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# Healthy housing, sustainable city and interlocution between science and society.

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#### **ABSTRACT**

COVID-19 provided important reflections about the organization of cities and housing, its influence on health and the need for us to act towards the construction of a more sustainable world with fewer inequalities. This paper aimed at analyzing the relationship between health, housing and sustainability, and how these themes are interconnected and related to the Sustainable Development Goals (SDG) set forth in the 2030 Agenda. This is a study of a theoretical and conceptual nature with a qualitative approach, conducted by means of a bibliographic review. The analysis of 15 articles selected enabled the elaboration of three categories: the first addresses the housing-health connection; the second, in a more macro scale, analyzes the relationship between city, health and sustainability; and the third highlights the relevance of participative processes to strengthen public policies. The relevance of analyzing the 'health of housing and cities' in an interdisciplinary and intersectoral way was evidenced, considering the various environmental, social, cultural, economic and political determinants, among others, and their connections towards sustainability, and health as cross-sectional to all SDGs, which requires strengthening of healthy public policies. It is ethically imperative to create and expand spaces for dialog to qualify public policies in the interface of the health, environment and urban planning areas, as well as to face situations of socioenvironmental vulnerability and health inequalities. The current scenario of the COVID-19 pandemic reinforces this evidence and requires greater approximation between science, politics and society.

KEYWORDS: Healthy housing. Sustainable development. Social participation.

#### 1 INTRODUCTION

COVID-19, a disease caused by the new coronavirus (SARS-CoV-2) and declared a pandemic by the World Health Organization (WHO) at the end of the first trimester of 2020, shed light on the main social problems of the 21<sup>st</sup> century. For António Guterres, General Secretary of the United Nations (UN), COVID-19 has created an opportunity for us to reflect and act towards the construction of a more sustainable world with fewer inequalities, through a New Social Contract and a New Global Deal. For him, the construction of a new world must, among other things, promote social security policies, especially through universal health coverage and attain, in the next ten years, the Sustainable Development Goals (SDGs) (GUTERRES, 2020).

In addition to that, in the face of the increasing complexity associated with the current socio-environmental and health demands, Gibbons (1999) had already warned us about the need for a new social contract of science with society, more transparent and participative, with expansion of spaces that produce science and establishment of new communication channels, encouraging society to internalize responsibilities.

In this same direction, proposed by the UN in 2015, the 2030 Agenda points out 17 objectives and 169 goals so that, with the global effort of nations around the planet, it is possible to attain, until 2030, a more sustainable development model in the economic, social and environmental dimensions (UN, 2015).

In addition, when considering that the health of individuals and social groups is associated with the different situations in which people are born, grow up, live and age, that is, the social, spatial and environmental determinants of health (CNDSS, 2008), the need to understand it in a broad and comprehensive manner is evidenced, beyond the individual biological factors, also paying attention to various social, economic, cultural, ethnic/racial, psychological and behavioral aspects, in addition to the spatial and environmental aspects with influence on health, which can become risk factors for the population and expand situations of vulnerability (CARMO and GUIZARDI, 2018).

Therefore, when analyzing the multidimensional character of the 17 SDGs, which dialog with issues such as poverty and hunger, access to water, sanitation and energy, urban structures, environment, education, leisure, culture, work and employment, among others,

ISSN 1980-0827 - Volume 17, número 2, 2021

and by understanding health as a result of socio-spatial determinants at different scales, the pertinence is verified of a cross-sectional approach, of the health theme, to the 17 Goals set forth in the 2030 Agenda.

It is also considered relevant to rescue data from the United Nations (UN), which already pointed out that, until 2018, nearly 55% of the world population would live in urban areas, and that until 2030, such percentage will rise to 60% (UN, 2018). In addition to that, it is estimated that the 440 cities that most grow in countries with emerging economies will account, on their own, for almost half of the entire world economic growth until 2025 (WORLD BANK, 2013).

Regarding this aspect, it is to be noted that, for Celso Furtado, growth and development are different concepts, and the former is not conducive *per se* to the latter. According to him, development of the economy of peripheral countries like Brazil would be associated with overcoming underdevelopment, which would only occur if the expansion in capital accumulation and the advances of the productive forces generated "transformations in the social structures capable of significantly modifying income distribution and the destination of surplus" and were committed to an effective improvement in the living conditions of the population (FURTADO, 2016, p.37). For the author, it has long ago been evidenced that the hegemonic production and consumption modes cause irreversible harms to the environment (FURTADO, 1974).

Thus, public policies aiming at health promotion must involve access to basic sanitation and adequate urban services, including health, as well as decent and well-located housing, transportation, education, culture, qualified environment and, consequently, sustainable development, understood in a broad and multidimensional manner, therefore having people's health and well-being as central elements.

