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**UNVEILING TRENDS ON MENTAL ILLNESS AND MEDIA
RESEARCH: A BIBLIOMETRIC STUDY**

Siti Munirah Mohd Ali (a)*, Wan Farah Wani Wan Fakhrudin (b),
Wan Nur Asyura Wan Adnan (c), Ezzan Amnie Azizan (d)
*Corresponding author

- (a) Faculty of Social Sciences and Humanities Kuala Lumpur, Universiti Teknologi Malaysia, Kuala Lumpur, Malaysia, smunirah.ali@gmail.com
(b) Faculty of Social Sciences and Humanities Kuala Lumpur, Universiti Teknologi Malaysia, Kuala Lumpur, Malaysia, wanfarah@utm.my
(c) Faculty of Social Sciences and Humanities Kuala Lumpur, Universiti Teknologi Malaysia, Kuala Lumpur, Malaysia, asyura.kl@utm.my
(d) Faculty of Education, Humanities and Arts, Universiti Poly-Tech Malaysia, Kuala Lumpur, Malaysia, ezzan@kuptm.edu.my

Abstract

This study provides an overview of publication trends related to mental illness and media and the features of those studies. The Scopus database was searched for publications on mental illness and media. This bibliometric study analyzed 1460 records from the Scopus database using the VOSviewer, Harzing's Publish and Perish, and Microsoft Excel. Over the last decade, academic interest in media and mental illness studies has increased, albeit with significant fluctuation. Analyses of publications from 2011 to 2021 revealed that media and mental illness studies increased steadily in 2016 and have continued to expand in subsequent years. Prominent subject areas in these studies include medicine, social sciences, psychology, arts and humanities and computer sciences. English is only found to be the predominant language of publication in media and mental illness studies. As keywords used by the authors, the study on mental illness and media mainly focuses on the medical area, social sciences and psychology. The findings catalyze future research and debates, improving and broadening the study field and contributing to the diversity and worldwide reach of media and mental health-related illness studies.

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1. Introduction

Nearly one billion people live with a mental illness (Kovacevic, 2021; World Health Organization, 2020). Mental illness is a subjective concept that might be difficult to describe. In 1999, the Surgeon General's report defined mental illness as any broad range of diagnosable mental disorders (Goldman & Grob, 2006; Rockville, 1999). Mental illness rates have been among the highest global diseases (World Health Organization, 2017). While the illness is frequently addressed, detecting and exposing it remains difficult (Kim et al., 2021). Those with mental illness are among society's most stigmatized, discriminated against, marginalized, underprivileged, and vulnerable citizens (Johnstone, 2001). They are seen as unpredictable, unintelligible, irrational, and dangerous (Angermeyer & Dietrich, 2006; Green et al., 2003; Hyler et al., 1991; Thompson et al., 2002; Wahl, 1995). Consequently, this discrimination leads to a desire for social isolation from persons suffering from mental illnesses. One way in which these stigmatizing and discriminatory attitudes are developed and perpetuated is through media.

The public relies on the media as a primary source of knowledge on mental illness (Balfour, 2020; Reavley et al., 2011). The media is often seen as a critical stakeholder in delivering health care services, exerting considerable influence over public opinions. It is regarded as a primary source of information on mental illness and plays a vital role in moulding public views and perceptions toward it (Wahl, 2004). There is a widespread perception that individuals with mental illness are more likely to engage in acts of violence and hostility. It has been claimed that the media often portrays mental illness negatively by associating it with crime, violence, and hazardous circumstances (Sieff, 2003). Since media has a global reach, consumers are continuously exposed to real-world violence linked with mental illness. Consequently, the public obtains the information that shapes their beliefs and attitudes towards people with mental illness from mass media than their personal experience. With these concerns, significant research has focused on mental illness and media issues.

Numerous prior studies have shown that mental illness and media have garnered unprecedented interest in practical and academic fields. While some previous research has examined mental illness and media, most of these studies used a combination of literature reviews and empirical studies as their methodology. Nonetheless, limited studies examined the development of mental illness and media research across time. Therefore, this study aims to provide a bibliometric analysis through a comprehensive overview of current trends in mental illness and media research, including publication growth, source types, subject areas, the language of publication and author keywords.

Pritchard (1969) defined bibliometrics as “the application of mathematical and statistical methods to books and other media of communication”. Bibliographic analysis categorizes research items based on their bibliographic information, including citations, keywords, topics, institutions, countries, authors, sources and titles. A more sophisticated bibliographic analysis method can facilitate researchers to create, analyze and visualize the same data into bibliographic maps, bibliographic networks, and bibliographic coupling using the same data (see Karakus et al., 2019).

