

From Human Rights to the Right to Health: A Systematic Literature Review

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Abstract

This study aims to analyze literature that reflects on prevention in health, with a focus on humanization and medium- and long-term impacts on the economy of countries and suggest future research that further expands this topic. The use of the SMARTER method to select the articles included in the literature review and choose the best alternatives presents a series of techniques and methods to support decision-making when there is a multiplicity of criteria. Through a systematic review of the literature over the past 41 years, articles were selected using the SCOPUS database, where 96 studies were analyzed after using the SMARTER selection criteria. The results point to the need to review and improve policies, interventions, and public activities that address prevention in health, with less emphasis on the curative approach and without neglecting economic and social facets. A strong argument highlighting the importance of the economic factor lies in the possibility of increasing participation in the labor market and combating social inequalities.

Keywords: *Right to health, Health equity, Health investment, Preventive health*

1. Introduction

Under the United Nations 2030 Agenda for Sustainable Development, it was recognized that health is a fundamental goal of all societies and that the health system is one of the most important contributors to the health of populations. Health was also considered a prerequisite for sustainable development to ensure healthy lives and promote well-being for all ages. The human right to health was made explicit in 1948 in the Universal Declaration of Human Rights, in Article 25, which states that "Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing, and medical care and necessary social services".

As early as 1986, the Ottawa Charter, produced by the World Health Organization (WHO), defined health promotion as the process of enabling people to increase control over and improve their health [1]. However, while the benefits of healthcare on the health of the population are well defined, its effects on the overall economy have historically been poorly understood. Several international bodies have drawn attention to the links between health systems and the macroeconomy, most notably the World Health Organization (WHO)

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Commission on Macroeconomics and Health in 2001 [2], which argued 17 years ago that better health outcomes can drive and support economic growth.

There are several possible reasons why governments hesitate to prioritize health system spending. Firstly, there is widespread concern that health system expenditures are not used efficiently, given that there are several studies and estimates, notably those of the WHO [3], that suggests that at least 20% of expenditures in health systems are wasteful. Secondly, the productivity margin in healthcare is less evident due to the high labor intensity of the sector, particularly when compared with the potential gains from other sectors of the economy. Spending in this sector always has an associated opportunity cost; one euro spent is one euro less that can be applied to another economic activity [4].

The relevance of the study lies in the fact that preventive health care provides benefits to the population (in the form of care) and the economy of countries, considering that investing in preventive care directly or indirectly affects social welfare and macroeconomic performance. In this context, the article aims to highlight the impact that preventive health care has on countries' social and economic performance. To achieve this goal, this article presents a synthesis of the literature that discusses investments in preventive health care and how they promote the humanization of care. Next, it brings an innovative approach to the methodology by employing the SMARTER selection criteria for articles that address the theme of humanization and preventive health care. It culminates with the presentation of the results and conclusions.

2. Literature review

Health from a human rights perspective

Access to healthcare, preventive and curative, is a right for all. The actions to achieve these goals must be organized and efficient, to be made available to the population, although the conflict between the discourse of human rights and the economic condition for care is evident [5].

Modern societies, at least for some time, have nurtured the idea that consistent economic, social, and cultural development, so preached since the 19th century, combined with the scientific and technological knowledge achieved, could guarantee the improvement of living conditions, prevent disease, and promote health.

Looking at the reality in which we live, one observation is necessary: despite the variety of social security systems established over time and good internal and external institutional decisions, blatant health inequalities persist. All works on these issues attest to this [6]. Statistically, social inequalities are identically health inequalities. We just have to look at the glaring social inequalities, whose effects are very visible; for example, the large differences in life expectancy between countries, reflecting inequalities in relation to disease, health, and life.