In this urban context, we must also add the results of a study developed by the WHO in 2011 that analyzed the impacts on people's health related to the housing conditions in European countries and estimated that people remained in their houses for a mean of eight hours a day (WHO, 2011). This mean can even be higher in developing countries, due to issues linked to unemployment and to the distribution in the population's age groups. In addition to that, at the current moment of the COVID-19 pandemic, the WHO recommends that, to reduce the speed of virus transmission, in addition to frequent hand washing, people comply with social isolation, remaining at their homes as much time as possible (WHO, 2020).

Therefore, healthy practices which provide quality of life and prevent emergence and proliferation of diseases have been for a long time summarized as good eating habits, regular practice of physical exercise and other basic health care actions. However, in the last decades, various studies were conducted to identify the determinants and conditioning aspects of health in a broader way and to understand how they can contribute to its promotion, highlighting the environment in which people live and how the physical and environmental conditions of the city and housing itself can directly influence the health of their residents (SHARPE et al., 2018).

ISSN 1980-0827 - Volume 17, número 2, 2021

#### **2 OBJECTIVES**

This paper aimed at analyzing how the themes of health, housing and sustainability are related to each other and how they are connected to the Sustainable Development Goals (SDGs) set forth in the 2030 Agenda.

#### **3 METHODOLOGY**

This is a theoretical and conceptual study, based on a qualitative approach, and conducted by means of a bibliographic review, supported on the themes of health, housing and sustainability. For Severino (2017), this process evaluates what has already been produced on the subject matter, with the contribution that the research can offer to knowledge of the object under study starting from that point.

Searches were conducted in the *Scientific Electronic Library* (Scielo) and *Ebsco Information Services* (Ebsco) electronic databases, based on the following descriptors: "saúde" and "sustentabilidade", "habitação" and "saúde", "habitação" and "sustentabilidade", in the Portuguese and English languages. The inclusion criteria defined to select the publications that would be analyzed were as follows: articles published since 2016, as this research aims at analyzing the connections of these themes both with each other and with the SDGs set forth in the 2030 Agenda; articles published in Portuguese and English available in full; and, based on the reading of titles and abstracts, those who best met the objectives of this research.

The organization, presentation and analysis of the publications selected occurred in a descriptive way, enabling the construction of analysis categories which gathered the diverse knowledge produced based on this bibliographic review.

#### **4 RESULTS**

Initially, the search for publications in the Scielo and Ebsco databases based on the descriptors and the search period defined resulted in 373 articles. Of these, and based on the inclusion criteria, 15 articles were selected. Chart 1 below presents specifications of these articles.

Chart 1 - Articles selected for analysis in this bibliographic review

Database	Titles	Authorship and year	Journal	Theme
Scielo	Urban environment quality	DELSANTE, Ioanni. (2016)	Ambiente	Methodology for the
	assessment using a		Construído	analysis of urban
	methodology and set of			quality
	indicators for medium-			
	density neighborhoods			
Scielo	Mapeando iniciativas	FREIRE, Maria do Socorro	Ciência & Saúde	Health promotion
	territoriais saudáveis, suas	Machado; SALLES, Rosane	Coletiva	projects
	características e evidências	Paula de Senna; SÁ, Ronice		
	de efetividade	Maria Pereira Franco de.		