This study aims to identify the publications related to mental illness and media and explore the characteristics of the publications in mental illness and media from 2011 to 2021. To achieve these aims, bibliometric analysis was employed to yield findings that can better facilitate understanding the

publication trends in the aspects of the growth of publication, source types, subject areas, the language of documents and author keywords analysis.

2. Research Methods

The present study used the Scopus database to search for reputable mental illness and media publications. Scopus is one of the most extensive citation databases, with over 82 million pages and over 1.7 billion cited references. The researchers retrieved and analyzed the information obtained from the Scopus database. The research data in this study is based on a corpus of 1,460 documents in the Scopus database using two keywords; “mental illness” and “media”. The researchers retrieved the publications on mental illness and media on November 23, 2021, with the search results being restricted to papers published between 2011 and 2021. The data search included those concerning mental illness and media published in all languages. The corpus was analyzed using descriptive and bibliometric approaches to unveil research trends related to mental illness and media over the ten years. A bibliometric visualizing method was employed to illustrate a structural overview of a particular research area (Garfield, 2009). In this study, VOSviewer software was used to accommodate visualizations of the bibliometric networks as it is regarded as one of the most popular computer software that has been developed to present visualizing techniques (Van Eck et al., 2017). Bibliographic coupling of the publications and co-occurrences of subject areas were extracted and analyzed through VOSviewer. The analysis of this study highlighted the growth of publication, document types, subject area, the language of publication and author keywords as the units of analysis.

Mental illness and media were entered into the topic field as the keywords to search for the titles, abstracts and keywords of the publications. Initially, there were 2240 publications within the Scopus database published in various fields (medicine, social sciences, psychology, arts and humanities, computer science, nursing, neuroscience, biochemistry, genetics and molecular biology, engineering, health professions, multidisciplinary, business management and accounting, pharmacology, toxicology and pharmaceuticals, agricultural and biological sciences, environmental science, immunology and microbiology, economics, econometrics and finance, materials science, physics and astronomy, decision sciences, chemical engineering, energy, chemistry, dentistry, and earth and planetary sciences). The search results were refined to include only those published within the ten years (2011 – 2021) in which 780 publications were excluded, with 1460 publications to be analyzed in the bibliometric analysis and to represent the research trend.

3. Findings

The results of the analysis are presented in this section, specifically the growth of publication by year, document and source type, subject areas, the language of documents and author keywords analysis related to trends in mental illness and media studies.

3.1. Growth of publication by year

Table 1 provides extensive information on yearly mental illness and media research publications from 2011 to 2021.

Table 1. Publication records and percentages by publication years

Publication Years	Publication Records	% of 1460
2021	179	12.26
2020	208	14.24
2019	129	8.84
2018	110	7.53
2017	108	7.40
2016	87	5.96
2015	74	5.07
2014	139	9.52
2013	151	10.34
2012	149	10.21

Overall, the trends in mental illness and media studies indicate a progressive growth in academic interest in publications over the previous decade with significant oscillations. The publication's annual growth showed a slight upward trend during the first three years (2011-2013). However, in the following years, the total publication decreased to 139 and 74 in 2014 and 2015, respectively. Publication on mental illness and media studies surged steadily in 2016, with an upward and progressive growth in subsequent years. Interestingly, the number of publications produced in 2020 experienced a steeper increase, with 208 publications (14.24%) being issued that year, followed by 179 publications (12.26%) in 2021.

3.2. Document and source type

Document and source types in this study were divided into four primary sources, as summarized in Table 2. Journals were the most prevalent type of the four primary sources, accounting for 1278 (87.53%) of the total publications, followed by books (82 items – 5.62%), conference proceedings (65 items – 4.45%) and book series (35 items – 2.40%).

Table 2. Sources for mental illness and media research publications

Source Type	Total Publications	(%)
Journal	1278	87.53
Book	82	5.62
Conference Proceeding	65	4.45
Book Series	35	2.40
Total	1460	100

The data were also analyzed based on document types. Document types indicate publications based on their sources, such as conference papers, articles, and book chapters. The documents published on mental illness and media have been classified into 12 types of documents, as summarised in Table 3. The data revealed that articles accounted for the bulk of total publications (n=1066; 73.01 %), followed

by reviews (n=176; 12.05 %). Subsequently, the publications from documents presented at a conference or symposium were only 88 (6.03%) documents. Other documents made up five per cent or less of the total publications.

