Bibliometric mapping of research developments on the topic of Efforts to Accelerate Stunting Reduction on ProQuest using VOSviewer

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Abstracts: Research methods using VOSviewer application – Visualizing the scientific landscape (bibliometry) quantitative approach used to analyze and evaluate scientific papers that have been published in a particular field of knowledge. In conducting a literature review using a bibliometric approach, researchers collect and analyze various types of scientific publications such as journals, conference articles, and theses related to the research topic being investigated. The results of the study are known to be assumed that. The results of this study provide a strong foundation for assessing the success of stunting reduction efforts, identifying possible collaborations, and formulating future research directions related to the success of national priority programs that include accelerating the reduction in stunting incidence. The need for future researchers to conduct similar research by modifying specifically by adding mediating variables related to organizational behavior where public health efforts which are health programs at first-level health facilities with good governance can certainly contribute to the reduction of stunting, but the rapid slow decline in the incidence of stanting depends on the behavior in the organization, namely the commitment of officers health and motivation work in health workers in such first-level service facilities. With the hope that further research can develop research by examining public health efforts towards the success of national priority programs by increasing mediation, work commitment, and work motivation.

Keywords: ProQuest, Bibliometric Analysis, VOSviewer, Stunting.

1. INTRODUCTION

Health programs are one of the important elements of healthcare governance management. Health care governance includes the management, organization, and provision of health services effectively and efficiently. A wellness program is a set of activities or initiatives designed to promote, prevent, treat, and support the health and well-being of patients or communities served by a health organization or institution. Health Service Centers (Puskesmas) have a very important role in supporting the achievement of national priority programs in the health sector. Puskesmas is a community health service facility at the primary level whose main goal is to provide affordable and equitable health services to all levels of society [1].

National strategy objectives to combat stunting through specific nutrition (supplementary feeding for pregnant women, exclusive breastfeeding counseling, prenatal health screenings, supplementation for children, complete immunization, and growth monitoring and promotion programs) and sensitive interventions (access to water and sanitation, access to social insurance, awareness, behavior change, parenting, and parenting practices, and access to nutritious food programs) and convergence of interventions (on leadership, coordination, technical assistance, community empowerment, and social accountability [2].

Child stunting is one of the most significant barriers to human development, globally affecting an estimated 162 million children under the age of 5. Stunting, or being too short for a person's age, is defined as height that is more than two standard deviations below the median of World Health Organization (WHO) child growth standards. This is a largely irreversible result of inadequate nutrition and repeated bouts of infection during the first 1000 days of a child's life. Stunting has long-term effects on individuals and communities, including reduced cognitive and physical

development, reduced productive capacity and poor health, and an increased risk of degenerative diseases such as diabetes [3].

Projections show that 127 million children under 5 will be stunted by 2025. Therefore, further investment and action is needed to achieve the World Health Assembly's 2025 target of reducing that number to 100 million. The rate of stunting or impaired growth in children worldwide is about 21.3%. This means that about 1 in 5 children worldwide are stunted. In 2020, globally, 149.2 million children under the age of 5 were stunted, 45.4 million wasted, and 38.9 million overweight. The number of children with stunting decreased in all regions except Africa. More than half of all children affected by wasting live in South Asia and Asia as a whole is home to more than three-quarters of all children suffering from severe wasting. In terms of targets, at the country level, the greatest progress is being made towards stunting targets, with nearly two-thirds of countries seeing at least some progress [4].

World institutions involved in cross-cutting stunting include the World Health Organization (WHO), the Food and Agriculture Agency of the United Nations (FAO), the United Nations Children's Fund (UNICEF), and the World Bank. Each of these institutions plays an important role in providing technical, financial, and policy support to address the problem of stunting holistically. WHO and UNICEF, for example, focus on health and nutrition, providing global guidelines and standards for improving maternal and child health. FAO contributes by providing guidance related to food safety and adequate nutrition. Meanwhile, the World Bank provides funding and technical support for stunting reduction programs in various countries, ensuring that sufficient resources are available to effectively combat stunting. Through this cross-sector collaboration, global institutions are working together to address the challenges of stunting and ensure optimal health and development for children around the world.Services that are specific to health services for pregnant women, childbirth women, newborn health services, toddlers and health services for children of basic education age [5].

