

Review

Transport Poverty with Special Reference to Sustainability: A Systematic Review of the Literature

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Abstract: The aim of this work is to analyse the state of the art of scientific research related to transport poverty with special reference to sustainability and to identify new research needs. To this end, a methodology has been used in line with the objective set out, choosing the systematic review of the literature as the most suitable method. The results show that transport poverty is an under-exploited issue and is not well articulated by researchers, and there are great differences between the different areas of knowledge studied. The subjects related to health and medicine have more publications, almost 58%, with the rest distributed among 11 different subjects. Of the works analysed, only 26.69% refer to the topic of sustainability, and therefore this is a branch which is little studied in the literature in this field. Another relevant finding is that all the articles analysed highlight the vulnerability and inequality of the groups affected by transport poverty, with the elderly being the least studied in the research work.

Keywords: poverty; transport; inequality; social exclusion; the elderly; medicine



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1. Introduction

Poverty has become a major problem facing all of humanity, especially present in underdeveloped and developing countries, where the lack of basic infrastructure, rural roads and transport are identified as characteristic factors. Transport plays a very important role in achieving economic development and poverty reduction [1], but it must be supported by sustainability initiatives to mitigate the challenges of rapid urbanisation [2].

However, the analysis of transport poverty is a complex issue in the absence of existing data as this problem occurs mainly in underdeveloped and developing countries, where the rural world predominates and where accessibility to data makes the information process difficult. However, this is not the only problem. Another problem is that there is no consensus on the conceptualisation and measurement of transport poverty [3], which is sometimes confused with energy poverty [4] or with the impossibility of making a journey, either because of the costs of transport or because of the accessibility to transport [5]. In view of this situation, and in order to create a common criterion in the terminology studied, a concept of transport poverty arises based on transport accessibility and mobility [6]. Thus, an individual is considered transport poor when they meet at least one of the following conditions: they have no transport option available that suits their needs; they do not reach their destinations to satisfy their daily activities, such as education, health and employment [7]; the weekly amount spent on transport is above the official poverty line; travel times are long; or travel conditions are unsafe, dangerous or unhealthy [6].

As a result of this definition, different approaches were proposed in relation to criteria of accessibility [8] and affordability [9] and mobility and externality [10], among others, which allow for a more comprehensive understanding of the subject matter. Thus, transport poverty measured through accessibility and affordability allows knowledge of the distances between households and the workplace in terms of the use of public transport. For this

purpose, our approach uses a geographic information system (GIS), a mapping system, or face-to-face interviews, among others. The importance of this measure should be stressed, as sustainable transport systems provide important opportunities for people, allowing access to schools, jobs, health care and markets, thus improving their quality of life, reducing poverty levels and contributing to improve economic, social and environmental growth [11].

However, transport poverty should not only be studied under the approach outlined above; it must also be analysed from the perspective of mobility since it is not equally accessible to all groups, generating inequalities and social exclusion among them. This is the case of the most vulnerable people anchored in poverty in underdeveloped and developing countries. They have to travel long distances from their homes to get to work, health, school, etc., as they usually live in slums or rural areas. Some of them suffer from diseases such as tuberculosis, HIV, polio, or even simple pregnancies, which require constant medical attention for their recovery, this being practically impossible due to the economic, physical (inadequate infrastructure) and temporary barriers they face. Others are unemployed, or have disabilities, or are simply older people on low incomes, dependent on health services and limited in their access to these services due to geographical distance and transport problems [12–15].

If we add to this question the environmental problems related to gas emissions or pollution, poor people are the most affected by these effects. They are often unable to access drinking water [16] or to use both public and private vehicles. Large amounts of CO₂ are released, increasing pollution. This happens mainly in India and Africa, but also in the rest of the world [17]. The analysis of transport poverty is essential from the perspective of externalities because knowledge of it can improve levels of sustainability and reduce poverty.

