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Abstract: Sexual abuse during childhood can destroy the backbone of a society because children are the future citizens. Significant research in this area is desirable to increase awareness against this heinous crime. The present scientometric study has been conducted to present the growth of research in this subject domain in India. Data analysis reveals that among the total 300 articles published on this topic, the highest number of publications i.e. 42 was published in 2015 and year 2001 has published only 2 articles. Journal articles were the highest in number among different types of publication. According to chronological distribution of citation, the highest number of citation i.e. 5690 was published in 2012 and lowest number of citations i.e. 12 was published in 2018. Finally there is a positive relationship between time and growth of citation. Overall Degree of Collaboration (C) among the authors i.e. 0.87 indicates large number of collaborative works among the authors is observable. This article also represents source title wise publication where Indian Journal of Psychiatry has received maximum number of publications.

1. Introduction:

"A nation's children are its supremely important asset and nation's future lies in their proper development. An investment in children is indeed an investment in future. A healthy and educated child of today is the active and intelligent citizen of tomorrow" --RabindraNath Tagore.

Childhood and adolescence which ranges from 2 to 19 years of age is the most vital phase in the human life cycle as it is the period of development. The situations of life such as joy, sorrows, problems, traumas, violations of their rights, abuse they experience and so on, occurring during this period get their reflection in adulthood. Attitudinal behaviour in adulthood has its roots deeply in childhood and adolescence. Happy adulthood reflects a happy childhood and adolescence period and vice versa. Hence this golden and precious period should be cared and protected from violations, abuse and exploitation. On the contrary, children around the world are abused and exploited in ways causing various taunting physical, psychological and social problems. These problems are usually permanent leading to dire consequences in their life cycle. (Pavithra &Relton, 2014)

The word "abuse" is based on a Latin word "abusus" means misused. The World Health Organization (WHO) defines child sexual abuse (CSA) as "the involvement of a child in sexual activity that he or she does not fully comprehend and is unable to give informed consent to, or for which the child is not developmentally prepared, or else that violate the laws or social taboos of society".CSA remains a taboo but it is a highlypragmatic problem in India, and the situation is aided by the absence of effective legislation and the silence that surrounded the offence. In India it exists in many forms, but the laws are still ambiguous and most children suffer in silence.

To know the state of the art condition of a research domain scientometric evaluation of that subject is the ultimate solution. This scientometric analysis is a method for analyzing scientific production and is used as a tool for evaluating the quality of scientific production (Sarkar &Pal, 2019). Enormous growth in the field of child sexual abuse research gets its cogent manifestation in the original outputs of the journals in this field. A specific subject area nowhere gets amore nascent information than a suitable journal in that specific field. Journals are always the primary sources of information and are the torchbearers of the growth of literature in different areas of knowledge (Pal & Sarkar, 2018). Along with journal articles, book chapters, conference papers, reviews, letters and the like also carry new ideas in a specific subject domain. In this present scientometric study on child sexual abuse through the year wise, author name wise, subject area wise, document type wise, source title wise and keyword wise analysis, a vibrant picture of the present condition of research in this subject in India has been portrayed.

2. Literature Review:

Tran et al. (2018) in their study aimed to explore the bibliometric overview on child maltreatment publications to understand their growth from 1916 to 2018.They had analyzed publication years, number of papers, journals, authors, keywords, countries, and presented the countries collaboration and co-occurrence keywords analysis. From 1916 to 2018, 47,090 papers (53.0% in 2010–2018) were published in 9442 journals. Child Abuse & Neglect (2576 papers; 5.5%); published maximum number of papers. Psychology (16,049 papers, 34.1%) was the most common research area in this field. Among 192 countries with research publications, the most prolific country was United States (with 26,367 papers). Wiysonge, Uthman, Ndumbe and Hussey (2013) conducted a bibliometric analysis of childhood immunization research output from Africa, using research articles indexed in PubMed. Zero-truncated negative binomial regression models to explore the factors associated with research productivity had been used by the researchers. They had identified 1,641 articles on childhood immunization indexed in PubMed between 1974 and 2010 with authors from Africa, which represent only 8.9% of the global output. Five countries (South Africa, Nigeria, The Gambia, Egypt and Kenya) contributed 48% of the articles. As no such scientometric study has been conducted on child sexual abuse research in India, the present study has been undertaken to fill the knowledge gap in this area.

