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Global Research on Health Literacy of LGBTI Community: A Bibliometric Analysis

Dr. Rekha R V

Associate Professor, DLIS, Pondicherry University, Puducherry

Rahul K.P

Research Assistant (ICSSR), DLIS, Pondicherry University, Puducherry

Abstract

The present study analyses the literature on health literacy of LGBTI, to understand the collaboration trends on this research area. The data for the study was collected from the Scopus database and analysed using Excel, Bibexcel, and VOS viewer. Results show that in the case collaboration with other countries the United States comes first followed by the United Kingdom. The organization-wise co-authorship shows that only 6 organizations have more than four publications and "Factor-inwentash Faculty of Social Work, University of Toronto, Canada" has published the highest number of publications on LGBTI health literacy research globally, with 11 publications and 353 citations. Zeynep Tufekci is the most cited author of LGBTI Health Literacy with 771 citations. "Twitter and tear gas: the power and fragility of networked protest" is the most cited source among the sources of LGBTI Health literacy with 771 citations. The study's findings provide a comprehensive overview of the emerging trends in author and institute-wise collaboration, and the contributions of different countries.

Keywords: Citation Analysis, Health Literacy, Health Literacy Literature, LGBTI, LGBTI Community, Research Trends on Health Literacy

1. Introduction

"Health literacy refers to the personal characteristics and social resources needed for individuals and communities to access, understand, appraise, and use information and services to make decisions about health. Health literacy includes the capacity to communicate, assert, and enact these decisions. Health literacy includes the capacity to communicate, assert and enact these decisions". As defined by the Centers for Disease Control and Prevention (CDC), "health literacy is the degree to which an individual can obtain, communicate, process, and understand necessary health information and services to make appropriate health decisions". Being "lesbian, gay, bisexual, transgender, or intersex (LGBTI)", facing persecution on a daily basis in far too many places. The basis for this discrimination may be sex traits, gender identity, gender expression, or sexual orientation. The LGBTI people were facing a lot of hardships in healthcare. Access to quality healthcare and equality in healthcare remains an ordeal for these communities (Masoodi, 2018). "LGBTI community has experienced the pandemic differently than non-LGBT people

concerning their risk of COVID-19, mental health, employment loss, and vaccine attitudes" (Dawson, Kirzinger, &Kates, 2021). In this pandemic, the LGBT communities are considered particularly vulnerable to contracting the virus due to various factors. Transgender adults are particularly at more risk as they are rated with poor health compared to others. This study tries to understand the collaboration trends in research on the LGBT community based on the literature retrieved from the Scopus database.

2. Review of the Related Studies

Aldowah et al. (2023) explored the evaluation of oral health knowledge, literacy, and outlook toward oral health between school teachers. Results show that School teachers are well-versed in oral health, possess sufficient information, and have a favourable attitude toward it. Banerjee and Basu (2023) carried out a bibliometric study to analyze the publication outputs of open government data research during the period of 2011 to 2022.The study results show a steady increase in research output on open government data and the United States leads the world in such research contributions. Beasant et al. (2023) examined the Health literacy profile of Australian regional adults by applying the Health Literacy Questionnaire (HLQ). This study intends to carry out phase one of the OpHeLiA process by characterizing the health literacy profile of individuals. The study results indicated that there may be discrepancies in health literacy depending on the level of social and health support. Griffin et al. (2023) explored 'LGBTQ+ young people's experiences and understandings of health inequalities in North East England' The article concludes by indicating that the systemic prejudice that LGBTQ+ young people experience must be addressed as a priority for public health (community wellbeing). Kumar and Bharathi (2023) studied the trends in information-seeking behaviour research. A constant upward trend in research production over the course of succeeding decades is revealed by the bibliometric study utilizing the Scopus database, and the paper emphasizes the increasing significance of comprehending and investigating information-seeking behaviour. Gorczynski et al. (2022) reviewed the mental health of 'Lesbian, Gay, Bisexual, Trans, and Queer in elite sport'. The main aim of the review is to examine the most recent epidemiologic data on the symptoms and illnesses associated with mental health experienced by outstanding sportsmen who identify as LGBTQ+ and to determine risk factors and preventative measures for certain signs and conditions. Halder (2022) studied the publication trends in Library Herald and College Libraries from 2011 to 2020. The study focused on elements such as research growth, collaboration and distribution etc. Holloway et al. (2022) looked up information from six focus groups conducted in Colorado's countryside, towns, and large cities, which were analysed to explore similarities and variations in access to medical care and health literacy of TNB people. Yu et al. (2020) performed a bibliometric analysis of COVID-19-related literature published between 2019 and 2020 using VOSviewer. The results of the analysis indicate a significant rise in the quantity of COVID-19 articles worldwide. Furthermore, China has made the most significant contribution in this crucial area.

