

## Factors associated with mental health and mental disorders in childhood: Ecosocial and ecological models for public health policies

### Factores asociados a la salud mental y trastornos mentales en la infancia: Modelos ecosocial y ecológico para el diseño de políticas públicas

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#### Abstract:

Mental health is a fundamental axis for health, so it is considered a human right to be cared for and protected. Childhood mental disorders alter an individual's physical, psychological and social development, causing various individual and social problems. The Ecosocial and Ecological models allow the identification of the interactions of different protection and risk factors that influence the maintenance of mental health or the appearance of mental disorders. This work aimed to analyze the social determinants of mental health and mental disorders in childhood within the conceptual framework of the Ecosocial and Ecological models, as an initial strategy for developing public policies aimed at the protection of mental health. in childhood.

#### Keywords:

*Mental health in childhood, Ecosocial model, Ecological model*

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#### Resumen:

La salud mental es un eje primordial para la salud, por lo que está considerado como un derecho humano que debe cuidarse y protegerse. Los trastornos mentales en la infancia alteran el desarrollo físico, psicológico y social de un individuo, ocasionando diversas problemáticas individuales y sociales. Los modelos Ecosocial y Ecológico permiten identificar las interacciones de diversos factores de protección y de riesgo que influyen en el mantenimiento de la salud mental o en la aparición de trastornos mentales. El presente trabajo tuvo como objetivo analizar los determinantes sociales de la salud mental y los trastornos mentales en la infancia dentro del marco conceptual de los modelos Ecosocial y Ecológico, como una estrategia inicial para el desarrollo de políticas públicas encaminadas a la protección de la salud mental en la infancia.

#### Palabras Clave:

*Salud mental en la infancia, Modelo Ecosocial, Modelo Ecológico*

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### INTRODUCTION

The World Health Organization defines mental health as "the state of complete wellbeing where the individual is aware of their own capabilities, can cope with the stresses of life, can work productively and fruitfully, and can make a contribution to their community".<sup>1</sup> From the perspective of this concept; it would be understood that mental health is an important element for wellbeing and physical health, it should be guaranteed as a

fundamental right of all human beings, in addition, action from different sectors is necessary for its protection and care at all periods of life.<sup>2</sup> Therefore, it is understood that the presence of a mental disorder alters a person's functioning and wellbeing.

Considering that mental health is a primordial element for health, from the Public Health viewpoint, the approach to mental disorders has taken on greater relevance since it is associated with an increase in the overall disease burden, it reduces a

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person's productive capacity and life expectancy. It has a significant impact on the development of society.<sup>3</sup> The consequences of a mental disorder include disability, decreased functioning of the individual in various areas in which they work, and physical comorbidities, which implies a high economic and social cost.<sup>4</sup>

### **MENTAL HEALTH IN PUBLIC HEALTH**

In past decades, mental disorders were not considered public health problems. Still, they became relevant at the end of the 20th century, when the World Health Organization published results on the global burden of disease and established Disability Adjusted Life Years (DALYs) as a health indicator, which indicates the total number of years lost by people who live with a disability or whose life span is prematurely reduced due to physical or mental conditions.<sup>5</sup>

Although progress has been made in the field, mental health is a neglected area within the health systems and public policies of different countries, particularly in low- and middle-income countries; this is reflected in the high morbidity rates of mental disorders and suicide as one of the leading causes of death in certain age groups, for example, adolescents and young adults. In addition, it implies an economic and social burden for the individual, the family, society, the health system, and the country's economy.<sup>6</sup>

Globally, the prevalence of mental disorders is on the rise, it is estimated that one in eight people in the world lives with a mental disorder, making it difficult for health systems to respond, resources to be allocated, and quality of care to meet the needs of those affected.<sup>7</sup> It is true that health systems encourage people to take care of their mental health by identifying symptoms and seeking professional help when they feel it is necessary; however, concerning professional care for the management of mental disorders, services may not be the most adequate or not provided, so that psychological and psychiatric care is usually provided by private services and at a higher cost.<sup>8</sup>

Public Mental Health is a branch of the discipline of Public Health that aims to promote the care and improvement of mental health, performing actions such as informing about risk and protective factors for mental disorders, implementing promotion and prevention strategies to contribute to the improvement of well-being and health, and decrease the prevalence of mental disorders, through collaboration with different organizations to carry out actions that influence the development of intervention strategies and the implementation of public policies.<sup>9</sup>