This ideal vision of health as a universal right has progressively shown its limits. The case of Covid-19 at present is eloquent in this regard. Offering unprecedented conditions of security and well-being, the world we live in is proving to be very uncertain. While modern states have proven to be guarantors of a universal right to health and safety, namely through social security mechanisms and medical and biological discoveries and advances in technology, social actors are now faced with unprecedented health, social, economic, and cultural crises [7]. One cannot, therefore, ignore the pathogenic power of poverty and social exclusion, against which the right to health, enshrined in the Universal Declaration of Human Rights [8], the Declaration of Alma-Ata [9], and the Ottawa Charter [1], aiming to promote

health for all, stands out. Therefore, when investing in health policies and measures, it is necessary not only to look at the national health services and their prerogatives but also to take into account this set of humanitarian and social dimensions.

Investment in health and prevention savings

Expense, cost, and investment presuppose different starting concepts. If we intend to approach this reality in macroeconomic terms, the first simplification that becomes necessary is to distinguish these three economic concepts: expenditure, costs, and investment. Organizational expense can be defined as the set of expenses that are not aimed at a financial return, but that is necessary for the organization's good performance. It refers to spending on goods or services consumed directly or indirectly to obtain revenue [10]. Costs are expenditures directly linked to the end activity of a company. It is the amount used with goods and services for the production of other goods and services. Investment is another type of expense. It is an application of resources in which there is the expectation of financial return in the medium or long term [11] and refers both to the purchase of new goods to increase the organization's production and to the application of financial products that increase its wealth. Regarding health, the intention is to increase life expectancy, but based on an increasingly healthy life curve, with quality and well-being of individuals.

As for primary care, primary healthcare is a driving force for moving toward universal health coverage, and primary healthcare-oriented health systems bring enormous benefits but require substantial financial investments [12]. Innovative services seek to reduce hospitalizations through better follow-ups in primary healthcare [4]. Increased investment in new equipment generates positive outcomes, such as detailed diagnoses, successful treatments, and effective disease prevention that improve performance, including the economic performance of organizations [13].

The fact is that, due to the analytical difficulties in measuring cause and effect, few studies establish, in an indisputable way, the link between health system expenditure and health outcomes [14]. A recent literature review on this link concludes that increased spending in health systems reduces mortality rates [15].

A key issue for investment in health promotion and disease prevention is the time horizon over which benefits, and costs incur and how this is addressed in economic evaluation. Unlike many interventions to treat health problems that usually have fairly immediate impacts, the benefits of many promotion and prevention interventions can take several years to generate and evaluate.

Health promotion thus includes the accountability of the policy decision and the reorientation of services, based on individuals as the main health resource and the community as the main representative in terms of health, living conditions, and well-being [16].

We understand, therefore, the need for investment, also, in policies that can correct the asymmetries that result from social ties, which inherently place limitations on living conditions.

3. Methodology

The research method is a Literature Review in the SCOPUS database. The SCOPUS database was used for source selection. It represents the largest database of abstracts and citations of peer-reviewed literature because it presents an expressive amount of titles and thus provides a comprehensive picture of research production. Data collection took place on May 05, 2021. Among a set of options for choosing articles, we opted for a model in which

the best alternatives are chosen, a series of techniques and methods that support decision-making, when a multiplicity of criteria is present.

Multi-attribute utility theory (MAUT) is one of the main analytical tools associated with the field of decision analysis [17]. The SMARTER method was selected here for its pertinent adaptation to situations where there are few criteria to be used and for employing simple modeling, analysis, and weighting techniques. Application of the SMARTER method occurs at the study evaluation and selection stage [18] and can vary according to several criteria [19] [20][21].

Article Selection

To explore the SCOPUS database, the initial search included the keywords "preventive, health, investment," in the field "Article title, Abstract, Keywords," with the addition of the search "and," limiting the search on the keywords extracted from the literature review with the result displaying 1,211 articles. Not all documents were in English and editorial letters were excluded from the study. Of the 1,211 articles originating from the search in the SCOPUS database, 414 were excluded after content analysis for not having a connection with the thematic axis developed in this study, such as computerized systems networks, telecommunication systems, psychoeducation, among others, which culminated in 797 articles, which were submitted to the methodology using SMARTER (Figure 1).

