

## INTERLACES AMONG HEALTH, SUSTAINABILITY AND ENVIRONMENT

Entrelaces entre a saúde, sustentabilidade e meio ambiente

Entrelaces entre la salud, sustentabilidad y medio ambiente

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### ABSTRACT

**Objective:** this research aims at knowing what has been described about health, sustainability and environment.

**Method:** this integrative review was conducted from March to April 2019. The terms selected according the DeCS: health, sustainability and environment. The filters used are the following: have been edited in the last 5 years; have been related with the conservation of natural resources; have been available entirely and have been scientific article. **Results:** it has been found 13 articles, been its content organized in the following categories: range of health, which describes the multiplicity of factors that interfere in health; looking at the sustainability, which brings the perspective of social development from the reutilization of the resources; in addition, issues which influence the environment, presenting the individual as part of nature. **Conclusion:** the results have allowed the constitution of a framework of knowledge about health, sustainability and environment.

**DESCRIPTORS:** Social conditions; Nature; Conservation of natural resources; Quality of life; Sustainable development.

### RESUMO

**Objetivo:** conhecer o que vem sendo descrito sobre a saúde, sustentabilidade e meio ambiente. **Métodos:** revisão integrativa realizada de março a abril de 2019. Os termos: saúde, sustentabilidade e meio ambiente. Os filtros: ser editado nos últimos 5 anos; estar relacionado com a conservação de recursos naturais; estar disponibilizado na íntegra e ser artigo científico. Análise utilizada foi de conteúdo, orientada por Bardim. **Resultados:** foram selecionados 13 artigos, com seu conteúdo organizado nas categorias: abrangência da saúde, que retrata a multiplicidade de fatores que interferem na saúde; olhando para a sustentabilidade, que traz a perspectiva do desenvolvimento social a partir da reutilização dos recursos; e, questões que influenciam o meio ambiente, apresentando o indivíduo como parte da natureza. **Conclusão:** foi demonstrando a importância de cada tema, a ligação natural dos mesmos, e como se cuidando de um, automaticamente se tem o reflexo nos outros.

**DESCRIPTORIOS:** Condições sociais; Natureza; Conservação dos recursos naturais; Qualidade de vida; Desenvolvimento sustentável.

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## RESUMEN

**Objetivo:** conocer lo que viene siendo descrito sobre la salud, sustentabilidad y medio ambiente. **Métodos:** Esta revisión integrativa fue realizada de marzo a abril de 2019. Los términos seleccionados conforme el DeCS: salud, sustentabilidad y medio ambiente. Los filtros utilizados: ser editado en los últimos 5 años; estar relacionado con la conservación de recursos naturales; estar disponible en la íntegra y ser artículo científico. **Resultados:** Fueron encontrados 13 artículos, siendo su contenido organizado en las categorías: Inclusión de la salud, que retrata la multiplicidad de factores que interfieren en la salud. Mirando hacia la sustentabilidad, que trae la perspectiva del desarrollo social a partir de la reutilización de los recursos. Y, cuestiones que influyen el medio ambiente, presentando el individuo como parte de la naturaleza. **Conclusiones:** Los resultados permitieron la constitución de un andamiaje de conocimientos acerca de la salud, sustentabilidad y medio ambiente. **DESCRIPTORES:** Condiciones sociales; Naturaleza; Conservación de los recursos naturales; Calidad de vida; Desarrollo sostenible.

## INTRODUCTION

The new strategic planning of the World Health Organization (WHO) has established 10 priorities in order to improve people's health and well-being. Among the goals is to combat air pollution and climate change caused by pollutants. Air pollution is a major environmental health risk that can lead to cancer, stroke, and lung and cardiovascular disease. The large volumes of emissions from industry, transportation, agriculture, and the burning of fossil fuels pollute the environment and contribute to climate change, affecting people's health.<sup>1</sup>

Health is a right guaranteed in the Federal Constitution.<sup>2</sup> However, it is not only about minimizing the risk of disease and illness; health is a result of people's individual conditions, including their social and environmental interaction.<sup>3</sup>

Thus, social development based on alternatives that do not compromise the environment is essential to guarantee the existing resources.<sup>4</sup> However, the challenge still remains to contain the accelerated exploitation of the environment without concern for the maintenance of non-renewable resources, which have their replacement slower than their consumption.<sup>5</sup>

