not discussed. This research adds value to the journal. In the form of formula on youth empowerment for stunting program which we call the Youth Empowerment for Stunting Reduction Program (YESREP).

The YESREP program aims to provide young people with skills and knowledge on how to identify stunting cases early in the community. The steps are to be prepared in a proposals that can be submitted to related institutions, such as the National Family Planning Board (BKKBN), the health office, or the local government office. Proposals can also be prepared in the form of research proposals on campus that receive financial support from the ministry of education or the ministry of health. The preparation of the proposal was followed by orientation in the field, in collaboration with family planning instructors (PKB) assisted by local officials, then recruited youth who were interested in joining the program. The training program is carried out in stages, online and partially offline by prioritizing health protocols. This integrated training program involving PKB will get a good response from BKKBN because stunting is in the priority for BKKBN project. The problem is the allocation of funding, time, and energy. Nationally, this program is optimistic that it will get support. Research related to stunting will not subside in the next two decades. The initiation of YESREP can be realized through the proper guidelines provided in youth empowerment programs.

**Conclusion**

Prepared in a document review, this study aims to identify areas in East Java that have a high stunting prevalence rate above the national figure and is expected to assist in the preparation of programs to decrease stunting prevalence. As a result, 10 cities/regencies in East Java Province have prevalence rates above the national figure (25%). The reviews on 11 eligible journal's
articles provide recommendations on the importance of community and youth empowerment. To measure the effectiveness of the results of the specific recommendations from this study, it is necessary to prepare a proposal called YESREP program. The integrated program consists of a research plan that begins with short training for youth by involving family planning counselor (PKB) at the location. The problems are the funding, time, and human resources for this program. However, as this study does not have to be carried out directly, we are optimistic that this study recommendation can be used for the future research.

**Ethics Approval**

This document review does not need any ethics approval as it does not involve humans or animals during the research process.

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**Authors Contributions**

TA: Conceptualization, data collection, analysis, writing, and revising the manuscript.

SW: Conceptualization, data collection, analysis, and revising of the manuscript.

SH: Data collection, analysis, and revising of the manuscript.

SK: Conceptualization, data collection, analysis, and revising of the manuscript.

All authors have read, agreed, and approved the publication of the manuscript.

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