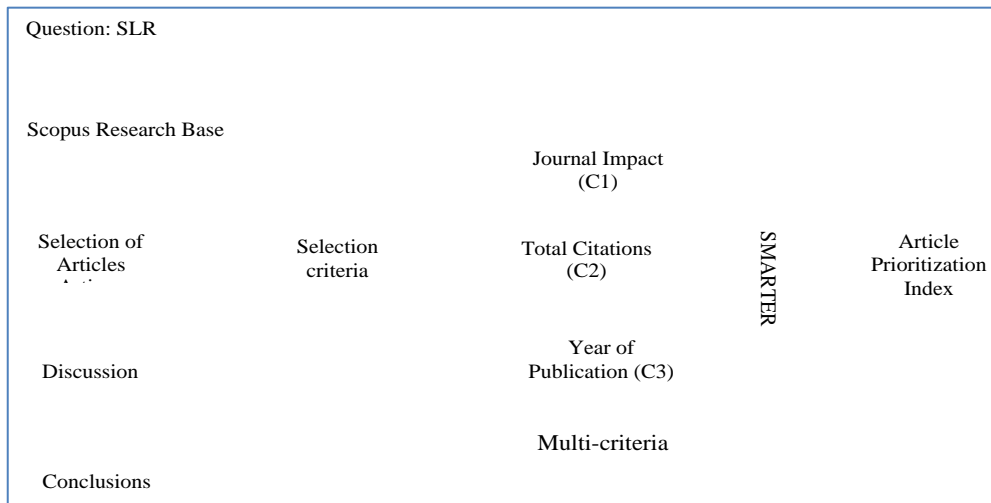


Figure 1. Article selection methodology using SMARTER. Source: Adapted from Keeney and Raiffa (1976)

Inclusion Criteria

The decisions, when establishing inclusion and exclusion criteria, are documented and justified [22][23]. Equally important are the goals of the systematic review which are usually part of the selection and inclusion criteria of the investigation [23]. In the SMARTER steps, the relative importance of the criteria and the corresponding weights are requested according to their relative importance (exploration of criteria ordering). The centroid method assigns weights whereby: *W1* is the weight of the most important objective, *W2* is the weight of the second most important objective, and so on consecutively. For the *K* objectives, we have

Equations 1, 2, and 3, the importance of the respective criteria, being the total sum of the weights equal to 1:

$$wI = (1 + 1/2 + 1/3 + \dots + 1/k) / k$$

The steps of the SMARTER method are presented [24]:

Step 1: Objectives and decision-maker: the model aims to sort article alternatives to select the state of the art.

Step 2: The hierarchy of defined attributes will value the alternatives/actions.

Step 3: Articles (alternatives): List of alternative articles to be ordered and used for the application of the proposed model. Alternatives generated in the SCOPUS database with the keywords "preventive, health, investment."

Step 4: Evaluation Objects by Attribute Type (Table 1): $n = 797$ potential article alternatives (A_n) per $m = 3$ criteria (C_m) for analyzing the alternatives described in the previous step.

Table 1. Example of the evaluation table

Articles (n)	C1 (CiteScore 2019)	C2 (No. Citations)	C3 Time (Publishing Year)
A1	0.85	5	1965
A2	3.14	126	1976
A3	0	0	2015
...			
A797	1.11	33	2021

Source: Prepared by the authors.

The criteria are shown in [Table 2].

Table 2. Criteria description

Criteria	Description
C1 Periodicals	Journals in the SCOPUS database with the highest impact.
C2 Citations	A total number of citations of the article in SCOPUS.
C3 Time	The year in which the article was published, can be the oldest to analyze the history (past) of publications or the most recent to analyze trends (future).

Source: Prepared by the authors.

Step 5: Analyze the values of the criteria obtained by excluding the least-valued alternative. Articles from Conferences, Symposia will also be excluded from the study.

Step 6: Valuation according to criteria analysis. The criteria CiteScore C1 and several citations C2 are maximization functions (the higher the value, the higher the utility). Criterion C3, Time, seeks to evaluate performance using a qualitative scale [Table 3]. The weights used are based on the rank order centroid (ROC) defined by [25].