That is why, given the scarcity of information available on the subject analysed, and its relevance as an issue for society, we decided to conduct this research. Its purpose is to make known, by means of a systematic review of the literature, the state of the art of transport poverty, making special reference to sustainability and covering a wide time horizon, from 1995 to October 2020, in order to establish future lines of research, which will allow for greater depth in this subject.

Relationship between Transport Poverty and Sustainability

One of the definitions of the concept of sustainability or sustainable development is provided by the World Commission on Environment and Development (WCED). It refers to the need to meet and satisfy the needs of the present generation without compromising the ability of future generations [18].

From a general point of view, and according to this definition, it can be detected that there is a close relationship between poverty and sustainability. Sustainability tends to protect present resources in order to guarantee the future needs of the population [19]. On this basis, and taking into account the environmental deterioration we are experiencing, the scarcity of natural resources is becoming increasingly problematic. Poor people suffer the most from these consequences. They are more vulnerable to environmental impacts as their survival depends on the resources in their environment [20]. This is the case in underdeveloped or developing countries, where natural resources are becoming increasingly scarce, and the deterioration of the environment makes their accessibility difficult. In turn, these people use materials for cooking that give off large amounts of CO₂ or do not process waste, among other things, which leads to environmental pollution [21].

But in relation to the topic of this research, the question arises: “Is transport poverty linked to sustainability? The answer is yes, and in its three aspects: social, economic and environmental. This paper only considers the social and environmental side of sustainability because the articles analysed have only dealt with these two aspects.

From the point of view of environmental sustainability, transport poverty manifests itself mainly in countries with poor infrastructure, which is typical of rural areas in un-

derdeveloped and developing countries [21]. Inhabitants of such areas have to travel long distances to carry out any kind of activity. This leads to an increase in surface CO₂ consumption because the vehicles used are more polluting than those in developed countries [17]. This pollution contributes to climate change, increases the greenhouse effect, overheats the earth, and accelerates heavy rainfall. All these effects have a negative impact on the poor and most vulnerable people in society [20].

On the other hand, and from the point of view of social sustainability, understood as the adoption of values by the population of a society trying to overcome sustainability problems, transport poverty is manifested by a lack of economic resources to access means of transport that hinder access to education, employment, health and welfare, among others, and therefore constitute a social inequality for those who suffer from it [11,12,15]. Most of these people do not have private vehicles for transport or do not have the money to use public transport to enable them to carry out these types of activities. In some cases, they do not have the time to travel long distances or the travel conditions are dangerous, unsafe or unhealthy, which can be detrimental to sustainability [22,23].

2. Materials and Methods

A systematic review of the literature (RSL) was applied in this study. We have used this method because this work is a synthesis of the available evidence that summarizes the information on a particular topic [24]. It is characterised by being specific, systematic, reproducible, critical and rigorous [25,26]. To carry it out, different phases have been used [24–27], as indicated below.

- Phase 1: Identification of research questions

In this phase, the research questions (RQ) [26–28] that will allow the objective set out in this work to be achieved are raised.

RQ1: What are the main papers that study transport poverty, and which ones refer to sustainability?

RQ2: In which journals are these papers published?

RQ3: How has the temporal evolution of these works been?

RQ4: Which countries, universities and areas of knowledge show the greatest concern for this type of research?

RQ5: Who are the most productive authors?

RQ6: What research topics are being addressed within the field of sustainability?

- Phase 2: Search strategy

The search strategy has been carried out taking into account the terms and the process of searching for the information to be dealt with [29].

In relation to the search terms, the main concepts referred to this research have been used, recognising the different forms of writing, as well as synonyms and abbreviations [25]. Furthermore, the quality standards contained in the PRISMA statement (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) have been taken into account in relation to the inclusion of relevant items to ensure the internal consistency of the systematic review [30].

In relation to the information search process, two of the most relevant academic databases have been selected: Web of Science (WoS) and Scopus. These have been chosen because of their multidisciplinary and international nature as well as the fact that they allow mainly scientific research products to be collected. Both are identified with an impact factor in their publications: Journal Citation Report (JCR) and SCImago Journal Rank (SJR) for Scopus [31].