3. Objectives:

The objectives of the study are:

- ➢ To find out the year wise distribution of publications on child sexual abuse in India.
- ➢ To trace the degree of collaboration among authors.
- ➢ To show the document type wise distribution of publications in this topic.
- ➢ To reflect the source title wise distribution of publications on CSA.
- ➢ To reflect the chronological distribution of citations as well to represent the correlation between year and number of citations.
- ➢ To visualize the term co-occurrence in the titles of publications.

4. Scope of the Study:

The study is restricted with a particular database i.e. Scopus.com. In this study documents published on Child Sexual Abuse from Indiaduring 2001 to 2019 have been collected.

5. Methodology:

To find out the objectives of this study a general scientometric process has been used. As a registered user after log in within Scopus database an advanced search has been done on 29th April by using a

search string TITLE-ABS-KEY (child AND sexual AND abuse) AND PUBYEAR > 2000 AND (LIMIT-TO (AFFILCOUNTRY, "India")) for affiliated country India.Data have been retrieved on that specific domain, data have been collected and consolidated and then analyzed keeping in view the objective of the study. Person's correlation formula has been used to represent the relationship between year and number of citations through R statistical software. VoSviewer software has been used to draw the term co-occurrence network

6. Data Analysis:

According to scope and limitation of this study only Scopus database was use for data collection purposes. Here retrieved data are presented and analyzed through some table and figures.

- **Year Wise Distribution of Publication**

Year wise distribution of publication focus on the research trends regarding the topic child sexual abuse.
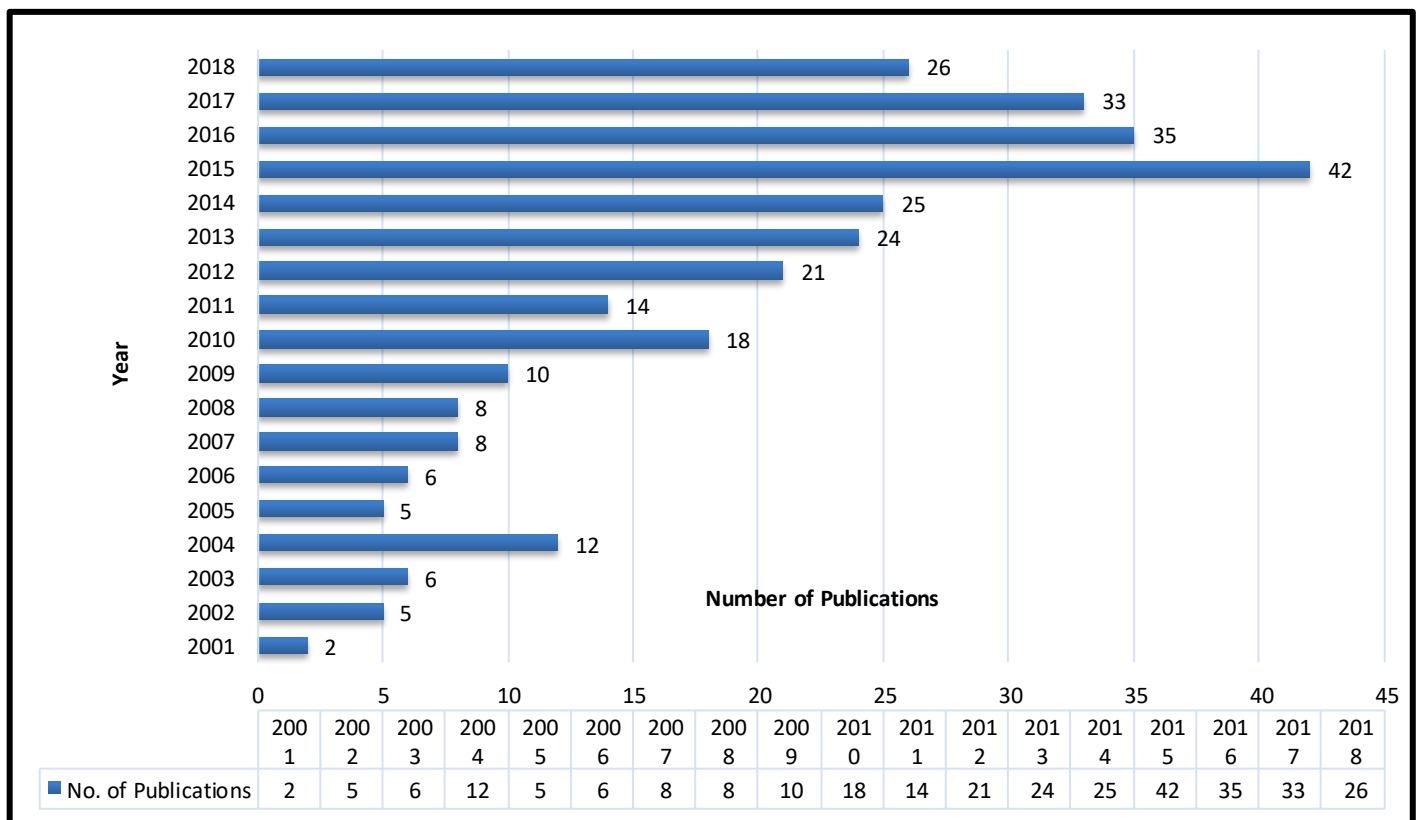