ISSN 1980-0827 – Volume 17, número 2, 2021

		(2016)		
Scielo	Habitação e saúde	PASTERNAK, Suzana.	Estudos	Criteria for a healthy
		(2016)	Avançados	housing
Scielo	Política de promoção da	SPERANDIO, Ana Maria	Ciência & Saúde	Brazilian guidelines
	saúde e planejamento	Girotti; FRANCISCO FILHO,	Coletiva	for urban planning
	urbano	Lauro Luiz; MATTOS,		
		Thiago Pedrosa. (2016)		
Scielo	Objectives of sustainable	DJONÚ, Patricia <i>et al</i> .	Ambiente &	Sustainable
	development and conditions	(2018)	Sociedade	Development Goals
	of health risk areas.			
Scielo	Promotion of health,	JESUS, Viviane Silva de <i>et</i>	Revista	Health promotion by
	sustainability and social	al. (2018)	Brasileira de	means of an action-
	development of a vulnerable		Enfermagem	research project
	Community			
Ebsco	Governing 'Sustainable	SCHELLER, David; THÖRN,	International	Social participation
	Urban Development'	Hakan. (2018)	Journal Of	in the Sustainable
	Through Self-Build Groups		Urban And	Urban Development
	and Co-Housing		Regional	project
			Research	
Ebsco	Making the Case for "Whole	SHARPE, Richard et al.	International	Healthy housing
	System" Approaches	(2018)	Journal Of	interventions
			Environmental	
			Research And	
			Public Health	
Scielo	Na ausência de endereço,	CASTELANELI, Isabeli	Saúde em	Housing and health
	onde mora a saúde?	Karine Martins et al. (2019)	Debate	conditions
	Determinantes sociais e			
	populações de ocupações			
Scielo	Habitação saudável e	COHEN, Simone Cynamon;	Saúde em	Criteria for healthy
	biossegurança	CARDOSO, Telma Abdalla	Debate	housing
		de Oliveira; NAVARRO,		
		Marli Brito Moreira de		
		Albuquerque; KLIGERMAN,		
		Débora Cynamon. (2019)		
Scielo	Nexos de exclusão e desafios	GIATTI, Leandro Luiz et al.	Cadernos de	Cognitive and social
	de sustentabilidade e saúde	(2019)	Saúde Pública	exclusions
	em uma periferia urbana no			
	Brasil			
Ebsco	Housing-Based Health	HERNÁNDEZ, Diana. (2019)	American	Health promotion in
	Interventions: Harnessing		Journal Of	collective housing
	the Social Utility of Housing		Public Health	
	to Promote Health			0 111
Scielo	Proposta de um indicador de	FERENTZ, Larissa Maria da	Análise Social	Quality and well-
	desenvolvimento sustentável	Silva; GARCIAS, Carlos		being
	com base na qualidade de	Mello; SETIM, Leana		
C-1-1	vida, bem-estar e felicidade	Carolina Ferreira. (2020)	Covida	Containabl
Scielo	Na contramão dos objetivos	GUIMARÃES, Édson;	Saúde e	Sustainable
	do desenvolvimento	FERREIRA, Maria Inês.	Sociedade	Development Goals
6	sustentável	(2020)		11 11
Scielo	Círculos de cultura sobre	SANTOS, Francisco Nilson	Revista Gaúcha	Health promotion
	determinantes	Paiva dos; TOLEDO, Renata	de Enfermagem	and social
	socioambientais	Ferraz de. (2020)		participation

Source: The authors, 2021.

ISSN 1980-0827 - Volume 17, número 2, 2021

Among the articles selected for analysis, 9 were published in health care journals, 2 in the architecture and urbanism area, 1 in sociology and 1 one of them in an essentially interdisciplinary journal, which is evidently related to the descriptors used in this research and selection criteria, although it also shows that the environmental issue has been addressed in the interface with these areas.

Reading and analysis of these articles selected enabled the elaboration of three categories: the first addresses the presence of the housing-health connection; the second, in a more macro scale, analyzes the relationship between city, health and sustainability; and the third highlights the relevance of processes for the participation and engagement of the local population to strengthen public policies.

#### 4.1 Housing and health

Understanding health promotion through housing quality goes far beyond placing people in healthy houses. This is the approach of the publication by Sharpe *et al.* (2018), in which the authors advocate the need to consider all the aspects related to housing, from the physical aspects of the building and the factors linked to the individual's ability to access and maintain healthy housing, to broader characteristics of the place where the house is located and the level of community experience that this provides. Therefore, it is considered that health promotion, by integrating these factors, requires continuous development of the community and of the public policy managers.

The survey by Castelaneli *et al.* (2019) investigates Social Determinants of Health (SDHs) in diverse places in the municipality of Campinas, inland of the state of São Paulo. For the residents interviewed in this research, many factors linked to the physical structure of the houses, both related to sanitation, habitability and watertightness and to the urban cluster infrastructure, directly contribute to the worsening of health problems. In addition to that, access to the health services is described as difficult. Another important factor highlighted by the authors is the effect of violence and of discrimination on the self-esteem and mental health of the residents.

Another study focused on housing, authored by Cohen, Cardoso, Navarro and Kligerman (2019), investigates strategies for the analysis of risk factors internal and external to the environment built. The authors advocate an articulation between biosafety and healthy housing, having the elaboration of a checklist as a common point for the analysis of housing quality, according to these two perspectives. This checklist must include physical, sociocultural, technical-sanitary and psychological aspects of the environments: factors such as balanced neighborhood; functionality, rationality and flexibility of the space; quality and durability of the building; safety; urban habitability; and accessibility. The idea is that the strategies are used in a complementary way, enabling that the assessment, planning and execution of spaces directed to housing promote health, safety, well-being and environmental quality. In Brazil, the demand for housing of social interest and the large number of self-built houses (which can be consolidated and qualified) can be opportunities to verify this articulation, and enable the adoption of strategies aligned to the Sustainable Development Goals.