The algorithm used for both databases has been “poverty” and “transport”, with AND being the Boolean operator. The study period is long, ranging from 1995, when the first publication appears according to the search parameters used, to October 2020, when the information search is carried out.

From the result of the search carried out in October 2020, 2244 papers were obtained, which were refined based on the inclusion and exclusion criteria (Table 1). For this purpose, the scientific articles published between 1995 and October 2020 [32], published in English and Spanish, were retrieved. To ensure the quality of the literature, articles published in scientific journals [33] and those referring to primary studies [34] were sought, resulting in a total of 531 contributions (of which 239 were obtained from WoS and 312 from Scopus), which were exported to the Endnote database in order to continue applying the inclusion and exclusion criteria [35] as indicated in Table 1.

Table 1. Inclusion and Exclusion Criteria.

Inclusion	Exclusion
Period: 1995–October 2020	Duplicates
Language: English/Spanish	Not related to the topic “Poverty and Transport” [27]
Primary works [34]	Restricted access to full text [36]
Articles in scientific journals [33]	Unquoted articles [37]
	Works of less than 4 pages [34]

- Phase 3: Procedure for the selection of the articles.

Once the inclusion and exclusion criteria were defined, we proceeded to select the articles in several stages (Figure 1):

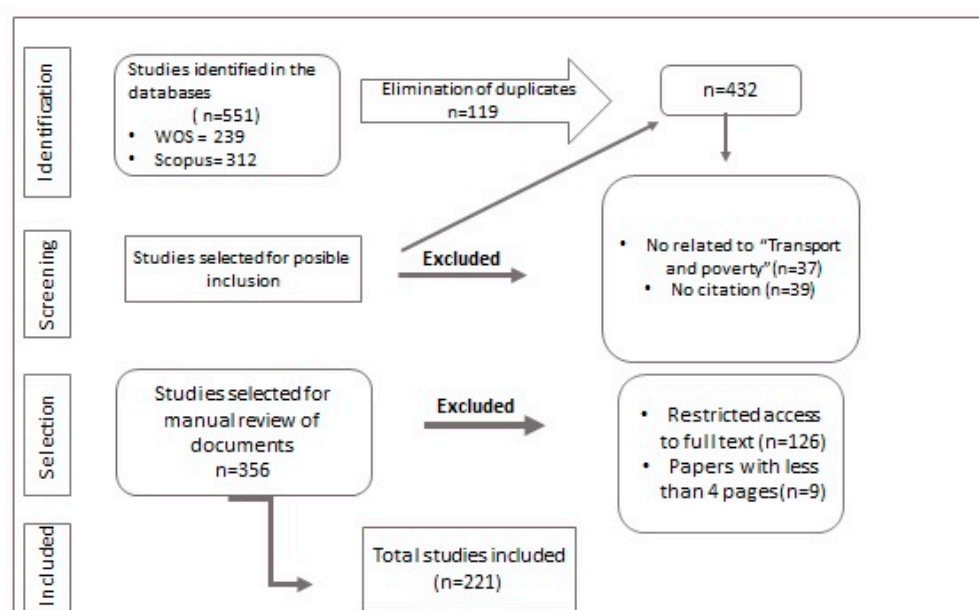


Figure 1. Flow chart of study selection process based on the PRISMA statement.

In the first stage, we identified 551 items, as indicated above, where they were exported to Endnote, and the duplicates were removed ($n = 119$). In the second stage, we manually examined the title, abstract and keywords of the remaining 432 articles, discarding all those papers whose analysis did not focus on poverty and transport [27] ($n = 37$) and those that had no citations ($n = 39$) since to determine the relevance of the articles, the number of citations they receive is taken into account as the best indicator of influence [37]. In the third stage ($n = 356$), we excluded all articles that had restricted access to full text [36] ($n = 126$) and those papers that were less than 4 pages long [34] ($n = 9$). From this whole process, 221 articles were obtained for review and detailed reading that correspond to the questions and objectives set out in this research.