Table 3. Valuation according to criteria analysis

Function	Definition	Weights
C1	Journal CiteScore (2019)	
	4.01 or more	0.5208
	2,01 – 4.00	0.2708
	1.01 – 2.00	0.1458
	0 – 1.00	0.0625
C2	Number of citations	
	21 or more	0.4567
	11 - 20	0.2567
	4 - 10	0.1567
	1 - 3	0.09
	0	0.04
C3	Criterion Time (publication year)	
	2015 - 2021	0.4083
	2005- 2014	0.2417
	1995 - 2004	0.1583
	1985 - 1994	0,1028
	1975 - 1984	0.0611
	1965 - 1974	0.0278

Source: Prepared by the authors based on Roberts and Goodwin (2002)

Step 7: Order of attributes: define the order of importance of the attributes according to the decision maker's judgment [Table 5].

Step 8: Use of ROC weights (for three attributes)– predetermined values called ROC weights (Rank Order Centroid weights), developed by Baron and Barrett [26] for the weights [Table 4].

Table 4. Sorting of attributes by relevance and ROC weights, pre-defined

Order of attributes	1	2	3
	Periodicals (C1)	Quotes (C2)	Time (C3)
Weights	W1 (attribute 1)	W2 (attribute 2)	W3 (attribute 3)
	0,6111	0,2778	0,1111

Source: Prepared by the authors, based on Baron and Barrett (1996).

Step 9: Decision: calculation of all multi-attribute utilities:

$$U_j = \sum_k . w_k . u_{jk}$$

From the results, the articles are ordered and a rank is established with the multi-attribute utilities and the choice of those with the highest scores to be included in the study. Articles with a rank of less than 0.500 were excluded. This process is continued until all criteria have been evaluated and it is possible to rank them according to the evaluation of the consequences resulting from the "swing of the weights." The articles were chosen according to the ROC score, above 0.4010, selecting the articles with the best performance within this concept. Within this context, the article whose ROC score was demarcated 41 years since the publication date, is dated 1980 [27], culminating in the selection of 96 articles.

The keyword co-occurrence network [Figure 2], extracted from the VOSviewer software, reveals that each link has a strength, represented by a positive numerical value. The higher this value, the stronger the link and, in this case, indicates the number of publications in which two terms occur together. Thus, the areas listed (after reading and content analysis of the studies) where the keywords coexist most are confirmed, forming three clusters, which

were named: public health (in red), economic value (in green), and health prevention (in blue).