ISSN 1980-0827 - Volume 17, número 2, 2021

An expanded look at housing, in addition to its physical structure, is also the theme in the research by Hernández (2019). According to the author, health promotion actions in the residential environment can attain better results if their action focus is expanded to socioenvironmental aspects related to housing, complementing the physical aspects, encompassing actions, in particular, that seek the strengthening of social practices in the public or collective spaces of the settlements (where people in a situation of economic vulnerability generally live). This strengthening can promote greater community support among the residents, with the possibility of involving several generations. In addition to housing of social interest, stable community institutions, such as schools and churches, are important reference points in people's daily life and may offer an important basis for health promotion policies.

Contributing to the debate on adequate housing, in her research, Pasternak (2016) points out the presence of two groups of precarious settlements, for which the public policies must offer different responses. The first group comprises settlements whose houses present inadequacies, related to the minimum characteristics capable of providing comfort, safety and promoting their residents' health, and that can be corrected through alterations; and the second, whose inadequate houses cannot be improved by means of any alteration, requiring that their residents seek new housing. The housing-health relationship and the criteria pointed out by the author so that housing promotes balance in this relationship are analyzed in four dimensions, namely: house and communicable diseases; house and physiological needs; house and domestic accidents; and house and mental health.

#### 4.2 City, health and sustainability

In a more macro scale of the cities, this health-environment relationship, or between health and sustainability, is also present in articles of this review, analyzing approximations between public health and urban development policies, proposing and validating indicators, even relating them to the Sustainable Development Goals (SDGs), among other aspects.

The publication by Sperandio, Francisco Filho and Mattos (2016) highlights studies that have been carried out since 2012 by the Laboratory of Urban Research (*Laboratório de Investigações Urbanas*, LABINUR) at the Civil Engineering, Architecture and Urbanism School of the State University of Campinas (*Faculdade de Engenharia Civil, Arquitetura e Urbanismo, da Universidade Estadual de Campinas*, FEC-Unicamp), in order to identify convergences between urban planning and health promotion, enabling social projects and practices that promote health and quality of life, expanding and reinforcing the interdisciplinary role of the University in the construction of new methodologies to share common knowledge and interests. The authors verified that the City Statute and the National Health Promotion Policy (*Política Nacional de Promoção da Saúde*, PNPS) provide important guidelines for public managers who seek a healthy city.

In the publication by Ferentz, Garcias and Setim (2020), the authors describe a pilot study to prepare a Sustainable Development Indicator (SDI) for the city of Curitiba, state of Paraná, formulated based on the World Health Organization Quality of Life Scale - Abbreviated version (WHOQOL-BREF), the Urban Well-Being Index (Índice de Bem-Estar Urbano, IBEU), and the Gross Domestic Happiness (Felicidade Interna Bruta, FIB) index. The Curitiba SDI proposed overcoming the limits of statistical data, focusing on the population's perception about city life, in order to more effectively contribute to the elaboration of public policies and to the

ISSN 1980-0827 - Volume 17, número 2, 2021

adoption of measures by the managers and, consequently, more assertively to the solution of problems that directly affect the quality of life of its citizens.

Another research study that emphasizes the importance of indicators for more assertive environmental and urban management public policies was carried out by Delsante (2016), although valuing the objectivity of numerical data in this case. It describes the verification of a method capable of assessing the urban environmental quality in medium-density neighborhoods through 74 indicators, which assess from the quality of the landscaping views to the number of seats available in public transportation, as well as of expressing such quality in numerical values. In socio-environmental sustainability terms, applying methodologies like this can contribute to more lasting, coherent and objective actions by public managers, as they reduce subjectivity in the assessment process and enable long-term monitoring.

In the research by Guimarães and Ferreira (2020), the authors present the application of the Water Poverty Index (WPI) in *Colônia Leocádia* and *Ilha da Caieira*, located in the estuarine region of Rio de Janeiro, city of Macaé, RJ, with the objective of comparing the economic and environmental vulnerability conditions that characterize these places, in the light of SDGs 1 and 6, which are respectively related to eradication of poverty and to the guarantee of availability and sustainable management of drinking water and sanitation. For this research, some adaptations were made to the WPI so that, in addition to data on water poverty, it was also possible to collect data on economic vulnerability. The result showed that the unequal distribution of economic growth caused by the petroleum industry, population growth, illegal occupation of protected territories, real estate speculation and inefficient governmental inspection reflect the difference between the WPI patterns found in both places. For the towns studied, water poverty is directly related to economic vulnerability.

In this sense, the dynamics of urban life and its demand for natural resources indicate an imbalanced relationship, as the economic and social development model almost always disconsiders the sustainability factor and, in many dimensions, this disconnection between development and sustainability is directly and indirectly linked to the health status of urban citizens. For Guimarães and Ferreira (2020), consolidation of a way of life based on socio-environmental justice and on people's well-being requires two inseparable aspirations, namely: development and sustainability.

