

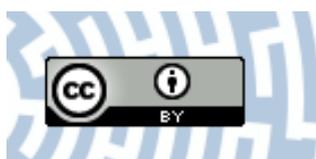


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## THE ROLE OF HEALTH LITERACY IN PROTECTING CHILDREN AND ADOLESCENTS FROM HEALTH RISKS IN THE CONTEXT OF THE COVID-19 PANDEMIC

ABSTRACT. Leksy Karina, Borzucka-Sitkiewicz Katarzyna, *The Role of Health Literacy in Protecting Children and Adolescents from Health Risks in the Context of the COVID-19 Pandemic* [Rola wiedzy o zdrowiu w ochronie dzieci i młodzieży przed zagrożeniami zdrowotnymi w kontekście pandemii COVID-19]. *Studia Edukacyjne* no. 61, 2021, Poznań 2021, pp. 61-75. Adam Mickiewicz University Press. ISSN 1233-6688. DOI: 10.14746/se.2021.61.3

Governments all over the world have taken unparalleled measures to combat the spread of the coronavirus. Severe restrictions have been imposed, reducing face-to-face contact where possible. This situation seems to be particularly acute for children and youth, who may not understand the orders and bans. Many studies analyzed in this paper have provided evidence that children's and adolescents' health has been negatively affected within the last months due to school closures and the need for social and physical distancing because of the coronavirus. Adults should be aware of children's and adolescents' difficulties and support them during this unique time. In the face of serious threats currently emerging due to COVID-19, health promotion is essential, as people regain control of their health, protect themselves and manage the potential consequences of the disease. The schools are faced with a huge task of promoting health, preparing students to cope with difficult and uncertain situations, including strengthening their health literacy. Health literacy, which is a set of skills, varies from individual to individual, which means that interventions in this area should focus on improving people's skills and capacities through educational activities, discussed in this article.

**Key words:** COVID-19 pandemic, children's and adolescents' health, health promotion, health education, health literacy, health promoting schools

## COVID-19 and its consequences for children's and adolescents' health and wellbeing

Humankind is increasingly faced with global challenges and threats to health and life. The coronavirus pandemic and the global lockdown made people aware of how dependent they are on nature and how much humility is needed in the face of its power. In a desperate attempt to stem the spread of the disease, governments around the world have taken unparalleled measures, closing access to places where people usually interact, limiting travelling, and economic activities. Severe restrictions have been imposed on physical contacts, reducing them where possible.<sup>1</sup> The epidemic situation (and other serious threats) may be particularly acute for children and youth, who may not understand the orders and bans imposed on society, including the closure of schools and kindergartens, or wearing masks. There is no doubt that the new pandemic does not affect only their physical health but also mental wellbeing and socioeconomic functioning. Many studies have proved that children and adolescents' mental health has been negatively affected due to school closures and the need for social and physical distancing.<sup>2</sup>

One of the most common tools to prevent transmission of coronavirus is quarantine, which means the separation and restriction of people's movement. The main aim of this separation is to "prevent transmission of an infectious agent from those potentially incubating it".<sup>3</sup> National quarantine is particularly disadvantageous for children's wellbeing and normal psychological development.<sup>4</sup> Research conducted in India among children and adolescents (n = 121 participants) between 9 and 18 years during the COVID-19 outbreak showed that the most common feelings experienced while in quarantine included: worry (n = 68, 59%), helplessness (n = 66, 11%), and fear (n = 61, 98%). This group of respondents had statistically more significant psychological problems than children and adolescents who were not quarantined. Such feelings of fear, nervousness and annoyance were most frequently observed

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<sup>1</sup> L. Saboga-Nunes, et al., *A Health Promotion Focus on COVID-19: Keep the Trojan horse out of health system. Promote health for ALL in times of crisis and beyond!* EUPHA-HP, IUHPE, UNESCO Chair Global Health & Education. 2020. [https://eupha.org/repository/sections/hp/A\\_Health\\_Promotion\\_Focus\\_on\\_COVID-19\\_with\\_S.pdf](https://eupha.org/repository/sections/hp/A_Health_Promotion_Focus_on_COVID-19_with_S.pdf) [access: 11 Jan. 2021].

<sup>2</sup> S. Bin Nafisah et al., *School closure during novel influenza: A systematic review*, *Journal of Infection and Public Health*, 2018, 11, p. 657-661; E. Golberstein, H. Wen, B.F. Miller, *Coronavirus Disease 2019 (COVID-19) and Mental Health for Children and Adolescents*, *JAMA Pediatrics*, 2020, 174, p. 819-820.