3. Results

We analysed the articles obtained, examining the following parameters: year, scientific journal, country and university, area of knowledge, methodology, author and number of citations, result of previous research, and main limitations referred to in the subject studied.

3.1. Number of Publications per Year

As can be seen in Figure 2, the contributions referred to the area of transport poverty have experienced a fundamentally increasing trend but with very variable trajectories. This shows that the period from 1995–2004 is characterised by great stability, while the period from 2005–2014 shows great fluctuations, with 2006 being the year with the lowest contribution and 2012 and 2013 the highest. From 2015 onwards, growth shoots up, reaching its peak in 2018. Among the reasons for the academic interest in the topic in question is the increase in poverty rates as a result of the economic crisis. In 2015, the rate of risk of poverty and social exclusion in the EU-28 reached 23.8% [38], contributing to the increase in concern and interest in this subject, as well as in related aspects such as health, lifestyles and transport for the most vulnerable people, among others, which was reflected in the increase in publications.

With regard to transport poverty from the point of view of sustainability, only 26.69% of the articles analysed refer to it, with the period 2016–2019 being the one that receives the most scientific publications and 2019 the most prolific, with a total of 15 articles, representing 25% of these (Figure 2).

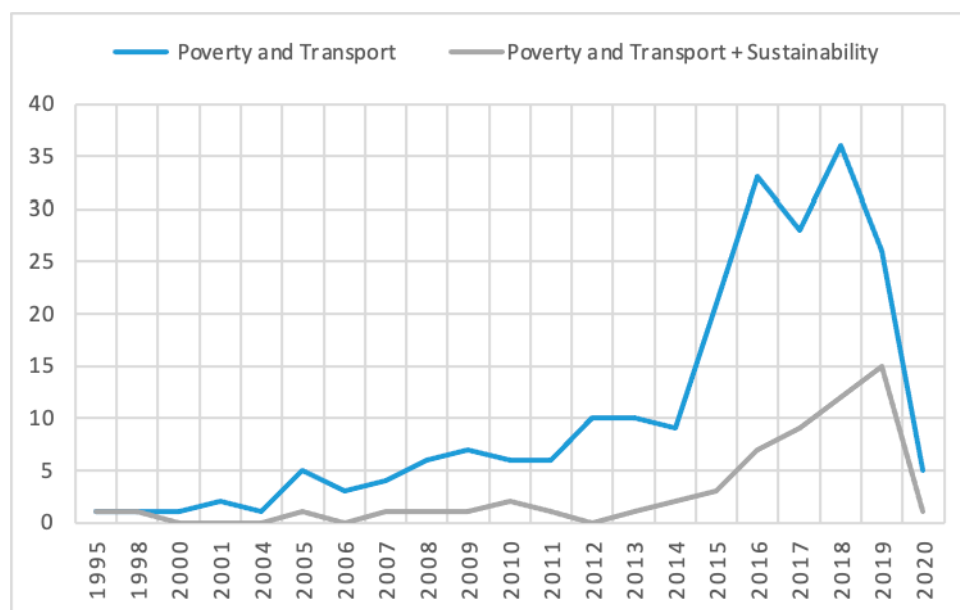


Figure 2. Number of publications per year (1995–October 2020).

3.2. Publications by Scientific Journals

Table 2 shows the breakdown of publications by journal, referring to those that have published more than 3 papers on the subject studied, during the period 1995–2020, and their percentage of the total of 221 final papers.

On the one hand, we can see that 10 journals concentrate 61 articles on the subject analysed, while, on the other hand, there are 90 journals where only one article has been published in each one. This fact shows that there is no high specialisation or concentration in one or more journals since, as shown in Table 2, the maximum number of publications has been 12 throughout the whole period analysed. The same situation can be seen in the field of sustainability. Thirty-eight of the 130 journals allude to the topic of sustainability,

with 59 publications about this subject, and “sustainability” being the one with the highest number (8). Only 30 journals have been published in each one.