Due to the projected increase in rates of mental disorders, it is necessary to consider the adoption of the Public Mental Health approach to reduce the negative consequences of mental disorders and the cost of their treatment in such a way that it

emphasizes the importance of allocating resources and carrying out actions for their care and the protection of well-being, given that taking care of mental health entails better benefits for both the individual and society.<sup>9</sup>

Therefore, it is essential to develop different intervention strategies that promote mental health at different ages, aiming to raise health levels and reduce risk factors for mental disorders, which can influence the design, implementation, and evaluation of public policies.<sup>5</sup>

### **MENTAL HEALTH IN CHILDHOOD**

Childhood is one of the life cycle stages that is often affected by the lack of attention to mental health problems. Childhood health care has become more relevant in recent decades because associations between childhood adversity and poor health during adulthood have been observed.<sup>10</sup>

The biological and maturational changes that characterize childhood, e.g., brain growth, the formation of new synaptic connections between neurons, and the acquisition of skills, make it a stage sensitive to the effects of exposure to adversity.<sup>10, 11</sup>

The description of the child population in low- and middle-income countries has established the importance of the relationship between childhood development and the impact on health and well-being in adulthood since a large percentage of children are at risk of not reaching their developmental potential, considerably affecting the annual income of a population in the long term.<sup>12</sup> From this perspective, it is not only enough to allocate strategies to reduce infant mortality; it is also necessary to support the healthy development of each child, including those aspects that impact neurodevelopment, since new synaptic connections are the basis of a child's mental and physical health, which determine the capacity for learning and the adaptive response to the demands of the environment.<sup>12</sup> A child reaches their developmental potential when they acquire competencies for academic, behavioral, socioemotional, and economic achievement, and to achieve this, requires the interaction of various factors such as health, nutrition, safety, stimulation, and positive interaction with their environment, the latter being bidirectional because it involves the role of the caregiver, who must be receptive and sensitive to the child's needs.<sup>13</sup> Although childhood is characterized by the presence of good health, there may be health inequities and other factors that cause the onset of a mental disorder at this stage.<sup>14</sup>

The epidemiological overview of mental disorders in this sector of the population before the pandemic derived from COVID-19 reflected that one in five children or adolescents in the world presented the necessary criteria to be diagnosed with a mental disorder, and it was estimated that symptoms usually began before 14 years of age, due to exposure to life adversities and the interaction of another individual, family, social and cultural

factors, in addition to the fact that specialized care is usually provided until symptoms are moderate or severe, or even in adulthood.<sup>2,9,15</sup>

The COVID-19 pandemic showed the need for attention to mental health problems because during the confinement, a large part of the population manifested symptoms of mental disorders, and in other groups, they worsened.<sup>16</sup>

Children were affected by this health situation, mainly because of the difficulty in accessing health services and quality education, in addition to the decrease in their activities, which directly affects their physical, emotional, and social development; in some cases, there were also other stressful or traumatic events such as the death of a family member, abuse and maltreatment, family disintegration, poverty, among other risk factors that have a negative impact on children's mental health.<sup>16</sup>

In 2020, the world population of children and adolescents aged 10-19 years increased up to 1.2 billion, and it was estimated that about 13% had the criteria to be diagnosed with a mental disorder, depression and anxiety being the most frequent problems.<sup>16</sup>

#### **IMPORTANCE OF PUBLIC POLICIES FOR MENTAL HEALTH CARE IN CHILDREN**

Promoting mental health is essential to reduce the overall burden of disease associated with mental disorders from childhood onwards.<sup>17</sup> This has positive consequences in the short, medium, and long term because it will determine full development despite vulnerability, and it will reduce the gap between the need for care and the availability of services and resources, not addressing mental problems in this population will have negative consequences that impact on the economic, social and cultural development of a community, in addition, mental disorders are associated with the deterioration of physical health. Therefore, it is essential to consider them as a priority in public agendas at different levels of governance, involving the participation of all sectors, prioritizing mental health care for children, because there is a universal lack of public policies for mental health care from infancy onwards.<sup>17-19</sup>

When there is a lack of public policies on mental health for the development of health systems and care for children, some problems arise, such as the lack of public funding for adequate epidemiological monitoring of child pathology, which makes it challenging to identify the magnitude of mental issues, so the health need is not recognized, and the necessary resources for care are not established, causing the lack of assurance of universal access to health services, generating other social problems such as violence, stigma, social discrimination, and a decrease in the economic and social development of a population.<sup>20</sup>