Table 3. Mental illness and media research document types

Document Type	Total Publications	(%)
Article	1066	73.01
Review	176	12.05
Conference Paper	88	6.03
Book Chapter	73	5.00
Book	17	1.16
Letter	13	0.89
Editorial	9	0.62
Note	7	0.48
Short Survey	4	0.27
Conference Review	3	0.21
Erratum	1	0.07
Undefined	3	0.21
Total	1460	100

3.3. Subject areas

In general, the distribution of literature on mental illness and media is published in various disciplines, including Medicine, Social Sciences, Psychology, Arts and Humanities, Computer Sciences, Nursing, Neuroscience, and Biochemistry, Genetics and Molecular Biology. Table 4 shows that Medicine was the most frequently published subject area, accounting for 947 papers (64.86%), followed by Social Sciences with 472 documents (32.33%). Furthermore, Psychology also produced a significant number of publications, with 247 publications (16.92%). Meanwhile, the prominent subject areas, namely Medicine, Social Sciences, Psychology, Arts and Humanities, and Computer Sciences, have produced over 100 documents on media and mental illness studies.

Table 4. Subject areas of mental illness and media research

Subject Area	Total Publications	(%)
Medicine	947	64.86
Social Sciences	472	32.33
Psychology	247	16.92
Arts and Humanities	115	7.88
Computer Science	114	7.81
Nursing	97	6.64
Neuroscience	76	5.21
Biochemistry, Genetics and Molecular Biology	41	2.81
Engineering	40	2.74
Health Professions	38	2.60
Multidisciplinary	28	1.92

Business, Management and Accounting	18	1.23
Mathematics	18	1.23
Pharmacology, Toxicology and Pharmaceutics	18	1.23
Agricultural and Biological Sciences	16	1.10
Environmental Science	16	1.10
Immunology and Microbiology	7	0.48
Economics, Econometrics and Finance	5	0.34
Materials Science	5	0.34
Physics and Astronomy	5	0.34
Decision Sciences	4	0.27
Chemical Engineering	2	0.14
Energy	2	0.14
Chemistry	1	0.07
Dentistry	1	0.07
Earth and Planetary Sciences	1	0.07

3.4. Language of documents

From 2011 to 2021, 1460 articles in the Scopus mental illness and media category were published in 15 languages. English is the most frequently used language, accounting for 95.68 percent of all publications. Other languages with less publication were German (1.16%), French (0.82%), and Spanish (0.75%). Polish, Turkish, and Dutch had six, four, and three publications, respectively. Meanwhile, other publications include those written in Chinese and Portuguese (two publications, respectively). The remaining articles are published in Greek, Hungarian, Italian, Japanese, Korean, and Russian (one publication each). However, these languages accounted for less than one percent of all published documents, as presented in Table 5.

Table 5. Language used for publication on mental illness and media research

Language	Number of documents	(%)
English	1397	95.68
German	17	1.16
French	12	0.82
Spanish	11	0.75
Polish	6	0.41
Turkish	4	0.27
Dutch	3	0.20
Chinese	2	0.14
Portuguese	2	0.14
Greek	1	0.07
Hungarian	1	0.07
Italian	1	0.07
Japanese	1	0.07
Korean	1	0.07
Russian	1	0.07
Total	1460	100

