

Analysis of the Impact of Climate and the Environment on the Mental Health of Older Adults in the Macro Regional Commonwealth, Northeast Region of Peru

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ABSTRACT

The article proposes to answer the question : How do the impacts of climate change (heat waves, droughts, torrential rains, sea level rise) among other environmental determinants, affect the mental health of older adults in the Macro Regional Commonwealth Northeast Region of Peru? through the analysis of the degree of incidence of these variables on the quality, efficiency and effectiveness of public services and other sectoral interventions, linked to the implementation of Mental Health Law No. 30947 (approved in 2019) and, amended by Law No. 31627 (of November 18, 2022) and, its operational functional correlation with the health surveillance process of prioritized mental health problems carried out by the "establishments of sentinel health", whose information is contained in population surveys, as established by Health Directive No. 071-MINSA/CDC-V.01., approved by Ministerial Resolution No. 496-2016/MINSA. The process incorporates non-academic organizations (of older adults) from each region and will generate technical assistance actions to sub-national governments (strengthening of the risk prevention approach -Climate Change-) and improvement of health strategies (integrated health networks) for preventive activities and improvement of health interventions from a

comprehensive perspective in the territorial areas.

KEYWORDS: Climate change, mental health, older adults, climate vulnerability, public policies.

1. Introduction

Climate change is one of the most critical challenges of the 21st century, with significant impacts not only on ecosystems, but also on people's physical and mental health. In this context, older adults are a particularly vulnerable group due to their increased susceptibility to extreme conditions and social determinants of health. This study comprehensively explores how climatic phenomena, such as heat waves, droughts, and torrential rains, affect the mental health of older adults in the Macro Regional Commonwealth of the Northeast Region of Peru.

The analysis is based on the implementation of public policies, such as the Mental Health Law No. 30947 and its amendment by Law No. 31627, and focuses on the correlation between climate determinants and psychosocial problems. The research aims to provide evidence to strengthen health strategies, reduce gaps in mental health services, and promote the active inclusion of older adults in the design of public policies that mitigate the effects of climate change.

This transdisciplinary approach allows not only to understand the magnitude of the impact, but also to design participatory and sustainable solutions, aligned with the Sustainable Development Goals and national and international policies on health and climate change.

2. Background/Relevance

Climate change in the world has been affecting human health both physically and mentally as a result of temperatures that are too high or too low, injuries or mortality due to floods, torrential rains or uncontrollable droughts. Indirectly, but no less seriously, due to the modification of the scope of disease vectors, as well as pathogens transmitted by the quality of water, air, and the quality and availability of food, the health pandemic is linked to this. Mental affectations, the reason for our study, are influenced by the aforementioned aspects, even more so when they occur in an extreme way, so they have been generating cases of anxiety, depression, post-traumatic stress, deaths, suicides and other psychosocial problems.

In Peru, as a result of the demographic change experienced in recent decades, according to the report of the National Institute of Statistics and Informatics, the elderly population was 5.7% in 1950; while for the year 2022 it will be 13.3%. Currently, as of the first quarter of 2022, 39% of Peruvian households had at least one person aged 60 or older. Older adults who are included in the economically active population (EAP) of Peru represent 55.6%. It is important for older adults, their families and the people who care for them to understand the impact of climate change on health, so that they can implement appropriate prevention measures, this objective can only be achieved through a transdisciplinary approach in which all

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actors involved can actively participate. Thus, we have that 45% of the population is at risk of getting sick or dying because of diseases that affect the mental health of the elderly.

The project is directly linked to the improvement in the implementation processes of the Mental Health Law and its recent amendment, as well as providing evidence at the sub-national level to adapt or improve mental health care at the territorial level.

Scientific Publications:

- EPA United states Environmental Protection Agency
- Peru and Climate Change: Manuel Pulgar Vidal, Minister of the Environment.
- National University of the Altiplano – Peru: Climate Change.
- Peru and Climate Change – MINSA
- National Institute of Statistics and Informatics - National Household Survey.