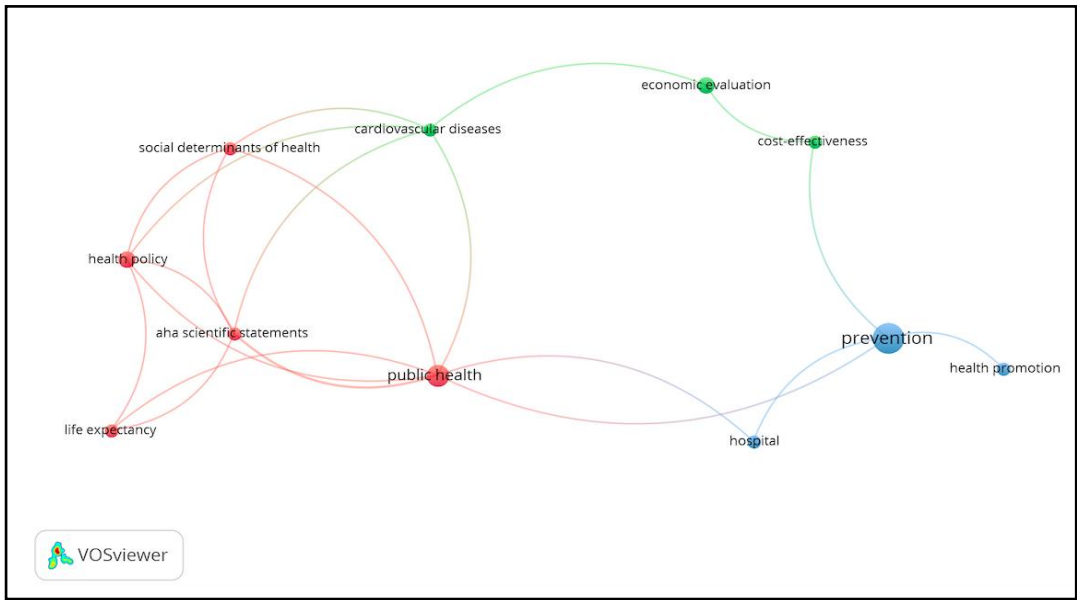


Figure 2: Keyword co-occurrence, extracted from VOSviewer. Source: Prepared by the authors.

4. Results and discussion

The 96 articles, included in this study between 1980 and 2021, are distributed according to the continent of origin, shown in Figure 3, which incorporates the 41-year timeline. The distribution of articles according to the continent is since numerous articles referenced several countries. The largest contingent of articles is located in North America (United States and Canada) with 31.25% of the total articles, 27.08% of the studies were conducted in African countries (North, West, and Sub-Saharan Africa), 19.79% in European countries (Germany, Belgium, France, Denmark, Spain, Netherlands, England, Italy, Portugal). Asian countries (12.5%) are represented by China, Bangladesh, Malaysia, and Pakistan. Central America (Cuba) and South America (Brazil) represent 5.21% of the total studies, followed by Oceania (4.17%) represented by Australia and Tahiti.

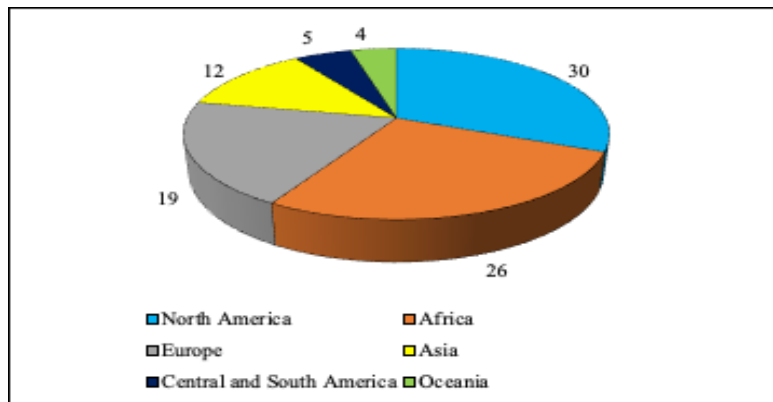


Figure 3. Quantity of articles distributed per continent

With the macro intent of analyzing the relationship between humanization and preventive care and how these affect the economy or not, the 96 articles were stratified according to the types of care identified (curative, preventive, and mixed) and the type of approach inserted (economic or social). The largest contingent of articles listed (67.71%) is crowded into preventive care; of these, 35.42% address the social component and 32.29% the economic one, as presented in [Figure 4].

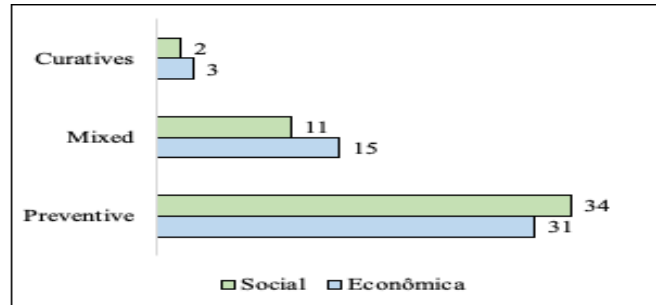


Figure 4: Quantity of articles according to the type of care and approach

Combining the objective of analyzing the issue of prevention in health with a focus on humanization and social and economic impacts on the countries, the studies were segregated [Table 5] into three dimensions, according to the type of care identified.

To meet the objective of this study, to analyze the context of preventive care and the implications for a humanization and the economic and social effects, the investigations that make up this theme are described below. The largest number of publications is in the preventive care field, with a similar magnitude between the economic and social approaches (32.29 and 35.42%, respectively). This fact points to the concern of researchers with approaches that maximize access to curative care.