<sup>3</sup> National Centre for Disease Control Delhi, *Guidelines for Quarantine facilities COVID-19*, <https://ncdc.gov.in/WriteReadData/1892s/90542653311584546120.pdf> [access: 22 Jan. 2021], p. 3.

<sup>4</sup> K. Saurabh, S. Ranjan, *Compliance and Psychological Impact of Quarantine in Children and Adolescents due to Covid-19 Pandemic*, *The Indian Journal of Pediatrics*, 2020, 87, p. 532-536.

in the group that experienced closure. Researchers also noticed that anxiety-related insomnia, boredom, isolation and sadness were more common in the quarantine group.<sup>5</sup> Simultaneously, in the cited studies, the prohibition of going out to socialize was the most common problem for children and adolescents. The research showed that non-quarantined children also experienced a higher level of stress during coronavirus, which can be related to school closure, restriction of activity, and confinement at home due to the nationwide lockdown. Despite this, quarantined children revealed more negative feelings (especially worry, helplessness, fear, nervousness, anger, annoyance, loneliness) than the non-quarantined group.<sup>6</sup>

Clinical psychologist, Zanon Chu, who works with children and adolescents in Hong Kong, found that many adolescents revealed emotional and pro-social problems, and a disturbing behavior was observed: "some lock themselves up inside their rooms for weeks, refusing to take showers, eat, or leave their beds".<sup>7</sup> Chu emphasized that it would be challenging for some children who suffer from depression, to get back to everyday life when schools re-open.<sup>8</sup>

Research conducted in Indonesia with a group of 113 teenagers on emotional and behavioral problems and other related factors during the coronavirus pandemic showed that 38.1% of participants were at risk of peer-relationship issues, 28.3% were at risk of pro-social behavior problems, and 10.6% were at risk of emotional difficulties.<sup>9</sup> It is worth noting that parents' socioeconomic and financial status during the coronavirus pandemic significantly impacted children's psychological wellbeing. Financial loss including, loss of father's job, future uncertainties and unavailability to meet daily needs were found to be risk factors for symptoms for psychological disorders, anger, and anxiety.<sup>10</sup>

Australian researchers anticipated the negative impacts of coronavirus on children's mental health and psychosocial functioning. In the pandemic, children were likely to have reduced physical activity opportunities since playgrounds, play centers, swimming pools and other recreational facilities were closed.<sup>11</sup> According to research on patterns of increased/decreased physical activity, sedentary behaviors and sleep behaviors among Canadian children and

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<sup>5</sup> Ibidem, p. 533.

<sup>6</sup> Ibidem, p. 533-535.

<sup>7</sup> J. Lee, *Mental health effects of school closures during COVID-19*, *Lancet Child & Adolescent Health*, 2020, 4, p. 421.

<sup>8</sup> Ibidem.

<sup>9</sup> T. Wiguna et al., *Brief Research Report on Adolescent Mental Well-Being and School Closures During the COVID-19 Pandemic in Indonesia*, *Frontiers in Psychiatry*, 2020, 11.

<sup>10</sup> K. Saurabh, S. Ranjan, *Compliance and Psychological Impact of Quarantine*.

<sup>11</sup> R. Mitra et al., *Healthy movement behaviours in children and youth during the COVID-19 pandemic: Exploring the role of the neighbourhood environment*, *Health and Place*, 2020, 65, <https://doi.org/10.1016/j.healthplace.2020.102418> [access: 03 Feb. 2021].

youth aged 5-17 years (n = 1472) during the coronavirus pandemic, found that most of them (56%) demonstrated patterns of decreased outdoor activities and increased screen time along with other sedentary behaviors.<sup>12</sup> The decline in the outdoor physical activity was of particular concern: less walking or biking (53%), less outdoor play (51%) and less sport outside (64%). It is worth noting that according to the recommendation of the World Health Organization (WHO), “children and youth aged 5-17 should accumulate at least 60 minutes of moderate - to vigorous-intensity physical activity daily”.<sup>13</sup> For children and young people, physical activity includes playing, games, sports, transportation, recreation, physical education, or planned exercise. Many well-documented benefits stem from regular physical activity for children and youth including growth, health and development. The main advantages include higher cardiorespiratory fitness levels, muscular endurance and muscular strength, reduced body fat, more favorable cardiovascular and metabolic disease risk profiles, enhanced bone health, and reduced anxiety and depression symptoms.<sup>14</sup> Outdoor activity can additionally be a preventive factor during times of stress and build a more robust immune system of children and youth.<sup>15</sup>