Table 2. Contributions by journals.

Name of the Journal	No. of Publications	%
Plos one	12	5.40%
International Journal for Equity in Health	10	4.52%
Sustainability	8	3.1%
Environment and Urbanization	6	2.71%
BMC Health Services Research	5	2.26%
BMC International Health and Human Rights	4	1.80%
BMC Public Health	4	1.80%
International Journal of Environmental Research and Public Health	4	1.80%
Proceedings of the Institution of Civil Engineers: Transport	4	1.80%

3.3. Publications by Country and University

Table 3 lists the countries that have contributed with 10 or more publications on transport poverty and the universities in these countries that have published 2 or more articles about this topic.

Table 3. Publications by country and university.

Country	No. of Publications	%	University
United Kingdom	46	20.81%	Universidad de Leeds [10]
			University of Liverpool [5]
			University of Bath [3]
			University of London [3]
			Brunel University [2]
			Queen Mary University of London [2]
			University of Cincinnati [4]
USA	34	15.38%	University of Alabama [3]
			University of California [3]
			University of Massachusetts [3]
			Virginia Institute of Marine Science [2]
			Emory University [2]
China	13	5.88%	University of North Carolina [2]
			Beijing University [3]
			Institute of Technology, Harbin, China [2]
South Africa	13	5.88%	Peking University [2]
			Stellenbosch University [3]
			University of Witwatersrand [3]
The Netherlands	12	5.42%	University of Cape Town [2]
			Maastricht University [2]
			University of Amsterdam [2]
Australia	10	4.5%	Wageningen University [2]
			University of Sydney [3]

Considering the country of origin of the first author, 37 countries produce research on the topic of transport poverty. Of these, 83.78% of the countries have contributed less than 10 publications, with Kenya, Canada, Germany and India being the most productive within this group (with more than 5 publications and less than 10) and Argentina, Japan, Laos, Panama, Philadelphia, Poland, Rabat, Uruguay and Yugoslavia the least, having only one publication. Moreover, 16.2% of the countries have 10 or more publications, with the United Kingdom and the USA showing large differences with the rest of the countries in

the table. A finding in this work is the great interest shown by these countries with regard to the issue of transport poverty, mainly referenced in underdeveloped countries, such as Uganda, Kenya, Ghana and India, among others.

In the area of sustainability, the United Kingdom continues to be the most supportive of this research, with 22 publications, followed by China, with 7, out of a total of 20 countries. In this respect, the USA is in second place to this Asian country.

On the other hand, considering the university to which the first author of each article is attached, a total of 138 universities are represented in this study. Fifty-seven of them have dealt with the subject of sustainability. Table 3 shows the 25 universities that produced 2 or more papers, representing 18.11% of the total scientific production selected. The rest, 113, have only collaborated with one publication, and represent 81.89% of total publications. It is worth highlighting the role of the English universities, with the University of Leeds producing the most publications, followed by Liverpool. From the point of view of sustainability, this university continues to lead the field, but nevertheless the Universities of Nairobi and Beijing Forest have overtaken that of Liverpool.

3.4. Publications by Field of Knowledge

In Table 4, we can see the most prolific areas of knowledge, considering the authors' department information. Specifically, we have identified a total of 12 different areas or departments which address transport poverty. The area of "Health and medicine" is the area that generates the most publications compared to the rest, epidemiological, obstetrics and nutrition-related topics being the most discussed as they are the topics that directly affect the most impoverished population with transport difficulties. This group represents almost 58 percent of the total analysed, representing a great difference in regards to the others since the remaining 42 percent are distributed in 11 areas of knowledge.

Table 4. Publications by field of knowledge.

