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REVIEW ARTICLE

RIGHT TO CHILD HEALTH IN CONTEXT OF NATURAL ENVIRONMENTAL SECURITY

PRAWO DO ZDROWIA W WIEKU DZIECIĘCYM W KONTEKŚCIE BEZPIECZEŃSTWA ŚRODOWISKA NATURALNEGO

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ABSTRACT

Introduction: From different points of view, health in general and child health, in particular, constitute the highest value which preserves a significant amount of resource potential. Child health is understood as his/her state consisting of a certain system of elements (physical, psychological, etc.) each of which, on the one hand, is characterized by its specificity, and on the other hand, is in a complementary relationship with each other. A process of child health formation is influenced by a large number of various elements (social, economic, etc.) and the natural environment is one of them. Its compliance with certain rules and standards that form its qualitative status affects life and health both directly and indirectly, therefore, determination of interdependence between the natural environmental conditions and child health is important for understanding a causal link between the specified categories.

The aim: To study provisions of international acts and other sources in order to clarify the concept of child health and a role of the natural environment of a proper quality in the process of its formation.

Materials and methods: the paper examines provisions of international acts, some scientists' conclusions and other sources. Different authors' scientific viewpoints are studied with scientific methods in the context of medical and legal components. Within the framework of the system approach, as well as analysis and synthesis, the concepts of safe natural environment, health in general and child health, in particular, as well as importance of a safe natural environment for child health are researched.

Review: The concept of health is complex and depends on various factors including proper natural environmental conditions. Presence of dangerous environmental factors affects occurrence of various children diseases. In the context of the natural environmental security, it is possible to indicate both general and individual natural resources. Their deterioration may affect its condition at large.

Conclusions: Ensuring child health, his/her proper physical, psychological and other development is impossible without guaranteeing natural environmental security. Consumption of high-quality natural resources, observance of norms and standards for the environmental security allows the human body to develop fully accumulating relevant resources and attracting them at the right time. Ensuring the natural environment of a proper quality guarantees a greater range of opportunities for a child in the process of forming, coming into being and maintaining his/her physical and psychological well-being, which is a prerequisite for exercising his/her other rights and proper fulfillment of his/her duties in the process of his/her transformation and transition to adulthood.

KEY WORDS: natural environment, safe natural environment, health, child health

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INTRODUCTION

In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it (principle 4 of the Rio Declaration on Environment and Development [1]). Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature (principle 1 of the Rio Declaration on Environment and Development). Hence, one of the means of implementing the process of development is the environmental protec-

tion in general and its natural components, in particular. Its proper qualitative conditions ensure productivity of human life and health. At the general theoretical level, the authors have stated their positions [2-6] with regard to the factors that may affect health in general and child health, in particular, in one way or another, but for comprehensive understanding of potential threats to a child's body, it is necessary to consider the specified issues using a systematic approach.

From longstanding to emerging hazards, environmental factors are a root cause of a significant burden of death,

disease and disability. They range from poor water quality and access, vector-borne disease and air pollution to toxic chemical exposures, climate change and degraded urban environments [7, p. 5]. The natural environment security is essential for implementing human life activities in conditions which contribute to preservation of his/her health, or at least do not aggravate it. Such security is of great importance for formation, development and functioning of a child's body, which, by virtue of its immaturity, incompleteness and insecurity, is more sensitive to various negative aspects of the environment. Children are particularly vulnerable to many environmental threats, including a contaminated and unsafe physical environment. This heightened susceptibility derives primarily from the unique biological features that characterise the various stages of development from conception to adolescence. But it is not just the biology of growth and development that leads to the special impact of environmental threats on children: fetuses, infants, children and adolescents are also special in the way a variety of social and psychosocial factors influence their exposure as well as the consequent health effects [8, p. 18]. Let us define the essential characteristics of the outlined topics and find out possible threats to child health as a result of various changes of the natural environment, including those of dangerous nature.

Of all vulnerable populations, children are a unique section of the population with a particular susceptibility to environmental agents. Starting at the foetal stage, the close physiological relationship between a pregnant woman and the foetus she carries makes the foetus vulnerable to dangerous agents the mother has been exposed, especially those affecting development. Many toxic or allergenic agents present in maternal blood may also be present in mother's milk and a number are capable of crossing the placental barrier. This potential for transfer of environmental contaminants from the mother to the foetus and the neonate, further reinforces the need to protect pregnant and breastfeeding women from environmental contamination as a way to ensure a healthy start in children's life (para. 5.3 of the **Communication from the Commission to the Council, the European Parliament and the European Economic and Social Committee – A European Environment and Health Strategy** [9]).