Another publication in which the analysis of the health-environment relationship is proposed from an integrated perspective for the Sustainable Development Goals is that by Djonú et al (2018). For the authors, although the 17 SDGs are integrated, indivisible and balanced in the environmental, economic, social and institutional dimensions, SDG 3, related to health, is presented in a relevant way and more directly connected to problems associated with eradication of poverty (SDG 1), food safety (SDG 2), basic sanitation (SDG 6) and reduction of inequalities (SDG 10) The research investigates the Sustainable Development Goals and health conditions in risk areas of the Mindará neighborhood, in the capital of African country Guinea-Bissau, through the application of 200 forms together with its residents to survey socioeconomic characteristics, health conditions and access to basic sanitation infrastructure, based on three main indicators: Disease Occurrence Index (DOI), Access to Health Services Index (AHSI) and Basic Sanitation Index (BSI). The results showed that the neighborhood has a precarious sanitation infrastructure, a high number of residents per house, low schooling and

ISSN 1980-0827 - Volume 17, número 2, 2021

income levels among the household heads, and a high infant mortality rate. These characteristics affect the health conditions and the goals set forth in SDG 3 and evidence that, in risk areas from poor countries, the implementation, management and scope of the SDGs are a bigger challenge when compared to other countries, as there is also the need to attain various SDGs, including those that involve more basic human needs.

Finally, the publication by Scheller and Thörn (2018) stands out in this category, which investigates how urban development presents opportunities to contribute to meeting some of the Sustainable Development Goals. Since 2003, Hamburg and Gothenburg, cities involved in urban restructuring processes, started to promote programs to support self-built cohabitation groups aiming at the promotion of sustainable urban development. By analyzing how this process occurs in both cities and how these projects dialog with the socioenvironmental issues, the authors faced a constant dispute for protagonism of the interests of the groups involved: municipal public administration, private initiative, and civil society (represented by the self-built cohabitation groups). In this dynamics, sustainability does not have a fixed meaning or objective. For the researchers, sustainability, in a concept more aligned with socio-environmental development, has more adherence to the interest of the self-built cohabitation groups; however, in these two cities, these groups claimed that the responsibilities attributed to them within the programs did not receive sufficient financial resources or training to actually enable meeting their objectives, with the private initiative interests more aligned with those of the municipal public administration therefore prevailing. As a result, some of the programs analyzed, although having attained some objective from the socio-environmental point of view, also result in gentrification.

It is clarified that the term "self-building" presented in this article by Scheller and Thörn (2018) refers to cohabitation projects where the processes are self-managed by the part of civil society directly involved, where many groups and entities participate in the program, Architecture firms among them; unlike the meaning in Brazil, where self-building is linked to houses built by the residents themselves without any technical-professional aid from architects or engineers.

In this perspective of acknowledging the relevance of processes for the participation and engagement of the local population to strengthen public policies in the interface of the health, environment, sustainability and urban planning areas, we find the publications analyzed in the category below.

# 4.3 Social engagement and participation in the health, environment and sustainability interface

The study by Freire, Salles and Sá (2016) mapped initiatives by healthy cities, municipalities and communities in the Brazilian Northeast region, and analyzed characteristics and evidence of these initiatives in twenty-three of the twenty-four cities that comprise the Pernambuco Network of Healthy Municipalities (*Rede Pernambucana de Municípios Saudáveis*, RPMS). After data survey and analysis, the researchers assessed that the most successful initiatives were those where: the local administration was engaged; the leaderships were committed; there was continuity of the actions proposed, external support and monitoring; engagement of the local population; existence of public policies; the methodology was facilitator; and where there was encouragement for training and/or research.

ISSN 1980-0827 - Volume 17, número 2, 2021

Appreciation of local knowledge and practices as enhancers of more effective public policies, in the health-environment interface, is also highlighted in the publication by Giatti *et al.* (2019) on the water, energy and food link. According to the authors, social practices in the urban vulnerability context of the Novo Recreio neighborhood, city of Guarulhos, metropolitan region of São Paulo, are established based on the scarcity and search for solutions to local problems. It was noticed that they are oriented both as contradictions, potentiating exclusion links, and as synergies, offering alternatives that guide sustainability, reduction of vulnerability and better health conditions. The importance of mediating interactions between local social practices, public policies and global issues was then perceived, such as the scarcity of resources and premises of the Sustainable Development Goals. The concept of interdependencies between management of scarce resources, reducing inequalities and improving the health of vulnerable populations must be faced through synergistic practices which, even if spontaneous and based on local knowledge, can open new perspectives against the perversity and inequalities of urban environment.

