## African Journal of Biological Sciences

Journal homepage: http://www.afjbs.com

**Research Paper**                                        **Open Access**

# Health of Migrant Labour: A Comprehensive Bibliometric Review of Scientific Literature from 1986 to 2020

**Neel Ukidave[1], Dr. Pooja Kansra[2*]**

[1]Research Scholar, Mittal School of Business, Lovely Professional University, Punjab
[2*]Professor, Mittal School of Business, Lovely Professional University, Punjab

Corresponding Email: pooja.kansra@lpu.co.in

**Article Info**

**ABSTRACT:**

seven different zones in which the MMR region is divided. The study also suggests the need for introduction of healthcare schemes to economize the treatment of healthcare diseases for migrant labor in MMR region.

**Keywords:** Migrant labor, Health, Social capital, Healthcare disease, Healthcare cost, Scientific

**Literature**
**Ethics Concerns:** The study is performed on the data and information which was available in the public domain and does not take into consideration the involvement of the human respondents which negates the requirement for ethics review.

## 1. Introduction

Migration is a state where a person dislocates from his place of residence to another place in search of work, better employment opportunities and better pay (Haider 2016). High amount of opportunities in Western India like Maharashtra, Gujarat and Madhya Pradesh have witnessed great amount of migration due to these factors. (Chakrabarti and Chaudhury, 2007) From these states, Maharashtra witnesses the higher amount of migration and Mumbai forms the epicentre of migration for workers, laborers who migrate into Mumbai in search of better employment opportunities and better pay. Lack of opportunities and good pay are the detrimental factors which have led to the higher amount of migration in the last decade. (Aregbeshola and Khan, 2018; Deepak et al., 2018). Migration has its own set of challenges

which the migrant labor face as they migrate to the different parts of the country. (Indian Medical Association, 2018). Health and healthcare are the major causes of concern for the migrant class. Better living conditions and sedentary lifestyle contribute to the medical disorders which the migrant labor face during their tenure of service in the area where they migrate into. (World Health Organization, 2019). Health is a major aspect which needs to be considered as a matter of study as it involves lot of repercussions like loss of work, loss of pay and loss of health lifestyle for the migrant labor. (Haider et al., 2017). Health conditions require healthcare facilities for their treatment. High amount of migration creates a niche for development of new healthcare facilities which cater to the healthcare needs of the migrant population. (Bloom et al., 2001; Letamo and Rakgoasi, 2003). These healthcare facilities should succeed in the endeavour to provide qualitative healthcare services which are affordable in nature and can solve the healthcare challenges faced by the migrant population. This study is focussed on all these aspects pertaining to migrant health. Details of each aspect are covered in the forthcoming chapters. (Bloom et al., 2001; Letamo and Rakgoasi, 2003). According to Indian Medical Association, a Healthcare disease commonly known as a heart disease is common term for diseases related to the heart or blood vessels. It is related with accumulation of fats inside the veins resulting in a higher risk of blood clots. Healthcare diseases are attributed to damage in arteries in various organs of the body (Saxena et al., 2013). In Mumbai, migrant labor has increasingly witnessed Healthcare diseases. Around 68% cases of the illnesses suffered by the migrant labor in Mumbai during 2011-2021 were related to Healthcare diseases. (Indian Medical Association). Stressful work conditions and long working hours accompanied with lack of proper diet form the major cause of Healthcare diseases amongst the migrant labor. Treatment for Healthcare ailments constitutes 36% of an average migrant income. This puts Mumbai amongst the top 8 cities worldwide in relation to the amount expended by the migrant worker for treating the Healthcare diseases (World Health Organization). This indeed has a long-lasting and devastating impact on the overall healthcare expenses incurred by a migrant laborer's family. Such an economic burden has left less amount of disposable income in the hands of migrant labor for spending on the necessities of the migrant labor and his/her family (Saxena et al., 2013). As per Central Statistical organization survey report 2019, a migrant labor spends around 41% of its disposal income on healthcare expenses of which around 79% is on account of treatment of Healthcare diseases (Saxena et al., 2013).
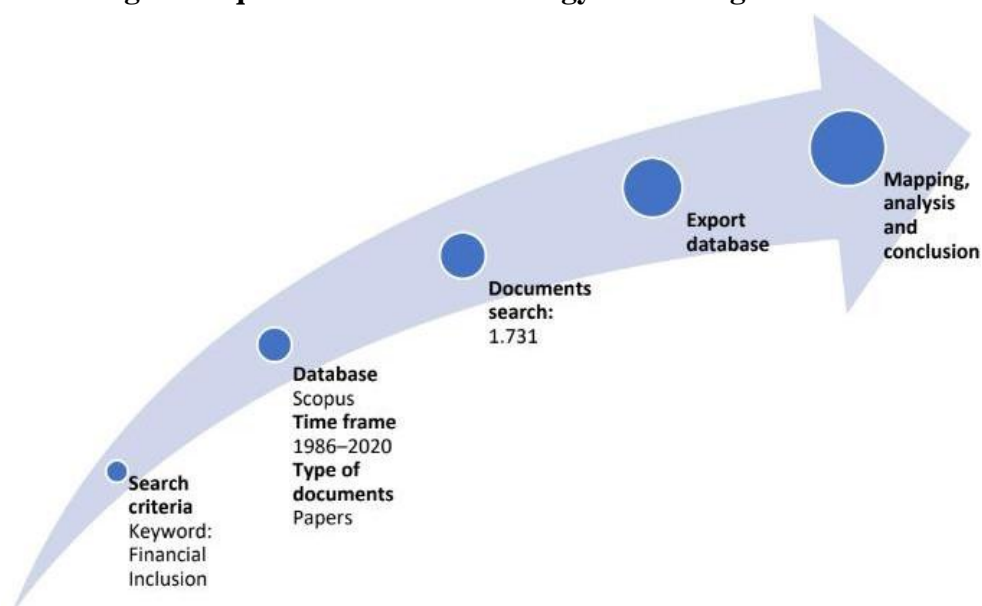
## 2. Literature Review