Health services for pregnant women play an important role in efforts to reduce stunting rates. Through routine check-ups during pregnancy, pregnant women can obtain information and advice related to proper nutrition for optimal fetal growth. In addition, health services for pregnant women also include monitoring the health and growth of the fetus, as well as early treatment of health problems that may arise. By ensuring that pregnant women receive adequate health care during pregnancy, the potential risk of child stunting can be minimized, providing a strong foundation for healthy growth and development later in life [6], [7]. In addition, it is necessary to know the large number of children born or the inactivity of mothers in participating in family planning programs which has an impact on increasing the population at risk for stunting in children [8], [9].

Health services for maternity mothers are one of the key strategies in efforts to reduce stunting. During the delivery process, mothers need comprehensive care to ensure the birth of the child goes smoothly and safely. In addition, after giving birth, the mother also needs adequate postpartum care to restore her physical condition. Good health services also include assistance in breastfeeding and providing advice related to healthy eating patterns for mothers and babies. By providing quality health services during pregnancy and after delivery, the potential risk of stunting in children can be minimized, providing a strong foundation for healthy growth and development in the future [1], [10].

Health services for newborns are an important component in the strategy to reduce stunting. Newborns need special care and careful medical supervision to ensure that they start life healthy and optimal. This includes regular check-ups, immunisations, and advice on infant nutrition and care. In addition, health care providers also play an important role in providing assistance to mothers in breastfeeding, which has a significant impact on the growth and development of the baby. By providing newborns with appropriate health care, the potential risk of stunting can be reduced, creating a solid foundation for healthy growth and development during childhood [11].

Health services for toddlers play a central role in stunting reduction strategies. At this age, the growth and development of children is very fast, so proper care is crucial. Regular check-ups, immunizations, and education to parents about nutrition and healthy eating patterns are integral parts of toddler health services. In addition, early detection and treatment of health and nutritional problems that may arise at this age is also very important. By

providing holistic health services to toddlers, including aspects of physical health and nutrition, the potential risk of stunting can be minimized, creating a strong foundation for healthy growth and development as we age [12].

Health services at the age of primary education have a crucial role in efforts to reduce stunting rates. At this stage, children are going through a period of significant growth and development, which requires special attention to aspects of health and nutrition. Through regular screenings, nutrition education, immunization programs, and early detection of health problems, health systems can provide the protection and support needed to ensure children enter adolescence in optimal physical and mental condition. By providing integrated health services at primary education age, the potential risk of stunting can be minimized, and children can grow and develop strong and healthy, preparing a resilient generation for a better future [13], [14].

Stunting, which is a chronic nutritional problem resulting from malnutrition early in life, has serious impacts that go beyond physical growth. Children who are stunted tend to have limited cognitive abilities. Children who are stunted have a higher risk of learning difficulties and achieve lower academic achievement. Adults who are stunted tend to have lower productivity and a limited quality of life. Children who are stunted may experience limitations in physical abilities and energy. Adults who are stunted have a higher risk of developing chronic diseases such as diabetes, heart disease, and high blood pressure [15]. Perry et al., (2023) explained that the prevalence of stunting decreased after essential public health efforts such as health services for pregnant women, nutrition for pregnant women and exclusive breastfeeding for infants.

Chronic nutritional problems due to nutritional deficiencies in the long term, can weaken the immune system. Children who are stunted tend to have suboptimal immune systems, making them more susceptible to infections, including respiratory infections such as pneumonia. Therefore, stunting prevention and treatment is very important to improve children's health and quality of life, as well as reduce the risk of various nutrition-related diseases and infections [17].

The number of previous studies related to stunting as a global problem so that the need to conduct bibliometric analysis as a reference for future researchers can see other relevant factors related to efforts to reduce stanting. The beginning of bibliometric analysis was used to measure and analyze the impact of scientific publications and research development patterns in a field. By utilizing statistical methods and data analysis, bibliometrics allow researchers, publishers, and public policy to understand trends, determine scientific collaborations, identify leading journals and institutions, and measure the level of influence of a study or researcher in the scientific community. This provides valuable insights in directing the focus of research, assessing scientific contributions, and planning science development strategies in a variety of disciplines. In other words, bibliometric analysis enables stakeholders in academia and research to make more informed decisions and optimize the use of research resources.