The degradation of the environment, through air pollution, noise, chemicals, poor quality water and loss of natural areas, combined with lifestyle changes, may be contributing to substantial increases in rates of obesity, diabetes, diseases of the cardiovascular and nervous systems and cancer – all of which are major public health problems for Europe's population [10]. Reproductive and mental health problems are also on the rise. Asthma, allergies [11], and some types of cancer related to environmental pressures are of particular concern for children [12]. Polluted indoor and outdoor air, contaminated water, lack of adequate sanitation, toxic hazards, disease vectors, ultraviolet radiation, and degraded ecosystems are all important environmental risk factors for children, and in most cases for their mothers as well. Particularly in developing coun-

tries, environmental hazards and pollution are a major contributor to childhood deaths, illnesses and disability from acute respiratory disease, diarrhoeal diseases, physical injuries, poisonings, insect-borne diseases and perinatal infections [13]. Consequently, influence of the natural environment on child health is both indirect and direct. From the moment of his/her conception, a process of a child bearing and giving birth by a mother, child health may potentially be negatively affected which is directly dependent on a mother's lifestyle. From the moment of birth, the environmental impact on child health becomes immediate, and, consequently, effects of such impact may vary, depending on different circumstances.

THE AIM

To study provisions of international acts and other sources in order to clarify the concept of child health and a role of the natural environment of a proper quality in the process of its formation.

MATERIALS AND METHODS

the paper examines provisions of international acts, some scientists' conclusions and other sources. Different authors' scientific viewpoints are studied with scientific methods in the context of medical and legal components. Within the framework of the system approach, as well as analysis and synthesis, the concepts of safe natural environment, health in general and child health, in particular, as well as importance of a safe natural environment for child health are researched.

REVIEW AND DISCUSSION

According to Art. 1 of the Convention on the Rights of the Child [14], a child means every human being below the age of eighteen years unless under the law applicable to the child, majority is attained earlier.

Consequently, a child is defined as a person who, by the general rule, as a result of his/her life, has not reached the appropriate stage of both physical and spiritual formation which is conditioned by his/her behaviour, perception and awareness of the world.

The protection of children from environmental health threats is based on international agreements designed to ensure that children grow up and live in an environment that is conducive to the highest attainable level of health [1]. In other words, at the international level, legal regulation of public health, in particular child health, concerning various threats to health, including those of ecological origin, is evidence of its importance and necessity directly for children since they are expected to form quantitative and qualitative potential of the adult population of the state. It also plays an important role in development and prosperity of the state itself. In particular, let us consider provisions of the relevant legal acts in order to study the specified issues.

According to part 1 of Article 12 of the International Covenant on Economic, Social and Cultural Rights, the States Parties to the present Covenant recognize the right of everyone to the enjoyment of the highest attainable standard of physical and mental health. The steps to be taken by the States Parties to the present Covenant to achieve the full realization of this right shall include those necessary for: (a) The provision for the reduction of the stillbirth-rate and of infant mortality and for the healthy development of the child.

In its turn, according to part 2 of Article 6 of the Convention on the Rights of the Child, States Parties shall ensure to the maximum extent possible the survival and development of the child. In other words, one of the responsibilities of the States Parties is to ensure healthy development of children through maintaining an appropriate level of physical and mental health that cannot be implemented without taking care of security of the natural environment which may pose a potential threat. For example, in Estonia, one of the five strategic goals of the Strategy for Children and Families 2012-2020 [15] is defined as the rights of children are guaranteed and a functional child protection system is created in order to value each child and the kind of safe environment that supports the development and well-being of children. Their higher vulnerability is an important reason to take specific action for this population group when both assessing and managing risks. Furthermore, the economic impacts of environment-related childhood illnesses highlight the need to pay particular attention to children. This vulnerability and related economic impact has guided the focus on children throughout the Strategy and the choice of the specific pollutants to be addressed (para. 5.3 of the **Communication from the Commission to the Council, the European Parliament and the European Economic and Social Committee - A European Environment and Health Strategy** [9]).

According to part 1 of Article 24 of the Convention on the Rights of the Child, states Parties recognize the right of the child to the enjoyment of the highest attainable standard of health and to facilities for the treatment of illness and rehabilitation of health. States Parties shall pursue full implementation of this right and, in particular, shall take appropriate measures: (c) To combat disease and malnutrition, including within the framework of primary health care, through, inter alia, the application of readily available technology and through the provision of adequate nutritious foods and clean drinking-water, taking into consideration the dangers and risks of environmental pollution. Hence, the State Parties shall take all measures contributing to child health at most, including through elimination of a potential danger and risks of environmental pollution.