The present section provides an overview on the various issues related to the present study through the review of studies which already carried out both at national and international level. The various studies pertaining to healthcare of migrant labours have been categorized as under: Migrant health is a social phenomenon and a medical event where utilization of health care services by migrant labours is influenced by many factors but education, social status of household and economic condition of household are found to be the highly significant (Chakrabarti and Chaudhury, 2007; Chhabra et al., 2011; Kulkarni and Durge 2013; Sanneving et al., 2013; Saxena et al., 2013; Nigatu et al., 2014; Adhikari, 2016; Haddad et al., 2016; Aregbeshola and Khan, 2018; Deepak et al., 2018). Education plays a vital role in the utilization of health care services by migrant labours. Many studies have found that higher a migrant labour is educated, more is his/her likelihood to utilize the health care services (Letamo and Rakgoasi, 2003; Chhabra et al., 2011; Adhikari, 2016; Shahabuddin et al., 2017; Haider et al., 2017). Other factors like, location of residence viz. urban or rural, household monthly income, main occupation of household also influence utilization of health care positively (Bloom et al., 2001; Letamo and Rakgoasi, 2003; Chhabra

et al., 2011; Nigatu et al.,2014; Singh et al., 2014; Adhikari, 2016; Shahabuddin et al., 2017; Haider et al., 2017; Aregbeshola and Khan, 2018). Beside all these factors, demographic factors like age, caste, and religion; availability of rooms, number of clinical visits and amplification of public health infrastructure also influence the utilization of healthcare services by migrant labours (Chhabra et al., 2011; Sanneving et al., 2013; Singh et al., 2014; Adhikari, 2016; Deepak et al., 2018) One more factor i.e. women autonomy also plays a major role in the direct relation with the utilization pattern of health care services by female migrant labours. Women having high autonomy are more likely to use the health care services themselves. (Bloom et al., 2001; Adhikari, 2016; Haider et al., 2017). Factor like poverty inversely influence the utilization of healthcare services (Bloom et al., 2001; Letamo and Rakgoasi, 2003; Saxena et al., 2013).

### 3. Materials and Methods

The paper which is under research study is presented in the format of the analysis which is bibliometric in nature, as a method of study dealing with the identification, organisation and analysis and synthesis of the prime aspects for the topic under research. Under this method, research papers published on migrant health and Healthcare diseases were studied and major aspects of migrant health and rise in Healthcare diseases amongst migrant labour are primarily considered to ensure that they benefit the researchers to understand the overall health of migrant health in the Mumbai Metropolitan Region and the type of medical conditions which they are exposed to during the course of time. Main databased to the related information camp were referred and there has been an analysis and synthesis from the website of Scopus was used to select and summarise majority of the research works available on the topic and the which met the requirements which are qualitative in nature for the purpose of the technical reviewed standards. The bibliometric study was undertaken, with a coverage ranging 35 years from 1986 to 2020 which was in tandem with the earlier similar type of studies undertaken. Sample for the study was based on 1,731 studied papers meeting the selection standards. This knowledge collected revealing highly producing nations and centres as far as this research was considered. It also factored in the collaborations made internationally across the networks which were involved via most commonly used identifiable that are considered the recent study patterns.

**Figure 1: Logical Sequence of the methodology used along with the criteria selected**



**Search criteria**
Keyword: Financial Inclusion

**Database**
Scopus
**Time frame**
1986–2020
**Type of documents**
Papers

**Documents search:**
1.731

**Export database**

**Mapping, analysis and conclusion**

The above analysis was enabled as a result of the VOSviewer software tool being used as a catalyst for generation of network maps at an indicator level. It involved the processing and grouping of the information available for analysis.

### 4. Results

This section focusses on the assessment of the output generated out of the study on migrant health and the rise of Healthcare diseases amongst the migrant labor in the Mumbai Metropolitan Region. The assessment includes count of articles published divided at country, citations and journal level. Data stated above indicates the increase in the research articles during the period from 1986 to 2020. 4 articles were published during 1986 to 1990 followed by 15 articles which were published during 1991 to 1995, 19 articles during 1996 to 2000, 32 articles during 2001 to 2005, 69 articles during 2006 to 2010. It was followed by a dramatic increase in number of research articles published to 322 during the period between 2011 to 2015 and 1270 during the period between 2016 to 2020. The number of articles published represented 73.37% of the total publications during the entire period. (See Figure 2).

