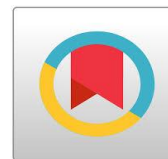


**Bibliometric Analysis of Child Marriage Issues in Scopus and WoS Databases (1999-2024)**



**Analisis Bibliometrik tentang Isu Pernikahan Anak dalam Database Scopus dan WoS (1999-2024)**

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**ARTICLE INFORMATION**

<p><b>Keywords</b>                  Gender;                  Child Marriage;                  Bibliometric Analysis;</p>	<p><b>ABSTRACT</b>  <i>This study aims to identify gender injustice in child marriage through a literature review and bibliometric approach. The data analysed come from the Scopus and Web of Science databases, covering 126 journals published between 1990 and 2024. Bibliometric methods were applied using R Studio (Biblioshiny) and VOSviewer software to identify research trends, collaboration patterns, and geographical and topical distributions in the existing literature. The results show an increase in the number of publications each year, with the United States, India, and the United Kingdom being the countries with the highest research contributions. Author analysis identified Koski A, Na N, and Sethi D as the most productive authors. At the same time, McGill University and Mashhad University of Medical Sciences had the highest number of publications. The study recommends several areas for further research. First, further research can conduct a more in-depth investigation into the socioeconomic impacts of child marriage, especially in high-risk regions. Second, Multidisciplinary research involving the legal field to strengthen regulations, the health field to mitigate reproductive impacts, the education field to encourage access to learning, and the economy for family empowerment can provide a comprehensive and sustainable solution to the issue of child marriage.</i></p>
<p><b>Kata Kunci</b>                  Gender;                  Pernikahan Anak;                  Analisis Bibliometrik;</p>	<p><b>ABSTRAK</b>                  Penelitian ini bertujuan untuk mengidentifikasi riset tentang pernikahan anak menggunakan studi literatur dan pendekatan bibliometrik. Data yang dianalisis berasal dari database Scopus dan Web of Science, mencakup 126 jurnal yang dipublikasikan antara tahun 1990 hingga 2024. Metode bibliometrik diterapkan dengan perangkat lunak R Studio (Biblioshiny) dan VOSviewer untuk mengidentifikasi tren penelitian, pola kolaborasi, serta distribusi geografis dan topikal dalam literatur yang ada. Hasil penelitian menunjukkan peningkatan jumlah publikasi setiap tahun, dengan Amerika Serikat, India, dan Inggris sebagai negara dengan kontribusi penelitian tertinggi. Analisis terhadap penulis menunjukkan Koski A, Na N, dan Sethi D sebagai penulis paling produktif, sementara McGill University dan Mashhad University of Medical Sciences merupakan institusi dengan jumlah publikasi terbanyak. Penelitian ini merekomendasikan beberapa kajian lanjutan. Pertama, penelitian yang lebih mendalam mengenai dampak sosioekonomi pernikahan anak, terutama di wilayah yang rentan. Kedua, studi perbandingan antarnegara terkait praktik terbaik dalam mengurangi angka pernikahan anak, dengan memperhatikan perbedaan konteks budaya, hukum, dan ekonomi. Terakhir, penelitian multidisipliner yang melibatkan bidang hukum untuk memperkuat regulasi, bidang kesehatan untuk mitigasi dampak reproduksi, bidang pendidikan untuk mendorong akses belajar, dan ekonomi untuk pemberdayaan keluarga agar dapat memberikan solusi komprehensif dan berkelanjutan terhadap isu pernikahan anak.</p>
<p><b>Article History</b>                  Send 9<sup>th</sup> October 2024                  Review 6<sup>th</sup> November 2024                  Accepted 18<sup>th</sup> December 2024</p>	<p>Copyright ©2025 <a href="#">Jurnal Aristo (Social, Politic, Humaniora)</a>                  This is an open access article under the <a href="#">CC-BY-NC-SA</a> license.                  Akses artikel terbuka dengan model <a href="#">CC-BY-NC-SA</a> sebagai lisensinya.</p>



## Introduction

Child marriage is defined in law No. 35 year 2014 Article 1 Paragraph 1 as a marriage that has not reached the age of 18 years, including those who are still in the womb. Based on the World Vision report, in 2024, 650 million women and girls who are currently alive have been married by the age of children (World Vision Australia, n.d.). In Indonesia, data from BPS released by Kompas.id in 2024 illustrated that there is a total of 10,5% of children experience child marriage each year (Kompas, 2024). This phenomenon highlights the need for more effective interventions and policies to reduce the number of child marriages in Indonesia and around the world.

This study is relevant to Indonesia as an archipelagic country with cultural diversity, education levels, and varying economic conditions. Based on the 2020 BPS, Bappenas, UNICEF, and PUSKAPA reports, the islands of Sulawesi and Kalimantan recorded a higher prevalence of child marriage than the national average. In Sulawesi, the prevalence rate ranged from 14-19 per cent, with West Sulawesi recording the highest prevalence at 19.43 per cent and South Sulawesi the lowest at 14.10 per cent. Meanwhile, in Kalimantan, the prevalence ranged from 11.54 per cent in East Kalimantan to 19.13 per cent in Central Kalimantan. In Sumatra, Bengkulu recorded the highest prevalence of 14.33 per cent, while the lowest is Riau Islands with 4.68 per cent. Among Java, Bali, and Nusa Tenggara, West Nusa Tenggara has the highest prevalence of 15.48 per cent, while the lowest number is in DKI Jakarta. North Maluku and Papua regions recorded the highest prevalence of 13.36%, while Maluku had the lowest prevalence of 8.94% (BPS et al., 2020).

This significant study needs to be explored in depth for the following reasons. Firstly, child marriage has been known to pose severe health risks for females, including premature birth, perinatal mortality, complications during labour, and cervical cancer (Adedokun et al., 2017), (Irani & Roudsari, 2019), (Lee et al., 2023), (Nour, 2009), (Osakinle & Tayo-Olajubutu, 2017). The absence of access, information, or support for utilising health services adversely affects the health of children born to women who marry at a young age.(Groot et al., 2018), (Ngai et al., 2023), (Nour, 2009), (Subramanee et al., 2022). Secondly, child marriage sometimes restricts educational prospects for girls, thereby diminishing their access to gainful employment (Adedokun et al., 2017), (Adekoya & Sokunbi, 2021), (Delprato et al., 2015), (Osakinle & Tayo-Olajubutu, 2017), (Thelma et al., 2021). Third, child marriage may increase cycles of impoverishment and gender inequality by diminishing women's participation in the workforce and resulting in their poor earnings (Guimaraes et al., 2020), (Kalamar et al., 2016), (Nmadu et al., 2018), (Subramanee et al., 2022), (Wodon et al., 2017). Ultimately, the issue of

child marriage necessitates robust international cooperation, as evidenced by the trend of worldwide collaboration in this study.