The social and human condition is related to technical and scientific development, and is modified by this development as it modifies it. The studies conducted with review methods, with their perspectives, tend to better interpret the contexts and, consequently, point to possibilities that are more conducive to the solutions of the issues raised.<sup>6</sup>

In this sense, the Integrative Review is a literature review method that brings together findings from studies developed using different methodologies, allowing reviewers to synthesize results without harming the epistemological affiliation of the empirical studies included.<sup>7</sup>

Thus, this Integrative Review was carried out to delineate the object of study of a doctoral thesis, seeking to deepen the themes, as well as the existing gaps that still need to be explored. Therefore, the objective of this research was to find out what has been described about health, sustainability, and

the environment. The guiding question of the integrative review was: What is being described about the intertwining of health, sustainability and environment?

## METHODS

Integrative review that sought the analysis and discussion of research and evidence already described in the scientific environment, in order to achieve a deeper understanding of the guiding question.<sup>8</sup> It was carried out in six steps: identification of the theme and selection of the guiding question, formulation of inclusion and exclusion criteria for the studies, definition of the information to be extracted from the selected studies (data search), evaluation of the studies included in the integrative review (data analysis), interpretation of results, and presentation of the review (synthesis of knowledge).<sup>8</sup>

The literature survey sample was conducted by two researchers, alone, in the same months from March to April 2019.

The databases and library of data researched were: Latin American and Caribbean Literature on Health Sciences (LILACS); Medical Literature Analysis and Retrieval System Online (MEDLINE); Database in Nursing (BDENF) and in the Scientific Electronic Library Online (SciELO) library.

The terms used were: health, sustainability and environment. They were searched in the Health Science Descriptors (DeCS). The Portuguese descriptor "saúde" was found to be "health". For the word "sustainability" no exact descriptor was found, so the English word "sustainability" was used to perform the search. And for the Portuguese descriptor "meio ambiente", "environment" was found. The Boolean operator (delimiter) AND was used. The search in databases and electronic libraries was performed as follows: first by each term individually, then a joint search with the Boolean operators, in Portuguese "saúde e sustentabilidade e meio ambiente" and in English "health AND sustainability AND environment".

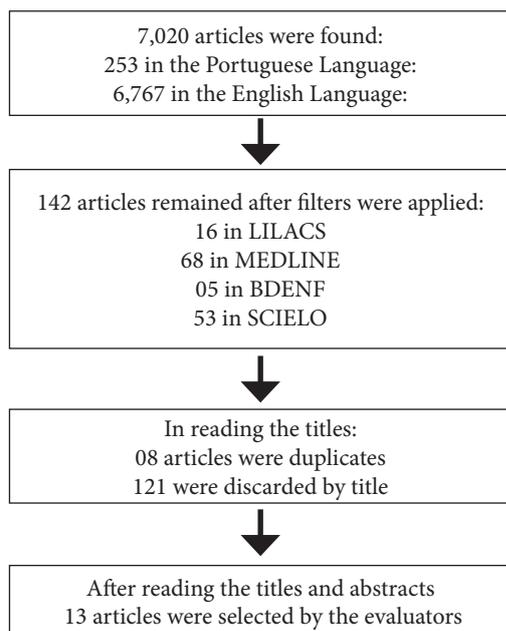
The inclusion criteria were: be an original scientific article, be edited in the last five years (2015-2019), answer the research question, be available in full. Book chapters, letters to the editor, dissertations, theses, review articles, reflections, case studies, and experience reports were excluded.

In order to respect the ethical issues and the precepts of authorship, the articles cited in this production will be duly referenced throughout this study, as provided in law no. <sup>9,6,10</sup> which deals with Copyright.<sup>9</sup>

Table 1 shows the articles found, the quantities in the two languages, how many journals were selected in each base or library, after the filters were applied. After reading the titles and abstracts, those that were excluded because they were duplicates and those that were discarded because they were of no interest to this work. The search was concluded, arriving at 13 selected articles, which were analyzed in their entirety.

The analysis was distributed in three titles: Scope of health, Looking at sustainability, and Issues influencing the environment.