3.5. Author keywords analysis

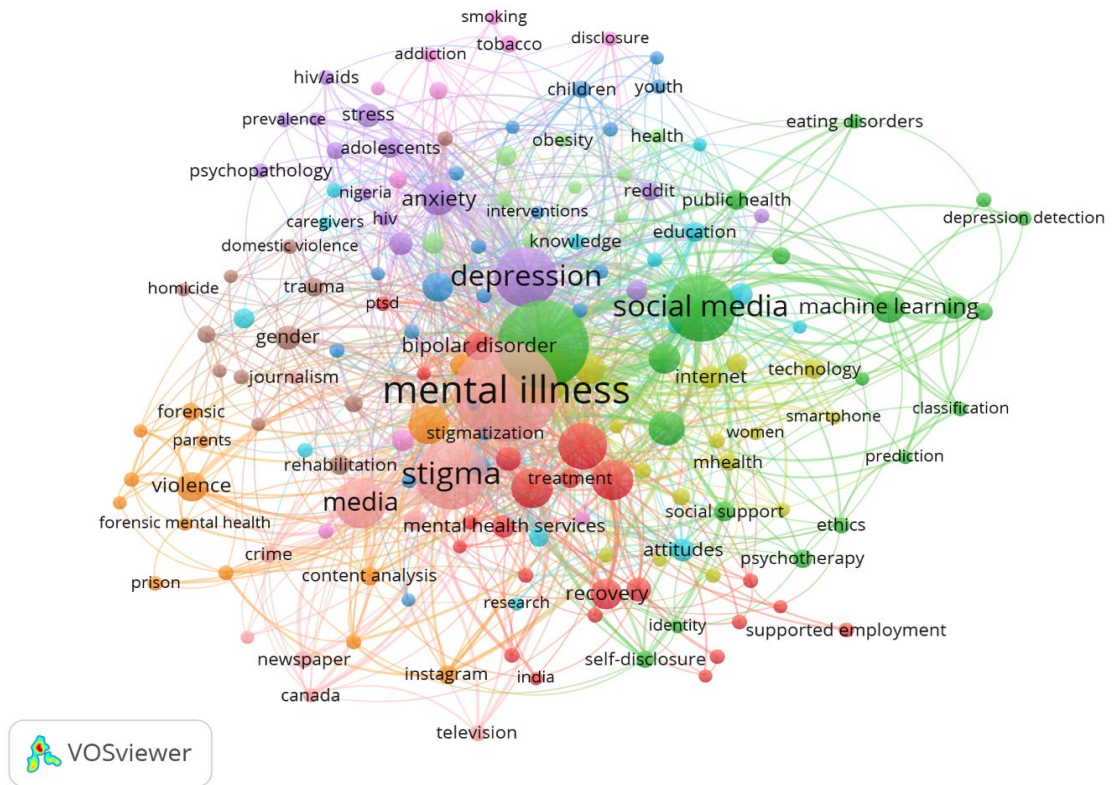


Figure 1. Network visualization map of author keywords with at least five occurrences.

Figure 1 shows a network visualization map of author keywords with a minimum of five occurrences. This author's keywords constitute the fundamental premise of keyword analysis since they adequately represent the article's content (Comerio & Strozzi, 2019). VOSViewer software was used for network analysis to create and visualize bibliometric networks to map the author's keywords. When two keywords appear concurrently in articles, the keywords are said to be co-occurring, suggesting a relationship between the two concepts (Mansour et al., 2022). The colors, size of nodes, and text size indicate the occurrence of the author's keywords in the dataset, and the thickness of edges represents the strength of the co-occurrences between keywords pairs. For instance, keywords of the same color were often grouped together. In Figure 1, the dataset yielded 11 mental illness and media clusters based on author keywords. For example, the most frequent keywords in the peach color dataset refer to mental illness, stigma and media (e.g., newspaper, television). These keywords have similar colors (peach), suggesting that these keywords were closely related and usually occurred together (Sweileh et al., 2017).

Table 6. The top 20 keywords

Keyword	Total publications	(%)
Human	892	61.10
Humans	738	50.55
Mental Disease	555	38.01
Article	550	37.67
Female	476	32.60

Male	474	32.47
Mental Disorders	470	32.19
Adult	442	30.27
Mental Health	381	26.10
Mental Illness	301	20.62
Social Media	249	17.05
Psychology	241	16.51
Middle Aged	232	15.89
Depression	213	14.59
Schizophrenia	200	13.70
Adolescent	181	12.40
Young Adult	172	11.78
Mental Health Service	162	11.10
Stigma	160	10.96
Social Stigma	153	10.48

On the other hand, Table 6 represents the top 20 keywords with strong burst strength in mental illness and media studies in the dataset. Meanwhile, Figure 2 shows the network visualization map of all keywords with at least 20 occurrences. In this analysis, research hotspots and frontiers might be represented by keywords with a high burst strength (Chen, 2006). The keywords human, humans, mental disease, and female appear more than 500 times in mental illness and media studies documents, with ‘human’ being the dominant keyword (n = 892; 61.10%). This is followed by ‘humans’ (n = 738; 50.55%) and ‘mental disease’ (n = 555; 38.01%). As seen in Figure 2, these keywords are part of the red cluster and are much more associated with the mental health stigma associated with media.