According to prior research, child marriage is influenced by several factors: first, economic reasons, particularly poverty, significantly contribute to child marriage, as families frequently marry off their daughters to alleviate financial strain and secure economic stability (bezie & Addisu, 2019), (Islam & Islam, 2021), (Kibretb, 2015), (Stark, 2018). Second, lack of education significantly contributes to child marriage. Restricted educational opportunities and poor parental educational attainment are significantly correlated with child marriage (Anggreni et al., 2023; Bezie & Addisu, 2019; Islam & Islam, 2021; Kibretb, 2015; Thelma et al., 2023). Third, cultural norms and specific religious practices that endorse child marriage in particular locations significantly contribute to its perpetuation, necessitating the formulation of an interdisciplinary approach (Çelik et al., 2018), (Chowdhury, 2004), (Cislaghi et al., 2019), (Fernandes, 2023), (Gage, 2013), (Melnikas et al., 2020) tackle the issue. Fourth, child marriage is more prevalent in rural regions than in metropolitan areas, attributable to restricted access to education and economic possibilities (Crawford, 2022), (Das, 2023), (Nmadu et al., 2018), (Rizqi et al., 2023), (Subramanee et al., 2022). Fifth, child marriage is frequently compelled by factors such as illegal sexual activities and out-of-wedlock pregnancies in order to mitigate social stigma and guarantee the child's legal status (Lowrie, 1965), (Susanti, 2020).

The government can mitigate child marriage by providing economic support to low-income households and delivering health education on the risks associated with child marriage. These policies offer choices for youngsters to pursue their education, assist families in overcoming poverty, and furnish comprehensive reproductive health awareness. These initiatives must be solidified by persistent legal enforcement to guarantee successful safeguards against child marriage (Das, 2023), (Kalamar et al., 2016), (Nmadu et al., 2018).

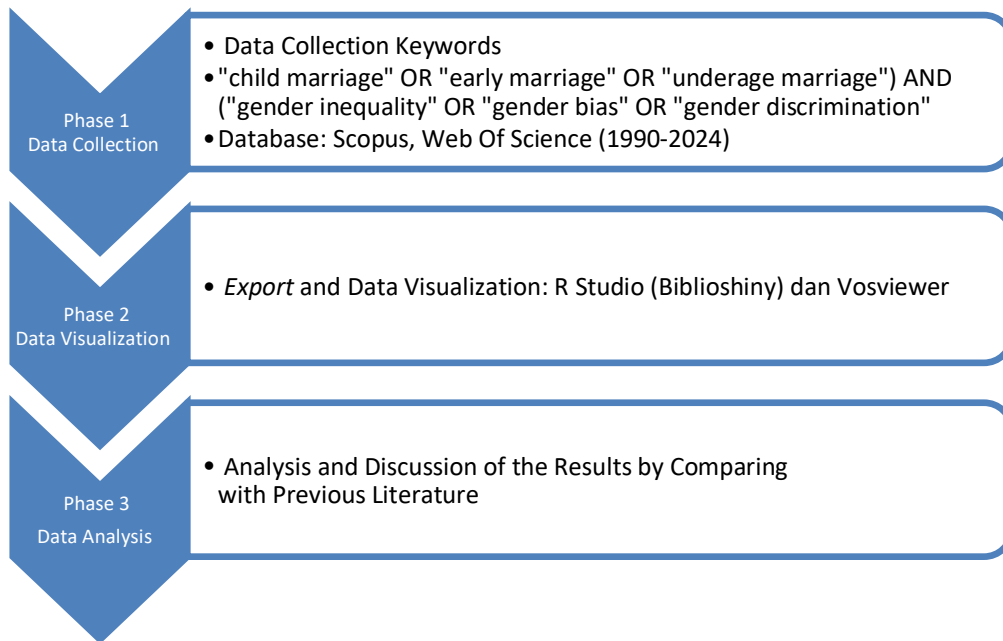
## **Method**

The present study employed a bibliometric method to examine how the issue of gender inequality in child marriage is discussed in the scientific literature. Bibliometric analysis is a quantitative approach focusing on studying the published literature in a particular field of knowledge (Ninkov et al., 2021). Bibliometric analysis enables scholars to discern significant trends within a study domain, recognise patterns across particular studies, and display bibliometric data to enhance comprehension (Ding et al., 2024), (Duan et al., 2022), (Sabri et al., 2024).

This study was executed in three primary phases illustrated in Figure 1: data collecting, visualisation, and analysis. The initial phase of our investigation involved the identification of pertinent keywords to locate appropriate articles. The employed keywords were “child marriage” OR “early marriage” OR “underage marriage” AND “gender inequality” OR “gender bias” OR “gender discrimination.” The search was performed utilising the Scopus and Web of Science databases for publications published from 1990 to 2024. The papers were subsequently retrieved in BibTeX format. The overall number of publications comprised 115 documents from Scopus and 70 from Web of Science, resulting in 126 papers. This figure does not represent a direct summing of the two databases, as many papers are listed on both platforms (Scopus and Web of Science). During the consolidation process, duplicate articles were eliminated, yielding a total of 126 distinct documents. Subsequently, the records were further condensed for deeper analysis.

Following the data collection, the subsequent phase was data visualisation. The data retrieved was transformed into Excel format to enhance the subsequent analysis procedure. The data was subsequently processed with R Studio software (incorporating the Biblioshiny package) and VOSviewer to generate bibliometric visuals. R Studio (Biblioshiny) provides robust capabilities for data visualisation and network analysis in bibliometric research. It is crucial for spotting trends, significant works, and essential research domains across multiple disciplines, including machine learning, marketing, social science, and financial technology. The integration of this program with VOSviewer improves the capacity to perform thorough bibliometric analyses (Benziane et al., 2022), (Mamia et al., 2022), (Moral-Muñoz et al., 2020), (Nasir et al., 2020), (Salehpour, 2022).

The concluding phase entailed data analysis, encompassing the examination of results, a literature study, and further investigation. The graphical data underwent additional analysis to comprehend the distribution of research, significant trends, and contributions from various authors and institutions within the area. This analysis’s results are examined about gender in child marriage, along with suggestions for future research. This methodology aims to deliver an extensive overview of gender disparity in child marriage via a bibliometric approach. The recent study employs suitable visualisation and analytical tools to uncover recurring themes and patterns in the existing literature, offering valuable insights for future research in this domain.