Preventive care, impact on humanization, and economic and social impacts

Cost-benefit analysis can provide strong evidence of the viability of different health programs [Table 5]. In the case of immunizations, the main components of program costs are staff salaries, transportation costs, and the cost of the vaccine. The main benefits include savings in treatment costs following reductions in disease incidence, reductions in mortality and morbidity, prevention of suffering for children and their families, and indirect benefits [28]. Prevention programs aimed at improving care for patients not only reduce the loss of quality of life but also provide a financial return on the investment of public funds [29].

Public policies aimed at protecting the environment also have significant health effects, although, in terms of health demand, one cannot necessarily expect a reduction in resource use [30]. The Cuban experience demonstrates the influence of ideological commitment and policymaking on healthcare delivery and challenges the assumption that high-quality care for all citizens requires massive financial investment, given that Cuba's health policy emphasizes prevention, primary care, services in the community, and active citizen participation [31]. Conversely, the study by Wang and Huang [32] aim to find the optimal proportion of preventive health expenditures in Gross Domestic Product (GDP) and investigate the implications of preventive health services on economic performance and population well-being. The authors' findings indicate that it is worthwhile to increase investments in prevention to an optimal level for economic development and social welfare.

The costs of alternative measures aimed at disease prevention should not be perceived as a barrier, but rather as an opportunity to optimize production practices for sustained productivity and improved health [33][34][35]. A study by Huang et al. [36] demonstrates the benefits of optimizing the vaccine supply chain by replacing community vaccine storage with a central facility where benefits were found in reducing transportation costs to the health stations and community health centers while strengthening the professional skills of health workers at all levels [37]. Such factors point to the need to strengthen, expand and support public health programs [38]. In many government programs, the return on investment and cost-benefit of preventive approaches can prevent thousands of premature deaths and accrue substantial net economic benefits [39][40][41]. Greater use of preventive measures can reduce future costs at a time of great cost pressures in the NHS [42][43][44][45].

Kapur and Hod [46] report that an integrated approach to population health, disease surveillance, and preventive care will dominate the health agenda in the post-COVID-19 world and add that the vulnerability imposed during a health crisis, prevention and care for noncommunicable diseases will need to be prioritized even more. Findings by Bakhtiari et al. [47], advocate for more investment in mass and social media campaigns to promote a healthy diet, and avoid tobacco use, as well as including some effective preventive clinical interventions in the national action plan, along the long road to combat noncommunicable diseases and ultimately achieve sustainable health development [48].

For socioeconomic growth, as well as a robust, entrepreneur-friendly economy, broad plans are needed for businesses to be sustainable [49][50], including databases for investigations. Nugent et al. [39] noted several potential obstacles to such analytics platforms, including limited data interoperability, data acquisition expense, and a lack of standardized technical terminology for social and behavioral factors.

Ruiz et al. [51] present strategies to address the barriers to implementing community-based disease prevention programs and identify the main barriers to their success as being issues of scale and complexity, an adaptation of the model to a "community" without geopolitical boundaries or infrastructure; linguistic and cultural diversity, and the sustainability of the program in a poor community, among others. For Kottke et al. [52], a system of preventive services needs to systematically determine which patients potentially need the services, must advise such patients that action is indicated, and describe the benefit of the services in terms that are meaningful to the patient, and empower and assist each patient in how to take action.

Table 5. Articles summarized by type of care and approach, according to authors and year of publication

