

Article Review:


## Adaptation of the rising sun model in cultural care for indigenous populations affected by COVID-19 indígenas afectadas por COVID-19


*Adaptación del modelo del sol naciente en el cuidado cultural de las poblaciones indígenas afectados por el COVID-19*

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Abstract

The COVID-19 disease outbreak was first reported in Wuhan (China) on December 31, 2019. Due to the high levels of spread of the disease, on March 11, 2020 the World Health Organization declared it a pandemic. Since then, social inequalities and inequities have deepened, as a result of preventive and compulsory social confinement measures that each country has applied to different degrees. The impact of the pandemic on indigenous peoples has further exposed the well-known pre-existing inequalities, which is why nursing is required to assume its role and put into practice cross-cultural care techniques to confront it. This work proposes an adaptation, specifically to indigenous populations, of the theory of cultural care, diversity and universality,

**Keywords:** COVID-19, indigenous communities, model of the rising sun.

## Resumen

El brote de enfermedad COVID-19 fue notificado por primera vez en Wuhan (China) el 31 de diciembre de 2019. Debido a los elevados niveles de propagación de la enfermedad, el 11 de marzo del 2020 la Organización Mundial de la Salud la declara pandemia. Desde entonces se han profundizado las desigualdades e inequidades sociales, producto de las medidas de confinamiento social preventivo y obligatorio que cada país ha aplicado en diferente grado. El impacto de la pandemia en los pueblos indígenas ha expuesto, aún más, las conocidas desigualdades preexistentes, por lo que se requiere que la enfermería asuma su rol y ponga en práctica las técnicas de cuidados transculturales para enfrentarla. En este trabajo se plantea una adaptación, específicamente a poblaciones indígenas, de la teoría del cuidado cultural, diversidad y universalidad, propuesta por Madeleine Leininger (modelo del sol naciente), la cual se basa en la importancia de adaptar los cuidados humanos, a las características antropológicas y culturales de cada comunidad (enfermería transcultural) para mejorar la forma de actuación del personal de enfermería en estas.

**Palabras clave:** COVID-19, Comunidades Indígenas, Modelo del Sol Naciente.

## Introduction

At the end of 2019, cases of pneumonia began to be reported in the city of Wuhan (Hubei province, China). The analysis of the samples indicated as the causative agent a new coronavirus called acute respiratory syndrome or SAR-COV-2, and it produces the disease called COVID-19 (CO corresponds to corona, VI to virus and D to disease). It was named for the International Committee on Taxonomy of Viruses (ICTV), and unsurprisingly, it had never been identified in humans<sup>1-3</sup>.

From the first report by China on December 31, 2019, until the end of February 2020, the World Health Organization (WHO) carried out a

comprehensive monitoring of the outbreak, noting that there were high levels of spread of the disease

coupled with alarming evidence of inaction on the part of its Member States; All of this presented a scenario of the dire situation. In view of the above, on March 11, 2021, the director general of the WHO (Dr. Tedros Adhanom Ghebreyesus) said at a press conference: "We have come to the conclusion that COVID-19 can be considered a pandemic" and a call to its member countries to find a

delicate balance between protecting health, minimizing social and economic disorders, and respect for human rights<sup>4</sup>.

Since the virus appeared in 2019 until July 4, 2021, the World Health Organization (WHO) reports 182'319,261 confirmed cases of COVID-19, indicating 3'954,324 deaths and, according to Nunes et al. In 2021, the disease deepened social inequalities and inequalities, since the COVID-19 pandemic produced a great economic and social crisis, worldwide, as a result of preventive and mandatory social confinement measures that each country applied to different degrees ( physical distancing, prohibition of free movement, restricted hours, closure of academic activities at all levels, among others). These measures do not impact all people equally and, unfortunately, some of these exceptional measures have aggravated the situation of vulnerability for certain social groups<sup>5</sup>.