**Figure 1. Methods and research phases**  
**Source: (processed by researchers, 2024)**

This study employed bibliometric analysis, as illustrated in Figure 1, to discern significant trends in the literature, patterns of international collaboration, and the prevalence of the most often addressed themes. The *research gap* found in prior studies is the absence of a comprehensive mapping of research pertaining to gender issues within the setting of child marriage. The current research aims to address this gap by delineating studies about gender concerns in child marriage. This study is significant due to its possible impact on the advancement of science and policy regarding child marriage. This research offers a robust database and comprehensive analysis that can be applied by future investigators in further studies.

## **Result and Discussion**

### **Overview of Research on Child Marriage in The World**

One hundred twenty-six documents addressing gender concerns in child marriage were published between 1990 and 2024. The data processing results from Biblioshiny indicate an annual growth rate of 7.58% for papers. This signifies a substantial rise in interest and focus on child marriage and gender issues within the scientific literature. The research encompassed 435 writers, comprising 403 cooperatively authored articles and 32 pieces authored individually. International collaboration was significant, with 13.49% of articles co-authored

by authors from other countries. This indicates that gender concerns in child marriage have global significance and engage scholars from various regions worldwide. Furthermore, these will be examined to discern primary trends and find patterns in studies concerning gender in child marriage. This discovery aligns with prior studies employing bibliometric techniques to investigate trends in gender studies and public health research (Groot et al., 2018). From the total number of 126 documents, numerous studies are significantly associated with gender in marriage between children, including the following:

**Table 1. Research in Gender in Child Marriage**

No	Author's Name	Title	Year	Number Of Citations
1	Arthur M.; Earle A.; Raub A.; Vincent I.; Atabay E.	Child marriage laws around the world: Minimum marriage age, legal exceptions, and gender disparities (Arthur et al., 2018).	2018	66
2	Sarfo E.A.; Salifu Yendork J.; Naidoo A.V.	Understanding child marriage in Ghana: The constructions of gender and sexuality and implications for married girls (Sarfo et al., 2022).	2022	22
3	Shukla S.; Ezebuihe J.A.; Steinert J.I.	Association between public health emergencies and sexual and reproductive health, gender-based violence, and early marriage among adolescent girls: a rapid review (Shukla et al., 2023).	2023	7
4	Lee-Koo K.; Gordon E.	Conceptualizing conflict-related child and early marriage as insecurity: at the intersection of gender and age (Lee-Koo & Gordon, 2022).	2022	1
5	Ashok S.; Mughal M.; Javed R.	Mother's Age at Marriage and Gender-Differential in Child Schooling: Evidence from Pakistan (Ashok et al., 2024).	2024	0
6	Fan S.; Koski A.	The health consequences of child marriage: a systematic review of the evidence (Fan & Koski, 2022).	2022	33
7	Koski, A; Clark S	Child marriage in Canada (Koski & Clark, 2021). Women's Marital Experiences Following Premarital Fertility in Sub-Saharan Africa (Smith-Greenaway et al., 2021).	2021	15
8	Fan S.; Qian Y.; Koski A.	Child marriage in mainland China (Fan et al., 2022).	2022	11
9	Kaynak Malatyalı M.; Kaynak B.D.; Hasta D.	A social dominance theory perspective on attitudes toward girl child marriages in Turkey: The legitimizing role of ambivalent sexism (Kaynak Malatyalı et al., 2017).	2017	10
10	Lowe H.; Kenny L.; Hassan R.; Bacchus L.J.; Njeru M.	'If she gets married when she is young, she will give birth to many kids': a qualitative study of child marriage practices amongst nomadic pastoralist communities in Kenya (Lowe et al., 2022).	2022	9

11	Shukla S.; Ezebuihe J.A.; Steinert J.I.	Association between public health emergencies and sexual and reproductive health, gender-based violence, and early marriage among adolescent girls: a rapid review(Shukla et al., 2023).	2023	7
12	Menz S.	Statelessness and child marriage as intersectional phenomena: instability, inequality, and the role of the international community (Menz, 2016).	2016	7
13	Patoari M.M.H.	Causes and effects of Child Marriage in Bangladesh: gender inequality perspectives (Patoari, 2020).	2020	6
14	Ratnaningsih M.; Wibowo H.R.; Goodwin N.J.; Reza T.	Child Marriage Acceptance Index (CMAI) as a measure of Gender inequality (Ratnaningsih et al., 2021).	2022	6
15	Judiasih S.D.; Rubiati B.; Yuanitasari D.; Saleh M.	Efforts to eradicate child marriage practices and Gender inequality in Sub-Saharan Africa (Judiasih et al., 2020)	2020	5
16	Nurmala I.; Astutik F.N.; Devi Y.P.	Reasons Women Continue the Traditional Practice of Child Marriage: A Study of Gender Inequality (Nurmala et al., 2020).	2020	5
17	DiGiuseppe M.; Haer R.	The Surge in Marriages in Wartime: The Effect of Armed Conflict on Child Marriage and Gender Inequality (DiGiuseppe & Haer, 2023).	2023	5
18	O'Quinn J.	Mapping the literature on child marriage: A critical engagement (O'Quinn, 2021).	2021	3
19	Tsaneva, Magda	Effect of weather variability on child marriage in Bangladesh (Tsaneva, 2020).	2020	5
20	Chauhan, S.; Sekher, T.V.; Kumar, P.; Srivastava, S.; Patel, R.	Prevalence, determinants and socio-economic inequality of early marriage among men in India (Chauhan et al., 2020).	2020	16
21	Kumari, Nutan; Shekhar, Chander	Trend and determinants of early marriage in Rajasthan: Evidence from the national family health survey (Kumari & Shekhar, 2023).	2020	13
22	Shenky Verma; Vipin Vijay Nair	The association between early marriage and intimate partner violence in Egypt (Verma & Nair, 2022).	2022	3
23	JM Elengemoke & Susuman	Early Marriage and correlates among young women in sub-Saharan African countries (Elengemoke & Susuman, 2021).	2021	7
24	Mathabatha, Shirley M. L.; Tsawe, Mlulek	Multilevel modelling of the determinants of early marriage among women aged 20-49 years in South Africa (Mathabatha & Tsawe, 2023).	2023	-