3. Objectives of the Study

The specific objectives of the study are:

- To figure out the publication productivity in the Health literacy literature on LGBTI with respect to year and country.
- To study the authorship trends of health literacy literature on LGBTI.

- To determine the co-authorship linkage between authors, countries, and organizations.
- To find out the author and index keyword co-occurrence collaboration.
- To find out the most cited publication and country in the health literacy literature on LGBTI

4. Research Methodology

To collect data, the SCOPUS database was searched to find out all publications on the health literacy of LGBTI. As there were very few publications before 2010, the publications that were published between 2010 and 2023 were taken for the study. Health literacy AND LGBT, which were present in all fields, were the search phrases utilized to find the most similar publications. All bibliographic details like title, author, and citation counts etc., were exported into CSV format for the publications that satisfied the requirements. A total of 1795 pertinent documents were found as the data source throughout the search carried out in April 2024. Co-authorship and Co-occurrence were examined using VOSviewer (version 1.6.20). The data is analyzed using Bibexcel and MS Excel. The different types of publications retrieved from SCOPUS on the health literacy of the LGBTI community are given in Figure 1.

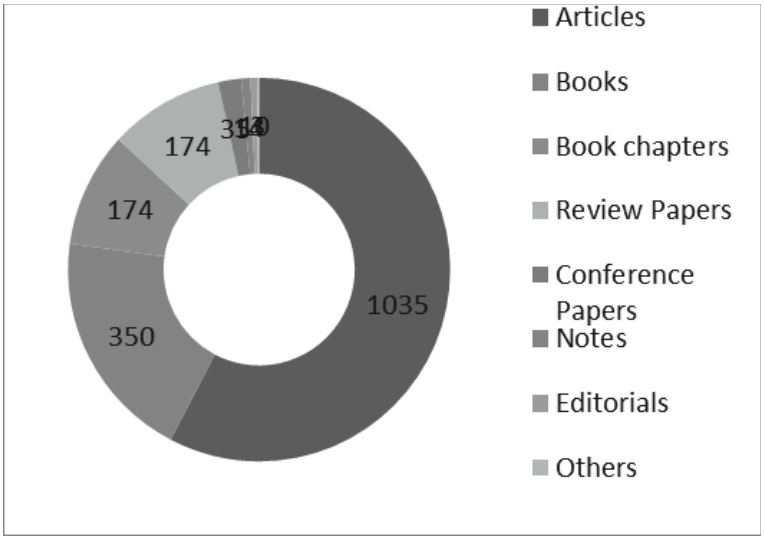

Figure 1: Type of publications

5. Analysis and Discussion

The collected data has been analysed and reported in the following tables and figures. Some of the findings of the study are discussed as under:

5.1 Year-wise analysis of Publications

The year-wise analysis of the LGBTI health literacy literature retrieved from SCOPUS is represented in Figure 2. The figureindicate that 2023 is the most productive year with 426 publications (23.73 percent) followed by 2022 with 309 items (17.21 percent).