It is essential to avoid stigmatizing mental disorders, generating public awareness and political will to create a public policy designed intersectoral where all the actors involved participate and based on the best scientific evidence available. At the same time, they should be specifically designed for the child and adolescent population to facilitate access to services and an optimized and innovative distribution of resources, considering this population as active recipients for legislative formulation.<sup>19</sup> Currently, according to Black et al., when global commitments to children's development were evaluated, considering five categories: 1) establishment on the public agenda, 2) evaluation, 3) implementation, 4) policy formation, 5) leadership and partnerships, it was identified that governance is a challenge to promote global priority for the implementation of public policies aimed at child development, since the difficulties in conceptualizing childhood, impedes planning and progress; however, highlights the concern of attending in an intersectoral manner to children and their families in vulnerable contexts, establishing monitoring and care strategies that are effective and equitable.<sup>13</sup>

#### **SOCIAL DETERMINANTS OF MENTAL HEALTH**

The social determinants of health are "the conditions in which people are born, grow, live, work and age, considering the health system. These circumstances are the result of the distribution of money, power, and resources at the global, national, and local levels, which in turn depend on appropriate policies".<sup>21</sup> This concept includes individual characteristics ranging from biological aspects to the ability to manage and modulate one's thoughts, emotions, behaviors and interaction with others, and external factors such as social, cultural, economic, political and environmental aspects.<sup>15</sup> If Public Health attempts to adopt a life-cycle perspective for the implementation of quality health services directed by public policies, it must start from the consideration of ecological, biological, and developmental factors that impact the health outcomes of a population.<sup>10</sup>

In this sense, from the Socio-Ecological model proposed by McLeroy et al. it is possible to identify the environmental factors that interact with the individual factors that influence the realization of healthy behaviors or risk behaviors, on which the mental health of an individual depends.<sup>22</sup> Concerning children, this interaction usually occurs in the primary contexts where they develop, the family and the school, both of which determine physical, cognitive, psychological, and social development.<sup>14,23</sup>

Individual factors such as genetics, lifestyles, and psychological characteristics interact with different family, school, and social environments, in which factors such as parenting styles, social support, social belonging, socioeconomic status, and culture influence mental health (Figure 1).<sup>14,23</sup>

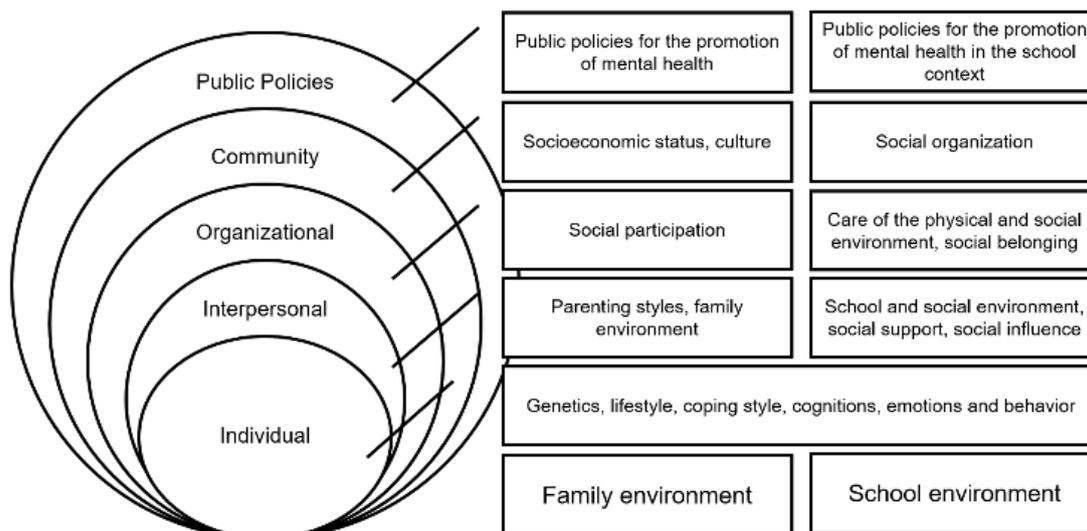


Figure 1. Ecosocial model of factors associated with mental health in childhood (own elaboration).<sup>22</sup>