Field of Knowledge	No. of Publications	%
Health and Medicine	128	57.91%
Engineering and Transport	20	9.04%
Environment and Development	18	8.14%
Economics	18	8.14%
Geography	10	4.52%
Agriculture	6	2.71%
Sociology and Anthropology	6	2.71%
Architecture and Urban Studies	4	1.80%
Life Sciences	4	1.80%
Political Science	4	1.80%
Computer Science	2	0.9%
Pharmaceutical Chemistry	1	0.45%

The main reason that justifies the interest of areas such as "Health and medicine" in the analysed subject is that transport poverty is an aspect that conditions the application of medical treatments and improvement of patient health, since most of the studies are carried out in poor countries, like countries in Africa such as Kenya and Ethiopia. In these countries, the population largely lives in rural areas, lacking the economic resources, road infrastructure and public transport that allow access to medical treatments to alleviate diseases.

However, from the field of sustainability, the most relevant department has been that of Economics, with, within the 10 areas that analyse this issue, 14 papers, followed by the Department of Health and Medicine with 13, Transport and planning with 7, and Environment and Development with 5.

3.5. Type of Study

All academic research divides work into two main areas: empirical research studies (where contributions related to evidence from case studies, questionnaires or experiments are mainly collected) and documentary research (including research related to literature reviews and conceptual documentation) [39]. Thus, 77.82% of the 221 articles examined have been classified as empirical studies and 22.17% as documentary studies (Figure 3).

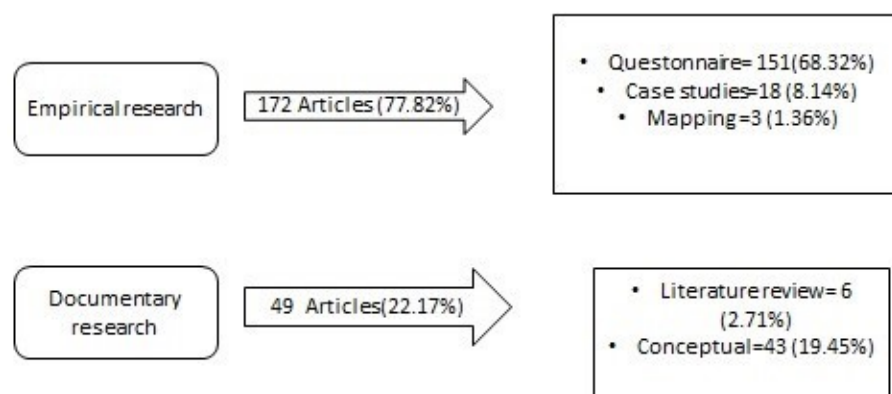


Figure 3. Type of study.

As we can see in Figure 3, the questionnaire is the study technique chosen by most of the authors [40]. These questionnaires have been the key points of the many scientific experiments carried out. The analysis of the 221 articles shows this, by either survey or interview, by means of Likert scale questions to develop them [41–43]. Various statistical techniques were applied to process the articles, including structural equation models, regressions and analysis of variance (ANOVA) [44]. On the other hand, it is worth noting that, in the case studies, the most used criteria of assessment were electrochemical analyses, gas emission, census geography and cost analysis.

3.6. Publications by Author and Relevance of Articles

This section contains the names of those authors who are actively involved in transport poverty research. A total of 913 authors have participated in the 221 articles of this systematic review throughout the period analysed, and 237 authors have alluded to the subject of sustainability. Table 5 shows the authors who have produced the most articles in this type of study, with more than two articles each. The most productive researcher in the subject analysed is G. Mattioli, who has participated in 5 publications, all of which refer to the field of sustainability, followed by K. Lucas, with 4. Three authors (E. Barasa; O. M. Campbell; and M. Zhang) follow, with 3 papers each. The rest of the researchers, i.e., 36, have only contributed 2 works, and 872 authors have only contributed 1, representing 95.50%.

Table 5. Publications by author.