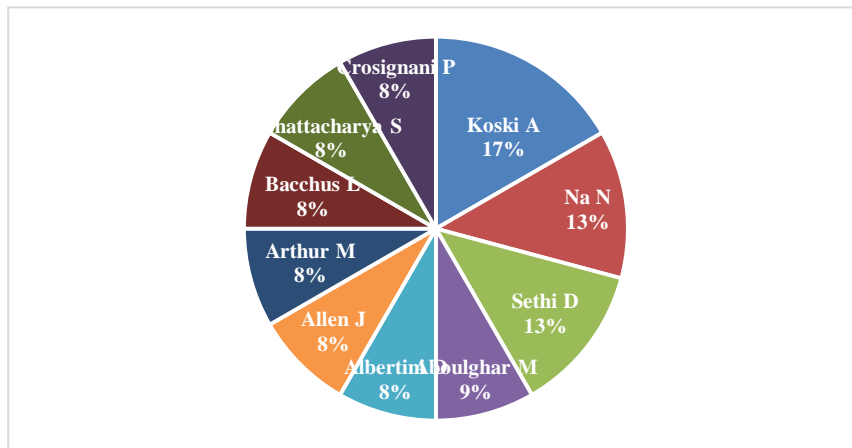
Source: processed by researchers, (2024)

Table 1 illustrates that gender-related concerns in child marriage are extensively acknowledged across all professions and regions. Studies on gender in child marriage indicate

multiple contributory elements, including legal regulations, socioeconomic situations, the impact of crises and conflicts, and religious and cultural customs. In short, these studies establish a foundation for comprehending the intricacies of child marriage-related concerns and formulating effective strategies to tackle gender in child marriage.

### ***Most Relevant Author***

*This* section presents the most significant writers who have addressed gender concerns in child marriage, as illustrated in the subsequent graph:



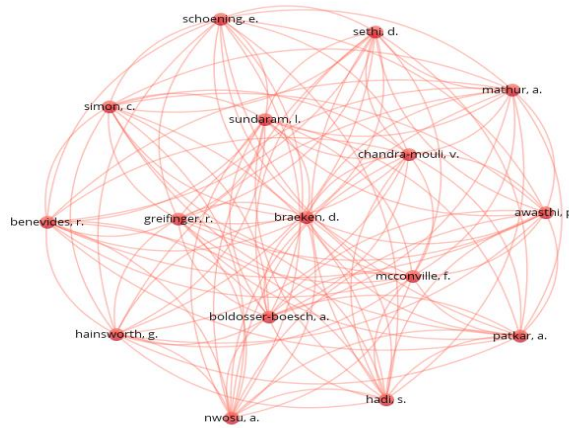
**Figure 2. Number of Authors on Gender Issues in Child Marriage**  
Source: (processed by researchers, 2024)

Figure 2 illustrates the most prominent authors in the domain of gender studies of child marriage. Koski A has four articles. Na N and Sethi D own three articles each. On the other hand, Aboulghar M, Albertini D., Allen J, Arthur M, Bacchus L., Bhattacharya S, and Crosignani P. each hold two articles. In this regard, Koski A authored more papers than any other writer, highlighting her peak productivity in studies concerning gender in child marriage, in which Na N and Sethi D succeeded.

### ***Collaboration Network Visualization***

*Collaboration Network Visualization* demonstrates the solid interactions and divisions among writers within the scholarly community. *Collaboration Networks* about gender in child marriage encompasses the following:





**Figure 3. Collaboration Network Visualization**  
**Source: (Vosviewer, 2024)**

Figure 3, produced by VOSviewer, exhibits the collaborative network among writers about gender in child marriage. Each *node* signifies an author, whereas the *connecting line* denotes collaboration or *co-authorship* among the authors. The thicker line between the two authors indicates a higher frequency of collaboration in their study. Certain authors exhibit more collaborations than others, as evidenced by the number of lines linked to their *nodes*. The author “Braeken, d.” occupies a central position in the network, evidenced by several connections to other authors, signifying extensive partnerships with various individuals.

Other authors, including Sundaram, L. and Schoonne, E., also exhibit several partnerships. However, fewer than Braeken, D. Furthermore, specific groups or clusters of writers engage in more intensive collaboration, indicating the presence of subgroups within this collaborative network.

**Most Relevant Affiliation**

*Most Relevant Affiliation* indicates the association of the foremost author in the study concerning gender concerns in child marriage. The subsequent table presents the number of articles about gender in child marriage produced by universities globally:

**Table 2. Number of publications according to campus affiliation**

University Names	Number Of Publications
McGill University	15
Mashhad University of Medical Science	10
University of Cambridge	6
University of Toronto	6

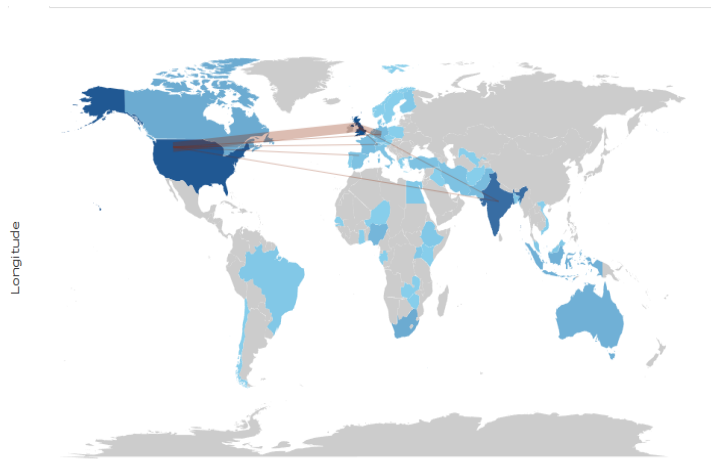
Aga Khan University	5
Popes Coll Autonomous	5
Bharathidasan University	4
Monash University	4
Aberdeen University	4

Source: (processed by researchers, 2024)

Table 2 reveals that prominent institutions, such as McGill University and Mashhad University, engage with the issue of gender in child marriage, highlighting their particular expertise or research emphasis. The involvement of multiple universities from various nations signifies that this study holds global significance.

**Countries Collaboration World Map**

The *Countries Collaboration Map* visually depicts the strength of research contributions from various nations around gender in child marriage. The subsequent image illustrates the contributions of different countries on the subject matter:



**Figure 4. Countries Collaboration World Map**  
Source: (biblioshiny, 2024)

Figure 4 presents a globe map of countries shaded based on the magnitude of research contributions regarding gender in child marriage. The dark blue hue signifies a substantial research contribution, whereas the light blue hue denotes a lesser contribution. As indicated, The United States leads in research contributions, succeeded by India and the United Kingdom. Furthermore, the lines linking nations illustrate global research cooperation. This data indicates that (Ninkov et al., 2021) research on gender in child marriage possesses a worldwide breadth, characterised by substantial international collaboration. Nonetheless, study contributions are predominantly concentrated on particular countries, indicating that the topic is garnering increased attention in certain regions compared to others. The absence of data from specific

regions underscores the necessity for enhanced research initiatives in these locales. The collaboration patterns identified in this study align with those documented in worldwide health and social science research networks (Ninkov et al., 2021).