### CONCEPTUAL FRAMEWORK: PROTECTIVE AND RISK FACTORS ASSOCIATED WITH MENTAL HEALTH

Mental health and mental disorders are multi-causal phenomena where individual factors interact with the various determinants of risk and protection from social, economic, and physical environment factors present during all life stages.<sup>18</sup>

The Ecological Model allows explaining the interaction of risk and protective factors with the natural environments in which the individual develops.<sup>24</sup> This model is composed of four systems:

**Microsystem:** includes the individual and his biological, physical, and psychological characteristics, such as neurobiological, physical, emotional, and psychosocial responses, as well as his experiences and the characteristics of his nuclear family that determine his personality, behavior, and vital development.<sup>24, 25</sup>

**Mesosystem:** the close environments in which the person develops, including the extended family, school, work, and social networks. These are the spaces or environments where the person spends most of the time after home and with family.<sup>24, 25</sup>

**Exosystem:** distant environments to the individual, such as health care services and the socioeconomic characteristics of the community to which the individual belongs. These environments can influence access to and use of health services.<sup>24, 25</sup>

**Macrosystem:** includes public policies, social, cultural, religious beliefs, and customs.<sup>24, 25</sup>

Specifically, mental health and mental disorders in childhood are approached from the Ecological model (see Figures 2-3); in the Microsystem, it is recognized that for the development of

symptoms of mental disorders, factors such as genetic influence, lifestyles, food insecurity, psychological characteristics (thoughts, emotions, coping styles) and neurobiological development may depend on their immediate environment, the family environment and the relationship with parents or primary caregivers, specifically, parental conditions directly influence the emotional state and behaviors of children.<sup>10, 12, 18, 26</sup>

Aspects such as positive self-esteem, social skills, emotional regulation, resilience, adaptive coping skills, and healthy behaviors (healthy eating, physical activity, and sleep hygiene) are some protective factors that affect physical and mental wellbeing.<sup>12, 18, 23</sup>

The mesosystem includes proximate environments such as the family and school. When parents or primary caregivers present mental health disorders, they usually have a deficit in parental self-care, which affects the physical and emotional care they provide to their children, making it impossible for them to meet their own needs and those of their children as well as the inability to identify the presence of mental disorders in their children.<sup>27</sup>

Parental mental state, parenting styles, and family conditions directly influence the physical and psychological development of a child; aggressive, abusive, distant, or neglectful parents and instability in the family structure, such as divorce or family separation, cause behavioral problems and mental mood, anxiety or substance use disorders in children, associated with the poor emotional and biblical response of the children.<sup>26, 28, 29</sup>

Available evidence establishes that exposure to maltreatment and psychosocial stressors during childhood are important determinants of disease and disability in adulthood.<sup>10</sup> In particular, how childhood adversity generates chronic conditions, and disability can be explained along two axes: 1) dysregulation of biological response processes to stress causing

inflammation due to high cortisol levels and 2) increasing maladaptive psychological responses such as impulsivity and difficulties in intertwining social relationships; both biological

and psychological responses can lead to structural neurological changes, which promote the adoption of health risk behaviors,