During 2020, international health statistics place Latin America and the Caribbean as one of the most affected areas in the world by this terrible disease; Socially vulnerable groups, due to the adverse conditions of precariousness and exclusion in which they lived before the pandemic, were especially affected, since all their socioeconomic conditions worsened. Studies carried out by the Economic Commission for Latin America and the Caribbean (ECLAC) established as results a contraction of the GDP of the order of 9.1%, the closure of 2.7 million companies and 44.1 million unemployed. Reports by Lustig, N, et al. In 2020 indicate that poverty in Latin America is 23% (using the international poverty indicator value corresponding to an income of USD 5.5 per day). They also point out that about 4% of Latin Americans live in extreme poverty (below the poverty line, corresponding to an income of USD 1.90 / day) and that their income is not enough to buy food that provides nutrition healthy. In general and worryingly, 10% of Latin Americans who earn USD 3.20 / day are at risk of falling into extreme poverty and they point out that this number is notably higher in Bolivia, Guatemala and Ecuador. These values, as expected, indicate that the pandemic has deepened regional inequality, which was already structurally high before the crisis, reflected in unemployment, increased informal employment, lack of social protection and limited access to free health services. ,all due to the collapse of the systems<sup>6-8</sup>.

In Latin America there are approximately 58 million people belonging to 800 indigenous peoples, representing 9.8% of the regional population <sup>7</sup>.

These indigenous peoples have been affected by the pandemic, both those who live in metropolitan areas and those who live in communities that are remote or isolated from health services. For the latter, the situation is even more complicated given the difficulties in accessing medical personnel and equipment <sup>9</sup>.

In rural areas, the situation is more critical and it is where indigenous settlements are historically located, with indigenous women being the most affected <sup>7</sup>.

Today more than ever the theory of cultural care, diversity and universality proposed by Madeleine Leininger (model of the rising sun) <sup>10</sup> is in force, since indigenous communities require nursing to assume its role and put into practice care techniques cross-cultural activities to face the pandemic. Sánchez-Ojeda in 2018 refer that it is necessary in this context the inescapable redemption of one's own "cultural care", which this theory proclaims <sup>11</sup>.

Given the prevailing cultural heterogeneity, nursing cannot remain on the sidelines; According to Leininger, people from foreign cultures expect nurses to respect and know how to react to their values, beliefs, ways of life and needs. Leininger appropriates the concept of culture used by the science of anthropology: "Culture is the shared, learned and transmitted values, beliefs, norms and ways of living that guide the thoughts, decisions and actions of a group in a specific way" <sup>10</sup>.

When observing the indigenous populations of Latin America as cultural groups as a whole, they present a diverse world that encompasses the concept of human care, giving importance to the worldview of each culture, appreciating the diversity of values, traditions, beliefs and styles life of these communities. These particular characteristics of each culture enrich the cross-cultural perspective that nursing has in its professional practice. Cultural care is a tangible reality in the face of possible ethnocide, although there are obstacles to providing it, Regarding cultural care, Leininger points out the importance of knowing the values, beliefs and ways of life that have been learned subjectively or objectively in each culture by the nursing staff, to assist and train other individuals or groups in the preservation of well-being and health <sup>10</sup>.

Human care is a field of study typical of nursing, it is its central axis and with multiple research possibilities; an example of this is research carried out on the customs, traditions and values that exist in each culture with respect to care, which are already being achieved in the literature in an incipient way, publishing and validating the knowledge that leads to value human care in its proper estimation <sup>13</sup>.

It is determined then that there is an anthropological influence that allows us to contemplate man as a biopsychosocial being, who lives within a social and cultural structure and that, in a certain way, defines his state of health;

This influence must be taken into consideration by the nursing professional when providing culturally accepted care. The objective of this work is to propose an adaptation, to indigenous populations, of the theory of cultural care, diversity and universality, proposed by Madeleine Leininger (model of the rising sun), which is based on the importance of adapting human care to the anthropological and cultural characteristics of each community (cross-cultural nursing), to improve the way the nursing personnel act in them. The methodology used for the development of this research was focused on the documentary compilation about the recent outbreak of the COVID-19 disease in vulnerable indigenous communities of America, also considering aspects related to cross-cultural nursing to develop the proposed model.