Furthermore, the 1997 Declaration of the Environmental Leaders of the Eight on Children's Environmental Health includes the following policy approaches, which may contribute to the development of policies aimed at the protection of children in Europe: - Preventing exposure is the most effective way of protecting children's health from environmental threats. Governments should therefore

develop policies that seek to prevent childhood diseases by preventing exposures to environmental agents, on the basis of the precautionary principle. – National policies should take into account the specific exposure pathways and doseresponse characteristics of children when conducting environmental risk assessment and setting protective standards. – Research should be promoted in order to gain a better understanding of the particular exposure and sensitivities of infants and children to environmental hazards. Exchange of information on research results and the development of regulatory systems should also be promoted. – Awareness of the environment and health should be promoted, so as to enable [8, p. 13]. All these declarations and policy statements show that the commitment to a healthier and safer environment continues at the highest level. The awareness that children lie at the very heart of sustainable development makes the protection of their health and the promotion of their wellbeing a highly strategic issue. Europe has been at the forefront in recognising the fundamental rights of children and in establishing principles such as the right to selfdetermination, health and sustainable environment, and will continue to play a leading role in the further development and application of these principles [8, p. 15].

Consequently, when analyzing provisions of the legal grounds of the international character concerning the relationship between child health, natural environmental security and threats to it, and, therefore, and to child health, we can conclude that, on the one hand, a child is, by virtue of his/her state determined by his/her age, perception of the world, dependence on adults and other factors, is a special subject, that, in his/her formation, first of all, is vulnerable to various threats, and it is necessary to pay attention at this while forming the state policy. On the other hand, a lack of rational government decisions in the context of preventing and preserving a proper quality of the environment will also have an impact on child health both directly and indirectly.

According to dictionary sources, child health encompasses the physical, mental, emotional, and social well-being of children from infancy through adolescence [16]. Child health is a state of physical, mental, intellectual, social and emotional well-being and not merely the absence of disease or infirmity [17]. Health is influenced by a variety of factors, the main ones being genetic inheritance and the economic, social, psychological and physical environment. These factors interact in complex ways, which are specific for each disease and for specific individuals and population groups [8, p. 12]. That is, child health is determined through a system of appropriate conditions provided by a set of factors allowing not only to avoid diseases, but also promote development of a child at the spiritual, intellectual, emotional and other levels. The environment, in particular its natural component, is not least in this process of formation, coming into being and strengthening child health. A growing body of research suggests that increasing children's nature interactions can have positive benefits for their health-related quality of life (HRQOL); however,

researchers have yet to examine how geographical context influences this relationship [18].

Pursuant to the Model Law on Environmental Protection [19] drafted under the auspices of the Council of Europe and adopted in 1994, along with such natural resources as air, outer space, water, soil, climate, fauna and flora in their interaction, the concept of “the environment” includes the values that form the surroundings created by man, as well as quality of life and conditions to the extent in which they have or may have an impact on human welfare and health. According to para. 2 of part 1 of the Environmental Protection Act 1990 [20], the «environment» consists of all, or any, of the following media, namely, the air, water and land; and the medium of air includes the air within buildings and the air within other natural or man-made structures above or below ground. With reference to vocabulary sources ‘environment’ means (a) fauna and flora; (b) soil, water, air, climate and landscape; and (c) cultural heritage and the built environment; (and includes occupational health and safety and projects’ social effects in the non EU-countries) [21]. The EIB (European Investment Bank) uses the term ‘natural’ to refer to all those processes and components in the environment, which are spontaneously formed and not, or minimally, influenced by man [22]. Furthermore, at the general theoretical level, it is indicated that in an objective sense, “nature” as used here refers to physical features and processes of nonhuman origin that people ordinarily can perceive, including the “living nature” of flora and fauna, together with still and running water, qualities of air and weather, and the landscapes that comprise these and show the influence of geological processes. As such, “nature” overlaps substantially with “natural environment,” an environment with little or no apparent evidence of human presence or intervention, and the two terms have been used interchangeably [23]. In other words, there are two concepts related to each other but having a slightly different meaning, though interrelated and interdependent.

Attribution of the role of the environment in the development of diseases, and the development of novel assessment approaches aimed at taking the inherent complexity and uncertainty of the environment and health interactions into account, remain a subject of intense debate [24-26]. Although the results of certain studies, which are often controversial and require in-depth research, show that interacting with nature is positively associated, for instance, with the mental health of children and teenagers [27]. Developing the scientific basis to protect child health will require a sustained effort by many disciplines. When data are insufficient, the development of a sound basis to deal with uncertainty may be equally or more challenging [8, p. 202].

