Review article

Bibliometric analysis of publication trends of bullying interventions in preschool age children

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Article Info	Abstract
	Research on bullying in preschool children is a topic that is often carried out by researchers which is presented in bibliometric results using the Publish or Perish and VOSviewer applications. This study aims to find research on bullying interventions for preschool children. This research uses a bibliometric application using data from Google Scholar and Crossref to produce articles about bullying against young children from 2019-2023. This research shows that from 994 papers published from 2019 to 2023, 5 clusters were found with 35 items that appeared in almost the same terms related to bullying interventions in preschool children. Further recommendations from the results of this research analyze the development of bullying interventions in preventive programs for preschool-aged children that can work together with schools, families and interactions between children, especially in Indonesia.

INTRODUCTION

The rise of bullying among children is now starting to occur. Bullying does not only happen to teenagers. Currently, preschool age children in kindergarten are starting to learn about bullying. Without realizing it, they carry out bullying actions against their peers. The actions they usually take are, mocking friends, distancing themselves from friends, threatening, and even carrying out physical actions such as hitting them with their hands.[1] Bullying occurs because there is no sense of solidarity, affection and togetherness between friends. Bullying cases from 2011-2014 were around 25% or 1,480 cases of total complaints in the education sector.[2]

The process of children's growth and development is closely related to how the environment forges and accepts various social and academic changes that occur in the environment around the child.[3] Along with the times, the world's attention to various phenomena in the education of preschool aged children has been demonstrated by various innovative works in the form of; education, health services, as well as visual devices and materials for various special needs of children which are

currently mushrooming and developing.[4] All of this innovative work for children aims to meet the needs and benefits for children's growth and development at times that are useful for preschool children to achieve their goals in the future.[5]

Preschool aged children in the process of self-maturation are never free from the influence of social life and adaptation to life outside the home.[6] Children's readiness to adapt to the people around them is faced with conditions that are sometimes not in accordance with the teachings that preschool children receive at home. Children sometimes experience social discomfort due to differences in attitudes and social treatment around them, so that without realizing it, young children are very vulnerable to becoming victims of bullying or being perpetrators of bullying in social activities around them.[7] This makes children attached to bad behavior in everyday life and tends to imitate or justify the negative behavior they receive. When a child returns to their family environment, it is considered a reproach and something that is immediately corrected without an explanation that the child can accept.[8]

Research results from various countries show that young children prefer to remain silent and not fight when they are physically or verbally injured.[9] Preschool-aged children are more often the object of anger from adults around them, without knowing the cause. Preschool children become great observers who only try to imitate the bullying behavior they experience and what they see.[10] So as a result of deviant social behavior in the form of bullying, many children end up experiencing severe stress and depression. And what's worse, some young children who are victims of bullying at school become discouraged and don't want to go to school because they are afraid and traumatized by their interactions in the school environment. Relational, verbal and physical bullying makes preschool-age children feel afraid and no longer enthusiastic about going to school.[11] When

preschool-age children are teased by friends, said they are unable to complete assignments, or are ostracized when playing with their group, it turns out to be a disturbance in emotional management that is very painful and difficult for preschool-age children to accept. Social discrimination from children's play groups with the appearance of dirty words or negative labels towards them causes its own trauma for preschool-aged children.[12]

However, until now the bullying phenomenon that occurs, especially bullying that affects preschool-age children, continues to develop with various types of behavior that are increasingly complex. Children's rights to grow and develop are neglected and require world attention to respond quickly and appropriately to the formation of children's personalities.[13] This is a big responsibility for all elements observing children's educational growth and development related to actions in the form of behavioral treatment as perpetrators and victims as well as spectators of bullying. The condition of the development of bullying behavior that cannot be prevented must be a concern for educators to think about preventive steps to overcome it. Policy makers, education and parents must have the same vision and goals in shaping children's good and tough personalities in their lives..[14]

Bullying is a form of violent behavior, usually the targets being bullied are weak children. Bullying is a form of violent behavior in the form of psychological and physical coercion against children who are weaker than a group of strong people.[15] Bullying is a negative action or behavior that is aggressive and manipulative, carried out by one person or more within a certain period of time, by means of direct physical contact, direct verbal contact, direct non-verbal behavior, indirect non-verbal behavior, or sexual harassment against children. -weak child.[16]