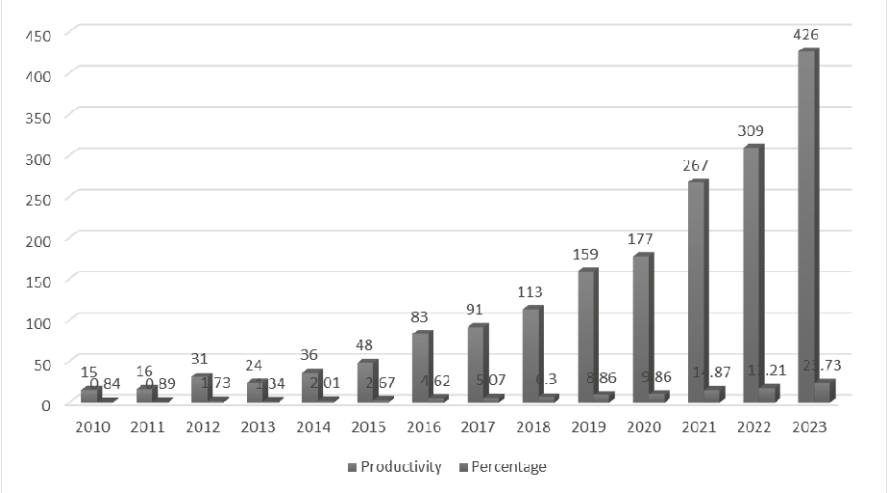

Figure 2: Year-wise analysis of publications

5.2 Author-wise analysis

Figure 3indicates that single-authored publications are the highest, sharing 26.18 percent of the total publications followed by publications having two authors (21.78 percent) and three authors (15.15 percent).

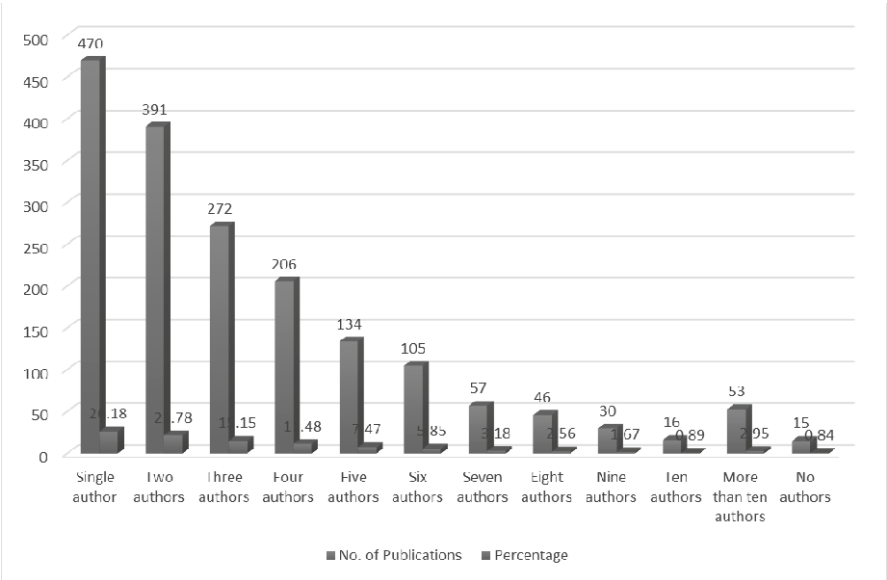

Figure 3: Author wise analysis

5.3 Country-wise analysis

Figure 4 indicates that the United States has the highest number of publications (1070) in the LGBTI health literacy literature followed by the United Kingdom (166 publications), Canada (148 publications), and Australia (147 publications). Besides this, there are three countries with more than 30 publications.

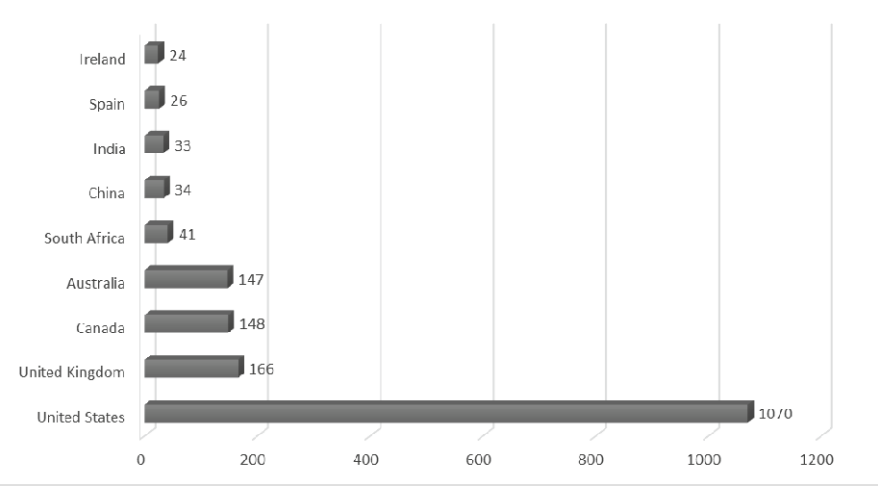

Figure 4: Country-wise analysis

5.4 Country-wise co-authorship

Figure 5 depicts the mapping of country-wise co-authorship collaboration of the LGBTI health literacy literature. Setting the "threshold as the minimum number of documents of a country and the minimum number of citations as five", the United States (USA) has the highest total link strength with 196 followed by the United Kingdom (143), Canada (95), Australia (93) and Switzerland (69). Out of the 124 countries, 37 countries meet the threshold.