Authors	No. of Publications	%
Mattioli, G.	5	0.54
Lucas, K.	4	0.43
Barasa, E.	3	0.32
Campbell, O. M.	3	0.32
Zhang, M.	3	0.32

Classifying the articles by their relevance, that is, according to the total number of citations received [37], we can say that a total of 5251 citations are obtained from 221 articles recovered in this systematic review of the literature, of which 53.84%, that is, 119 works, have only received between 1 and 10 citations. Sixty-nine works have been cited between

11 and 20 times, representing 31.22%. Thirty-three works with more than 21 citations have been obtained, representing 14.94%. It should be noted that 28.75% of the total, i.e., 1510 citations, refer to the topic of sustainability.

A total of 8 articles has received more than 100 citations, and two of these have been published in the journal Plos Medicine (Table 6). It should be noted that, although Glaeser is the most relevant author in terms of the number of citations, he has only published one work on this subject, which is referenced in the field of sustainability, while Campbell has a lower number of citations but 3 works in this line of research.

Table 6. Most Cited Publications.

Authors	Year	Title	Journal	No. of Citations
Glaeser, E. L.	1998	Are cities dying?	Journal of Economic Perspectives	319
Funk, C.; Dettinger, M. D.; Michaelsen, J. C.; Verdin, J. P.; Brown, M. E.; Barlow, M.; Hoell, A.	2008	Warming of the Indian Ocean threatens eastern and southern African food security but could be mitigated by agricultural development	Proceedings of the National Academy of Sciences of the United States of America	264
Ware, N. C.; Idoko, J.; Kaaya, S.; Biraro, I. A.; Wyatt, M. A.; Agbaji, O.; Chalamilla, G.; Bangsberg, D. R.	2009	Explaining Adherence Success in Sub-Saharan Africa: An Ethnographic Study	Plos Medicine	257
Larsen, K.; Gilliland, J.	2008	Mapping the evolution of ‘food deserts’ in a Canadian city: Supermarket accessibility in London, Ontario, 1961–2005	International Journal of Health Geographics	241
Kangovi, S.; Barg, F. K.; Carter, T.; Long, J. A.; Shannon, R.; Grande, D.	2013	Understanding why patients of low socioeconomic status prefer hospitals over ambulatory care	Health Affairs	193
Gabrysch, S.; Cousens, S.; Cox, J.; Campbell, O. M.	2011	The influence of distance and level of care on delivery place in rural Zambia: A study of linked national data in a geographic information system	PLoS Medicine	188
Cummins, S.; Stafford, M.; Macintyre, S.; Marmot, M.; Ellaway, A.	2005	Neighbourhood environment and its association with self rated health: evidence from Scotland and England	Journal of Epidemiology and Community Health	154
Delgado, A.; Romero, I.	2016	Environmental conflict analysis using an integrated grey clustering and entropy-weight method: A case study of a mining project in Peru	Environmental Modelling & Software	134

4. Discussion

In the light of the results obtained in this study during the period 1995–October 2020, we can corroborate that all the articles analysed on the subject of transport poverty place great emphasis on the issue of inequality both in their different areas of knowledge and in the different groups dealt with in them. In this way, when we analyse the work related to health and medicine, we observe that the groups that are most vulnerable due to transport poverty are those who suffer from HIV, tuberculosis, polio, infant mortality and pregnant women, whose common features are that they are poor, have insufficient economic resources, are unemployed and live in rural areas. For these people, it is very complicated to have a healthy diet and even more difficult to have access to transportation to a hospital or health centre for treatment. All these disadvantages are due to lack of money

and/or inadequate road infrastructure [45–48]. Thus, pregnant women in Uganda under 26 years of age do not arrive in time at the hospital to give birth due to the long distances they have to travel. Most of them use inadequate means of transport such as motorbikes and bicycles, risking their health and increasing the risk of mortality. For this reason, they prefer to give birth at home, which is a major social inequality for them [22,49–52]. In addition, India's elderly also face significant barriers to health care services due to poor and expensive transport, low income, communication difficulties and poor attitudes of health professionals towards them [13]. Similarly, polio patients and amputees in Sierra Leone, Africa, report fewer opportunities to access employment, education and health care because of a lack of adequate infrastructure for the disabled, as well as transport facilities to carry out these activities [53].