The main consideration of this review analysis research is because Indonesia as a large nation is very rich in cultural pluralism and traditions which are prone to disputes in social interactions. This cultural diversity and social friction are the forerunners to the emergence of bullying behavior which may be experienced by children from an early age. Data from the Indonesian National Commission for Child Protection shows that cases of bullying in children tend to increase every year. To provide a solution to this condition, it is necessary to search for data from research results relating to the general picture of early childhood education, the conditions of various types of bullying that develop in pre-school aged children, responses and countermeasures to bullying that have been carried out in preschool aged children, and various what efforts have been made by schools and families in managing bullying from various analyzes of world research results so that it is found where there are gaps that Indonesia must make to prevent the development of bullying in preschool aged children in Indonesia. It is hoped that the results of this research will later become a source of reference data for needs analysis in solving the problem of bullying intervention in preschool children, especially Indonesia. Bullying is aggressive behavior that is intentionally and repeatedly carried out with the aim of hurting or dominating others who are weaker. Bullying can have a negative impact on children, including preschool age children. Therefore, it is important to develop effective interventions to prevent bullying at this early developmental stage. This research aims to discuss various strategies and interventions that can be used to prevent bullying in preschool children.

METHODS

Study Overview

In our bibliometric analysis of bladder cancer diagnosis, we statistically analyzed

document types and identified journals that published the largest number of manuscripts or the most highly cited manuscripts. To discover collaborative partnerships between authors and teams, we describe co-authorship networks. To discover hot topics in the field of bullying prevention in preschool-age children, we created a term cloud that includes the 71 most frequent terms. We also analyzed other important bibliometric parameters such as institution, journal, and year of publication.

The purpose of this bibliometrics analysis is to provide a useful guide for researchers in the field of bullying prevention in preschool-aged children, to show what types of articles are highly cited items in this subject, and to identify hot topics and research themes along with those most prominent and influential articles that have helped expand our knowledge and understanding of bullying prevention in preschool-aged children. To analyze the dynamics of the impact of related journals, we also statistically analyzed the evolution of the main journal impact indices, including Impact Factor, EigenFactor Score, and CiteScore of 10 journals over a 10-year period.

Literature search and data analysis

In this research, the Scopus database under Elsevier was chosen as a source of literature information. Scopus has more than 19,000 source journals from 4,000 publishers worldwide and is the world's largest abstract and citation database, providing researchers with a one-stop platform for acquiring scientific and technological literature. Scopus also provides various retrieval methods and convenient download paths[17]. All publications by December 31, 2022 are considered. To obtain literature related to intervention and bullying of preschool children in the search strategy, the search range was set to "title", and keywords were limited to the combination of "intervention" and

"bullying" and "preschool". The search formula used was as follows: (TITLE (intervention) AND TITLE (bullying) AND TITLE (preschool)). Search results were exported in CSV and RIS file formats, which included author information, publication year, title, and source journal among a total of 25 items.

Statistical Analysis and Visualization.

Bilbliometrics as the main study approach to analyze relevant literature on bullying interventions for preschool children to form an overview and summary of related literature. The distribution map depicts the timeline of literature published over the last 10 years or so and analyzes the distribution of countries, institutions, and journals. Apart from that, we also looked at where the documents came from and which journals paid more attention to bullying interventions for preschool aged children. To demonstrate part of the journal analysis and institutional analysis, perform a statistical analysis of the top ten journals and institutions in terms of number of publications. The statistical analysis of citations can help find subdocuments that provide greater impact and contribution to preschool bullying intervention research. It then counts the number of citations per article and uses it as an index to evaluate the influence of the literature. Additionally, create a table displaying the top ten publications cited. Create and visually display a co-authorship network consisting of authors who have published no less than 3 articles, where co-authorship relationships between the authors of a particular document are considered. To find more precise hotspots of preschool bullying intervention research, we conducted text mining of all article titles. Create hierarchical groups based on the relevance of the words in the title. The more frequently a word appears, the more important it is likely to be in bullying intervention research for preschool children. We selected the 196 keywords with the highest frequency to build a term

cloud to show preschool bullying intervention research hotspots, which can help the community identify where the cutting edge of the topic lies.

Apart from the bibliometric analysis above, we also carried out Impact Factor, CiteScore, and EigenFactor Score analysis. These statistical indicators are considered reliable bibliometric measurements of a journal's impact, especially in terms of the Impact Factor which has received much attention from researchers, editors, and librarians and is widely used for the assessment of research and journal significance. But there are also many people who think that we should move away from over-reliance on IF journals to find new ways of assessing research results. CiteScore is a new standard that provides more comprehensive, transparent

Software and Versions.

We used R 3.6.3 software to perform the work of text mining, clustering title words, and drawing word clouds. Briefly, we used the "tm" package to run the text mining program from the titles and the "ggplot2" package to visualize the clustering results and word clouds. VOSviewer 1.6.16 software was used to visualize collaboration between authors in the form of a VOSviewer coauthorship network.[18]. Additionally, some of the tables in this document were created in the Microsoft Excel program.