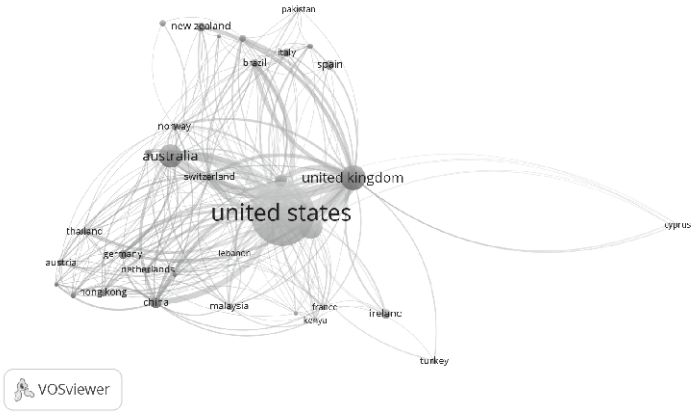

Figure 5: Mapping of Country wise co-authorship

5.5 Organization-wise co-authorship

Table 1 shows the organization-wise co-authorship linkage of the LGBTI health literacy literature. "Through the literature search, it is identified that within the dataset of 4440 organizations, 134 of them were displayed after meeting the criteria of a minimum publication count of at least 2 and a citation count of not less than 10". The analysis shows that the "Factor-Inwentash Faculty of Social Work, University of Toronto, Canada" is one of the leading institutions among those involved in LGBT health literacy research worldwide, which had 353 citations and 11 publications and has collaborated with 5 organizations.

Table 1: Organization-wise co-authorship linkage

Organization	Publications	Citations	Total link stren gth
"Factor-Inwentash Faculty of Social Work, University of Toronto, Canada"	11	353	5
"Harvard Medical School, Boston, United States"	7	237	1
East Carolina University, United States	5	39	2
Rutgers University, United States	5	201	1
Swinburne University Of Technology, Australia	5	141	3
University of Colorado Boulder, boulder, co, United States	5	83	4
Carnegie Mellon University, Pittsburgh, pa, United States	4	19	4
College of Social Work, the OhioState University, Columbus, United States	4	141	1
Dalla Lana School of Public Health, University of Toronto, Toronto, on, Canada	4	45	5
"Department of Family and Community Health, School of Nursing, University of Pennsylvania, Philadelphia, United States"	4	52	2

5.6 Author-wise co-authorship

Table 2 indicates the author-wise co-authorship linkage. "Through the literature search, it was identified that within the dataset of 5807 authors, 278 of them were displayed after meeting the criteria of a minimum publication count of at least 2 and a citation count of not less than 10". Among the authors, Shelly L Craig has the highest number of publications (7) with 252 citations and a total link strength of 9. Kimberly M Nelson has 6 papers with 129 citations and a total link strength of 11.

Table 2: Author-wise co-authorship linkage

Author	Publications	Citations	Total Link strength
Craig, Shelley l.	7	252	9
Nelson, Kimberly m.	6	129	11
Carey, Michael P.	6	129	10
Matthews, Alicia K.	6	49	2
Katz, Mira l.	5	86	30
Mcree, Annie-Laurie	5	86	30
Paskett, Electra D.	5	86	30
Reiter, Paul L.	5	86	30
Schmitz, Rachel M.	5	26	22
Wang, Jen	5	93	10