### **Wordcloud Analysis**

*WordCloud Analysis* visually depicts the quantity of key terms in the literature. Terms with more frequency are presented in a larger font size, unlike those that occur less frequently.



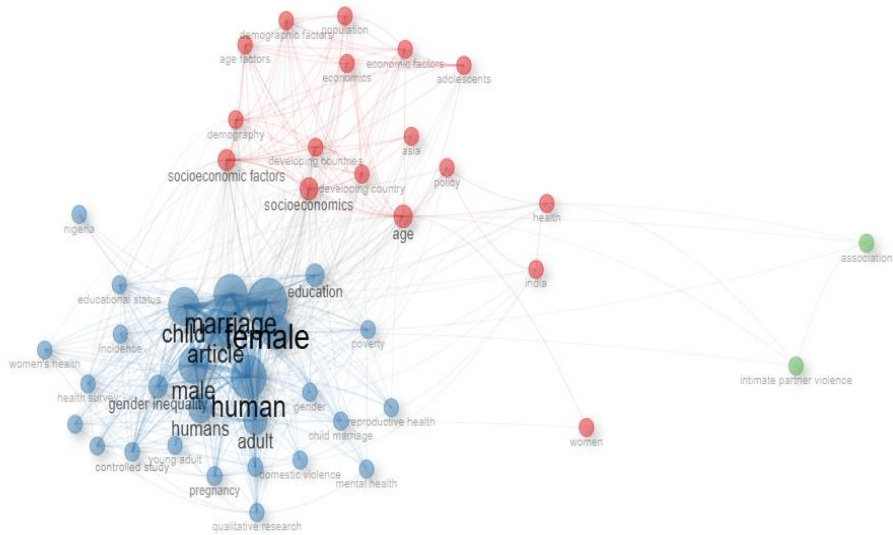
**Figure 5. Wordcloud Analysis**  
**Source: (biblioshiny, 2024)**

Figure 5 illustrates that the predominant keywords, including “female,” “child,” “adolescent,” “marriage,” and “human,” signify that the primary concerns of this study revolve around the effects of child marriage on women and children, along with numerous demographic and health-related variables. The recurrent appearance of the terms “education” and “gender inequality” suggests that these concepts are essential subjects in the examination of child marriage. The terms “pregnancy,” “health,” and “reproductive health” indicate considerable focus on health and the detrimental effects of child marriage on reproductive health. The terms “socioeconomic factors” and “poverty” highlight that this research is frequently situated within a socioeconomic context, especially in developing nations.

### **Keyword Visualization**

*Keyword Visualization* offers a graphical representation of the interconnections of terms in scientific literature, aiding researchers in pinpointing study focal points, comprehending conceptual links, and uncovering nascent research trends. The figure is as follows.





**Figure 7. Co-occurrence Analysis**  
**Source: (biblioshiny, 2024)**

Figure 7 illustrates that the prominent *nodes* represent the principal terms in the study of gender in child marriage: “female,” “human,” “marriage,” and “child.” Certain terms, such as 'female' and 'child,' are associated with others like 'marriage,' 'education,' and 'gender inequality,' indicating that academic achievement and gender disparity are highly significant in the realm of child marriage.

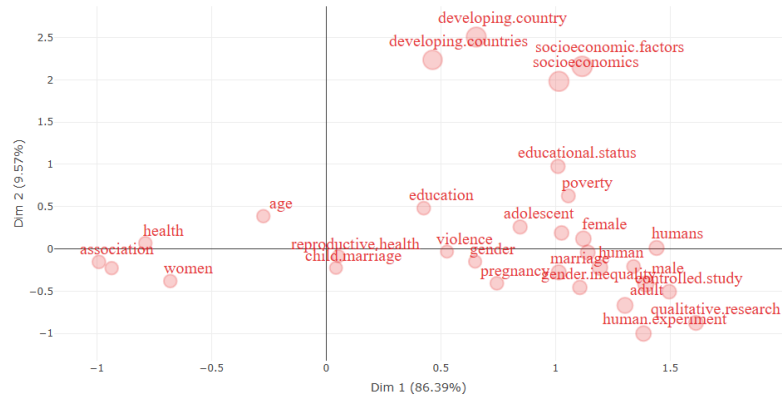
The blue themes often denote the health consequences of child marriage, whereas the red keywords signify the social and policy consequences linked to child marriage. The research's geographical emphasis is apparent in keywords like 'India' and 'Asia,' signifying an ongoing interest in the current state of children within specific regions, particularly concerning health, education, socioeconomic factors, and policy issues.

Research trends indicate a growing interest in concerns related to child marriage. Bibliometric research indicates a rising trend in the volume of literature on such subjects over the years. The United States, India, and the United Kingdom are the primary contributors to the studies, with several international collaborations evident in the author network. The research is often disjointed and dominated by a limited number of main author groups, indicating a necessity for more cross-disciplinary and international partnerships.

**Factorial Analysis**

*Factorial Analysis* is a type of statistics employed to identify concealed structures or trends among diverse observed data (Osareh, 2003). This method compresses data by pinpointing the principal components that elucidate the link among various variables (Lloret-

Segura et al., 2014). In bibliometric analysis, factor analysis identifies clusters of key phrases that frequently co-occur, elucidating the interrelationships among keywords according to their appearance patterns in the body of literature (Gorzeń-Mitka et al., 2020).



**Figure 8. Factorial Analysis**  
**Source: (biblioshiny, 2024)**

Figure 8 presents a *factorial analysis* depicting the spread of themes in the research of gender in child marriage. The horizontal (Dimension 1) and vertical (Dimension 2) axes denote the two principal aspects that elucidate the variance in the data. Keywords such as “developing country,” “socioeconomic factors,” and “educational status” are located in the upper right part, implying a close relationship between socioeconomic factors and educational status in the context of developing countries. The terms “reproductive health,” “child marriage,” and “violence” fall nearer to the centre, signifying their broader and more prevalent significance across many research contexts. The terms “association” and “women” on the left suggest a greater specificity but diminished general importance than the other keywords. In addition, terms such as “gender inequality,” “marriage,” and “education” are closely related, suggesting that these topics are frequently examined in conjunction with the literature. These findings demonstrate a holistic perspective to the study of gender in child marriage, encompassing health, education, socioeconomic, and demographic issues. This view indicates that the study encompasses a complete examination of the subject from various viewpoints rather than concentrating on a singular component.