**Figure 2: Evolution of number of articles during the study period**
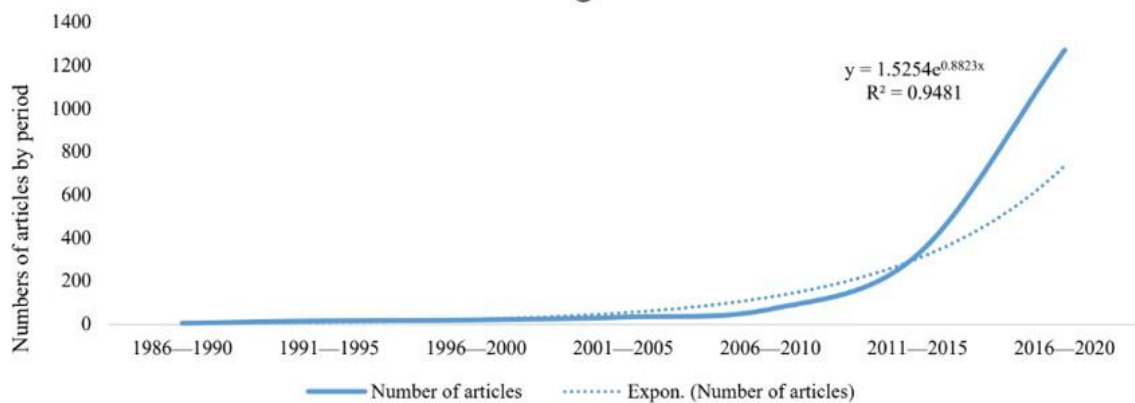


From 2006, the growth has been exponential. One factor which has a prime consideration is the rise in the Healthcare diseases by which the migrant labor is affected. The stressful working conditions and the long working conditions were attributed as the prime factors which lead to the rise in the extent of Healthcare diseases amongst the migrant labor in the Mumbai Metropolitan Region. This has led to the dire need for analysing the reasons behind this which has led to a steep increase in the number of articles published on the related topic during the period from 2006 to 2020 as compared to the period prior to that. Further, there has also been an overall increase in the migration into Mumbai Metropolitan Region from different parts of the country which has led to increase in the number of immigrants into the Mumbai Metropolitan Region which has led to the increase in the problems faced by the migrant labor. This has necessited the requirement for studies being published related to the migrant labor and different aspects of migrant health.

Prior to 1986, only Dandekar (1976) and Perry and Challoner (1981) had studied the concept of migrant health and these papers were basically oriented towards to access to the healthcare services to the migrant labor in the different parts of the world with prime focus on metro cities and their adjoining area like the Mumbai Metropolitan Region. During the study period, 3831 authors published research articles on the subject of migrant health, in a rising trend that which was identical to the other articles. As a result, the count of authors with articles published in the last five years considered (2016–2020) represents 68.36% out of the

overall population studied. The mean count of authors for every single study also rose during this time frame, from 1.3 in 1986–1990 to 2.1 in 2016–2020.

**Area-wise development of articles:**
This section focuses on the analysis of the number of publications that happened in the area under study during the study period. It also considers the main thematic areas which were considered during the study period for the related topic under study. From the period 1987 to 2020, the search for articles resulted in the identification of 24 thematic areas of knowledge addressed in 1731 articles which were spooled from the database of Scopus. However, there were few articles that were only related to a single area of the topic under study, which were also considered as a part of this bibliometric study. The below figure highlights the process of evolution of publication based on the five main subject areas which are a part of the study.

**Figure 3: Evolution of Scientific Production by Subject Areas**
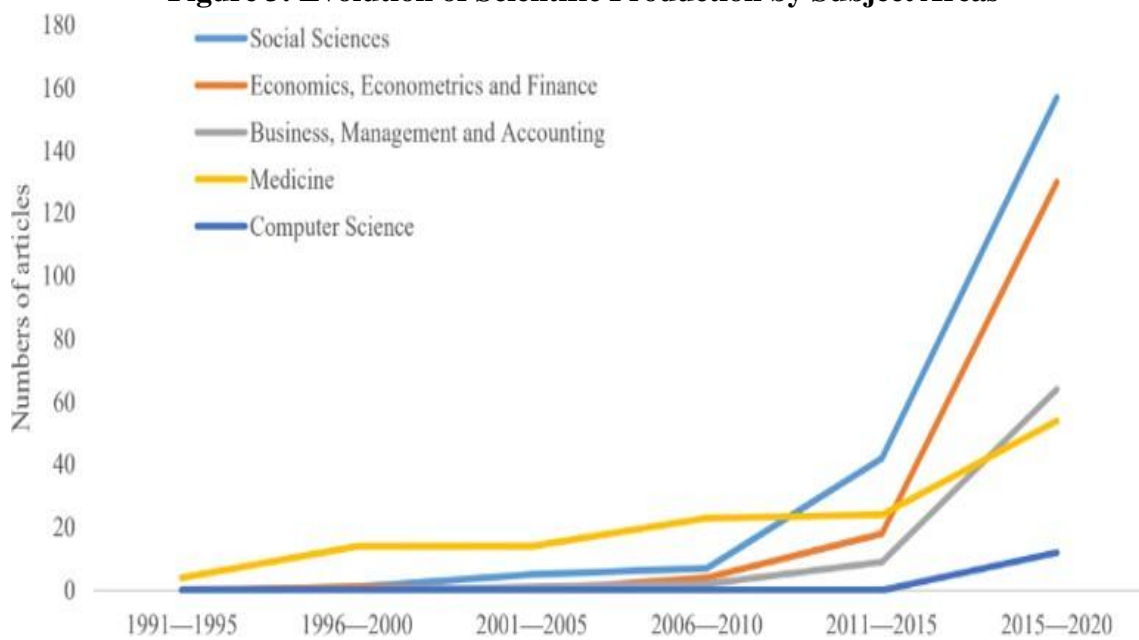


As can be observed from the above figure, it can be seen that the majority of the articles were published under the subject area of social sciences (774 articles being 26.6% of the total population of the articles). It was followed by the domain area of Economics, Econometrics, and Finance with a contribution of 766 articles being 26.32% of the total population of articles published. It was further followed by the subject area of Business, Management, and Accounting with an article count of 469 articles being 16.12% of the total population which was succeeded by the articles published under the subject area of medicine and computer science with 7.29% and 3.75% publications out of the total population.

**Author-wise Contributions:**
This section mainly focuses on the contributions made by various authors for the topic under study during the study period. This section highlights the authors and their output in terms of publications that were made by the particular author. Authors' productivity is measured with the help of network maps.