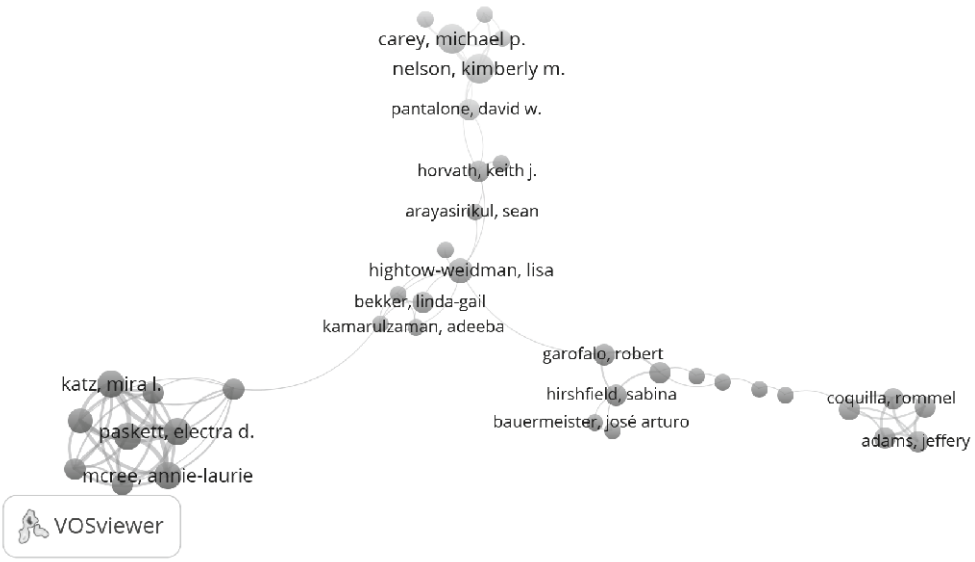

Figure 6: Mapping of author-wise co-authorship

5.7 Co-occurrence analysis

Figure 7depicts the mapping of co-occurrence analysis of author keywords of the LGBTI health literacy literature. This study selected keywords with minimum occurrences of 5, resulting in 193 keywords meeting this criterion out of a total of 3815 keywords in the dataset. The keywords that appeared most were "Transgender" with a total link strength of 225 and "Gender" with a total link strength of 179 which had a strong association with "Mental health" and "Social media".

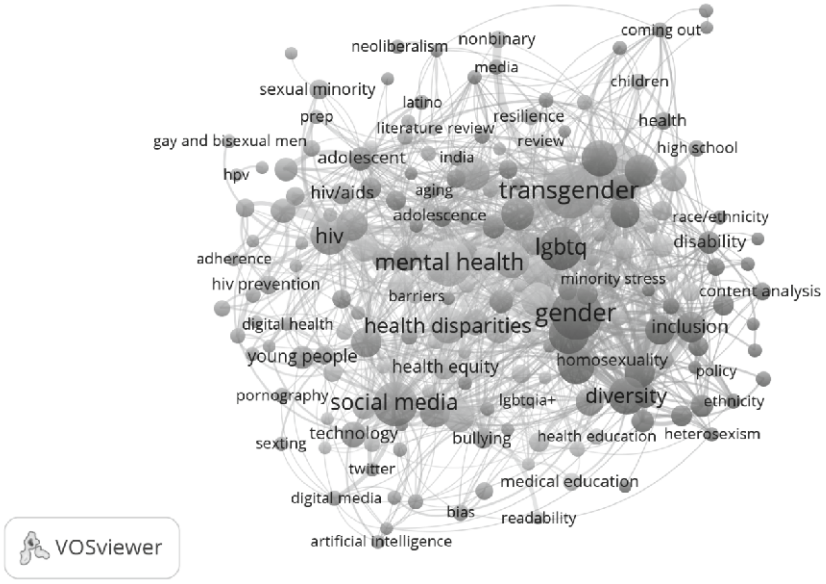

Figure 7: Mapping of the author keywords co-occurrence analysis

5.8 Source-wise citation analysis

Table 3 indicates the most cited sources of LGBTI Health literacy literature. "Through the literature search, it is identified that within the dataset of 1232 sources, 592 were displayed after meeting the criteria of a minimum publication count of at least 1 and a citation count of not less than 5". The table shows that 'Twitter and Tear Gas: The Power and Fragility of Networked Protest' is the most cited source among the sources of LGBT Health literacy with 771 citations.