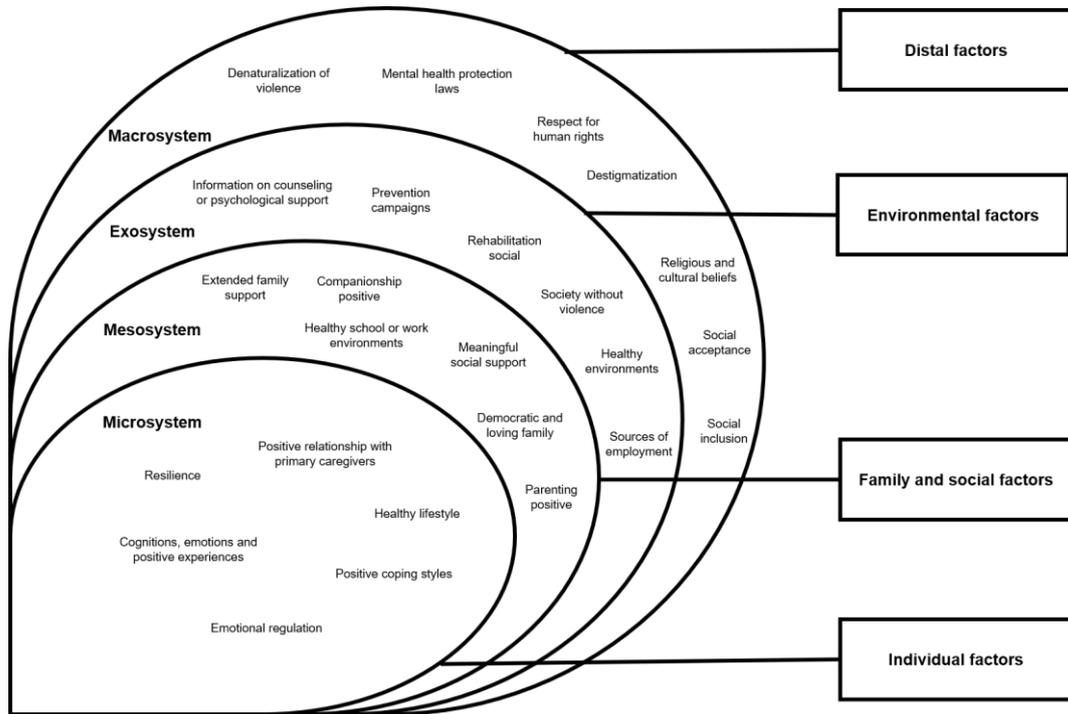


Figure 2. Ecological model for protective factors associated with mental health (own elaboration).<sup>24, 25</sup>

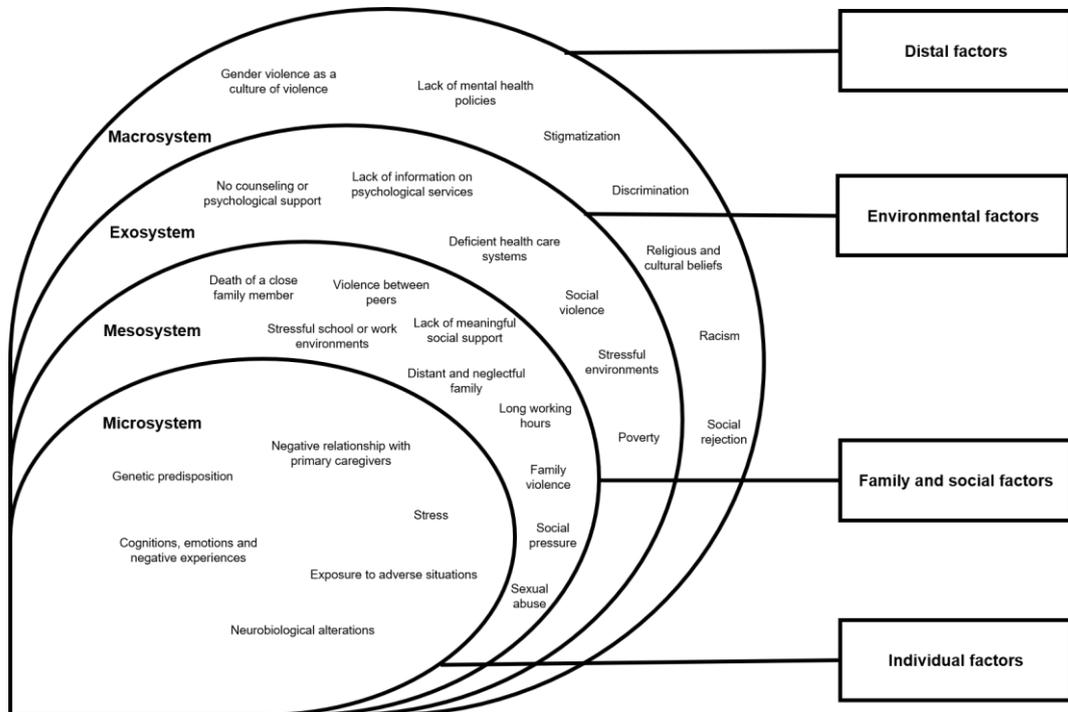


Figure 3. Ecological model for risk factors associated with mental health (own elaboration).<sup>24, 25</sup>

which in the long term, cause wear and tear on the body.<sup>10, 12</sup> In contrast, supportive parents, peers, and adults, positive and democratic parenting styles, positive family and social support

networks, appropriate relationships with other family members, friends, and schoolmates, and environments that promote healthy development are protective of mental health.<sup>18, 26</sup> Breeding retakes a fundamental role because it can modify gene expression, generating the hypothesis that this can affect multiple generations.<sup>12</sup>