**Table 2: Author-wise contributions**

| AU | A | TC | TC/A | Institution | C | 1st A | Last A | H Index |
|---|---|---|---|---|---|---|---|---|
| SA Asongu | 18 | 175 | 9.72 | University of South Africa | South Africa | 2016 | 2020 | 8 |
| JC Munene | 17 | 100 | 5.88 | Makerere University | Uganda | 2016 | 2020 | 3 |
| JM Ntayi | 13 | 105 | 8.08 | Makerere University | Uganda | 2016 | 2020 | 2 |
| CBG Okello | 13 | 80 | 6.15 | Makerere University | Uganda | 2016 | 2020 | 2 |
| S Ghosh | 11 | 83 | 7.55 | Qatar Central Bank | Qatar | 2016 | 2020 | 2 |
| T Friedline | 8 | 91 | 11.38 | University of Michigan | United States | 2012 | 2020 | 4 |
| CA Malinga | 8 | 76 | 9.50 | Makerere University | Uganda | 2017 | 2019 | 1 |
| JY Abor | 7 | 75 | 10.71 | University of Ghana | Ghana | 2016 | 2020 | 2 |
| M Bhuvana | 7 | 23 | 3.29 | Vels Institute of Science, Technology & Advanced Studies | India | 2016 | 2019 | 4 |
| J Birkenmaier | 7 | 33 | 4.71 | St. Louis University | United States | 2016 | 2020 | 3 |

(AU): Author; (A): Number of articles published; (TC) Number of citations; (TC/A): Average number of citations per article; (C): Country; (1st A): Year of first publication; (Last A): Year of most recent publication; (H index): Hirst index score in this research area.

The above table highlights the author-wise contributions made for the topic under study during the period studied. It indicates the most productive researcher in the field of Healthcare diseases amongst migrant laborers. SA Asongu was the most productive and active researcher in the field of migrant labor and the rise in the risk of Healthcare diseases faced by migrant labor. He was succeeded by JC Munene, JM Ntayi, CBG Okello with 100, 105 and 80 total citations respectively. The most recent author who made the publication on the said topic was CA Malinga and the publication was made in the year 2017. Since then, he has occupied a space amongst active researchers on the topic under study. His recent appearances have made him a prolific researcher in this field. Amongst the above authors eight authors have been working on the topic of migrant labor and rise in Healthcare diseases amongst migrant labor since past seven years.

**Table 3: Country-wise contributions**

| Country | A | TC | TC/A | H Index | At | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1986–1990 | 1991–1995 | 1996–2000 | 2001–2005 | 2006–2010 | 2011–2015 | 2016–2020 |
| India | 356 | 1629 | 4.58 | 77 | 0 | 0 | 0 | 1 | 11 | 79 | 265 |
| USA | 347 | 5570 | 16.05 | 92 | 2 | 14 | 12 | 16 | 18 | 83 | 202 |
| UK | 183 | 2462 | 13.45 | 58 | 0 | 0 | 3 | 3 | 16 | 38 | 123 |
| S Africa | 86 | 468 | 5.44 | 28 | 0 | 0 | 0 | 0 | 0 | 15 | 71 |
| China | 82 | 539 | 6.57 | 19 | 0 | 0 | 0 | 2 | 1 | 4 | 75 |
| Nigeria | 69 | 259 | 3.75 | 18 | 0 | 0 | 0 | 0 | 0 | 5 | 64 |
| Australia | 68 | 694 | 10.21 | 17 | 0 | 0 | 0 | 1 | 5 | 14 | 48 |
| France | 58 | 625 | 10.78 | 17 | 0 | 0 | 0 | 2 | 2 | 11 | 43 |
| Indonesia | 52 | 128 | 2.46 | 6 | 0 | 0 | 0 | 0 | 1 | 5 | 46 |
| Ghana | 51 | 274 | 5.37 | 17 | 0 | 0 | 0 | 1 | 0 | 6 | 44 |

(C): Country; (A Number of articles published; (R): Rank by number of articles published in the sub-period considered; (TC): Number of citations; (TC/A): Number of citations per article; (H index): Hirsch index score on the research topic; (At) number of articles published in the same five years.

Network visualisation map shows the largest set of international research collaboration among the active countries in the field of Healthcare diseases and migrant health. It is formed by three clusters. The map shows the countries with greatest number of co-authored publications represented by circle of publications were United States, China and United Kingdom. The thickness of the line connecting countries represents the strength of research collaboration between two countries. Figure 4 below shows the country-wise contributions made for the topic under study in the form of a network map.