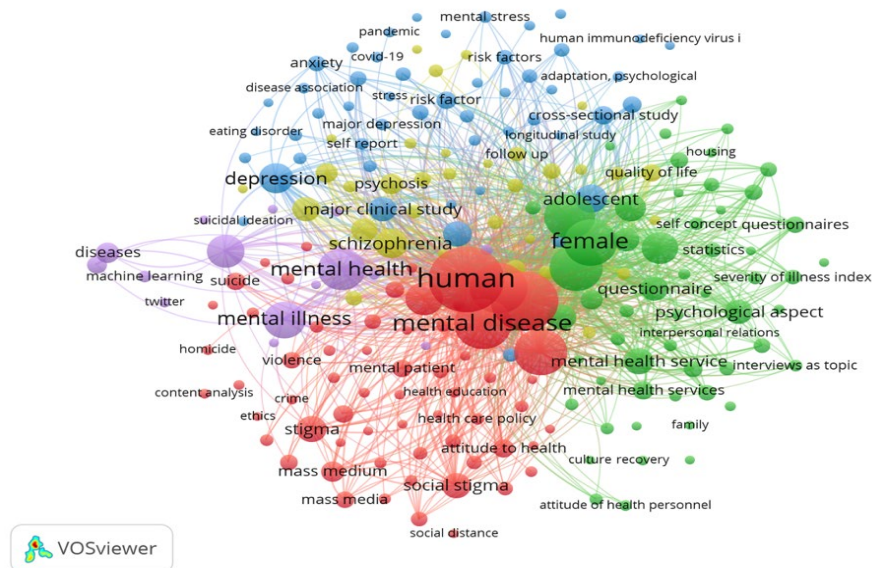


Figure 2. Network visualization map of all keywords with at least 20 occurrences

4. Conclusions

In this paper, we explore the publication trends on mental illness and media in the Scopus database. The publications were retrieved, analyzed and visualized using descriptive and evaluative

bibliometric analysis methods. In this context, VOSviewer was utilized to visualize the bibliographic coupling of the publications (growth of publication, document types, subject areas and language of documents). Publication trends are strong indications of a field's progress. In this regard, bibliometric analysis can assess the productivity of research and publications in a particular research field (Glynn et al., 2010; Skute et al., 2019). Specifically, this study chronicles the evolution of mental illness and media research over the last decade by describing trends in the publication's language, volume and distribution of publications and significant key areas addressed in the field over the last decade. This technique enables the researchers to identify and summarize the trends in scientific research on mental illness and media in the previous decade and the discipline's hotspots.

Based on the analysis, publications in mental illness and media studies have a considerable rise in academic interest in publications, with significant fluctuations. The 1460 publications in the dataset had been cited 23676 times during a ten-year (2011 – 2021) period and originated from 82 countries. Generally, interest in mental illness and media has increased significantly in the previous decade and to an exceptionally substantial degree in the last five years (2016 – 2021), indicating that this area has not reached its maturity and will continue developing in future. For document types, 73.01% of documents were published as articles, where English was the most frequently used language in most of the discipline's publications.

Based on the author's keywords analysis, research on mental illness and media is typical. Research on mental illness and the media is published in journals devoted to medicine, social sciences, psychology, the arts and humanities, computer science, and nursing. The key points of this field may be observed based on the results yielded by the VOSViewer's keyword analysis. For example, all keywords mentioned above were in the top ten most often used keywords in the gathered documents. The study on the media and mental illness mainly focuses on the medical area, social sciences and psychology. This is shown by the most commonly used terms, which include human/s, mental disease, genders (female and male), mental illnesses, adult, mental health, mental illness, social media, psychology, the diagnostic term (depression, schizophrenia), mental health service, and stigma (including social stigma). These terms mainly relate to medicine and include social sciences and psychology themes. Therefore, integrated or interdisciplinary techniques are more likely required in this study field for a more profound knowledge of the research issue.

The study's data-driven methodology synthesizes current advances in mental illness and media research. The results can potentially educate future studies by highlighting the strengths and weaknesses of mental illness and media research regarding its development patterns. However, this study has certain limitations because the source data was solely based on documents retrieved from the Scopus database. Even though Scopus is a widely used academic database worldwide, it does not include all published research papers (Ahmi & Mohamad, 2019). Other rich databases such as Web of Science, Google Scholar, and PubMed may provide more significant trends. Future research may obtain a more profound and comprehensive knowledge by integrating all these databases and different filters in the search strategy using other keyword strings such as “Mental illness” OR “Mental health” AND “Communication Media” or “Mental Health” AND “Social media”, or “Mental health” AND “media” AND “Covid19” simultaneously resulting in more intriguing and valuable results. Notwithstanding, this study does provide

a novel insight into the development and current trends of the field in the last decade using bibliometric indicators.

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