**Conclusion**

This study comprehensively examines gender in child marriage through bibliometric analysis. Research patterns indicate an upward trend in publications concerning the subject, demonstrating intensified interest and focus among academics. The United States, India, and

the United Kingdom are the primary contributors to the studies, with several global partnerships evident in the author network. The top scholars in this domain are Koski A, Na N, and Sethi D, recognised for their substantial publishing records. McGill University and Mashhad University of Medical Sciences are the foremost institutes contributing to studies on gender in child marriage. Furthermore, Keyword and *co-occurrence* analysis revealed that the core concerns of this research encompass the health, educational, and social effects of child marriage, particularly concerning mothers and children. Keywords such as “female,” “child,” “adolescent,” “marriage,” and “gender inequality” appear frequently, indicating that the research examines the broad impact of child marriage on various aspects of life.

Based on the analysis of collaboration networks, research in this area tends to be fragmented, with a few key author groups leading collaborations. This suggests the need for more efforts to increase cross-disciplinary and cross-country collaboration in research on gender in child marriage. This study fills a gap in the literature by providing a comprehensive analysis of gender in child marriage and demonstrates the significance of a multidisciplinary approach in examining this issue. In addition, the study highlights the need to increase research in underrepresented areas and the importance of international collaboration in advancing understanding of the impact of child marriage. Numerous suggestions exist for forthcoming research about child marriage. *Firstly*, in the domain of social science, it is suggested that studies be carried out that examine the socioeconomic effects of child marriage through a contextual lens and field studies in regions susceptible to this practice. *Secondly*, comparative analyses among nations are essential to discern optimal strategies for diminishing child marriage rates, considering each country’s variances in cultural contexts, legal frameworks, and economic circumstances. Ultimately, interdisciplinary research incorporating the legal domain to enhance regulations, the health sector to alleviate reproductive consequences, the education sphere to promote access to learning, and the economic realm for strengthening families can yield holistic and sustainable remedies for the problem of child marriage.

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## References

- Adedokun, O. A., Adeyemi, O., & Dauda, C. (2017). Child marriage and maternal health risks among young mothers in Gombi, Adamawa State, Nigeria: implications for mortality, entitlements and freedoms. *African health sciences*, 16 4, 986–999. Diambil dari <https://api.semanticscholar.org/CorpusID:32974477>
- Adekoya, A. F., & Sokunbi, G. M. (2021). Early Marriage as a Determinant of Poverty in Nigeria. Diambil dari <https://api.semanticscholar.org/CorpusID:233653292>
- Anggreni, D., Notobroto, H., & Soedirham, O. (2023). Determinant factors of early marriage in developing countries: a literature review. *Journal of Public Health in Africa*. <https://doi.org/10.4081/jphia.2023.2543>
- Arthur, M., Earle, A., Raub, A., Vincent, I., Atabay, E., Latz, I., ... Heymann, J. (2018). Child marriage laws around the world: Minimum marriage age, legal exceptions, and gender disparities. *Journal of women, politics & policy*, 39(1), 51–74.
- Ashok, S., Mughal, M., & Javed, R. (2024). Mother's age at marriage and gender-differential in child schooling: Evidence from Pakistan. *Economics and Human Biology*, 54(June), 101405. <https://doi.org/10.1016/j.ehb.2024.101405>
- Benziane, R., Roqiya, S., & Houcine, M. (2022). Fintech startup: A bibliometric analysis and network visualization. *International Journal of Accounting & Finance Review*, 11(1), 8–23.
- Bezie, M., & Addisu, D. (2019). Determinants of early marriage among married women in Injibara town, north West Ethiopia: community-based cross-sectional study. *BMC Women's Health*, 19. <https://doi.org/10.1186/s12905-019-0832-0>
- Çelik, A., Yaman, H., Turan, S., Kara, A., Kara, F., Zhu, B., ... Dutta, D. (2018). No 主観的健康感を中心とした在宅高齢者における健康関連指標に関する共分散構造分析Title. *Journal of Materials Processing Technology*, 1(1), 1–8. Diambil dari <http://dx.doi.org/10.1016/j.cirp.2016.06.001><http://dx.doi.org/10.1016/j.powtec.2016.12.055><https://doi.org/10.1016/j.ijfatigue.2019.02.006><https://doi.org/10.1016/j.matlet.2019.04.024><https://doi.org/10.1016/j.matlet.2019.127252><http://dx.doi.org/10.1016/j.matlet.2019.04.024>
- Chauhan, S., Sekher, T. V., Kumar, P., Srivastava, S., & Patel, R. (2020). Prevalence, determinants and socio-economic inequality of early marriage among men in India. *Children and Youth Services Review*, 116, 105273.
- Chowdhury, F. D. (2004). The socio-cultural context of child marriage in a Bangladeshi village. *International Journal of Social Welfare*, 13, 244–253. Diambil dari <https://api.semanticscholar.org/CorpusID:152563224>
- Cislaghi, B., Mackie, G., Nkwi, P. N., & Shakya, H. B. (2019). Social norms and child marriage in Cameroon: An application of the theory of normative spectrum. *Global Public Health*, 14, 1479–1494. Diambil dari <https://api.semanticscholar.org/CorpusID:84842161>



- Crawford, C. (2022). Niger's Approach to Child Marriage: A Violation of Children's Right to Health? *Health and Human Rights*, 24(2), 101.
- Das, M. (2023). Child Marriage: A Blow to Human Dignity and Women's Liberty. *Space and Culture, India*, 10(4), 1–5.
- Delprato, M., Akyeampong, K., Sabates, R., Hernández-Fernández, J., Dunne, M., Bengesai, A. V., ... Makonye, F. (2015). Intergenerational Education Effects of Early Marriage in Sub-Saharan Africa. *PLoS ONE*, 44, 173–192. Diambil dari <https://api.semanticscholar.org/CorpusID:235394777>
- DiGiuseppe, M., & Haer, R. (2023). The wedding bells of war: The influence of armed conflict on child marriages in West Africa. *Journal of peace research*, 60(3), 474–488.
- Ding, X., Huang, J., Zhou, R., Che, X., Pang, Y., Liang, D., ... Wang, C. (2024). Bibliometric Study and Visualization of Cellular Senescence Associated With Osteoarthritis From 2009 to 2023. *Medicine*, 103(17), e37611. <https://doi.org/10.1097/md.00000000000037611>
- Duan, S.-L., Li, J., Zhang, M.-D., He, R., Luo, J., Huang, W., ... Chen, G. (2022). Thrombosis in Lung Cancer Research Trends: A Bibliometric Analysis. <https://doi.org/10.21203/rs.3.rs-2217994/v1>
- Elangemoke, J. M., & Susuman, A. S. (2021). Early Marriage and correlates among young women in sub-Saharan African countries. *Journal of Asian and African Studies*, 56(6), 1345–1368.
- Fan, S., & Koski, A. (2022). The health consequences of child marriage: a systematic review of the evidence. *BMC Public Health*, 22(1), 1–17. <https://doi.org/10.1186/s12889-022-12707-x>
- Fan, S., Qian, Y., & Koski, A. (2022). Child marriage in mainland China. *Studies in family planning*, 53(1), 23–42.
- Fernandes, M. (2023). Child Marriage in India: A Sociological Review. *Integrated Journal for Research in Arts and Humanities*. Diambil dari <https://api.semanticscholar.org/CorpusID:263099736>
- Gage, A. J. (2013). Child marriage prevention in Amhara Region, Ethiopia: association of communication exposure and social influence with parents/guardians' knowledge and attitudes. *Social science & medicine*, 97, 124–133. Diambil dari <https://api.semanticscholar.org/CorpusID:8208471>
- Gorzeń-Mitka, I., Bilska, B., Tomaszewska, M., & Kołożyn-Krajewska, D. (2020). Mapping the Structure of Food Waste Management Research: A Co-Keyword Analysis. *International Journal of Environmental Research and Public Health*, 17(13), 4798. <https://doi.org/10.3390/ijerph17134798>