No. of Publications	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
No. of Publications	2	5	6	12	5	6	8	8	10	18	14	21	24	25	42	35	33	26

Figure 1: Year wise distribution of publication

In this section, the figure 1 represents year wise distribution of publication. In total 300 numbers of publications were identified through Scopus database. Among the total 300 published papers, published within the 2001 to 2018, the highest number of publications i.e. 42 was published in 2015 and lowest number of publications i.e. 2 was published in 2001.

- **Degree of Collaboration**

The following table and paragraph describe the degree of collaboration among the authors. In this study the Degree of Collaboration (C) of the contributors has been calculated using the Subramanyam formula (1983). The formula is as follows:

Degree of Collaboration (C) = Nm / Nm+Ns
Where,
C = Degree of Collaboration
Nm = Number of multiple authored paper
Ns = Number of single authored paper

Table 1: Degree of collaboration

Year	Single Authored Paper (Ns)	Multiple Authored Paper (Nm)	Total (Ns+Nm)	Degree of Collaboration (C)
2018	4	22	26	0.84
2017	1	32	33	0.96
2016	5	30	35	0.85
2015	9	33	42	0.78
2014	2	23	25	0.92
2013	3	21	24	0.87
2012	1	20	21	0.95
2011	2	12	14	0.85
2010	1	17	18	0.94
2009	1	9	10	0.90
2008	1	7	8	087
2007	1	7	8	0.87
2006	1	5	6	0.83
2005	1	4	5	0.80
2004	4	8	12	0.66
2003	1	5	6	0.83
2002	0	5	5	1
2001	0	2	2	1
Total	**38**	**262**	**300**	**0.87**

Above table (Table-1) shows the individual year wise Degree of Collaboration and as a whole (from the year 2001 to 2018) Degree of Collaboration. In this case overall Degree of Collaboration (C) = 0.87 that indicates large number of collaborative works among the authors is present. This table also reveals that the highest value of DC (1) was observed in the year 2001, 2002 and the lowest value of 0.66 in the year 2004.

- **Document Type Wise Distribution of Publication**

Following Table-2 reveals that document type wise distribution of publication on child sexual abuse.

Table 2: Document type wise distribution of publication

Document Type	Number of Publications
Article	198
Review	50
Letter	15
Book Chapter	10
Conference Paper	9
Editorial	9
Note	4
Book	3
Article in Press	1
Short Survey	1
Total	**300**

As per this table 300 articles were identified through Scopus database. Among the total 300, articles are highest in number (198). It is followed by reviews (50), and then letters (15). Article in press and short surveys are contributed only 1.

- **List of Top Ten of Sources of Publication**

Table 3: Top ten of sources of publication

Source Title	Publication
Indian Journal of Psychiatry	18
Indian Pediatrics	11
Journal of Indian Association for Child and Adolescent Mental Health	11
Medico Legal Update	10
Journal of Clinical and Diagnostics Research	9
Journal of Indian Academy of Forensic Medicine	9
Child Abuse and Neglect	8
Indian Journal of Pediatrics	8
Asian Journal of Psychiatry	7
Indian Journal of Dermatology, Venereology and Leprology	7

In this section, Table 3 represented that source title wise distribution of publications (first ten). Here Indian Journal of Psychiatry has received maximum number of publications on child sexual abuse. It was followed by Indian Pediatrics (11) and Journal of Indian Association for Child Adolescent Mental Health (11).