**Table 1** - Results of the searches performed and the specifications. Pelotas-RS, 2019



## RESULTS AND DISCUSSION

This integrative review resulted in 13 articles. Regarding the language of the research, three were in English,<sup>10-12</sup> one in Spanish<sup>13</sup> and nine in Portuguese.<sup>4-6,14-19</sup> The countries where the research took place were: nine in Brazil,<sup>4-6,14-19</sup> one in East Africa,<sup>12</sup> one in Mexico,<sup>13</sup> one in Israel, Italy and Australia<sup>10</sup> and one also in Italy and Belgium.<sup>11</sup> The predominant method was qualitative with 11 publications, while two quantitative articles were found.<sup>12,19</sup>

As for the year of publication, seven were published in 2015,<sup>4,10,11,15,16,18,19</sup> two in 2016,<sup>5,13</sup> three in 2017,<sup>14,17</sup> and one in 2018.<sup>12</sup> The bases and libraries searched showed two articles Scielo,<sup>4,18</sup> and BDNF,<sup>6,19</sup> in LILACS five journals,<sup>5,14-17</sup> and MEDLINE three articles.<sup>10-12</sup> Data placed in table 2.

**Table 2** - Identification of the articles selected to compose the Integrative Review: authors, title, journal, year of publication and database searched. Pelotas-RS, 2019

Authors	Article Title	Magazine	Year	Databases and Libraries
Ribeiro SM, Bógus CM, Watanabe HA <sup>4</sup>	Agricultura urbana agroecológica na perspectiva da promoção da saúde.	Saúde e Sociedade	2015	SCIELO
Zanirato SH, Rotondaro T. <sup>5</sup>	Consumo, um dos dilemas da sustentabilidade.	Estudos Avançados	2016	LILACS
Philippi Jr A. <sup>6</sup>	Ambiente, saúde & sustentabilidade no contexto das cidades.	Acta Paulista de Enfermagem (Online)	2017	BDNF
Berry EM, Dernini S, Burlingame B, Meybeck A, Conforti P. <sup>10</sup>	Food security and sustainability: can one exist without the other?	Public health nutrition	2015	MEDLINE
Dewulf J, Benini L, Mancini L, Sala S, Blengini GA, Ardente F, Recchioni M, Maes J, Pant R, Pennington D. <sup>11</sup>	Rethinking the Area of Protection "Natural Resources" in Life Cycle Assessment.	Environmental science & technology	2015	MEDLINE
Fiorella KJ, Milner EM, Salmen CR, Hickey MD, Omollo DO, Odhiambo A, Mattah B, Bukusi EA, Fernald LCH, Brashares JS. <sup>12</sup>	Human health alters the sustainability of fishing practices in East Africa.	Proceedings of the national academy of sciences of the United States of America	2018	MEDLINE
Sánchez RS, Ramírez AEC. <sup>13</sup>	Mercado el 100, experiencia de consumo participativo para favorecer la sustentabilidad de la agricultura Y los sistemas alimentarios.	Agricultura, sociedad y desarrollo	2016	SCIELO
Ribeiro H, Jaime PC, Ventura D. <sup>14</sup>	Alimentação e sustentabilidade.	Estudos Avançados	2017	LILACS
Di Giulio GM, Vasconcellos MP, Günther WMR, Ribeiro H, Assunção JV. <sup>15</sup>	Percepção de risco: um campo de interesse para a interface ambiente, saúde e sustentabilidade.	Saúde e Sociedade	2015	LILACS
Oliveira EF, Jesus VS, Siqueira SMC, Alves TA, Santos IM, Camargo CL. <sup>16</sup>	Promovendo saúde em comunidades vulneráveis: tecnologias sociais na redução da pobreza e desenvolvimento sustentável.	Revista gaúcha de enfermagem	2015	LILACS
Marques EC, Marques RC. <sup>17</sup>	Roteiro para a sustentabilidade na produção de refeições.	Higiene alimentar	2017	LILACS
Silva MG. <sup>18</sup>	Sustentabilidade socioambiental e a retórica neodesenvolvimentista: apontamentos sobre meio ambiente e saúde no Brasil.	Serviço social & Sociedade	2015	SCIELO
Ribeiro CRB, Sabóia VM, Souza DK. <sup>19</sup>	Impacto ambiental, trabalho e saúde de pescadores artesanais: a educação popular em foco.	Revista de Pesquisa: Cuidado é Fundamental Online	2015	BDNF

The analyzed content was organized under three headings, as described in the method: Comprehensiveness of health, which portrays a multiplicity of factors that interfere with health through lifestyle and people's behavior. The second title is: Looking at sustainability, which brings the perspective of social development from the commitment to resource reuse, which can be done by producers and consumers, highlighting that social commitment is paramount when aiming for sustainable development from the domains of ecology, economics, politics, and culture. Finally, Issues that influence the environment, which presents the individual and society as part of the environment, emphasizing that social ecological awakening goes beyond individual choices compromising the supply of resources, it is demonstrated in everyday choices. The idea was to separate these three titles, seeking to observe which data has been described in the literature, regarding the terms that were searched in this integrative review.