Type of care	Type of approach	Articles (n=96)	Frequency (%)	Author (year of publication)
Preventives	Economic	31	32.29	Creese & Henderson, 1980; Iatridis, 1990; Javitt et al., 1994; Erbsland, Ried & Ulrich, 1995; Assal, 1995; Yang et al., 2017; Kamsu et al., 2016; Wang, Wang & Huang, 2016; Hellings et al., 2017; Tsiachristas et al., 2017; Fox et al., 2017; Botwright et al., 2017; Neumann et al., 2017; Collineau et al., 2017; Gu, Mohit & Muennig, 2017; Niederman et al., 2017; Shafie et al., 2017; Turner et al., 2017; Nugent et al., 2017; Chuang et al., 2017; Ramos, Arezes & Afonso, 2017; Thompson & Badizadegan, 2017; Huang et al., 2017; Herzel et al., 2018; Klein et al., 2018; Ruiz et al., 2019; Kapur & Hod, 2020; Sim et al., 2020; Bakhtiari et al., 2020; Hastrup et al., 2020; Mofijur et al., 2021.
	Social	34	35.42	Okun, 1988; Shea et al., 1992; Kottke, Brekke & Solberg, 1993; Tulloch & Richards, 1993; van den Oever et al., 1993; Walsh et al., 1994; Hazzard, 1995; Cheney & Merwin, 1996; Maitland, 2016; Engelman et al., 2016; Ozawa et al., 2016; Anya et al., 2016; Carole et al., 2016; Montresor et al., 2017; Redekop et al., 2017; Hamilton et al., 2017; Ortiz & Neuzil, 2017; Rutter et al., 2017; Prada et al., 2017; Tarján et al., 2017; Yé et al., 2017; Chuang et al., 2017; van de Burgwal et al., 2017; Audet et al., 2017; Shogren, Harsell & Heitkamp, 2017; Diop et al., 2017; Mangen et al., 2017; Orenstein et al., 2017; Hlasny, 2017; Gaskin et al., 2019; Angell et al., 2020; Shand et al., 2020; Green, Sanders & Tarte, 2020; Kalkowska & Thompson, 2021.
Mixed	Economic	15	15.63	Cross et al., 1986; Michaud & Murray, 1994; van Soest et al., 2016; Juengst et al., 2016; Fekadu et al., 2016; McConnell et al., 2017; Chambers et al., 2017; Woodall et al., 2017; De Souza, 2017; Wang et al., 2017; McRobie et al., 2017; Boeras, Nkengasong & Peeling, 2017; Upadhyayula et al., 2018; Predmore, Hatf & Weiner, 2019; Blue Bird Jernigan et al., 2020.
	Social	11	11.46	Corsello et al., 2016; França et al., 2016; Dicianno et al., 2016; Rabbani et al., 2016; Agyepong et al., 2017; Ansumana et al., 2017; Adua et al., 2017; Michael et al., 2017; Gunda et al., 2017; Eregata et al., 2019; Warner et al., 2020.
Bandages	Economic	3	3.13	Williamson, 1980; Founou, Founou & Essack, 2016; Howard et al., 2020.
	Social	2	2.08	Siqueira et al., 2017; McDonald, Campbell & Strang, 2017.

Wang et al. [32] emphasize the cost-effectiveness of programs aimed at minimizing maternal and infant mortality in the perinatal period and conclude by stressing the importance of low-cost, feasible, and effective intervention strategies, such as improved family planning services, obstetric care at delivery, and prenatal services. Personal investments in healthy living, along with social investments in a safe and healthy environment are conducive to successful aging [53].

There is a need for investment in professional development strategies that can increase the expertise of teams to improve family health prevention to achieve the intended health outcomes more effectively [54]. Training is an important investment for better utilization of valuable and scarce resources to be used in preventing the spread of disease [55].

We cannot overlook that child mortality is one of the most pressing global health and political issues in the developing world. The 1990 World Summit for Children set targets of reducing child mortality from diarrhea by 50% and acute respiratory disease mortality by 33% by the year 2000 [56], yet today the leading causes of death—pneumonia, diarrhea, and malaria—are still preventable and treatable. However, these diseases are exacerbated by a lack of affordable nutrition, water, basic and preventive health services, and sanitary living conditions [57]. Policymakers should allocate adequate investments in medical, educational, and health infrastructure and better coordinate support for disadvantaged households to ensure adequate prevention of preventable noncommunicable diseases [58]. Combining multiple data sources, considering the potential contributions of key and proximate contextual factors, and conducting subnational analyses allow for the identification of plausible contributions to morbidity and mortality control interventions [59].