- **Chronological Distribution of Citation**

Table 4: Distribution of citation

Year	No. of Publication	No. of Citation
2001	2	57
2002	5	92
2003	6	51
2004	12	187
2005	5	78
2006	6	23
2007	8	2712
2008	8	135
2009	10	300
2010	18	373
2011	14	183
2012	21	5690
2013	24	96
2014	25	105
2015	42	217
2016	35	229
2017	33	110
2018	26	12

From the Table 4, it is also evident that 2012 has received maximum numbers of citation i.e. 5690 and 2018 has received only 12 citation. Using Pearson correlation formula the relationship between year and number of citation can be tested. In this article correlation has been observed between time and growth of citation.

Pearson correlation as per R-Statistical Software:

> Year<- c (2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018)

> Citation<- c (57, 92, 51, 187, 78, 23, 2712, 135, 300, 373, 183, 5690, 96, 105, 217, 229, 110, 12)

>cor (Year, Citation, method="pearson")

0.07026617

There is a significant positive relationship between time and growth of citation. In this case Pearson's **r = 0.07026617**. Following figure also shows the correlation between two variables.
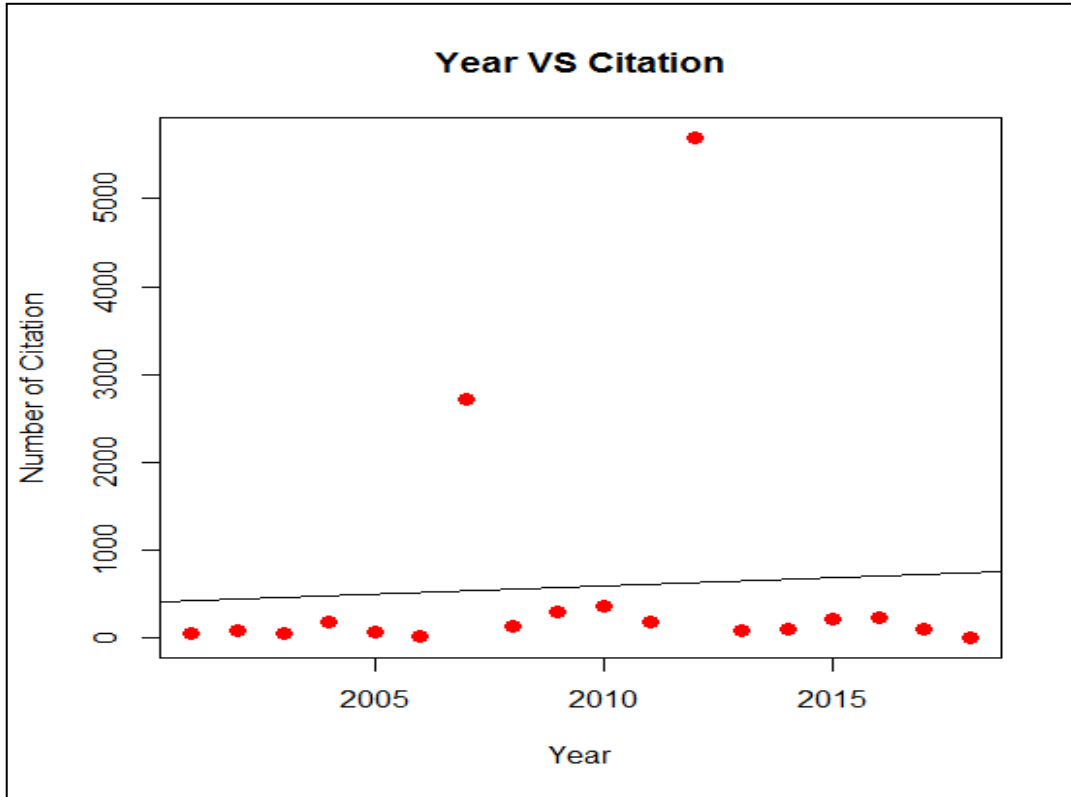
Figure 2: Year Vs citation correlation

- **Term Co-occurrence**

Figure 3 and 4 represent the visualization of co-occurrence of the terms, their relevance, total number of clusters originated while forming the network and finally the network.