RESULTS

Based on a metadata search obtained from a keyword search on the Publish or Perish application using the keyword bullying in preschool children, 994 articles were found sourced from Google Scholar with publications in the last five years. Searching using the Publish or Perish application with the keyword bullying in children found 994 articles sourced from Google Scholar. Analysis of Harzing's Publish or Perish citation metrics shows that this publication

has 201.40 citations per year, each author has an average citation of 3.16 with 5035.00 total citations throughout 2029-2023. Papers on research on bullying interventions in children had an h-index of 62 and a g-index of 101, with all articles published with ACC>=1,2,5,10,20:900,760,442,192.75. In detail, table 1 shows the results of the citation metric: bullying in preschool children, Google Scholar.

Table 1
Citation Metrics Bullying Early Childhood

Aspects	Information
Publication years	2019-2023
Citation years	4 (2019-2023)
Papers	994
Citations	20140
Cites/year	5035.00
Citess/paper	20.26
Authors/paper	3.26
h-index	62
g-index	101
hl, norm	34
hl, annual	8.50
ha-index	32
Paper with ACC>=	1,2,5,10,20:900,760,442,192.75

A total of 33 items, cluster 1 is the cluster with the most frequently found items, 25 items, namely boys, problems of bullying victims, bullying incidents, bullying prevention programs, bullying situations, success, girls, reduction, theories and articles. In detail, table 2 shows the results of the analysis of the appearance of 35 items in 5 clusters based on OCviewer. The bilbliometric table shows the results of the VOSviewer analysis for the appearance of 35 items.

Table 2
Results of analysis of occurrence of 35 items (5 Clusters) based on VOSviewer Bibliometric

Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5
Articles	Action	Behavior	Bullying intervention	Childhood
Boy	Adolescence	Bullying behavior	Bullying involvement	Childhood bullying
Bully victim problem	Empathy	Early childhood education	Bullying victimization	Preschooler
Bullying incident	Preschool	Early intervention	Elementary school	Risk
Bullying prevention program	Relations	Ned	Practice	Young children
Bullying situations	Relational bullying victims	Preschool child	Risk factors	
Efficacy				
Girls				
Reduction				
Theory				

Figure 1
Analysis of research results on bullying interventions for preschool children based on VOSviewer Network Visualization

Figure 2
Analysis of research results on bullying interventions for preschool children based on VOSviewer Overlay Visualization
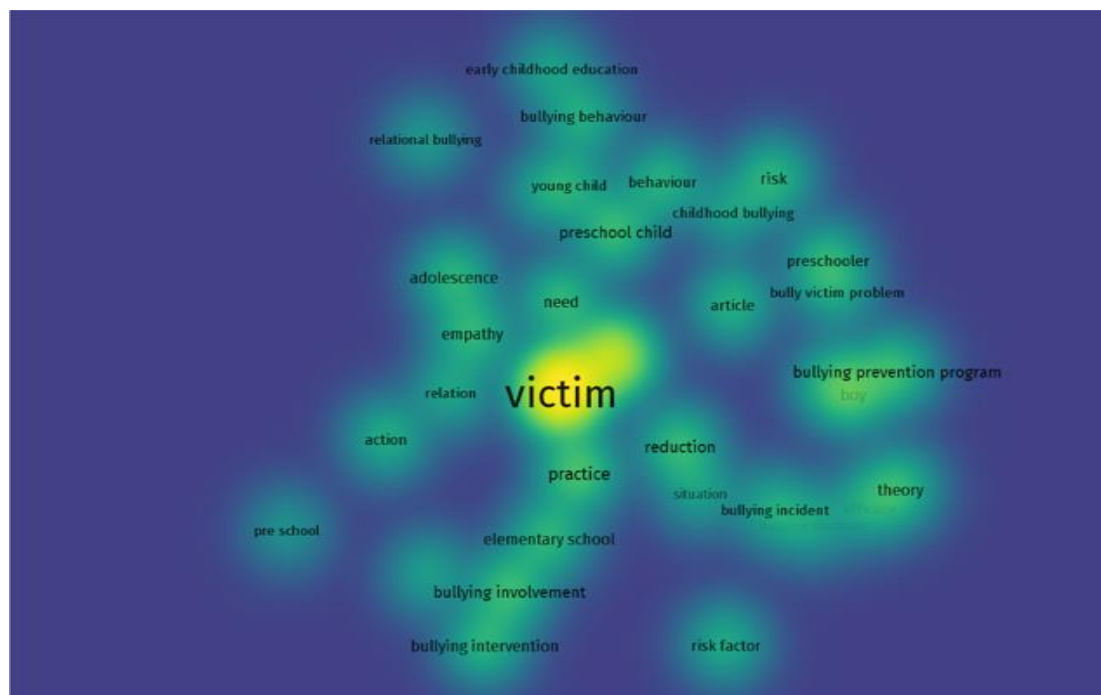
Figure 3
Analysis of research results on bullying interventions for preschool children based on VOSviewer Density Visualization