**Figure 4: Country-wise Contributions made by Subject Areas**
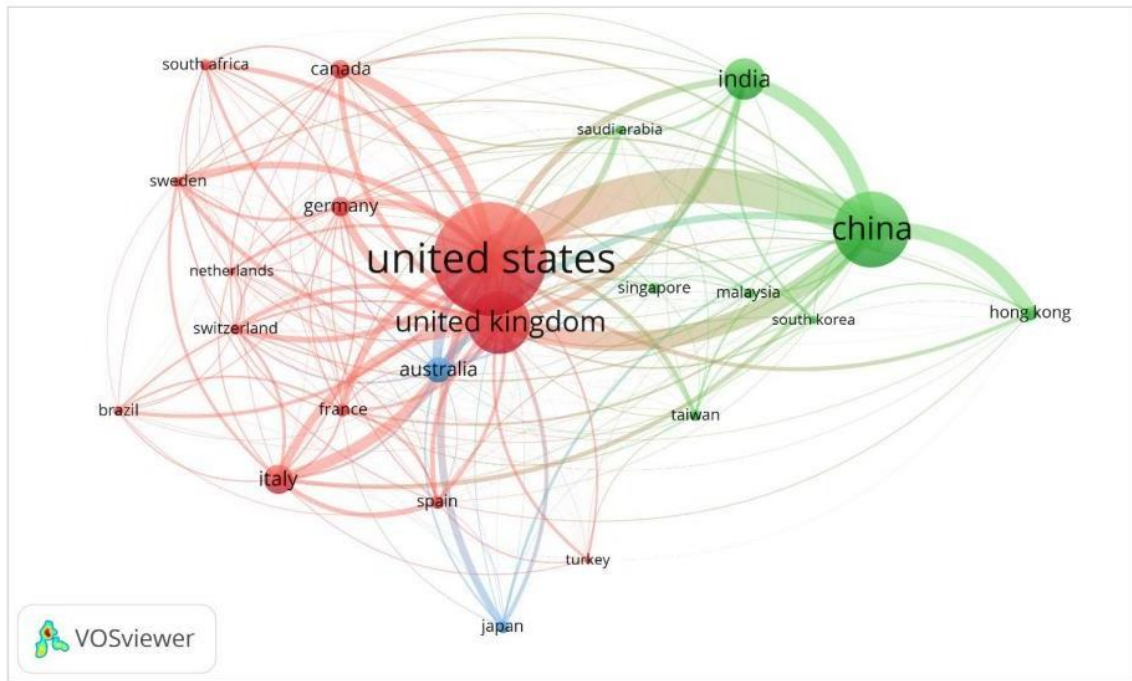


Major contributions were made in India with a total count of articles of 573 with an average article citation of 143.25 followed by China with a total article count of 429 and an average article citation of 25.24. India and China were followed by other countries like the USA, Australia, Canada, Italy, Hongkong, South Africa, Netherlands, and Germany with a total article count of 283, 126, 96, 71, 69, 62, 49, and 31 respectively with an average article citation rate of 11.79, 15.75, 13.71, 17.75, 34.50, 62.00, 24.50, and 6.20 respectively. India and China lead the table with major country-wise contributions majorly due to the requirement of research envisaged due to the conditions necessitating the research on the said topic. With the little occurrence of Healthcare diseases and comparatively lesser migration as compared to India and China, countries like the USA, Australia, Canada, Italy, Hongkong, South Africa, Netherlands, and Germany contribute a lesser number of articles with lower average article citation rates as compared to India and China.

**Table 4: Co-word Network Analysis on Migrant Health and Healthcare Diseases**

| Node | Cluster | Betweenness | Closeness | Page Rank |
|---|---|---|---|---|
| Female | 1 | 20.7659676 | 0.019607843 | 0.044522963 |
| Human | 1 | 63.62693901 | 0.020408163 | 0.064080354 |
| Male | 1 | 21.59437957 | 0.019607843 | 0.045650887 |
| Adult | 1 | 17.72554816 | 0.019607843 | 0.042858433 |
| Humans | 1 | 61.74662992 | 0.020408163 | 0.062396706 |
| Middle aged | 1 | 10.71397269 | 0.019230769 | 0.033767757 |
| Article | 1 | 37.36961725 | 0.020000000 | 0.047352375 |
| Migrant | 1 | 15.10103082 | 0.019230769 | 0.036967538 |
| Young adult | 1 | 3.938126371 | 0.018867925 | 0.024800477 |

| | | | | |
|---|---|---|---|---|
| Prevalence | 1 | 4.406959126 | 0.01754386 | 0.020173944 |
| Aged | 1 | 2.26358638 | 0.017857143 | 0.018831587 |
| Adolescent | 1 | 3.29815194 | 0.017857143 | 0.021501971 |
| China | 1 | 2.137079587 | 0.016949153 | 0.017809852 |
| Emigrants and immigrants | 1 | 5.362486018 | 0.01754386 | 0.024896938 |
| United states | 1 | 0.935779308 | 0.015384615 | 0.013056432 |
| Cost of illness | 1 | 0.504499965 | 0.015384615 | 0.01387289 |
| Major clinical study | 1 | 5.388661758 | 0.018181818 | 0.025616843 |
| Controlled study | 1 | 4.317129548 | 0.018518519 | 0.023348631 |
| Cross-sectional study | 1 | 3.285931302 | 0.016949153 | 0.021615972 |
| Health care delivery | 1 | 0.946528361 | 0.015625 | 0.014530542 |
| Mental health | 1 | 0.69301382 | 0.014492754 | 0.011170085 |
| Rural population | 1 | 0.390701492 | 0.015384615 | 0.012473595 |
| Child | 1 | 0.047956443 | 0.013513514 | 0.009112972 |
| Health insurance | 1 | 0.33666001 | 0.014492754 | 0.011809606 |
| Immigrant | 1 | 0.237644638 | 0.013513514 | 0.011310417 |
| Health care cost | 1 | 0.825015733 | 0.015873016 | 0.014743973 |
| Health services accessibility | 1 | 0.59546622 | 0.015384615 | 0.013051207 |
| Health status | 1 | 0.492797793 | 0.013888889 | 0.009647061 |
| Risk factor | 1 | 0.690179504 | 0.015625 | 0.014030086 |
| Ethnology | 1 | 1.673090865 | 0.016666667 | 0.015818641 |
| Priority journal | 1 | 1.141608516 | 0.015151515 | 0.012364706 |
| Canada | 1 | 0.044218149 | 0.012658228 | 0.00744717 |
| Questionnaire | 1 | 0.920337135 | 0.015873016 | 0.013937406 |
| Anxiety | 1 | 0 | 0.011904762 | 0.005549542 |
| Hypertension | 1 | 0.01046266 | 0.012658228 | 0.006488417 |
| Medically uninsured | 1 | 0.037473808 | 0.013333333 | 0.006866747 |