The World Health Organisation (WHO) defines «environment and health» as including «both the direct pathological effects of chemicals, radiation and some biological agents, and the effects (often indirect) on health and well-being of the broad physical, psychological, social and aesthetic environment, which includes housing, urban development, land use and transport» [28]. Obviously,

the specified elements are in a reciprocal relationship and understood in the context of child health, given that children have a unique vulnerability. They go through a succession of distinct developmental and learning phases e.g. the foetal, neonatal, school-age and pubertal phases. At each of these stages, a child is vulnerable and exposed to different agents: an adolescent may be more vulnerable to attacks on the reproductive system, while a baby is more vulnerable to dust at ground level. Children also face a potentially longer exposure to toxicants. In view of their life expectancy, children are the section of the population likeliest to endure exposure for the longest time (p. 5.3 **Communication from the Commission to the Council, the European Parliament and the European Economic and Social Committee - A European Environment and Health Strategy** [9]). Every person’s right to a healthy environment is a good guiding goal for policies [8, p. 195].

Policies of the European Community concerning the environment are aimed at: - preserving, protecting and improving the quality of the environment, - protecting human health (Art. 174 of **Treaty establishing the European Community** [29]). Article 174 of the Treaty provides that Community policy on the environment is to contribute to, inter alia, the preservation, protection and improvement of the quality of the environment, the protection of human health and the prudent and rational utilisation of natural resources and that it is to be based on the precautionary principle (part 1 of the enacting clause of Directive 2001/42/EC of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment). Moreover, in part 3 of Parma Declaration on Environment and Health, the main problems related to the environment and health determine: (b) the health risks to children and other vulnerable groups posed by poor environmental, working and living conditions (especially the lack of water and sanitation) [30, p. 143].

A person’s overall well-being is largely impacted by whether they live in an environment that supports their physical health. Included in national environment is drinking water quality, air quality and total toxic chemical pollution per square mile. It also encompasses how at risk a state’s citizens are for chronic, long-term health effects due to pollution [31]. Understanding of the concept of impact assessment is quite important since it is regarded as the application of comprehensive and systematic foresight in policy-making – is a familiar approach in the environmental field. Many countries have legislation mandating practices such as environmental impact assessment, strategic environmental assessment and sustainability appraisal. These are routinely applied in the course of formulating and implementing policy at the local, national and supra-national level [32]. WHO defines health impact assessment as “a combination of procedures, methods and tools by which a policy, programme or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population” [33].

In its turn, a safe natural environment is characterized by

a lack of hazards that can affect human health. Such hazards may have different sources of origin, both natural and others, which will be a prerequisite for a launch of negative processes in the natural environment and creation of potentially negative effects on human health. Since 2010, important new evidence has emerged, particularly with respect to the links between air pollution, endocrine disruptors, mercury, and climate change and several health outcomes, notably major noncommunicable diseases – including cardiovascular and respiratory diseases and cancer [30, p. 7]. Trends in exposures to environmental contaminants should be evaluated as part of a process to define the role of environmental contaminants in these and other childhood illnesses. For example, data on exposures to environmental contaminants associated with neurodevelopmental disorders in children, such as lead and mercury, should be considered in conjunction with the data on neurodevelopmental disorders in children [34].

In other words, any negative factors that can affect the natural environmental security represent a potential threat that can be reflected in their various manifestations and, above all, on child health. For example, in children under five years, up to 26% of all deaths could be prevented, if environmental risks were removed [35]. The prevalence of many childhood diseases varies by race/ethnicity and family income. For example, children of lower-income families and children of color are more likely to have had an asthma attack in the previous 12 months than are white children and/or children from higher-income families [36, 37]. Better understanding of differences in the social distribution of environmental quality can be helpful for policy, since specific population groups, such as those on low incomes, children, and the elderly, may be more vulnerable – mostly due to their health, economic and educational status, access to health care, and lifestyle factors that affect their adaptation and coping capacities [38-40].

In the medical sense, the environment includes the surroundings, conditions or influences that affect an organism (Davis, 1989). Along these lines, Last (2001) defined the environment for the International Epidemiological Association as: «All that which is external to the human host. Can be divided into physical, biological, social, cultural, etc., any or all of which can influence health status of populations ...». According to this definition, the environment would include anything that is not genetic, although it could be argued that even genes are influenced by the environment in the short or long-term [41].