Table 3: Source-wise citation analysis

Source	Publications	Citations	Total Link strength
"Twitter and tear gas: the power and fragility of networked protest"	1	771	0
Cultural Diversity And Ethnic Minority Psychology	2	700	0
Alzheimer's and Dementia	1	542	0
Sex, politics and society: the regulation of sexuality since 1800: fourth edition	1	542	0
The Lancet	2	490	0
Aids and behavior	15	414	8
Pursuing Intersectionality, Unsettling Dominant Imaginaries	1	402	0
Behavioral Medicine	2	363	2
Improving Diagnosis in Healthcare	1	345	0
Journal of Medical Internet Research	15	339	3
Journal of Adolescent Health	3	321	1

5.9 Country-wise citation analysis

Figure 10 shows the map of bibliometric analysis of the citations of collaborating countries meeting the threshold criteria (There are 37 collaborating countries). "Through the literature search, it is identified that within the dataset of 124 countries, 94 of them were displayed after meeting the criteria of a minimum publication count of at least 1 and a citation count of not less than 5". The figure shows that United States (USA) is the most cited country among the countries of LGBTI Health literacy with 17338 citations and 1070 publications

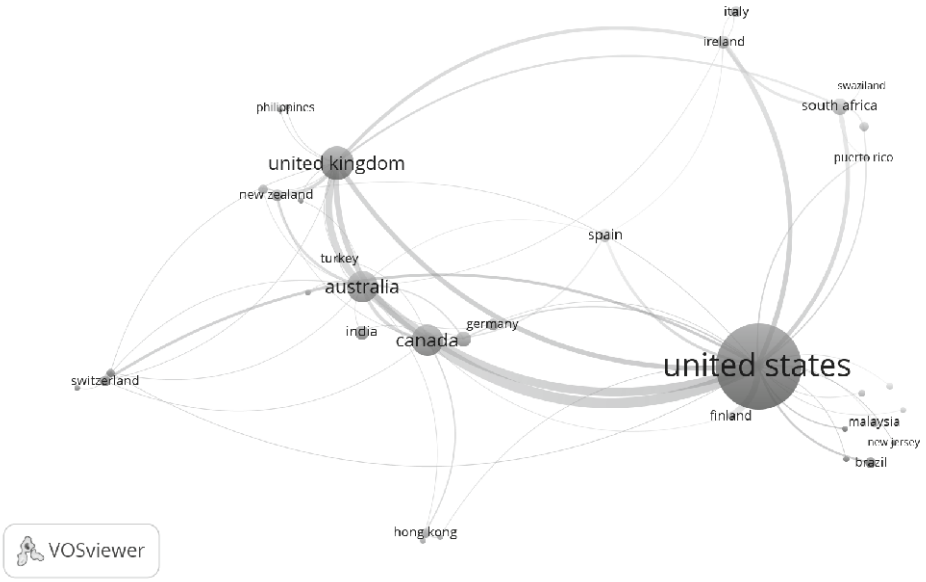

Figure 8: Map of Country-wise citation analysis

6. Major Findings

Out of the 1795 publications, single-authored publications are the maximum, followed by two authored publications. The United States has more publications in the LGBTI health literacy literature followed by the United Kingdom. Only seven countries have more than 30 publications on this topic. Among the countries, the United States has the highest collaboration with other countries followed by the United Kingdom. The Factor-inwentash Faculty of Social Work, University of Toronto, Canada is one of the top organizations in the area of LGBTI health literacy research, which has 353 citations and 11 publications and is collaborated with 5 organizations. The author-wise co-authorship pattern shows that Shelly L Craighas with 7 publications with 252 citations has collaborated with 9 authors. Within the threshold criteria, 9 authors have total link strength of more than 20 including Mira L Katz (5 papers with 86 citations). The co-occurrence analysis of author keywords figured out that "Transgender" is the most appeared author keyword. Among the index keywords "Human" is the most occurred keyword followed by "Male", "Female" and "Article". Zeynep Tufekci is the most cited author and "Twitter and Tear Gas: The Power and Fragility of Networked Protest" is the most cited source among the sources of LGBTI Health literacy with 771 citations.

7. Conclusion

The mapping of the publications on the health literacy of LGBTI shows that the number of publications on the health literacy of LGBTI is increasing every year. The study also identified the most prolific authors and most cited papers in this field. This will help the researchers in their research and also to find appropriate authors to collaborate with. Findings of the study provide a

comprehensive overview of the emerging trends in author and institute-wise collaboration, and the contributions of different countries. It is identified that the United States have high number of publications and citations when compared to other countries who involved in LGBTI health literacy literature. "Transgender", "Human", etc. are the most appeared keywords in the LGBTI health literacy literature. The keyword-wise analysis will help in information retrieval as well as the researchers to choose appropriate research areas.

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