Selected	Term	Occurrences	Relevance ⌄
✔	child abuse	14	2.50
✔	india	86	1.12
✔	sexual abuse	23	0.71
✔	woman	27	0.68
✔	child sexual abuse	20	0.63
✔	review	16	0.36

6 items (3 clusters):

Cluster 1 (3 items)
india
sexual abuse
woman
Cluster 2 (2 items)
child sexual abuse
review
Cluster 3 (1 item)
child abuse

Figure 3: Terms, occurrences, their relevance and number of clusters formed
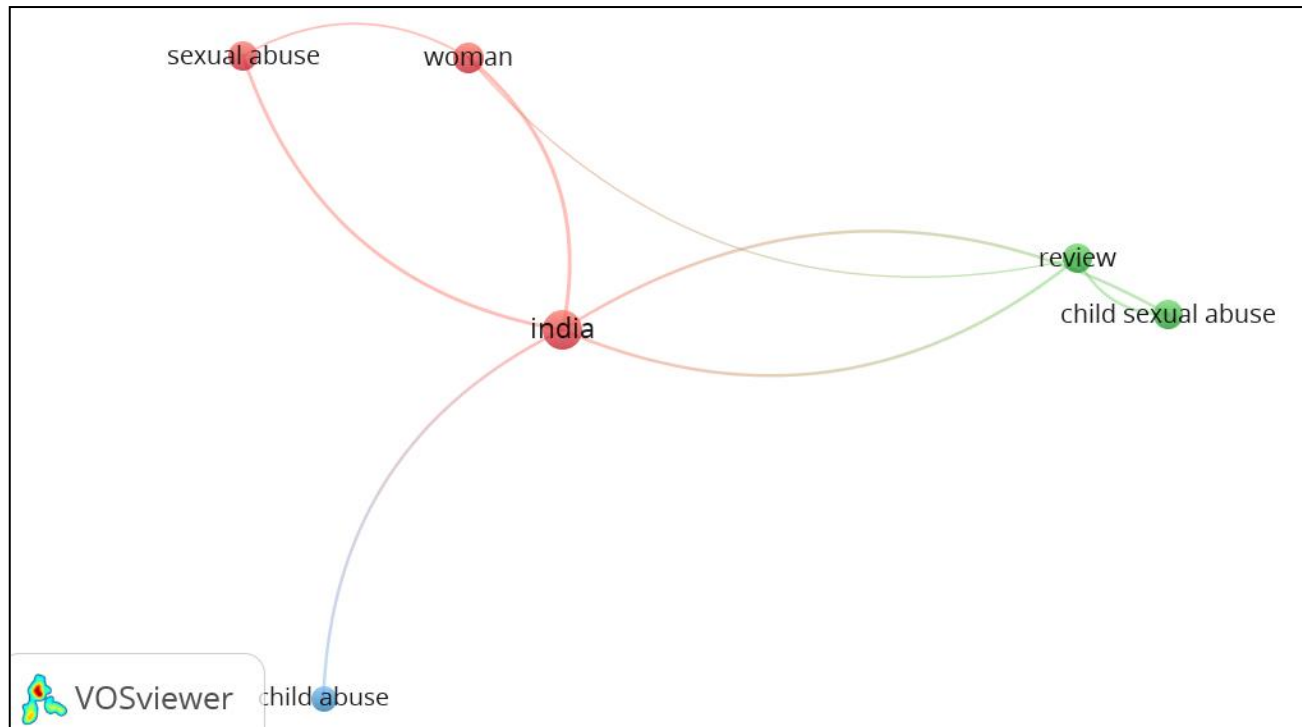
Figure 4: Term co-occurrence network

In the visualization presented in Figure 4, each circle represents a term. The size of a circle indicates the number of publications that have the corresponding term in their title only. VOSviewer has grouped the terms into three clusters.

7. Conclusion:

Childhood and adolescent period is a period span where the entire life of a person is moulded for his or her future. This article represents the scientometric portrait of the child sexual abuse research in India. The above data analysis reveals that among the total 300 article published on this topic, the highest numbers of publications i.e. 42 was published in 2015 and year 2001 has published only 2 articles. Journal articles were the highest in number among different types of publication. According to chronological distribution of citation, the highest number of citation i.e. 5690 was published in 2012 and lowest number of citations i.e. 12 was published in 2018. Finally there is a positive relationship between time and growth of citation. Overall Degree of Collaboration (C) among the authors i.e. 0.87 indicates large number of collaborative works among the authors is observable. This article also represents source title wise publication where Indian Journal of Psychiatry has received maximum number of publications.

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