| Migrant worker | 1 | 0.083997312 | 0.012820513 | 0.007505933 |
| Psychology | 1 | 0.962215662 | 0.016129032 | 0.014098598 |
| Migration | 2 | 21.45100855 | 0.02 | 0.033303129 |
| Transients and migrants | 2 | 15.75630103 | 0.019230769 | 0.028073724 |
| Economics | 2 | 5.454876577 | 0.016949153 | 0.020027384 |
| Tuberculosis | 2 | 0.340420788 | 0.014925373 | 0.011075573 |
| Public health | 2 | 0.996925636 | 0.014705882 | 0.011445092 |
| Demography | 2 | 3.11554866 | 0.016949153 | 0.014003062 |
| Socioeconomic factors | 2 | 1.734570469 | 0.016666667 | 0.013885655 |
| Socioeconomics | 2 | 1.499214015 | 0.016393443 | 0.012821867 |
| Emigration and immigration | 2 | 1.275532803 | 0.013888889 | 0.010413722 |
| Australia | 3 | 0.132948841 | 0.011904762 | 0.005831164 |
| Population dynamics | 3 | 0.036975364 | 0.011494253 | 0.005417556 |

The above table highlights the co-word network analysis on migrant health and Healthcare diseases. It provides an insight into the identification of cluster, the betweenness, closeness, and page rank against each node which relates to the topic under study on migrant labor and the rise in Healthcare diseases amongst migrant laborers during the period under study. The above co-word network analysis signifies the two keywords of interest which have co-occurred within the same article being studied which depict a certain degree of bibliometric relationship amongst the topic under study to which the keywords used relate. It provides a collective interconnection of terms based on the pairing of these terms based on the specified unit of text. This in turn helps to map the research trends related to the rise in Healthcare diseases amongst migrant labor during the period under study.

**Table 5: Most Frequent Words Used During Analysis of Migrant Health and Healthcare Diseases**

| Words | Occurrences |
|-------|-------------|
| Female | 88 |
| Human | 86 |
| Male | 86 |
| Adult | 84 |
| Humans | 81 |

| | |
|---|---|
| Middle aged | 60 |
| Article | 56 |
| Migration | 49 |
| Migrant | 45 |
| Young adult | 43 |
| Prevalence | 36 |
| Aged | 35 |
| Adolescent | 34 |
| China | 33 |
| Emigrants and immigrants | 31 |
| Transients and migrants | 31 |
| United States | 27 |
| Economics | 25 |
| Cost of Illness | 23 |
| Major Clinical Study | 23 |
| Controlled Study | 22 |
| Healthcare Diseases | 22 |
| cross-sectional study | 19 |
| health care delivery | 17 |

The above table highlights the most frequent keywords which have occurred during the article published related to the topic of migrant labor and Healthcare diseases during the period under study. These occurrences suggest the frequent usage of the above words in the related articles published during the period under study. The frequent usage of words indicates the active production of articles related to migrant labor and Healthcare diseases amongst the migrant labor.

**Figure 5: Network of Principal Keywords By Co-occurrence**

**Figure 6: Evolution of Keywords Clusters Based on Co-occurrence**



In the above figures 5 and 6, three of the main identifiers can be identified. The biggest is the red one, which has 56 identifiable and relates to study related to the migrant labour. Here, mostly there has been a usage of identifiable words which are related to migration, in 144 of the published stuff, laborers (in 123), of the countries which are developing (in 97), and national migration (in 76). The identifiable which bears the green colour comprises of 44 things that are related to the area or the facet which relates to the socio-economic factor pertaining to the study.

## 5. Discussions:

Rising impact of expenditure for migrant labor in Mumbai on treatment of Healthcare diseases has been a cause of concern. With a steep rise in patients with health complications, migrant labor in Mumbai is marching towards being unfit section of population in the city. Rapid changes in the lifestyle have attributed to this rising number of migrant labors with Healthcare diseases in metro cities like Mumbai. The article had a sole objective to find out and collect the evidence from literature published on per capita basis in case of mean healthcare expenditure by migrant labor in Mumbai on treatment of Healthcare diseases. Out of 166 studies, 82 studies were noted as they met the criteria for the inclusion. So, the conclusions of the current study suggested that the mean and median of the healthcare expenditure incurred per annum by migrant labor in Mumbai was a plagued situation in Mumbai.

A major portion of expenditure on treatment of Healthcare diseases by migrant labor was directly asked to the patients, which affected the healthcare fulfilment as a result of restraints in terms of financial matters. The public healthcare expenditure spent on treatment of Healthcare diseases by the government of India is the least in world. As a result, the spending constitutes to be 68%. Many studies reviewed on the expenditure on treatment of Healthcare diseases put forth that the major expenditure on the medicinal products as the prime expenditure on treatment of Healthcare diseases out of all direct healthcare expenditure on treatment of Healthcare diseases. The major articles reviewed include the fundamental cause of abnormal medicinal expenditure on treatment of Healthcare diseases as adopted by the physicians for prescription of medicinal products, rather than the medicines which are generic in nature. In the context of tools used for the research, it incorporated in the studies included, a huge number of articles (49%) saw the acknowledgement of the standard tools. Also, the grouping of healthcare expenditure on treatment of Healthcare diseases was also computed based on the major articles referred (29). Lack of holistic explanation of expenditure on treatment of Healthcare diseases and of the increased volume of patients produce the voluptuous healthcare standard based on the quality of healthcare provided.

Thus, the shortcomings felt by the main articles reviewed affected richness in current research. An enabler for development and suggested process and structured for conclusive and holistic research of healthcare.

**Limitations**

There exist shortcomings related to study. Main reason for excluding the studies put forth as papers read in conference and the ones which were published in non-peer reviewed journals. Exclusion of above text, prejudices were brought in into the review. Moreover, the main shortcoming in the current study is the lack of articles displayed in the different parts of the country. Further, published literature is very less in number. Finally, heterogenous nature of the material and methods used in estimation of cost were not similar. As a result, conduct of analysis related to metadata lacked feasibility.