2. METHODS

The research method is using the VOSviewer application - Visualizing scientific landscapes (bibliometry) quantitative approach used to analyze and evaluate scientific papers that have been published in a particular field of knowledge. In conducting a literature review using a bibliometric approach, researchers collect and analyze various types of scientific publications such as journals, conference articles, and theses related to the research topic being investigated. Furthermore, this bibliometric data is processed using statistical methods and text analysis techniques to identify trends, patterns, and relationships between scientific works[18]. This approach provides in-depth insight into research developments within a discipline, enables researchers to identify knowledge gaps, and provides a strong foundation for building arguments or theoretical frameworks in scientific studies. The sample in this study uses scientific articles published on ProQuest in the last 5 years as of November 10, 2023 with a total of 400 research articles, using search keywords, namely Efforts to Accelerate Stunting Reduction.

Finding references through ProQuest has several reasons to consider [19]:

1. ProQuest is a database platform that provides access to a wide range of academic information sources, including scholarly journals, theses, dissertations, and other scholarly publications. References

from ProQuest tend to be of high quality and validity because these sources have gone through a selection and peer-review process.

2. ProQuest covers a wide range of disciplines, so you can find references for a wide range of topics and research subjects. This platform makes it easy for researchers to explore diverse fields of science and find related literature.

3. ProQuest has a user-friendly interface, allowing researchers to search easily and quickly. In addition, there are also various reference management features such as saving, annotating, and exporting to various citation formats.

4. ProQuest has a large collection of theses and dissertations from various universities around the world. It is a valuable resource for in-depth academic research.

5. ProQuest regularly updates and adds new sources of information to their database. This ensures that researchers have access to the latest literature in a wide range of disciplines.

6. References from ProQuest can generally be considered official and legal sources in academic and research contexts. It is important to ensure that the references used in the study are valid and accountable.



Figure 1. Reference search through ProQuest (found 400 Articles search results)

To conduct bibliometric analysis research using VOSviewer, the first step is to collect bibliographic data related to the topic or field of research you want to analyze. This data can be obtained from academic databases or digital libraries. Next, the data needs to be imported into VOSviewer for analysis. After the data is imported, VOSviewer will process the information and produce visualizations in the form of network maps that show relationships between elements such as researchers, institutions, or keywords. In addition, VOSviewer also provides statistical information related to the distribution and interrelation of elements in the dataset. This analysis can help researchers to identify research trends, find potential collaborations, and explore scientific structures within a particular field. By using VOSviewer, bibliometric analysis research can be carried out efficiently and provide valuable insights in interpreting scientific data [20], [21].

3. RESULTS AND DISCUSSIONS

3.1. Development of Research Publications in the last 5 (Five) years

Looking at the development of research publications in the last 5 years is a crucial step in bibliometric analysis. This is because it can provide an overview of current trends in a particular field of research, identify increases or decreases in research interest in a particular topic, and indicate the direction of scientific development. The benefit is that it enables researchers and decision makers to determine relevant research focuses and supports strategic decision making in the allocation of research resources. Bibliometric analysis in the last 5-year period can also help in identifying potential collaborators, assessing the impact of research, as well as measuring the contribution of a particular researcher or institution in the scientific community. By understanding the progress of research publications over a limited period of time, researchers can make more informed decisions and optimize their contributions to scientific advances in their fields.

Table 1. Data on the Development of Research Publications for the last 5 (Five) Years related to Efforts to Accelerate	
Stunting Reduction	

No	Year of Publication	Number of Documents
1	Periode 10 November 2018-10 November 2019	58
2	Periode 10 November 2019-10 November 2020	79
3	Periode 10 November 2020-10 November 2021	111
4	Periode 10 November 2021-10 November 2022	85
5	Periode 10 November 2022-10 November 2023	67
Total		400

From the table above, it is known that the total articles found in the last 5 years amounted to 400 documents and the highest in the Period 10 November 2020-10 November 2021 with 111 documents and few found in the Period 10 November 2018-10 November 2019 with 58 documents.



Figure 2. Graph of research development trends in the last 5 years related to Efforts to Accelerate Stunting Reduction

Based on the gerafik picture above, it can be explained briefly that the increase in research with the theme that is related to Efforts to Accelerate Stunting Reduction is considered quite varied and tends to fluctuate, this is because government programs in Efforts to reduce stunting have been running but the target achievement is still far

from expected, so it is still found in the last year with the number of studies related to Efforts to Accelerate Stunting A total of 67 documents were found on a referral search through ProQuest.