DISCUSSION

Based on the visualization of the VOSviewer network in Figure 1, an analysis of the bullying phenomenon that occurs in preschool age children was produced. In the network data, this visualization application shows that the field of research studies regarding bullying interventions in preschool aged children that have been produced, includes how preschool aged children receive education at school, the war between teachers and parents in overcoming bullying, types of bullying in kindergarten. , various preventive actions taken by the world to prevent bullying, as well as the role of gender in the development of bullying behavior. Currently, world attention is being focused on early childhood education institutions which focus on places that are vulnerable to the development of bullying behavior in children after the home environment. The gender classification of children as perpetrators or victims of bullying is a concern in managing bullying behavior in kindergarten schools.

In the results of the analysis of the development of research results on bullying interventions for preschool aged children based on the VOSviewer Visualization Overlay in Figure 2. It shows that in 2010-1011, especially preschool aged children as individuals who develop in the home environment and their parents. They have also become a focus as a model for preventing and reducing bullying behavior and its impact on preschool-aged children. The impact of bullying behavior on children is in the form of stress and depression that befall victims of bullying. Until the end of 2012 until the end of 2014, the world of research increasingly focused on specific actions to overcome the development of bullying behavior in preschool children, both verbally, socially, physically and cyber.

Although the development of anti-bullying programs in the form of policies and outreach regarding the impact of bullying on preschool-age children has not been disseminated in general, currently specific strategies are needed to manage bullying in preschool-aged kindergarten settings. It is an important issue that is still hotly

discussed and raised in the world of research with various solutions according to the needs and treatment required in the preschool age environment. The need to develop appropriate strategies to deal with bullying behavior and its impact on preschool-aged children has been further clarified in the analysis results shown in the green VOSviewer Visualization analysis seen in Figure 3. Overview of data from the analysis of research developments in the last 5 years regarding bullying interventions in preschool age children based on VOSviewer visualization density.

The results of VOSviewer's visual analysis regarding the lack of research results on bullying prevention interventions that occur in preschool children. Research on preventing bullying behavior is still very limited to case studies that explain learning practices, program development, identification of types of bullying behavior, behavioral conditions and preparation for implementing anti-bullying policies in kindergarten schools. Until now, the results of research on how intervention strategies are implemented in the learning environment around preschool children have not been published, including schools, homes and communities.

Bullying as deviant behavior in the process of human growth and development is a condition that cannot be avoided, because in principle human relations and development are always faced with good, bad, right and wrong, acceptance of rejection in various social activities of human life. Humans' ability to accept and adapt to social groups requires a value-based agreement. Effective interventions involve education and awareness for preschool children, parents, and teaching staff. Through these programs, children can learn about empathy, respect for differences, and how to communicate well.

Several alternatives for preventing bullying in preschool children that have not yet been implemented in Indonesia include: 1.

Supervision and Guidance: Careful supervision by parents and teaching staff is very important in preventing bullying. In this intervention, the role of parents and teachers is to ensure children interact well and follow up on any bullying incidents. 2. Social and Emotional Learning: Developing social and emotional skills in preschool children can help them deal with conflict in a constructive way. Programs that teach skills such as emotional management, problem solving, and cooperation can help prevent bullying behavior. 3. Safe and Supportive Environment: A safe and supportive preschool environment is essential. Interventions that involve improving physical and emotional safety in schools, including setting clear rules and handling bullying incidents quickly and decisively, can have a positive impact. 4. Role Models and Values Formation: Using role models and forming positive values is also an effective strategy in bullying prevention interventions in preschool children. Teachers and parents can be good examples of behavior and teach values such as justice, diversity and courage.

This research has provided evidence that there is still a lack of research exploring nursing models of bullying intervention in preschool children. Despite the lack of a systematic database, especially in Indonesia, this research seeks to configure, describe and analyze various systematic literature using a billiometric approach. With this bibliometric approach, it is important to determine the novelty of conducting further research by identifying important themes in each study, field of knowledge and research that has been carried out so far.

CONCLUSION

Preventing bullying in preschool children requires a holistic approach involving education, awareness, supervision, coaching, development of social and emotional skills, a safe environment, role models, and the formation of positive

values. Through appropriate intervention, it can be hoped that the level of bullying in preschool-aged children can be reduced, creating a safe and supportive environment for the development of pre-school-aged children.

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CONFLICT OF INTEREST

Neither of the authors has any conflicts of interest that would bias the findings presented here.

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