On the other hand, in several articles analysed, which cover the subject of transport engineering, we observe that there are developed countries with good transport infrastructures that, nevertheless, do not have accompanying policies that guarantee access to these infrastructures by the whole population, generating inequalities in transport. This is the case in the United Kingdom, which has good road infrastructure, but much inequality in transport between people of different incomes [6]. People with limited economic resources travel to more unsafe places, travel longer distances to reach their workplace (sometimes 2 h), face violent situations such as sexual harassment, and face overcrowding on their journeys. However, people on high incomes have higher levels of transport access but do not use it. This generates spatial and social inequality, creating limits to travellers' mobility and a gap between them [21]. A good infrastructure connection from low-income neighbourhoods to the city centre decreases physical violence [53], and if it were made available in rural areas, it could increase employment and decrease rural poverty [54].

From the point of view of sustainability, it should be noted that sustainability also plays an essential role in transport poverty under the approach of environmental sustainability. Sustainability's main concern is access to drinking water for the most vulnerable people and for residents of rural areas, as well as the effects that pollution has on certain socio-economic and demographic groups. The areas with the highest pollution are those inhabited by children under 5 years of age, poorer adults and young people. Poor groups have vehicles that release higher levels of CO₂ into the environment. All this creates an inequality related to two dimensions: emissions and the exposure and vulnerability of citizens [55]. In order to tackle this, it is necessary to design strategies that allow for the implementation of political measures related to climate change that reduce energy consumption and the greenhouse effect in impoverished countries such as India. The new indicators of energy poverty take into account the diversity of travel, restrictive behaviour and the variable adaptation capacities of the household [17,56] and can contribute to improving climate change by providing better quality infrastructure that reduces CO₂ levels and is accessible to all groups, thus reducing the levels of inequality of the population studied.

Taking into account social sustainability, social sustainability also generates inequality among the poorest people as the lack of resources prevents access to transport and to the development of activities that improve the social well-being of the population [11,12,15].

In addition to the above, it cannot be overlooked that gender differences in transport use also create inequality as men are more likely to travel for almost all types of activities than women, especially in countries such as Pakistan [21], even if public transport services are not the most appropriate [11].

In short, there is a debate that shows that transport disadvantages impact most on low-income groups, those with health problems, the elderly, those who are unemployed and the vulnerable. Inadequate infrastructure and public transport can hinder access to employment, education and health, as reflected in this document, thus constituting a major social inequality among those who suffer from it.

5. Conclusions

In this paper, we have carried out a systematic review of the literature concerning the topic of transport poverty and, within it, the special treatment of sustainability has been analysed. The results show that of the 221 articles analysed, only 26.69% of them refer to sustainability and only 1 of them focuses on the elderly, revealing a major gap in this state of the art and its repercussions for this population since it is expected to increase considerably by 2050, reaching 35% of the population in Europe, 28% in North America, 25% in Latin America and the Caribbean, 24% in Asia, 23% in Oceania and 9% in Africa [57]. In addition, and in view of the objective set, it is noteworthy that only two countries, the United Kingdom and the USA, have the largest number of publications, as well as areas related to health and medicine. This fact may be largely due to the interest aroused by the implementation and application of medical treatments in underdeveloped or developing countries, where there are major social inequalities among the population. This document reflects the great impact of transport poverty on the most vulnerable groups and the importance of alleviating or reducing it so that these groups of people have decent access to health, employment and education.

On the other hand, among the main limitations found in the works analysed, we can mention, firstly, those related to the characteristics of the sample since, in most of the articles analysed, they are not specified. This makes it almost impossible to determine the groups most identified with transport poverty in the work. In addition, the accessibility of the data, due to its complexity and its high cost in most developing countries, makes it unfeasible to have more documentation on this subject. It is recommended that future research work in this area take into account these limitations in order to overcome them and continue to contribute to the development of this research topic.

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