The increase in the number of articles with research on the same theme can be caused by several factors. First, advances in technology and research methods can allow researchers to conduct more in-depth and comprehensive studies in specific fields. In addition, new and important issues that arise in society or science can also encourage the growth of publications on the theme. In addition, collaboration between researchers from different institutions and countries can also increase the number of publications with the same theme, as it combines different perspectives and research resources. Another contributing factor is the encouragement of funding agencies and universities to conduct research in certain areas that are considered important or relevant. All these factors together can have an impact on increasing the number of articles with the same research theme in the scientific literature.

3.2. Research Publication Development Map

1. Network Visualization

Network visualization is a graphical visualization method used in bibliographic research to map relationships between elements such as researchers, institutions, or keywords in a complex network. In the context of bibliometry, Network Visualization describes the interactions and relationships between elements based on their frequency or relationship in scientific publications. The nodes in the visualization represent elements, while the edges indicate the relationship or linkage between them. The size of the nodes and the thickness of the edges can reflect the importance or frequency of those elements in the network. This visualization allows researchers to quickly understand structures and patterns in scientific networks, identify groups or communities of researchers, and find potential relationships or collaborations. By leveraging Network Visualization, researchers can take deeper insights from their bibliometric data and make more informed decisions in research and scientific collaborations.



Picture 3. Network Visualization pada Efforts to Accelerate Stunting Reduction

In the picture above, the results of the analysis can be found 121 Items with 6 Clusters and 5240 Links which will then be explained by each claster in the next explanation.

Claster 1

This claster is divided into 2 parts because there are 2 nodes that stand out with a large number of nidule items with many links and are often investigated by previous researchers with the number of items 116 nodes for Clater 1a and 119 for claster 1b with a total of 1233 links for claster 1a and 914 claster 1b 3277



Picture 4. Network Visualization pada Efforts to Accelerate Stunting Reduction (Claster 1a)

In figure 4 it is explained that Node Child is associated with many items including Health System, Community Participation, Govermence, Inequality, Rural Area, Half, Relation, age z score, and also with the tone of its relation to countries such as, Nigeria and Ethopia. Stunting has a complex interrelationship with various aspects including Health Systems, Community Participation, Govermence, Inequality, Rural Area, Half, Relation, age z score, and its linkage to countries such as Nigeria and Ethiopia. These factors are interrelated and can influence each other in the context of handling stunting. Good health systems can provide better access to health services, including adequate nutrition, while community participation and effective governance can ensure stunting programs achieve their goals by engaging communities at large. Inequality, especially in rural environments, can be a risk factor for stunting, while its association with the age z score can provide further indications of a child's nutritional condition. Understanding these linkages is crucial in designing holistic and effective health policies, taking into account the social, economic, and political context at the national level, as seen in the comparison between Nigeria and Ethiopia. Thoroughly analyzing these elements can provide a solid foundation for more successful stunting reduction efforts across multiple contexts and countries [22].



Picture 5. Network Visualization pada Efforts to Accelerate Stunting Reduction (Claster 1b)

In figure 5 above, it is explained that node development has many links related to infant items, achievement targets, population integration, viruses, imi, public health efforts and controling in accelerating the decline in stanting. The concept of "development" has a broad relationship with various elements, especially in the context of accelerating stunting reduction. There is a significant link between development and infant well-being, where efforts to improve development conditions can have a positive impact on factors that influence stunting. Development achievement targets such as the Sustainable Development Goals (SDGs) provide guidance to measure and improve children's welfare, including reducing stunting. Population integration is also relevant because population

growth affects the fulfillment of nutritional and health needs. Maternal and Infant Viruses and Infections (IMI) are a major concern, and public health and disease control efforts support stunting prevention and control. By linking all these elements, a holistic development strategy can be formulated to ensure the acceleration of stunting reduction through the integration of health policies, economic growth, and the fulfillment of children's rights in sustainable development efforts [23].