Consequently, sources of influence may have both natural and of different origins, which can affect human health. Analysing the latest data on the environment-disease nexus and the devastating impact of environmental hazards and risks on global health, backed up by expert opinion, this report covers more than 100 diseases and injuries. The analysis shows that 23% of global deaths (and 26% of deaths among children under five) are due to modifiable environmental factors [42]. WHO estimates that in developing countries 80% of illnesses and more than third of deaths are the result of drinking contaminated water. More startling is that approximately 60% of all infant mortality worldwide is linked

to water-related infectious and parasitic diseases [43]. The growing recognition of the multiple factors behind major public health issues, such as obesity, cancer, mental illness, and other chronic diseases, as well as the ageing of the European population, have generated an increasing interest in the role of residential environments and access to green spaces. Still, the potential of using green space to promote health is not sufficiently exploited, and is occasionally considered as an 'extra' luxury detail in life [44]. Insufficient attention is paid to the natural potential that could be used to restore, preserve and improve child health. While public health experts have traditionally associated environmental health with the absence of contaminants, toxins, and pollution, they may have failed to consider an equally valid alternative – how the environment can improve human health in general and children's health specifically [45].

All human beings depend on the environment in which we live. A safe, clean, healthy and sustainable environment is integral to the full enjoyment of a wide range of human rights, including the rights to life, health, food, water and sanitation. Without a healthy environment, we are unable to fulfil our aspirations or even live at a level commensurate with minimum standards of human dignity [46]. When considering the above provisions in the context of ensuring a child's ability to exercise his/her right to health, we should state that it is not possible in the natural environment that is threatening him/her. A child's right to a safe environment is directly linked to the right to health. In a dangerous environment, health is quite difficult to maintain at the proper level and is very easy to lose. There is growing evidence that indicates direct exposure to nature is essential for children's physical and emotional health, improving their cognitive abilities and resistance to negative stresses and depression [45].

Without a healthy environment, we are unable to fulfil our aspirations or even live at a level commensurate with minimum standards of human dignity. At the same time, protecting human rights helps to protect the environment [46]. For instance, in the Gabcikovo-Nagymaros Case [47] (1997), Judge Weeramantry wrote that «[t]he protection of the environment is... a vital part of contemporary human rights doctrine, for it is a sine qua non for numerous human rights such as the right to health and the right to life itself... damage to the environment can impair and undermine all the human rights spoken of in the Universal Declaration and other human rights instruments» [48]. Among the various ways of restoring violated rights, first of all, we can talk about the judicial system which, using its levers, has an opportunity to restore the violated right and justice. "Environmental justice" is now a growing issue in Europe. It has at its heart the premise that the current disproportionate impacts of environmental hazards must be addressed, but it is also focusing on the availability and use of environmental resources [49]. However, implementation and enforcement are difficult [8, p. 195]. For example, Boyle [50] and several others note that a rights approach to environmental justice may be potentially problematic in practice. Often states in Europe and elsewhere have constitutions that maintain

the 'right' to health and 'sufficient' environments. Some include procedural rights also. Yet articulation of these rights within current legal frameworks proves difficult [50]. One can distinguish its three directions: - national: the state of environmental injustice within Europe and European countries; - international: the extent to which Europe imposes injustice on other countries; - generational: the extent to which Europe imposes injustices on future generations, in Europe and globally [8, p. 192].

In other words, «ecological justice» is characterized by solving relevant issues, which, on the one hand, are related to pollution, and on the other hand, the proper use of natural resources. Each of the identified spheres affects human health, especially child health, in one way or another, either directly or indirectly. The degree of dissemination of the above-mentioned issues, legal regulation, ways of resolving and their consequences are spreading both geographically and temporally. In particular, it can relate to one, several states, and the entire planet. From the time viewpoint, the effects of such influence can be both short-term and long-term, those that may occur earlier or over a longer period of time.

CONCLUSIONS

Inevitably, all rights depend on the environmental security in general and the natural environmental security, in particular, but the right to health depends first and foremost. Ensuring the environmental security directly affects health of both adult population and children and is a guarantee of its preservation and improvement. Ensuring the natural environment of the proper quality guarantees a greater range of opportunities for a child in the process of forming, coming into being and maintaining his/her physical and psychological well-being, which is a prerequisite for exercising his/her other rights and proper fulfillment of his/her duties in the process of his/her transformation and transition to adulthood. Appropriate implementation of the measures aimed at improving and maintaining proper child health depends on proper ensuring the right to life, health and the natural environment. In its turn, appropriate legal regulation, both at the level of individual states and internationally, will allow to define limits of proper behaviour more clearly, understand results that can be obtained and ways to restore violated rights, should it turn out to be necessary.

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