## Scope of Health

The search for quality of life (based on the virtuous relationship between environment and health) fundamentally demands education, work, housing, sanitation, leisure, mobility, which are considered central elements for development based on sustainability.<sup>6</sup>

Since the 1988 Federal Constitution, awareness that individual and collective health, and its physical and mental dimensions, are intrinsically related to the quality of the environment has increased.<sup>18</sup> But health is also beyond the "environmental".<sup>11</sup>

In a broader perspective of health, defined by the Brazilian Sanitary Reform movement, the Unified Health System, and the Charters of Health Promotion, it is believed that "the ways in which subjects and collectivities elect certain options for living as desirable, organize their choices, and create new possibilities to satisfy their needs, desires, and interests belong to the collective order, since their construction process takes place in the context of life itself".<sup>4</sup>

The creation of spaces favorable to health implies, above all, a close interrelationship between environments, lifestyles, and healthy behaviors, in such a way that threatened environments determine the health levels of populations.<sup>4</sup> In this sense, food and nutrition influence the health and well-being of people, as do other health determinants, such as education and employment.<sup>14</sup>

In contrast to everything that influences health positively, the absence of the above and the exposure of populations to pesticides and environmental damage negatively affect the quality of health. Another example of health damage is the exposure to toxic waste, and in this sense, there are countless examples that proliferate throughout the country, contaminating the environment and affecting the health of the population.

From this perspective, studies developed by Fiocruz point out that in places of socio-environmental conflicts, there are three orders of health problems and damages that

emerge: violence, food and nutritional insecurity, and loss of quality of life.<sup>18</sup>

To conclude this part of the overview on health, authors state that environmental degradation is widely recognized as a cause of and contributor to adverse human health outcomes.<sup>12,19</sup>

## Looking at sustainability

The concept of sustainability has expanded as a set of principles manifested in the search for a development qualified by a concern, namely: to grow without compromising the carrying capacity of ecosystems and their cycles, ensuring the long-term existence of social and other species.<sup>4</sup> The fundamental principle of sustainable development is that the current generation preserves existing resources for future generations, even if it is unknown whether those generations will need these resources.<sup>5,10,17</sup>

The main organization for sustainability is sustainable development, which includes the four interconnected domains: ecology, economy, politics, and culture.<sup>10</sup> Thinking about sustainability can have a double meaning: creating initiatives that are in accordance with the principle of sustainable development and or ensuring a lasting and strong process, involving in this perspective the economic, social, political, cultural, intergenerational, and environmental aspects.<sup>4</sup>

One cannot talk about sustainability without considering changes in lifestyle, attitudes and behavior. Reducing consumption is a condition for an effectively sustainable world. This implies changes in behavior, relationships and ways of thinking. Sustainability is a condition that points to the future, which indicates the need to overcome consumption on the current scale.<sup>5</sup>

In this sense, sustainable consumption implies a production mode committed to minimizing social and environmental imbalances throughout the entire cycle of a product, from generation to use, reuse and disposal. Sustainable consumption presupposes recycling and reuse of production waste, the use of biodegradable packaging and products and the use of clean technologies that make intelligent use of renewable resources.<sup>5</sup>

Economic sustainability, with a focus on self-reliance, and environmental sustainability with a view to reusing nature's resources to the maximum extent possible may be one of the possibilities.<sup>4</sup>

The commitment to produce food in more sustainable ways is not exclusive to farmers, consumers are equally responsible for the type of technologies applied in agriculture and their effects on the environment and society.<sup>13</sup> Sustainable actions result in the supply of differentiated products, with specific characteristics and that are manufactured from sustainable processes, often produced by vulnerable populations, which points to the need to adopt similar strategies that favor the promotion of health from sustainable development.<sup>4</sup>

Sustainability and social development are closely linked to health and well-being.<sup>10,16</sup> Economically, sustainable actions can enable the generation of new sources of income;

environmental care, by minimizing the degrading action of incorrectly discarded waste.<sup>4</sup>