Claster 2

In bibliometric analysis on claster 2 it is known that there are 50 links with 1 (rice) node item linked to how many other nodes for more details can be seen in the following figure:





In figure 6 in claster 2 it is explained that node development is only clearly linked to food security, in this case rice production and rice quality and is interpreted in poverty or low income as an inhibiting factor for accelerating the decline in stanting. Development has a significant relationship with food security, especially in the context of rice production and rice quality. Sustainable rice production and good rice quality are important elements in achieving food security, which in turn has a direct impact on efforts to reduce stunting. The availability of sufficient and high-quality rice supports the fulfillment of community nutrition, especially children who are vulnerable to stunting. Economic factors also play a key role, where poverty or low income is an obstacle to accelerating the reduction in stunting. Unfavorable economic conditions can limit people's access to nutritious food, health, and education services, further exacerbating the risk of stunting. Therefore, integrating efforts to increase rice production and quality with development strategies that focus on poverty reduction can be an effective approach in improving food security and accelerating stunting reduction in a region or country [24].

Claster 3

In bibliometric analysis on claster 3 it is known that there are 60 links with 1 (Individual) node item associated to how many other nodes for more details can be seen in the following figure:



Picture 7. Network Visualization pada Efforts to Accelerate Stunting Reduction (Claster 3)

In figure 7 above, which is cluster 3, it can be illustrated that Node Child has relationships or links with individual items or individual factors, in this case it is intended as internal factors such as heredity and poor medical history associated with accelerated stunting reduction. Child is closely related to internal factors such as heredity and medical history in the context of accelerating stunting reduction. Hereditary factors can play a key role in influencing a child's growth and development, including the potential risk of stunting. When children have a family history of malnutrition or poor medical history, this can increase vulnerability to stunting. In addition, internal factors such as a genetic predisposition to growth problems can also have an impact. Therefore, in designing stunting reduction strategies, it is important to understand and account for these internal factors. Personalized and specific prevention and intervention measures can be designed for children at high risk based on individual and hereditary factors, providing opportunities to bring stunting reduction efforts closer to the individual level more effectively [25].

Claster 4

In bibliometric analysis on claster 4 it is known that there are 53 links with 1 (Animal) node item associated to how many other nodes for more details can be seen in the following figure:





In cluster 4 visualized in figure 8, it can be explained that the Startegi node has a link related to the quality and productivity of livestock, in this case the lack of community nutrition supply with low meat consumption, in this case it concerns the high number of poor people and this is a target for the government in reducing poverty in the hope of accelerating stunting reduction. And the strategy referred to in the previous study is an effective and efficient program or design in reducing stanting by providing meat nutrition to the community by increasing livestock productivity. Strategies to reduce stunting through increasing livestock productivity, especially in terms of nutritional supply, play an important role in efforts to reduce malnutrition and poverty. The lack of nutritional supply in the community, especially from low meat consumption, can be a significant factor in the risk of stunting, particularly among the poor. With a focus on increasing livestock productivity, the government can design effective and efficient programs or designs to increase the supply of nutrients, especially animal protein, to the community. Increasing livestock productivity not only provides a better source of nutrition, but can also have a positive economic impact, especially for the farming community. By targeting poverty reduction through these efforts, it is expected to create a more conducive environment for stunting reduction by providing better access to essential nutrients for children's growth and development [26].

Claster 5

In bibliometric analysis on claster 5 it is known that there are 50 links with 1 (Human Health) node item linked to how many other nodes for more details can be seen in the following figure:



Picture 9. Network Visualization pada Efforts to Accelerate Stunting Reduction (Claster 5)

In cluster 5 it is explained in table 9 above that there are previous researchers who link development with human health, where it can be assumed that the basic health level programmed by first-level health facilities has an important role to improve public health and prevent stanting by coordinating with local governments or there is cooperation with cross-sectors. Development is closely linked to human health, and efforts to improve basic health through first-level health facilities can play a crucial role in preventing stunting and improving public health. Health programs focused on the basic level, such as maternal and child health services, immunization, and nutrition, have great potential to have a positive impact on public health conditions. Close coordination between first-tier health facilities and local governments, as well as cross-sector cooperation, enables the provision of holistic and integrated services. Improving the accessibility and quality of basic health services can directly affect children's nutritional status, hoping to reduce the risk of stunting. By utilizing cross-sectoral approaches, such as involving local governments, educational institutions, and communities, it can create an environment that supports children's development and provides a solid health foundation for society as a whole [27].