The Exosystem identifies the economic, social, and environmental circumstances influencing access to and using health services. An example of this aspect is how a vulnerability, poverty, insecurity, social violence, and social inequalities increase the risk of suffering from a mental disorder.<sup>9, 10, 18</sup>

Finally, in the Macrosystem, culture, stigmatization, social rejection, and discrimination are risk factors for mental disorders and seeking specialized care. In addition, public policies to protect mental health can ensure care within the health system and decrease other risk factors.<sup>18</sup>

According to the Ecosocial and Ecological models previously described for the identification of risk and protective factors associated with mental health and mental disorders in childhood, it is considered that there are distal and proximal factors that influence the child's mental state.<sup>22, 24</sup>

### **LEGAL FRAMEWORK FOR CHILDHOOD MENTAL HEALTH**

Mental health is included within the Sustainable Development Goals 2030 established by the United Nations as part of goal #3 "Health and Well-being: Ensure healthy lives and promote well-being for all at all ages," where it is indicated that efforts should be made to eradicate a wide range of diseases completely and address other health problems, through the efficient financing of health services to ensure universal access.<sup>30</sup> In this objective, child health is recognized as a priority sector. For that reason, it is recommended that action be taken through schools and other organizations to promote healthy lifestyles, in addition to demanding that governments and other decision-makers legislate national and local public policies that guarantee health protection as a fundamental right.<sup>30</sup>

The World Health Organization developed the Mental Health Action Plan as a comprehensive response to reduce the prevalence of mental disorders and suicide in the world, establishing the objective of promoting mental wellbeing and providing care to prevent mental illness, improve recovery, reduce mortality, morbidity and disability of people living with mental disorders, respecting human rights and considering all stages of life, specifically childhood.<sup>15</sup>

In Mexico, the regulations for mental health care are included in the Political Constitution of the United Mexican States within the General Health Law, in Chapter VII, which states that the promotion of mental health and the prevention of mental

disorders is a priority.<sup>31</sup> It is also included in NOM-025-SSA-2014 to provide health services in comprehensive medical-psychiatric hospital care units.<sup>32</sup>

Concerning mental health, specifically in childhood, NOM.009-SSA-2013 for the Promotion of School Health was established, which aims to indicate the criteria, strategies, and activities to be carried out by health personnel for the promotion of health and the prevention of diseases in the school population, to promote a favorable environment and a culture of health.<sup>33</sup>

Therefore, it is required that public policies designed and implemented for mental health care in childhood acquire a perspective of health promotion and prevention of mental disorders since it involves a higher cost of the restoration of health and is associated with other problems such as physical illness, increased economic and social costs, violence and the possibility of premature death by suicide. Investing in mental health from childhood will bring benefits in the short and long term and will have a positive impact on our society since children are the future of our country.

Accordingly, public policies designed and implemented for the care of mental health in childhood need to have a perspective of health promotion and prevention of mental disorders, given that the cost of restoring health is higher and is associated with other problems such as physical illnesses, increased economic and social costs, violence and the possibility of premature death by suicide.

It is not only enough to have an impact on education, health, nutrition, and it is necessary to take a life cycle perspective because inequalities begin at conception, which means carrying out actions and interventions to support mothers before, during, and after pregnancy, covering the needs of infants and children, and strengthening support for adolescents to consolidate the maturation of the brain that began in the first years of life.<sup>12</sup> From this point, it is possible to incorporate neuroscience advances in the design of public policies and the application of longitudinal studies to evaluate the impact of these strategies on neurocognitive, physiological, and epigenetic aspects of child development.<sup>13</sup>

### **CONCLUSIONS**

In this study, the social determinants of mental health and mental disorders in childhood were identified and analyzed within a conceptual framework developed based on the Ecosocial and Ecological models.<sup>22, 24</sup> The analysis of the interaction of associated factors made it possible to recognize that mental health and mental disorders in childhood are the results of the combination of distal and proximal variables, which is why they are considered multifactorial phenomena influenced by individual, family, school, social, environmental and cultural aspects.

Identifying social determinants allowed the recognition of the areas in which the health professional can have an impact to design public policy initiatives that favor reducing prevalence rates of mental disorders.

For this reason, interdisciplinary work is required to develop public policies that impact the reduction of risk factors for mental health, mainly in this sector of the population.

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