By increasing responsibilities and broadening perspectives, sustainability is one of the consequences of participative consumption, and significant progress in this direction can only be achieved when the parties involved (consumer, seller and intermediary) are motivated by a change in behavior.<sup>13</sup>

Finishing this part of what was found on sustainability, an author exposes that in social terms, building and developing a greater protagonism of the population in decision-making processes allows for the incorporation of people's knowledge, cultures and yearnings, which open up perspectives to obtain greater convergence in plans, programs, projects and activities aimed at development on sustainable bases.<sup>6</sup>

### Issues that influence the environment

Article 225 of the Federal Constitution, corresponding to the Environment, defines the right to an ecologically balanced environment, which is essential to a healthy quality of life, imposing on the public authorities and the community the duty to defend and preserve it for present and future generations.<sup>6</sup>

A natural resource is considered non-renewable because of its rare and finite formation (such as oil, the energy source most used in industrial society) or also because it is consumed on a scale greater than its replacement capacity.<sup>5</sup>

In view of the fact that there are limits to the use of non-renewable natural resources necessary for the production of goods, and that these can be exhausted also in view of the exponential growth of the population. The consumption of resources for the production and distribution of goods and services has multiplied, which implies the limitation of the exploitation of non-renewable resources.<sup>5</sup>

Agroecological farming can be considered a health-promoting tool, because it contributes for the individual to recognize himself as part of the environment, raising his self-esteem, rescuing the feeling of belonging, and integrating him socially; it stimulates social protagonism, citizen participation, the acquisition of personal and collective skills, and enables environments favorable to health.<sup>4</sup>

Thinking about the generations to come means looking into the future, knowing that our choices today have compromised the choices that the new generations will be able to make. These needs lead us to think about the problematic relationship between consumption and the environment.<sup>5</sup>

Participating in practices related to nature can stimulate an "ecological awakening". A new view of the environment may arise from the involvement of subjects with agriculture, contributing to an expansion of awareness in this area, as well as a collective desire to contribute to the preservation of nature by incorporating sustainable practices in their daily lives.<sup>4</sup>

Observing the nexus between health and environment from the socio-historical context, recognizing that environmental degradation directly affects health, points to a need to be careful with capitalist accumulation and the current development pattern that drives it.<sup>18</sup>

Time has revealed that the relationship between development, environment, and health is inseparable.<sup>19</sup> Widening the field of view brings a question: The environment influences human health, but we know little about how human health affects the environment?<sup>12</sup>

In relation to the damage to the environment and consequently to health, a situation to be considered is the loss of biological diversity that has been happening with monoculture, which characterizes industrial agriculture and is considered the most important environmental problem related to sustainability.<sup>13</sup>

The terms that this research used to search for data were: health, sustainability, and environment. One author states that both the global conceptual frames of reference and the practical field indicate that current social changes are pressuring researchers to consider other ways to conduct research, which involve the relationship between environment, health, and sustainability. The complex and borderline nature of the topics "environment, health, sustainability" requires interaction, interrelationship, and at the same time integration across sciences.<sup>6</sup>

In this context, the environment, health, and sustainability interface has faced contemporary challenges that require new theoretical and methodological constructions for analysis, in particular to understand the risks associated with the dynamics of the place of residence, such as those related to poverty, precarious housing and sanitation conditions, and social inequalities.<sup>15</sup>

In thinking about what has been placed until this part of the findings, we also add to the concerns about the environment, the risk factors related to environmental changes at the community level, associated with industrial development and occupational risks, urban services and agricultural frontiers, and the environmental changes associated with globalization, such as the degradation of ecosystems and their life support services, and climate change.<sup>15</sup>

### CONCLUSIONS

In the category the scope of health, concepts, laws and thoughts related to the theme were found, which deflagrated the many ways of putting and always re-evaluating how health is being looked at and conceptualized, and how all this influences the reality of health.

Looking at sustainability, the authors brought ways of thinking, together with concerns, which led to the pointing to the need for awareness and perspective on the encouragement of consumption and use of goods responsibly, in order to call everyone to the protagonism of their choices.

About the issues that influence the environment, ways to preserve and with this action were pointed out, understanding that the reflection will be directly linked to health and sustainability, concluding that the researchers point in the direction of stimulating an ecological awakening.

The findings of this review contributed to the construction of a framework of knowledge about the themes explored, showing the importance of each one, and a natural connection

between them, and concluding that one can look at them all separately, but that naturally one is intertwined with the others.

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