Ortiz and Neuzil [60] address the need to review the maternal influenza immunization strategy and point to the need for further evaluation of the value of the investment in terms of public health, to strengthen prenatal care systems. Furthermore, it becomes imperative that countries conduct detailed planning at the national and district levels to define a sustainable strategy for immunization programs to achieve the optimal balance between coverage and the cost of immunization programs [61][62]. This evaluates post-campaign coverage as increasingly relevant to correctly assess future outbreak risk [63][64][65]. Estimating the value of an overall investment in immunization programs is critical to help decision-makers plan and mobilize immunization programs and allocate the resources needed to obtain their full benefits [66][67][68]. The success of immunization programs has been associated with increased immunization spending and related improvements, especially in the areas of micro-planning, service delivery, program management, and capacity building; however, continued efforts are needed to mobilize international and domestic support to strengthen and maintain high-quality immunization services [69].

Countries should follow the recommendations of the World Health Organization, the World Organization for Animal Health, and the Food and Agriculture Organization of the United Nations to implement national action plans covering the human, animal (food), and environmental sectors [70] to improve policies, interventions, and activities that address prevention, with less focus on the curative approach, while looking at economic and social feasibilities.

Socioeconomic inequalities in health persist despite large investments in disease prevention campaigns and universal healthcare systems. Poor living conditions undermine personal investment in preventive health, showing the importance of policymakers taking into account the determinants of health [72].

The studies involved in this literature review seem to show that prevention and health promotion are still incipient in many countries. The lack of evidence, as well as the great difficulty in demonstrating, in practice, the return on investment in health may be one of the major conditioning factors of this investment. We expect health policymakers to be more proactive, trying to demonstrate that, in addition to improving the population's health, health systems have favorable direct and indirect economic effects, in a thoughtful and structured investment. A strong economic argument for investment in health promotion and disease and

injury prevention involves labor market participation and combating social inequalities, corroborating the findings of different authors [49][54][73].

4. Conclusion

After this reflection, we came to the understanding that it is urgent to analyze the added value resulting from work in partnership with other sectors of society from the point of view of investment in health, namely in housing, education, social assistance, and justice, and how much these partnerships can help increase investment in prevention and health promotion, thus reducing social costs and the cure itself.

The need for concerted initiatives to improve health and well-being has been realized, as almost everything in modern society promotes sedentary and unhealthy lifestyles and a lack of basic infrastructure, especially in low-income countries. With an appropriate allocation of health expenditures, the population can become healthier and have stronger human capital, thus contributing to economic growth by increasing productivity and decreasing future demand for health.

This study uses the SMARTER method for selecting articles to be analyzed, contributing in an innovative way to searches and choices of articles for SLR in databases. A possible limitation of this study lies in the fact that the search was conducted in only one database, SCOPUS, and may be expanded to other databases in future studies.

To complement the findings of this study, some suggestions for future research are presented, based on the analyses carried out: (i) perform studies involving investment analysis, including return time, in different segments of preventive healthcare, (ii) focus on research that will lead to new preventive health measures, in addition to the existing ones (childhood vaccination, anti-smoking, others), (iii) identify potential shared goals and objectives, and highlight situations where health and other sectors benefit from investing in prevention e, (iv) combine public health with social marketing approaches to humanize the potential beneficiaries of preventive public health interventions.

As a contribution, this study points to the relevance of the policies employed by the Public Administration, which sometimes spends large sums of financial resources to treat diseases instead of focusing on preventive care that, in the medium and long term, will reflect in the country's economy and the improvement of the population's health. This study did not address possible environmental impacts that may influence preventive health investment decisions, becoming a topic also relevant for future investigations, contributing to the sustainability of organizations. The difficulty in demonstrating, in practice, the return on investment in health may be one of the main conditioning factors of this investment suggesting that further research can contribute to better understanding and expanding the body of knowledge. The analysis also focuses on different ways in which prevention-based health care can contribute. The form of investment adds not only basic care such as immunization programs and community health prevention programs, but also portrays the relevance of investments in the medical educational structure, and reveals the importance of low-cost, feasible, and effective intervention strategies.

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