Likewise, the study by Santos and Toledo (2020) about socio-environmental determinants of health, carried out with community health agents (CHAs) from the community of Paraisópolis, SP, evidenced the importance of qualifying practices by local social actors as protagonists of possible reality transformation processes, favoring sustainability of actions focused on health promotion. Through an action-research and the progress of the Culture Circles stages of Paulo Freire's Research Itinerary, the community agents recognized and mapped, in the territory of the Paraisópolis II Basic Health Unit, the main factors with a positive and negative influence on health (the socio-environmental determinants of health). Aspects such as sanitation inefficiency, precarious housing, presence of animals, social equipment, violence-related issues and behavioral factors, among others, were themes that generated a training process carried out throughout the research, integrating local knowledge with technical knowledge. The strong human potential of these CHAs, who are local residents, proved to be fundamental to face situations of vulnerability and inequalities in health. As stated by the authors, "this potential is added to the notable appreciation of the role of the CHAs in Primary Health Care as a public policy of great relevance, capable of contributing to overcoming the necessary rupture with the exclusionary and productivist logic of health" (p.10).

When analyzing another action-research developed in a vulnerable community in the state of Bahia, Jesus *et al.* (2018) highlight that the active participation and articulation between a multidisciplinary professional team, local companies and people from the community allowed carrying out educational actions about the real problems of the community, involving aspects related to health, to economic and social development and to sustainability. The analysis of the health promotion actions, carried out as part of the research, allowed recognizing that the advances achieved by the community contributed to improvements in the socio-environmental realm and in the participants' individual and collective health conditions.

Thus, it is considered that, despite evidence on the relevance of processes for the participation and engagement of the local population to strengthen public policies, in the interface of health, housing, sustainability and urban management in general, problem resolution in these contexts still seems to prioritize the foundation and production of

ISSN 1980-0827 - Volume 17, número 2, 2021

fragmented and positivist knowledge, which has specialized scientists, technicians and public managers as social actors and protagonists of these processes. Civil society and the social sectors only participate when they are directly affected by the problem for which a solution is sought (SULAIMAN; JACOBI; TUR, 2019).

In the same direction, and in agreement with the results of this research, Giatti, Landin and Toledo (2014) conducted a survey on the participation of social actors in scientific research studies on health and the environment and, as a result, found a very small number of studies with the participation of these actors, with this number only beginning to gain significance from 2004 onwards, having the best result in 2008. The research studies surveyed were classified into three categories according to the participation level of the social actors, as follows: from a 'punctual intervention', where the authors of the articles only indicated that a social participation modality could be an applicable method for finding a solution to the problem under study; a 'multi-instrument intervention', where more than one modality was suggested as a method and sometimes even applied during the research; and a 'continuous/cyclical intervention', where participation of the social actors took place during the research and directly interfered in the process, which, also according to some of the research studies analyzed, in action-research contexts, seems to achieve better results.

#### **5 CONCLUSION**

Based on a bibliographic review, this paper proposed an analysis of the relationship between health, housing and sustainability, as well as how these themes have been addressed from the perspective of the Sustainable Development Goals (SDGs), proposed by the UN in the 2030 Agenda. The scope limits of this research are acknowledged, evidently not allowing generalizations, as expected from studies of a qualitative nature. On the other hand, the importance and contributions of the reflections herein proposed are highlighted.

The relevance of thinking about 'housing health' and the 'health of cities' from an expanded, interdisciplinary and intersectoral perspective was evidenced, which considers the various environmental, social, cultural, economic and political determinants, among others, as well as their connections, towards sustainability. Health is also to be thought of as cross-sectional to all the other SDGs, which requires strengthening of healthy public policies. The categorization and analysis of the publications selected revealed that it is ethically imperative to create and expand spaces for dialog to qualify public policies in the interface of the health, environment and urban planning areas, as well as to face situations of socio-environmental vulnerability and health inequalities.

The current scenario of the COVID-19 pandemic reinforces this evidence, in the sense that its outbreak requires immediate changes. In view of this context and the need to plan and build healthier and more sustainable cities and housing, Santos (2020) bets "on participatory democracy at the level of neighborhoods and communities and on civic education oriented towards solidarity and cooperation, and not towards entrepreneurship and competitiveness at any cost" (p.8). It is therefore urgent to rethink our cities, our housing, our development model, that is, our way of producing, distributing and consuming wealth and spaces from the perspective of sustainability and democratization of knowledge. It is known that, after the pandemic caused by COVID-19, others will come if nothing changes. The mere rescue of the

ISSN 1980-0827 - Volume 17, número 2, 2021

so-called "normality" preceding the pandemic, which confers the status of "normal" to practices of nature destruction and violence to a vast contingent of people placed in situations of extreme poverty and permanent risk in cities marked by abysmal socio-spatial inequalities, is unacceptable and unsustainable from a social, economic, environmental and health point of view.

#### **6 REFERENCES**

GUTERRES, António. Combatendo uma desigualdade epidémica: um novo contrato social para uma nova era. 2020. Disponível em: https://unric.org/pt/combatendo-uma-desigualdade-epidemica-um-novo-contrato-social-para-uma-nova-era/. Acesso em: 23 fev. 2021.