### *Contextualization for the choice of the model of the rising sun*

The application of the model of the rising sun to characterize the culture of an individual, family or community "is efficient to establish transcultural nursing care capable of transmitting well-being to the patient by feeling that the elements of their culture are respected" <sup>14</sup>.

The latest trends arising as a result of COVID-19 in various indigenous populations of America, warn about the urgent urgency to develop policies that adapt to the needs of said populations; these are eager for support from transculturality. The rising sun model presents the opportunity to apply it as a powerful tool known to nursing, which has been used for more than four decades in various situations. While it is true that the model of the rising sun has not been extensively documented,

Nursing not only relies on theorists, but also has an indispensable practical methodology to provide good care to populations in vulnerable situations, supported by anthropology, to provide cross-cultural care (ethno-nursing)<sup>14</sup>.

### ***Results of the application of the model of the rising sun***

Ojeda and collaborators in 2020 list some investigations that have used the theory of cultural care, diversity and universality, proposed by Madeleine Leininger, in population studies, which can be used as a reference to document the practical adaptation of this model. The study was carried out in Shuar communities, in the Zamora-Chinchipec province (Ecuador), to find out their health-seeking preferences, particularly in economically independent older people, who express pride in their knowledge and traditional health-seeking practices, which are ignored by the younger generations.

In this work it is suggested that these preferences defined by the most experienced residents, are taken into consideration as the basis of culturally representative state medical care, within its territory<sup>15</sup>.

Similar conclusions were obtained by Wheaver, 1999, which could be translated as follows: skills must be adapted to work in a non-Western context; containment skills become particularly important. In addition, respecting diversity, traditions, being open-minded and non-ethnocentric is essential<sup>16</sup>.

Likewise, it refers that it is unlikely that indigenous people currently resort to the exclusive use of traditional practices. Mixer et al, In 2014, note in their research 'Culturally Congruent End-of-Life Care for Rural Appalachian Dwellers and Their Families', the usefulness of the theory of cultural care and the ethno-nursing method, contributing to the body of knowledge of cross-cultural nursing and highlighting that its findings lay the foundations for

future work focused on the development of culturally congruent and competent nursing interventions<sup>17</sup>.

In the same way, Mercado and collaborators (2018), in their work 'Ibero-American collaboration in qualitative research in health: collaboration or isolation?', Refer to the need to reinforce collaboration in research on the health practices in rural communities and indigenous peoples. They emphasize that it

is urgent in the Ibero-American countries<sup>18</sup>.

Under the vision of some limitations, the theory of cultural care, diversity and universality, proposed by Madeleine Leininger, should be considered for its application by nursing professionals; Among these limitations are the revision of the bases of the theory, evaluating the needs of the indigenous populations of America, referring to the concepts of health and disease, in the same way the culture of the American Indians varies depending on the diversity of language, being these language barriers important, and for which interpreters must be used. Also, customs vary from one culture to another, As challenges of the model, it can be highlighted that a greater experimental application and its respective documentation are required from quantitative research, since the broader references are focused from qualitative research. Nursing must adapt more and more to the changes resulting from globalization, focusing its actions towards the management of cross-cultural theory and with emphasis on ancestral medicine, in order to be able to penetrate these populations without altering their ways of life, which is coherent with what dictates the model of the rising sun of the cross-cultural theory of Madeleine Leininger.

### ***COVID-19 basics***

The genus 'Coronavirus' (CoV) belongs to the family 'Coronaviridae' (subfamily 'Coronavirinae'). These viruses have proteins in the form of spikes in the membrane that resemble the solar corona, due to this morphology it was called coronavirus (CoV). CoVs have been identified in both avian hosts and several mammals, including bats, camels, dogs, and masked palm civets. They cause respiratory, neurological, enteric, and liver diseases. To date, seven types of CoVs are known to infect humans (HCoV), reporting mild illnesses such as the common cold to severe or fatal. Four HCoVs are called HCoV-OC43, HCoV-229E, HCoV-HKU1, and HCoV-NL63 and can produce symptoms similar to the common cold, and three produce severe acute respiratory syndrome. SARS-CoV-2,

SARS-CoV-2 severe acute respiratory syndrome, all affect the lower respiratory tract, cause severe respiratory disorder and pneumonia in humans<sup>19</sup>.