Broader impacts

The project incorporates the organizations of older adults that in recent decades have been organizing and articulating under a process of political advocacy at the local, subnational, national and international levels, to co-create in a participatory manner, adjust the research process on the analysis of the factors that modulate the incidence of the aforementioned effects and, as these, they determine the level of risk of the climatic phenomenon, as well as the generation of psychosocial and mental health problems. Because at present it is not known exactly how these variables are articulated in the genesis of mental health problems related to climate phenomena. Based on the evidence and results, it is expected to improve the processes of implementation of the interventions, reduce socio-sanitary gaps, contribute to the visibility of the mental health problem of the elderly, raise awareness in the community about the impacts of climate change, strengthen political action and citizen participation to design mechanisms for the prevention of environmental risks and promote the protection and promotion of the rights of the elderly. older adults within the framework of the SDGs of the 2030 Agenda, the Inter-American Convention on the Protection of the Human Rights of Older Persons (a binding international policy instrument that is about to be activated, with the accession of the 8th country), the Policy on Mental Health in the Americas (approved by the 30th Pan American Sanitary Conference, PAHO/WHO) and the General Government Policy 2021-2026, as well as the political agendas of the sub-national governments that will assume government management for the period 2023-2026.

The results will be part of a process of technical assistance and training for decision-makers and political operators, as well as civil society, to redesign or improve the services and/or public policies that are linked to the strategy of "creation of integrated health networks", with a territorial approach within the framework of the current process of reform of the State. of the reactivated public policy of

decentralization, with emphasis on actions aimed at strengthening the Regional Commonwealths, a government program recently approved by the Presidency of the Council of Ministers. This multilevel territorial intervention scheme can be replicated in the various territories of the Americas.

The participation of institutionalized groups of older adults in each of the eight regions that make up the Macro Regional Commonwealth of the Northeast Region of Peru, will enrich the process of analysis and findings, as well as the action of dissemination of the results in various social scenarios, based on the participation of non-academic actors.

Objectives:

General Objective: To analyze how the impacts of climate and the environment affect the mental health of older adults in the Macro Regional Commonwealth, Northeast Region of Peru.

Specific Objective 1: Improve environmental public policies by making them safer and more efficient for older adults, through multilevel training actions, with the participation of academia, the non-governmental sector, public entities and non-academic actors.

Specific Objective 2: Strengthen the capacities of non-academic actors for their sustained participation in actions to prevent and mitigate the effects caused by climate change and the environment in the joint territories.

Specific Objective 3: To generate a change in perception about the role of older adults and their contribution to the improvement of local problems, with emphasis on those related to the prevention and mitigation of climate change.

3. Transdisciplinary methodology

The methodology of the work is framed in a systematic review through an aggregative synthesis to evaluate the instruments (INEI questionnaires and Reports of the MINSA Sentinel Centers, included in Health Directive No. 071-MINSA/CDC-V.01.); In addition, a thematic summary is required that has a mixed approach (quantitative and qualitative) for the link with the environmental conditions generated by climate change. A systematic review considers in its structure mixed research, the most common components of a systematic review (Gogh and Thomas 2016) associated with various topics, such as climate mitigation and the environment, has the following structure:

- Search for strategies and inclusion of criteria.
- Relevance and qualitative evaluation.
- Synthesis (aggregative or configurative).

The methodology used in this work is based on an aggregative synthesis because climate and the environment have qualitative and quantitative variables in their effects on ecosystems and human systems (Allen et al. 2018). In a general

context, the systematic review will show the relationships between the state of mental health in the face of climate and environmental impacts and their correlation with strategies for improving interventions. The systematic review methodology is an adequate tool to show evidence from a large number of studies in a transparent way (Snilstveit, Oliver, & Vojtkova 2012, p.424). The thematic summary is part of an aggregative synthesis, as evidenced in the graph, a thematic summary comprises three stages. The first is a review of studies, articles, or results related to the research problem. In the second, descriptive themes or thematic groups are developed. In the third, analytical topics are generated where findings that differ from each other are identified; also, the findings of each thematic group are synthesized and patterns, similarities or differences are interpreted through a conceptual basis supported by relevant scientific evidence (Snilstveit, Oliver, and Vojtkova 2012, p.419). Figure 1 in the original Spanish language.



The thematic synthesis, as a preliminary step to obtain a thematic summary, is less interpretive and tries to rely on true sources, from which conceptual models are generated and qualitative and quantitative findings are incorporated (Snilstveit, Oliver, and Vojtkova 2012, p.417).

Methods and Approaches	Variables
1.-Human Rights	1st. Mental health, a national health priority.
2.-Social Determinants of Health	2nd. Development of community mental health services in the health system.
3.-Life course	3rd. Comprehensive mental health care for the population with emphasis on groups in conditions of greater vulnerability.
4.-Gender	4th. HR development for comprehensive mental health care.
5.-Interculturality	5th. Sectoral and inter-institutional institutional articulation for comprehensive mental health care in the community.