CARMO, M.E.; GUIZARDI, F.L. O conceito de vulnerabilidade e seus sentidos para as políticas públicas de saúde e assistência social. **Cadernos de Saúde Pública** v.34, n.3, e00101417, 2018. <a href="ttps://doi.org/10.1590/0102-311x00101417">ttps://doi.org/10.1590/0102-311x00101417</a>.

CASTELANELI, Isabeli Karine Martins et al. Na ausência de endereço, onde mora a saúde? Determinantes sociais e populações de ocupações. **Saúde em Debate**, v. 43, n. 8, p. 11-24, ago. 2019. <a href="http://dx.doi.org/10.1590/0103-11042019s801">http://dx.doi.org/10.1590/0103-11042019s801</a>.

CNDSS. Comissão Nacional sobre Determinantes Sociais da Saúde. **As causas sociais das iniquidades em saúde no Brasil**. Relatório Final da Comissão Nacional sobre Determinantes Sociais da Saúde. Rio de Janeiro: Fiocruz, 2008. Disponível em: <a href="http://bvsms.saude.gov.br/bvs/publicacoes/causas\_sociais\_iniquidades.pdf">http://bvsms.saude.gov.br/bvs/publicacoes/causas\_sociais\_iniquidades.pdf</a>>. Acesso em 10 fev. 2021.

COHEN, Simone Cynamon; CARDOSO, Telma Abdalla de Oliveira; NAVARRO, Marli Brito Moreira de Albuquerque; KLIGERMAN, Débora Cynamon. Habitação saudável e biossegurança: estratégias de análise dos fatores de risco em ambientes construídos. **Saúde em Debate**,v. 43, n. 123, p. 1194-1204, out. 2019. <a href="http://dx.doi.org/10.1590/0103-1104201912317">http://dx.doi.org/10.1590/0103-1104201912317</a>.

DELSANTE, loanni. Urban environment quality assessment using a methodology and set of indicators for medium-density neighbourhoods: a comparative case study of lodi and genoa. **Ambiente Construído**, v. 16, n. 3, p. 7-22, set. 2016. <a href="http://dx.doi.org/10.1590/s1678-86212016000300089">http://dx.doi.org/10.1590/s1678-86212016000300089</a>

DJONÚ, Patricia et al. Objectives of sustainable development and conditions of health risk areas. Ambiente & Sociedade, v. 21, p. 0-20, 29 nov. 2018. http://dx.doi.org/10.1590/1809-4422asoc0091r1vu18l3td.

FERENTZ, Larissa Maria da Silva; GARCIAS, Carlos Mello; SETIM, Leana Carolina Ferreira. Proposta de um indicador de desenvolvimento sustentável com base na qualidade de vida, bem-estar e felicidade: estudo piloto na cidade de Curitiba, Brasil.. **Análise Social**, v., n. 1, p. 168-192, 30 mar. 2020. Instituto de Ciencias Sociais. <a href="http://dx.doi.org/10.31447/AS00032573.2020234.07">http://dx.doi.org/10.31447/AS00032573.2020234.07</a>

FREIRE, Maria do Socorro Machado; SALLES, Rosane Paula de Senna; SÁ, Ronice Maria Pereira Franco de. Mapeando iniciativas territoriais saudáveis, suas características e evidências de efetividade. **Ciência & Saúde Coletiva**, v. 21, n. 6, p. 1757-1766, jun. 2016. <a href="http://dx.doi.org/10.1590/1413-81232015216.08172016">http://dx.doi.org/10.1590/1413-81232015216.08172016</a>

FURTADO, C. O mito do desenvolvimento econômico. Rio de Janeiro, Paz e Terra, 1974.

\_\_\_\_\_. A superação do subdesenvolvimento. **Economia e Sociedade.** Campinas, SP, v. 3, n. 1, p. 37–42, 2016. Disponível em: https://periodicos.sbu.unicamp.br/ojs/index.php/ecos/article/view/8643216.

GIATTI, Leandro Luiz et al. Nexos de exclusão e desafios de sustentabilidade e saúde em uma periferia urbana no Brasil. **Cadernos de Saúde Pública**, v. 35, n. 7, p. 1-12, ago. 2019. <a href="http://dx.doi.org/10.1590/0102-311x00007918">http://dx.doi.org/10.1590/0102-311x00007918</a>

GIATTI, Leandro Luiz; LANDIN, Rubens; TOLEDO, Renata Ferraz de. Aplicabilidade da ecologia de saberes em saúde e ambiente e sua permeabilidade na produção acadêmica. **Ciência & Saúde Coletiva**, v. 19, n. 10, p. 4091-4102, out. 2014. <a href="http://dx.doi.org/10.1590/1413-812320141910.08902014">http://dx.doi.org/10.1590/1413-812320141910.08902014</a>.