The disease is contracted by breathing saliva droplets containing SARS-CoV-2, that is, by direct or close contact with infected people who breathe and speak

closely. Fomite transmission is another potential route, particularly unventilated and crowded environments are conducive to contamination.

Preventive and compulsory social confinement exposed many people from the same family to living together in closed environments, without protection, increasing intra-family infections. COVID-19 has a high transmission capacity from the moment of infection, both from asymptomatic people and those who show symptoms, consequently, when there is a sick family member, it becomes difficult to carry out preventive distancing, especially in confined environments, where many members they share a single environment, This is why when an individual is positive for COVID-19, soon many family members who live with him will also be. The incubation period is 2 to 14 days, however, most develop symptoms before day 5-6<sup>19, 20</sup>.

The statistics reported by the WHO indicate that among the people who develop symptoms, the majority (around 80%) recover from the disease without the need for hospital treatment, around 15% develop a serious illness and require oxygen and 5% reaches a critical state, requiring intensive care. When complications occur, there may be deaths from multiple causes: respiratory failure, acute respiratory distress syndrome, septicemia, septic shock, thromboembolism and / or multiple organ failure.

### **COVID-19 and indigenous communities**

The impact of the COVID-19 pandemic on indigenous peoples has further exposed the well-known pre-existing inequalities between indigenous and non-indigenous peoples. By July 2020, the Pan American Health Organization (PAHO) made a call to its member countries to prevent the spread of COVID-19 through prevention measures and greater access to health services, and requested special attention to indigenous peoples of various countries in the Americas, as they are experiencing an increasing number of cases and deaths from the pandemic. PAHO reports high mortality rates from COVID-19 due to the following risk factors: malnutrition, poor access or lack of access to health systems, lack of drinking water, basic sanitation, high burden of parasitic diseases, extreme poverty, and exclusion. Since indigenous peoples represent almost 19% of the extreme poor (regardless of the region or location where they may live), they

are almost three times more likely to be in extreme poverty compared to their non-indigenous counterparts<sup>9, 22, 23</sup>.

In the same vein, ECLAC indicates that these peoples will be more affected in the health field; for not having the essential material conditions to prevent contagion and for having serious socioeconomic consequences due to the restrictions associated with the extraordinary measures imposed by governments to contain the virus. We must take into account the precarious employment that these communities have, since the main sources of work are usually informal activities. The International Labor Organization (ILO) indicates that 86% of indigenous people around the world work in the informal economy, facing poor working conditions every day, which translates into low wages and lack of social protection. These data place them below even non-indigenous counterparts who also work in the informal economy and represent 66% of the population<sup>24</sup>.

From January 2020 to March 10, 2021, 392,646 cumulative confirmed cases of COVID-19, including 5,605 deaths, were reported in indigenous peoples or communities of 15 countries in the Americas. Noting that in first place is the United States with 187,291 reported, followed by Brazil with 44,174 confirmed cases and 5,920 deaths; For this bulletin, PAHO indicates that Ecuador reports 4,937 confirmed cases and 194 deaths as of February 9, 2021<sup>23</sup>.

In Latin America, indigenous households have a higher density of individuals than average households, since they have a higher level of fertility. These extensive family structures are associated with little access to sexual and reproductive education for indigenous women and girls. Large family groups often imply overcrowding that carries greater risk factors in the pandemic. In this sense, the responses of the States should not only focus on traditional territories, but also on urban areas that constitute the critical areas of contagion of COVID-19 in all the countries of the region; they are displaced indigenous environmental communities, who go to the cities in search of a better life, but who unfortunately maintain the conditions of great precariousness that they had in their territories, exposing them disproportionately to the risk of becoming ill and dying from this cause<sup>24</sup>.