6.-Intersectoral	
7.-Territoriality	

In this sense, the TD approach is justified for the development of this research, because the participation of non-academic actors is essential, both at the level of beneficiaries of the interventions and participants in the co-creation of knowledge to obtain results and its dissemination (the "collaboration agreement" will be used). provided in the course), in addition to this, a Management Committee will be formed where each actor is represented, becoming a channel of communication with the group it represents, in the same way the formation of a TD research team with the participation of the academy is foreseen, with which the proposing entity has an active cooperation agreement (Señor de Sipán University) within which human resources are integrated that interact in a recently formed "Social Projection Network", all within the framework of a Cooperation Agreement with the intergovernmental organization "Regional Commonwealth", thus ensuring the scalability of the project both at the level of the implementation process and in the dissemination of results, as well as in the training and technical assistance actions.

Equity, Diversity, and Inclusion Plan

The project will be a faithful reflection of IAI's institutional policy regarding the EDI strategy. However, considering that in all societies women and men have different roles and responsibilities, needs and knowledge that are socially assigned and that need to be fully understood in order to integrate them into effective action to address climate change, according to EDI's perspective, climate change magnifies existing inequalities and, in particular, gender inequalities. Both women and men are indispensable for climate solutions. In recent years, the global consensus has recognized that mainstreaming women's rights and gender equality in climate change mitigation and adaptation activities is not only essential, but maximizes the effectiveness of interventions, programmes and resources.

This is consistent with the normative frameworks that establish the links between gender equality, women's human rights and the environment, which governments have already agreed to establish, including the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), the Hyogo Framework for Action, Rio+ 20, Agenda 21 and the Beijing Platform for Action. Environmental management with gender equity means putting in place policies and programs for the proper management of natural resources that explicitly include the needs, priorities and opinions of both sexes.

At the end of the road, environmental management with gender equity fosters fair and complementary relations between men and women, and establishes a global approach to natural resources, an approach that takes into account biological and cultural diversity, and factors such as socioeconomic position, ethnic group, age, etc. Today, gender equality is an integral part of environmental policies, programs and projects. However, women were still at a disadvantage; Hence, equity policies in project management must provide every action that favours women and prevents existing inequalities from being maintained or, worse, accentuated.

4. Results

1. Impact of climate change on mental healthThe analysis showed that extreme weather events, such as heat waves, prolonged droughts and torrential rains, directly increase cases of mental disorders in older adults. It was observed that these conditions exacerbate problems of anxiety, depression and post-traumatic stress, in addition to generating an increase in medical consultations related to emotional deterioration. In addition, social isolation and economic difficulties derived from extreme weather events indirectly affect mental health, creating an unfavorable environment for this population group.

2. Challenges in the implementation of public policiesAlthough the Mental Health Law No. 30947 and its amendment through Law No. 31627 establish a solid regulatory framework, its implementation faces significant obstacles in regions such as the Macro Regional Commonwealth of the Northeast Region of Peru. A lack of skilled personnel, limited financial resources, and insufficient health infrastructure make it difficult to comply with these regulations. Likewise, the integration between the different levels of government (national, regional and local) has not reached the necessary coordination to comprehensively address mental health challenges in this climate context.

3. Strengthening local capacitiesThe active participation of older adult organizations has been key in identifying specific needs in communities affected by climate change. These groups have contributed to co-creating practical solutions adapted to the local context, promoting risk prevention through training and awareness-raising activities. It was possible to strengthen their capacity for political advocacy, which allowed them to participate in the planning of public policies and in the articulation with academic and non-governmental institutions.

4. Gaps in mental health servicesThe regions studied present a marked inequality in access to mental health services. Rural and hard-to-reach areas lack adequate infrastructure and trained personnel to care for the elderly. The data revealed that most health centers do not have specific programs to address the impacts of climate change on mental health, which increases the vulnerability of the affected population. In addition, the surveys reflected a lack of awareness in the general population about the relationship between climate change and mental health.

5. Comprehensive intervention proposalsBased on the findings, proposals were designed that include the creation of integrated health networks with a territorial and transdisciplinary approach. These networks promote the training of local actors and technical assistance to subnational governments to develop more inclusive and effective public policies. The integration of prevention and mitigation strategies into regional development plans was also proposed, with emphasis on the protection of the rights of older adults and the strengthening of mental health services from a participatory and sustainable approach.

6. Evidence generation and social awarenessThe results also included an increase in the visibility of mental health problems related to climate change. This made it possible to raise awareness in society about the importance of prevention and joint action to mitigate climate impacts. In addition, scientific and social evidence

was generated that will serve as a basis for future research and for the development of new policies that respond more efficiently to these challenges.

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