**Inferences:**

The discussion pertains to rising economic impact of Healthcare diseases on the migrant labor in Mumbai Metropolitan Region. Observations suggest that the hospitalization rate and income level of the individual are opposite in nature meaning that migrant labor with higher income levels afford quality healthcare infrastructure for the treatment of Healthcare diseases. Suggestions have been made which relate to few policies related issues to help match with the rising economic pressure of the cost of healthcare. Dearth was felt to create awareness through campaigns on need for healthcare and the related risk factors on not resorting to healthcare. The impact of rising cost of healthcare can be monitored by creating innovative healthcare policies. Complications pertaining to healthcare include health disorders which coupled with the above measures require changes in diet, physical exercises, awareness and behavioural traits which in turn can enable the reduction of economic pressure.

## 6. References

1. Akari S, Mateti UV, Kunduru BR. Health-care cost in South India: a cost of illness study. J Res Pharm Pract. 2013;2(3):114–7.
2. Akobundu E, Ju J, Blatt L, Mullins CD. Cost-of-illness studies. Pharmacoeconomics.
3. 2006;24(9):869–90.
4. American Healthcare Association. Diagnosis and classification of health complications.
5. Healthcare. 2013;36(Supplement 1):S67–74.
6. Balarajan Y, Selvaraj S, Subramaniam SV. Health care and equity in India. Lancet 2011;377:505-15. https://doi.org/10.1016/S0140-6736(10)61894-6 10.1016/S0140- 6736(10)61894-6
7. Balasubramanian D, Prinja S, Aggarwal AK. Effect of user charges on secondary level surgical care utilization and out-of-pocket expenditures in Haryana State, India. PLoS ONE. 2015;10(5):e0125202 https://doi.org/10.1371/journal.pone.0125202 10.1371/journal.pone.0125202
8. Barua N. How to develop a pro-poor private health sector in urban India? Mumbai. Presented at the Global Forum for Health Research: forum 9; 12–16 September; 2005. Available at: URL:https://www.researchgate.net/publication/241553007_How_to_develop_a_pro-poor_private_health_sector_in_urban_India.
9. Beran RG. The burden of epilepsy for the patient: the intangible costs.

Epilepsia. 1999;40(8):40–3.

10.  Bhojani U, Thriveni B., Devadasan R, Munegowda C, Devadasan N, Kolsteren P, Criel B. Out-of-pocket healthcare payments on chronic conditions impoverish urban poor in Bangalore, India. BMC Public Health 2012;12:990 https://doi.org/10.1186/1471-2458-12-990 10.1186/1471-2458-12-990

11.  Bjork S, Kapur A, Sylvest C, Kumar D, Kelkar S, Nair J. The economic burden of healthcare cost in India: results from a national survey. Health Res Clin Pract. 2020;50:190.

12.  Bjork S, Kapur A, King H, Nair J, Ramachandran A. Global policy: aspects of healthcare cost in India. Health Policy. 2013;66(1):61–72.

13.  Cavanagh P, Attinger C, Abbas Z, Bal A, Rojas N, Xu ZR. Healthcare costs in five different countries. Healthcare Res Rev. 2012;28:107–11.

14.  Chandra P, Gogate B, Gogate P, Thite N, Mutha A, Walimbe A.Economic burden of healthcare in urban Indians. Open Ophthalmol J.2014;8:91–4.

15.  Charles AK, Grepstad M, Visintin E, Ferrario A. The economic burden of healthcare cost in India: a review of the literature. Global Health. 2014;10(8):2–18.

16.  Cho NH, Shaw JE, Karuranga S, Huang Y, da Rocha Fernandes JD, Ohlrogge AW, et al. IDF Healthcare Atlas: global estimates of healthcare prevalence for 2017 and projections for 2045. Healthcare Res Clin Pract. 2018;138:271–81.

17.  Devadasan N, Criel B, Damme W, Ranson K, Van der Stuyft P. Indian community health insurance schemes provide partial protection against catastrophic health expenditure. BMC Health Services Research 2007;7:43 https://doi.org/10.1186/1472-6963-7-43 10.1186/1472-6963-7-43

18.  Dhanaraj S. Economic vulnerability to health shocks and coping strategies: evidence from Andhra Pradesh, India. Health Policy Plan. 2016;31(6):749–58.

19.  Economic Research Foundation. Government Health Expenditure in India: a benchmark study. Undertaken for the MacArthur Foundation, India, New Delhi. 2016. August Available at: http://www.macroscan.org/anl/oct06/pdf/Health_Expenditure.pdf

20.  Eshwari K, Kamath VG, Rao CR, Kamath A. Annual cost incurred for the management of healthcare issues—a community-based study from coastal Karnataka.

21.  Glynn LG, Valderas JM, Healy P, Burke E, Newell J, Gillespie P, et al. The prevalence of multi- morbidity in primary care and its effect on health care utilization and cost. Fam Pract. 2011;28(5):516–23

22.  Grover S, Avasthi A, Bhansali A, Chakrabarti S, Kulhara P. Cost of ambulatory care of: a study from north India. Postgrad Med J. 2005;81(956):391–5.

23.  Gupta I, Alam M, Ellis RP. Health insurance in India prognosis and prospects. Economic and Political weekly 2013;35(4) Available at: http://planetwealth.in/palash/pdf/301015013216health-insurance.pdf.

24.  Herwaldt A, Cullen J, Scholz D, French P, Zimmerman B, Pfaller M, et al. A prospective study of outcomes, healthcare resource utilization, and costs associated with postoperative nosocomial infections. Infect Control Hosp Epidemiol. 2006;27(12):1291– 8.