Public health services are the most indicated both for the detection of new cases and for the control of the COVID-19 patient<sup>24</sup>.

Within the nursing discipline, the theory proposed by Madeleine Leininger is the most appropriate nursing theory to address human care in COVID-19 patients and their families<sup>14</sup>.

The cultural competencies of health professionals will determine their ability to provide care in terms of detection and care. Human beings are culture, individuals belonging to an indigenous community have their own ancestral knowledge and practices to attack their ailments, these vary cross-culturally, resulting in particular actions and expressions in each community. This phenomenon was observed by Leininger when incorporating in human care the environmental context, its surroundings, the family and its culture (spirituality, kinship, politics, legal aspects, and values with respect to gender), that is, the worldview of the community indigenous people in particular. This is why these observations have strong influences from anthropology and psychology, resulting in the now called cross-cultural nursing, that guarantees that nursing personnel share a common language and similar conceptions regarding the nursing paradigms, person, health, environment and care, which characterize their professional role. At the time of this publication, most of the countries have shared information to avoid contagions, but it is not broken down by town of belonging, which exposes the deficiencies in the health promotion processes; the lack of an ethnic focus and the little information that has reached indigenous communities, where the latter is mainly due to the efforts made by their own leaders<sup>22</sup>.

The United Nations, in conjunction with experts on the Rights of Indigenous Peoples, promptly warned of the special vulnerability of indigenous peoples, communities before adopting any measure, since their main concern was protection, especially to peoples in voluntary isolation or in initial contact.

6 They also called for support plans to provide protection to these communities, providing them with culturally appropriate medical services and the design of communication and information strategies on COVID-19 in indigenous languages. Other organizations such as PAHO make the same recommendations, based on what is cultural care, and that directly represent Leininger's model of the rising sun for human care, specifically in the case of

COVID-19; recommending improving specific communication to explain what COVID-19 is and the necessary care to avoid contagion among community residents, transmitting the message in indigenous languages and adapting it according to their local practices and cultures, using symbols and images when necessary, relying on the validation of the message by the indigenous populations themselves.

“The images used in documents and on social networks must be inclusive and should never stigmatize indigenous peoples,” says PAHO<sup>22</sup>.

These recommendations have not been able to be carried out by the member states of Latin America, whose responses regarding indigenous peoples have been weak and insufficient<sup>24</sup>.

### **Theory of cultural care, diversity and universality, proposed by Madeleine Leininger (model of the rising sun), as a proposal for the care of indigenous communities with COVID-19**

The model of the rising sun (MSN), by Madeleine Leininger, was released in the 70s, through a graphic representation the components of the theory are observed, this facilitates its implementation by nursing professionals. The model consists of a circle whose upper half consists of two levels: the first level corresponds to the environment-individual interaction (development, social structures, conceptual idea of the world). The second level collects information regarding the meanings and specific expressions that are related to health care, seen from anthropology and ethno-nursing. In the lower part of the circle, the third level is observed, which promotes multidisciplinary work, that allows comprehensive care of the other and where the knowledge and skills of the professionals in question are taken into account. The fourth level, which makes up the second half of the circle, represents nursing care, aimed at preserving the health of individuals from a holistic perspective. By joining the two halves, a complete sun is formed, symbolizing the universe of the nursing profession: valuing human care and health<sup>14</sup>.

Aguilar and collaborators, in 2007, declare that this model describes human beings as entities that cannot be separated from their cultural origin, social structure, their conception of the world, their life trajectory or the context of their environment. The MSN in its original version is responsible for describing the human being as an integral being,

which cannot be separated from its cultural roots or its social structure <sup>14</sup>.