Claster 6

In bibliometric analysis on claster 6 it is known that there are 67 links with 1 (future) node item associated to how many other nodes for more details can be seen in the following figure:



Picture 10. Network Visualization pada Efforts to Accelerate Stunting Reduction (Claster 6)

In claster 6 in figure 10, it is known that there is a node that connects challenge and future, which is intended in the explanation that there are still challenges in the future based on the results of previous researchers' analysis by linking several factors including high levels of poverty, low public education and inadequate quality of health services in an effort to accelerate the decline in stanting. The challenges and future in efforts to accelerate stunting reduction related to the results of previous research analysis highlight a number of crucial factors that need to be addressed. Despite efforts to tackle stunting, high poverty rates are a major obstacle to achieving optimal results.

The problem of low public education is also a crucial factor, as a lack of awareness can hinder the adoption of good nutrition practices. In addition, the inadequate quality of health services contributes to this problem. Therefore, future challenges include improving the accessibility and quality of health services, community empowerment through education, and more effective policies to reduce poverty levels. By overcoming these barriers, it is hoped that efforts to accelerate stunting reduction can become more efficient and equitable, have a positive impact on children's health and ensure a healthier generation in the future [28].

2. Overlay Visualization

Overlay visualization is a visualization technique used in bibliographic research to display additional information or extra dimensions in bibliometric data. In Overlay Visualization, this additional information can be represented in the form of additional colors, sizes, or symbols on elements in the visualization, such as nodes or edges. For example, in the context of bibliometric analysis, Overlay Visualization can be used to show additional attributes such as subject category, year of publication, or journal impact. This allows researchers to see more details and patterns in their data, as well as facilitates the identification of trends or clusters that may not be visible in standard visualizations. By utilizing Overlay Visualization, researchers can gain valuable additional insights from their bibliometric data, aiding in in-depth understanding and richer analysis related to scientific publications.



Picture 11. Overlay Visualization pada Efforts to Accelerate Stunting Reduction

Based on figure 11, it is explained that the results of the Overlay Visualization analysis on Efforts to Accelerate Stunting Reduction are known to be the latest research that has bright colors with a total of 75 links connecting with various nodes.thus there is a significant opportunity for further research to develop more in-depth and specific research as an additional reference in helping accelerate stunting reduction.

3. Density Visualization

Density visualization is a visualization method used in bibliographic research to show the degree of density or distribution of elements in a network or dataset. In the context of bibliometric analysis, Density Visualization can be used to highlight areas within a network where there is a high or low concentration of a particular element, such as researchers or keywords. This method usually utilizes color or gradation to indicate density levels, with denser areas displayed with darker colors or thicker lines. This allows researchers to quickly identify areas that may need more attention or show interesting distribution patterns in their bibliometric data. By utilizing Density Visualization, researchers can gain additional insights that help in the better analysis and interpretation of bibliometric data.



Picture 12. Density Visualization pada Efforts to Accelerate Stunting Reduction

Of the 400 research articles analyzed, it is known that there are two nodes that have a density of items that are often studied, namely child and review-based research. This shows that there are still many variables that may be used as a reference for more in-depth research in the hope that it can be used as an additional reference in reducing stunting rates.

Based on the results of the study and the discussion above, it can be assumed that the need for future researchers to conduct similar research by modifying specifically by adding mediation variables related to organizational behavior where Public health efforts which are health programs at first-level health facilities with good governance can certainly contribute to reducing stunting, However, the rapid decline in the incidence of stanting depends on the behavior in the organization, namely the work commitment of health workers and the work motivation of health workers in these first-level service facilities. With the hope that further research can develop research by reviewing public health efforts towards the success of national priority programs by increasing mediation of work commitment and work motivation.

CONCLUSIONS

In exploring the development of research on efforts to accelerate stunting reduction using bibliometric mapping in ProQuest with the VOSviewer analysis tool, this research provides an in-depth understanding of the latest trends and research focuses in the domain. By analyzing the literature network, it can identify the significant contributions of researchers, institutions, and key concepts that take center stage. The results of this study provide a solid foundation for assessing the success of stunting reduction efforts, identifying possible collaborations, and formulating future research directions. In addition, through VOSviewer visualization, we can present a graphical view that facilitates the interpretation of results and can provide a holistic view of research networks related to efforts to accelerate stunting reduction. The conclusion of this study not only provides insight into current research contributions, but also provides a solid basis for strategic planning in further research as well as the implementation of policies to effectively achieve stunting-related public health goals.

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