- Groot, R. de, Kuunyem, M. Y., & Palermo, T. (2018). Child Marriage and Associated Outcomes in Northern Ghana: A Cross-Sectional Study. *BMC Public Health*, 18(1). <https://doi.org/10.1186/s12889-018-5166-6>
- Guimaraes, R., Julião, N., & Doria, T. R. T. (2020). Girls should be Girls: The Impact of Child Marriage on Human Development, 6, 27. <https://doi.org/10.18616/rdsd.v6i2.5900>
- Irani, M., & Roudsari, R. L. (2019). Reproductive and Sexual Health Consequences of Child Marriage: A Review of literature. *Journal of midwifery and reproductive health*, 7, 1584–1590. Diambil dari <https://api.semanticscholar.org/CorpusID:158702983>
- Islam, M., & Islam, M. (2021). Determinants of Early Marriage among the Women: A Study on Khulna District. <https://doi.org/10.34104/ajssls.021.089098>
- Judiasih, S. D., Rubiati, B., Yuanitasari, D., Salim, E. F., & Safira, L. (2020). Efforts to eradicate child marriage practices in Indonesia: Towards sustainable development goals. *Journal of International Women's Studies*, 21(6), 135–149.
- Kalamar, A., Lee-Rife, S., & Hindin, M. J. (2016). Interventions to Prevent Child Marriage Among Young People in Low- And Middle-Income Countries: A Systematic Review of the Published and Gray Literature. *Journal of Adolescent Health*. <https://doi.org/10.1016/j.jadohealth.2016.06.015>
- Kaynak Malatyali, M., Kaynak, B. D., & Hasta, D. (2017). A social dominance theory perspective on attitudes toward girl child marriages in Turkey: The legitimizing role of ambivalent sexism. *Sex Roles*, 77, 687–696.
- Kibreth, G. D. (2015). Determinants Of Early Marriage Among Female Children In Sinan District, Northwest Ethiopia. *Health science journal*, 9. Diambil dari <https://consensus.app/papers/determinants-marriage-among-female-children-sinan-kibreth/e073d08eb2af50318d85537e865931b5/>
- Koski, A., & Clark, S. (2021). Child Marriage in Canada. *Population and Development Review*, 47(1), 57–78. <https://doi.org/10.1111/padr.12369>
- Kumari, N., & Shekhar, C. (2023). Trend and determinants of early marriage in Rajasthan: Evidence from the national family health survey. *Children and Youth Services Review*, 145, 106746.
- Lee-Koo, K., & Gordon, E. (2022). Conceptualizing Conflict-Related Child and Early Marriage as Insecurity: At the Intersection of Gender and Age. *Journal of Global Security Studies*, 7(4), ogac022.
- Lee, K. H., Chowdhury, A. I., Rahman, Q. S., Cunningham, S. A., Parveen, S., Bari, S., ... Gurley, E. S. (2023). Child marriage in rural Bangladesh and impact on obstetric complications and perinatal death: Findings from a health and demographic surveillance system. *PLOS ONE*, 18. Diambil dari <https://api.semanticscholar.org/CorpusID:259984614>

- Lloret-Segura, S., Ferreres-Traver, A., Hernández-Baeza, A., & Tomás, I. (2014). El Análisis Factorial Exploratorio De Los Ítems: Una Guía Práctica, Revisada Y Actualizada. *Anales De Psicología*, 30(3). <https://doi.org/10.6018/analesps.30.3.199361>
- Lowe, H., Kenny, L., Hassan, R., Bacchus, L. J., Njoroge, P., Dagadu, N. A., ... Cislighi, B. (2022). 'If she gets married when she is young, she will give birth to many kids': a qualitative study of child marriage practices amongst nomadic pastoralist communities in Kenya. *Culture, Health and Sexuality*, 24(7), 886–901. <https://doi.org/10.1080/13691058.2021.1893821>
- Lowrie, S. H. (1965). Early Marriage: Premarital Pregnancy and Associated Factors. *Journal of Marriage and Family*, 27, 48. Diambil dari <https://api.semanticscholar.org/CorpusID:147267914>
- Mamia, S. Ben, Kasperuniene, J., Puech, W., & Bouallegue, K. (2022). Bibliometric study about chaotic cryptography in developing countries. In *2022 IEEE 9th International Conference on Sciences of Electronics, Technologies of Information and Telecommunications (SETIT)* (hal. 291–298). IEEE.
- Mathabatha, S. M. L., & Tsawe, M. (2023). Multilevel modelling of the determinants of early marriage among women aged 20-49 years in South Africa. *African Journal of Reproductive Health*, 27(8), 83–94.
- Melnikas, A. J., Ainul, S., Ehsan, I., Haque, E., & Amin, S. (2020). Child marriage practices among the Rohingya in Bangladesh. *Conflict and Health*, 14. Diambil dari <https://api.semanticscholar.org/CorpusID:218877087>
- Menz, S. (2016). Statelessness and child marriage as intersectional phenomena: instability, inequality, and the role of the international community. *Calif. L. Rev.*, 104, 497.
- Moral-Muñoz, J. A., Herrera-Viedma, E., Santisteban-Espejo, A., & Cobo, M. J. (2020). Software tools for conducting bibliometric analysis in science: An up-to-date review. *Profesional de la Información*, 29(1).
- Nasir, A., Shaukat, K., Hameed, I. A., Luo, S., Alam, T. M., & Iqbal, F. (2020). A bibliometric analysis of corona pandemic in social sciences: a review of influential aspects and conceptual structure. *Ieee Access*, 8, 133377–133402.
- Ngai, M., Joo, M. K., & Yacob, W.-L. (2023). Niger's Child Marriage Crisis: Health, Rights, and Protection. *Journal of Student Research*, 12(2).
- Ninkov, A., Frank, J. R., & Maggio, L. A. (2021). Bibliometrics: Methods for Studying Academic Publishing. *Perspectives on Medical Education*, 11(3), 173–176. <https://doi.org/10.1007/s40037-021-00695-4>
- Nmadu, A., Joshua, I., Onyemocho, A., Mohammad-Idris, Z. K., & Adiri, F. (2018). Child Marriage in Nigeria: the Human Rights and Public Health Implications. *Tropical Journal of Health Sciences*, 25, 1–6. <https://doi.org/10.4314/TJHC.V25I3>