The proposed adaptation is the MSN aimed at indigenous populations affected by COVID-19 (figure1); in this the basic structure of 4 levels is maintained and it is represented by an 8-pointed star. At the top is level I, in which cultural care is reflected respecting the worldview of indigenous communities, based on the importance that these peoples give to community assets and collective rights, which allows them to maintain harmonious relationships and strong ties with their territories and their natural resources, which translates into knowledge: cosmic cycles related to the time of sowing and harvesting, and healthy habits with Mother Earth to maintain her source of food.

At this level is the human right of self-determination of indigenous native peoples, In level II, a compendium of the activities of nursing professionals based on Primary Health Care (PHC) is made, where the intercultural perspective in educational actions in health is highlighted, respect and recognition of their worldview to promote education processes for intercultural health, including cultural traditions and / or myths.

This encompasses everything observed during the pandemic era in regard to medicinal plants, which have been used by their ancestors to treat respiratory diseases and which are now used to reduce the effects of COVID-19, based on the fact that they contribute to the strengthening of the system. immune.

The purpose of this level is to understand the concept of disease by indigenous communities, understood as a spiritual imbalance mother-nature-man and health as well-being and harmony between the inhabitants, the community and the universe, expressed in body, mind and spirit.

Level III is represented by indigenous nationalities and communities and their interrelation with Western culture, represented in health facilities, breaking down the imaginary borders that have so far interrupted equitable access to health services.

The fourth and last level remains similar to the model proposed by Leininger, where the work of the nurse, which is human care, is seen from the interculturality of collective health and that emerges through the well-being of the community.

The humane care provided by nurses who know and practice traditional healing systems, who specifically apply the perception of health-disease processes related to COVID-19 from a cross-cultural perspective, and use “Western” healing tools to guarantee everyone health costs.

The adaptation of the MSN, the product of the health needs of indigenous populations affected by COVID-19, facilitates the understanding of the interrelated structure of the model (cross-cultural nursing) and contributes to improving the way nursing personnel act, since the knowledge learned from work directly with indigenous communities, allow them to raise awareness through the worldview of these communities; This is the basis of the proposal of a structure for cultural care from the perspective of the affected indigenous populations. If information on the health of indigenous peoples can be improved, health promotion and disease prevention measures can be adapted to guarantee access to health care in accordance with their culture.

The attention, Health care and education should reflect a humanized and ethical approach, insofar as these actions and activities incorporate personal and social aspects that are part of the history of each person, family and social group <sup>14</sup>.

Basic cultural care, which consists of the application of techniques, theories and procedures, rises to an action that enriches the exchange of knowledge between two people: the caregiver and the caregiver, respecting their culture, customs and beliefs in which is recognized as an entity unique and indivisible.

The model proposed in Figure 1 is based on practicing nursing care from the perspective of inclusion, from which products such as biosafety manuals can be derived in their native languages, explaining, for example, the proper practice of hand washing, respecting the earth and its environment. Social distancing techniques adapted to their community coexistence customs can also be addressed, understanding that the health of indigenous populations is a mixture of harmony between mind, soul and spirit. If indigenous communities achieve <sup>7</sup> a sense of balance between themselves and their environment, community surveillance with PHC can be maintained, thus reducing the vulnerability and inequity gaps that exist in the health of indigenous populations affected by the COVID-19 pandemic.



Adaptation of the rising sun model, by Madeline Leininger of transcultural nursing, which facilitates the understanding of the interrelated structure that the model has (transcultural nursing) and contributes to improving the way nursing personnel act.

### Conclusion

The policies of social confinement adopted by the different countries, to respond to the current pandemic situation, have accentuated the social problems of the American indigenous communities. This makes it imperative that innovative strategies be designed to provide nursing care that reduces these inequities, additionally it is required that these strategies be adapted to the sociocultural characteristics of each community. Under this premise, the theory of cultural care, diversity and universality (Madeleine Leininger's model of the rising sun) can be perfectly adapted to the aforementioned communities, which would allow meeting the requirements of cross-cultural nursing current.

The model of the rising sun adapted to indigenous populations affected by COVID-19 is a pertinent proposal to the serious health scenario of the vulnerable indigenous group in a pandemic.

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