ISSN 1980-0827 - Volume 17, número 2, 2021

GUIMARÃES, Édson; FERREIRA, Maria Inês. Na contramão dos objetivos do desenvolvimento sustentável: avaliação da pobreza hídrica na região estuarina do rio macaé, macaé/rj. **Saúde e Sociedade**, v. 29, n. 2, p. 1-15, jun. 2020. http://dx.doi.org/10.1590/s0104-12902020190070.

HERNÁNDEZ, Diana. Housing-Based Health Interventions: harnessing the social utility of housing to promote health. American Journal Of Public Health, v. 109, n. 2, p. 135-136, fev. 2019. American Public Health Association. http://dx.doi.org/10.2105/ajph.2018.304914.

JESUS, Viviane Silva de et al. Promotion of health, sustainability and social development of a vulnerable community. Revista Brasileira de Enfermagem, [S.L.], v. 71, n. 6, p. 3109-3114, dez. 2018. FapUNIFESP (SciELO). http://dx.doi.org/10.1590/0034-7167-2017-0381.

PASTERNAK, Suzana. Habitação e saúde. **Estudos Avançados**, v. 30, n. 86, p. 51-66, abr. 2016. http://dx.doi.org/10.1590/s0103-40142016.00100004.

SANTOS, Boaventura de Sousa. A cruel pedagogia do vírus. Coimbra: Almedina, 2020.

SANTOS, Francisco Nilson Paiva dos; TOLEDO, Renata Ferraz de. Culture circles on social and environmental determinants: action research with community health agents of Paraisópolis, SP. **Revista Gaúcha de Enfermagem**, v. 41, p. 1-10, abr. 2020. http://dx.doi.org/10.1590/1983-1447.2020.20190353.

SCHELLER, David; THÖRN, Hakan. Governing 'Sustainable Urban Development' Through Self-Build Groups and Co-Housing. International Journal of Urban and Regional Research, v. 42, n. 5, p. 914-928 https://doi.org/10.1111/1468-2427.12652

SEVERINO, Antonio Joaquim. Metodologia do trabalho científico. 2a ed. São Paulo: Cortez, 2017.

SHARPE, Richard *et al*. Making the Case for "Whole System" Approaches: integrating public health and housing. International **Journal Of Environmental Research And Public Health**, v. 15, n. 11, p. 2345-2367, 24 out. 2018. MDPI AG. <a href="http://dx.doi.org/10.3390/ijerph15112345">http://dx.doi.org/10.3390/ijerph15112345</a>.

SPERANDIO, Ana Maria Girotti; FRANCISCO FILHO, Lauro Luiz; MATTOS, Thiago Pedrosa. Política de promoção da saúde e planejamento urbano: articulações para o desenvolvimento da cidade saudável. **Ciência & Saúde Coletiva**, Rio de Janeiro, v. 21, n. 6, p. 1931-1938, Jun. 2016. <a href="https://doi.org/10.1590/1413-81232015216.10812016">https://doi.org/10.1590/1413-81232015216.10812016</a>.

SULAIMAN, Samia Nascimento; JACOBI, Pedro Roberto; TUR, Antonio Aledo. Riscos e desastres naturais: contribuições da ciência pós-normal para um novo paradigma de conhecimento e gestão. In: JACOBI, Pedro Roberto et al (org.). Ciência Pós-Normal: ampliando o diálogo com a sociedade diante das crises ambientais contemporâneas. São Paulo: Faculdade de Saúde Pública da USP, 2019. p. 70-88.

UN. United Nations. Transforming our world: the 2030 Agenda for Sustainable Development. 2015. Disponível em: https://sdgs.un.org/2030agenda. Acesso em: 14 fev. 2021.

UN. United Nations. **The World's Cities in 2018**. 2018. Disponível em: https://population.un.org/wup/Publications/. Acesso em: 28 fev. 2021.

WORLD BANK (org.). Trends. The Shifting Urban Economic Landscape: What Does it Mean for Cities? 2013. Disponível em:

http://documents1.worldbank.org/curated/en/850421468178735793/pdf/842550WP0Dobbs0Box0382136B00PUB LICO.pdf. Acesso em: 28 fev. 2021.

WHO, World Health Organization. Coronavirus disease (COVID-19) advice for the public. 2020. Disponível em: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public. Acesso em: 28 fev. 2021.

WHO, World Health Organization. Environmental burden of disease associated with inadequate housing. 2011. Disponível em: https://www.euro.who.int/\_\_data/assets/pdf\_file/0003/142077/e95004.pdf. Acesso em: 16 fev. 2021.