25.  Hogan P, Dall T, Nikolov P. Economic costs of healthcare in the US in 2012. 2003;26(3):917– 32.

26.  Hodgson TA, Meiners MR. Cost-of-illness methodology: a guide to current practices and procedures. The Milbank Memorial Fund Quarterly. Health and Society. 1982:429– 462. Holla R, Prabhu S, Shetty S, Deshpande S, Balla S, Hegde S, et al. Awareness about healthcare among adolescents of Mangalore, South India. NUJHS. 2014;4(2):118–20.

27.  Int J Healthcare Dev Ctries. 2019;39(3):590–5.

28. International Healthcare Federation: IDF Healthcare Atlas (2017) http://www.idf.org/idf- healthcare-atlas-eight-edition. Accessed Jan 2018.
29. Joshi A, Mohan K, Grin G, Perin DMP. Burden of healthcare utilization and out-of-pocket costs among individuals with NCDs in an Indian setting. J Community Health. 2013;38(2):320
30. Kansra P. Economic burden of healthcare among women: a comparison of outpatient and inpatient care. J Health Manag. 2018;20(3):401–9.
31. Kanungo S, Bhowmik K, Mahapatra T, Mahapatra S, Bhadra UK, Sarkar K. Perceived morbidity, healthcare-seeking behavior and their determinants in a poor-resource setting: observation from India. PLoS ONE 2015;10:e0125865 https://doi.org/10.1371/journal.pone.0125865 10.1371/journal.pone.0125865
32. Kapur A. Economic analysis of healthcare. Indian J Med Res. 2007;125(3):473–82.
33. Katam KK, Bhatia V, Dabadghao P, Bhatia E. High direct costs of medical care in patients with complications attending a referral clinic in a government-funded hospital in northern India. Natl Med J India. 2016;29(2):64–7.
34. Kawabata K, Xu K, Carrin G. Preventing impoverishment through protection against catastrophic health expenditure. Bull World Health Organ [serial online] 2012;8:612 Available at: https://apps.who.int/iris/handle/10665/71556
35. Khongrangjem T, Phadnis S, Kumar S. Cost of illness (COI) of type-II healthcare mellitus in Shillong, Meghalaya. Int J Healthcare Dev Ctries. 2019;39(1):201–5
36. Kleine-Budde K, Touil E, Moock J, Bramesfeld A, Kawohl W,Rössler W. Cost of illness for bipolar disorder: a bibliometric review of the economic burden. Bipolar Disord. 2014; 16(4):337-53.
37. Kumar D, Mukherjee K. Economic impact of healthcare issue on households in Hisar district of Haryana state, India. 2014.
38. Kumar A, Nagpal J, Bhartia A. Direct cost of ambulatory care of type 2 healthcare in the middle and high income group populace of Delhi: the DEDICOM survey. JAPI.2008;56:667–74.
39. Kumpatla S, Kothandan H, Tharkar S, Viswanathan V. The costs of treating long term health complications in a developing country: a study from India. JAPI. 2013;61(1):1–17.
40. Methley AM, Campbell S, Chew-Graham C, McNally R, Cheraghi-Sohi S. PICO, PICOS and SPIDER: a comparison study of specificity and sensitivity in three search tools for qualitative bibliometric reviews. BMC Health Serv Res. 2014;14(1):579.
41. Ministry of Health and Family Welfare, Government of India. Report of the National Commission on Macroeconomics and Health, New Delhi. 2005. August Available at: http://www.who.int/macrohealth/action/Report%20of%20the%20National%20Commission.pdf
42. Misra R, Misra A, Kamalamma N, Vikram NK, Gupta S, Sharma S, et al. Difference in prevalence of healthcare, obesity, metabolic syndrome and associated Healthcare risk factors in a rural area of Tamil Nadu and an urban area of Delhi. Int J Diab Dev Ctries.2011;31(2):82–90.
43. Morrish NJ, Wang SL, Stevens LK, Fuller JH, Keen H, WHO Multinational Study Group.
44. Mortality and causes of death in the WHO Multinational Study of Healthcare Diseases.
45. Moher D, Liberati A, Tetzlaff J, Altman DG. Preferred reporting items for bibliometric reviews and meta-analyses: the PRISMA statement. Ann Intern Med. 2019;151(4):264–9. Molinier L, Bauvin E, Combescure C, Castelli C, Rebillard X, Soulié M, et al. Methodological considerations in cost of prostate

cancer studies: a bibliometric review.

46. Value Health. 2008;11(5):878–85.

47. Mutyambizi C, Pavlova M, Chola L, Hongoro C, Groot W. Cost of healthcare in Africa: a bibliometric review of existing literature. Glob Health. 2018;14(1):3.

48. Ng SW, Popkin BM. Time use and physical activity: a shift away from movement across the globe. Obes Rev. 2012;13(8):659–80.

49. Oberoi S, Kansra P. Factors influencing medical tourism in India: a critical review.

50. SAMVAD. 2019;17:9–16.

51. Oommen AM, Abraham VJ, George K, Jose VJ. Prevalence of risk factors for non-communicable diseases in rural and urban Tamil Nadu. Indian J Med Res. 2016;144(3):460– 71.

52. Pagano E, Brunetti M, Tediosi F, Garattini L. Costs of Healthcare. Health-economics.

53. 1999;15(6):583–95.

54. Quintussi M, Poel EV, Panda P, Rutten F. Economic consequences of ill-health for households in northern rural India. BMC Health Services Research 2015;15:179 https://doi.org/10.1186/s12913-015-0833-0 10.1186/s12913-015-0833-0

55. Ramachandran A, Snehalatha C, Shetty AS, Nanditha A. Trends in prevalence of healthcare in Asian countries. World J Health. 2012;3(6):102–10.

56. Ramachandran A, Snehalatha C. Current scenario of healthcare cost in India. J Healthcare cost. 2009;1(1):18–28.