- Nour, N. M. (2009). Child marriage: a silent health and human rights issue. *Reviews in obstetrics and gynecology*, 2(1), 51.
- Nurmala, I., Astutik, F. N., & Devi, Y. P. (2020). Surrounding the reason for women to continue the tradition of child marriage. *Utopia y Praxis Latinoamericana*, 25(2), 24–32.
- O’Quinn, J. (2021). Mapping the literature on child marriage: A critical engagement. *Sociology compass*, 15(11), e12935.
- Osakinle, E. O., & Tayo-Olajubutu, O. (2017). Child Marriage and Health Consequences in Nigeria. *American Scientific Research Journal for Engineering, Technology, and Sciences*, 30, 351–356. Diambil dari <https://api.semanticscholar.org/CorpusID:56568812>
- Osareh, F. (2003). The use and application of multivariate analysis techniques in bibliometric and scientometric studies. *International Journal of Information Science and Management (IJISM)*, 1(2), 59–71.
- Patoari, M. M. H. (2020). Causes and effects of child marriage in Bangladesh: a case study at halishahar, Chattogram, Bangladesh. *Acad J Interdiscip Stud*, 9(2), 162.
- Ratnaningsih, M., Wibowo, H. R., Goodwin, N. J., Rezki, A. A. K. S., Ridwan, R., Hadyani, R. N., ... Faizah, S. N. (2021). Child Marriage Acceptability Index (CMAI): South and Central Sulawesi, Indonesia. <https://doi.org/10.21203/rs.3.rs-695967/v1>
- Rizqi, M. D., Saputra, W. A., & Murahman, M. (2023). Menggali Hubungan antara Media Sosial dan Kebijakan Pemerintah: Pendekatan Bibliometrik dan Tinjauan Pustaka. *Kawistara*, 13(3), 389–401.
- Sabri, K. N., Mohamad, S. F., Ungku Zainal Abidin, U. F., Ghazali, H., & Ali@Hamid, M. H. (2024). A Four-Decade Bibliometric Analysis of Social Entrepreneurship. *International Journal of Academic Research in Business and Social Sciences*, 14(3). <https://doi.org/10.6007/ijarbss/v14-i3/20982>
- Salehpour, A. (2022). Bibliometric Review of Applications of Deep Learning in Marketing: Advances in Resources and Top Trend Analysis. *Journal of Artificial Intelligence and Capsule Networks*, 4(4), 230–244.
- Sarfo, E. A., Salifu Yendork, J., & Naidoo, A. V. (2022). Understanding Child Marriage in Ghana: The Constructions of Gender and Sexuality and Implications for Married Girls. *Child Care in Practice*, 28(2), 228–241. <https://doi.org/10.1080/13575279.2019.1701411>
- Shukla, S., Ezebuihe, J. A., & Steinert, J. I. (2023). Association between public health emergencies and sexual and reproductive health, gender-based violence, and early marriage among adolescent girls: a rapid review. *BMC Public Health*, 23(1), 1–14. <https://doi.org/10.1186/s12889-023-15054-7>
- Smith-Greenaway, E., Koski, A., & Clark, S. (2021). Women’s Marital Experiences Following Premarital Fertility in Sub-Saharan Africa. *Journal of Marriage and Family*, 83(2), 394–408.

- Stark, L. (2018). Early marriage and cultural constructions of adulthood in two slums in Dar es Salaam. *Culture, Health & Sexuality*, 20, 888–901. <https://doi.org/10.1080/13691058.2017.1390162>
- Subramanee, S. D., Agho, K., Lakshmi, J., Huda, M. N., Joshi, R., & Akombi-Inyang, B. (2022). Child marriage in South Asia: a systematic review. *International journal of environmental research and public health*, 19(22), 15138.
- Susanti, S. (2020). Premarital Sexual Behavior and Factors Affecting Youth Marriage (Review of MBA Couples In Ponorogo Regency). Diambil dari <https://api.semanticscholar.org/CorpusID:214264539>
- Thelma, C. C., Phiri, E. V., Mutepuka, E., & Sylvester, C. (2023). Effects of Poverty on Early Marriages: A Case of Mansa District in Luapula Province, Zambia. *International Journal For Multidisciplinary Research*. <https://doi.org/10.36948/ijfmr.2023.v05i04.5679>
- Thelma, C. C., Phiri, E. V., Mutepuka, E., Sylvester, C., Sagalova, V., Nanama, S., ... Vollmer, S. J. (2021). Long-term consequences of early marriage and maternity in West and Central Africa: Wealth, education, and fertility. *Journal of Global Health*, 11. <https://doi.org/10.36948/ijfmr.2023.v05i04.5679>
- Tsaneva, M. (2020). The effect of weather variability on child marriage in Bangladesh. *Journal of International Development*, 32(8), 1346–1359.
- Verma, S., & Nair, V. V. (2022). The association between early marriage and intimate partner violence in Egypt. *Journal of Loss and Trauma*, 27(5), 461–473.
- Wodon, Q., Malé, C., Nayihouba, A., Onagoruwa, A., Savadogo, A., Yedan, A., ... Reddy, P. (2017). Economic impacts of child marriage: global synthesis report. *Journal of Global Health*, 7. <https://doi.org/10.7189/jogh.07.010903>
- From the internet: (<https://www.worldvision.com.au/global-issues/work-we-do/forced-child-marriage>, accessed July 27, 2024, at 20: 33)
- From the internet: (<https://www.kompas.id/baca/english/2024/03/08/en-tingginya-angka-perkawinan-usia-anak-di-indonesia>, accessed July 27, 2024, at 20: 34)
- From the internet: (<https://www.unicef.org/indonesia/media/2851/file/child-marriage-report-2020.pdf>, accessed November 30, 2024, at: 09.07)