There are also some concerns connected with online homeschooling. Chinese research has revealed that 69% of the parents (n = 1062) reported their children had more than three hours of daily screen time, and 82% of students had less than two hours of daily outdoor activity. Of the participants, 95% were concerned about their children’s eyesight, and 17.6% of the pupils were suspected of having emotional and behavioral problems. It is worth mentioning that according to the Self-Rating Anxiety Scale (SAS), parents’ and teachers’ results showed higher anxiety levels than usual.<sup>16</sup>

Another study conducted in China on the impact of online learning during the coronavirus pandemic on young children (3-5 years old) showed that Chinese parents (n = 3275 parents) had mostly negative beliefs and attitudes about the values and benefits of online learning. Some respondents perceived children’s online education as inconvenient, challenging, and time-consuming. They emphasized the potential harm to young children’s social development and physical health, especially eye vision.<sup>17</sup>

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<sup>12</sup> Ibidem, p. 6.

<sup>13</sup> World Health Organization, *Global recommendations on physical activity for health*, [www.who.int/publications/i/item/9789241599979](http://www.who.int/publications/i/item/9789241599979) [access: on 27 Jan. 2021].

<sup>14</sup> Ibidem.

<sup>15</sup> R. Mitra et al., *Healthy movement behaviours in children and youth during the COVID-19 pandemic*.

<sup>16</sup> Y. Zhao et al., *The Effects of Online Homeschooling on Children, Parents, and Teachers of Grades 1-9 During the COVID-19 Pandemic*, *Clinical Research*, 2020, 26.

<sup>17</sup> Ch. Dong, S. Cao, H. Li, *Young children’s online learning during COVID-19 pandemic: Chinese parents’ beliefs and attitudes*, *Children and Youth Services Review*, 2020, 118.

There are also other issues related to the pandemic and confinement at homes. One of them is a higher risk of child maltreatment and domestic violence due to the pandemic. Wiguna et al. described that difficult situation as follows:

All family members have to cope with the stress of social distancing, schooling from home, working from home, and staying at home. Most parents felt pressure working from home, keeping jobs and businesses running, as well as assisting children and adolescents studying from home at the same time.<sup>18</sup>

Thus, high parenting stress level and lack of family support can easily lead to child and adolescent maltreatment, including abuse and neglect. Studies conducted in Japan by Daiki Hiraoka and Akemi Tomoda on 353 parents aged 23-58 years revealed a significant increase in parenting stress after school closures compared to before.<sup>19</sup> Australian researchers also stressed an increase in the number of abused and neglected children.<sup>20</sup> The parents social and economic problems as well as working from home and home schooling were the base source of stress for families and impacted their functioning.<sup>21</sup> This is why adults (parents, teachers, educators, psychologists, paediatricians, etc.) should be aware of children's and adolescents' difficulties and support them during this particular time. It is also important to monitor young people's mental health over the long term, analyze how school closures, social distancing measures, and the pandemic influence children's and adolescents' wellbeing.<sup>22</sup>

## **Health promotion in the COVID-19 pandemic context**

In the face of serious threats to human health and life that are currently emerging, health promotion is essential. According to the *Ottawa Charter*, health promotion (HP) is "the process of enabling people to increase control over, and to improve, their health".<sup>23</sup> People must be able to "identify and to realize

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<sup>18</sup> T. Wiguna et al., *Brief Research Report on Adolescent Mental Well-Being*, p. 7.

<sup>19</sup> D. Hiraoka, A. Tomoda, *Relationship between parenting stress and school due to the COVID-19 pandemic*, *Psychiatry and Clinical Neurosciences*, 2020, 74, p. 496-512.

<sup>20</sup> S. Teo, G. Graffiths, *Child protection in the time of COVID-19*, *Journal of Paediatrics and Child Health*, 2020, 56, p. 838-840, <https://doi.org/10.1111/jpc.14916> [access: 05 Feb. 2021].

<sup>21</sup> *Ibidem*, p. 838.

<sup>22</sup> J. Lee, *Mental health effects of school closures during COVID-19*, p. 421.

<sup>23</sup> Ottawa Charter for Health Promotion. An International Conference on Health Promotion. 17-21 November 1998, Ottawa, Ontario. Canada, <https://www.canada.ca/en/public-health/services/health-promotion/population-health/ottawa-charter-health-promotion-international-conference-on-health-promotion.html> [access: 02 Feb. 2021].

aspirations, to satisfy needs, and to change or cope with the environment”<sup>24</sup> if they want to achieve physical, mental and social wellbeing. During the coronavirus pandemic achieving those goals is a real challenge. People must regain control of their health, protect themselves and manage with potential consequences of the disease. Health promotion can help convince individuals to increase control over their health and its determinants.<sup>25</sup> This approach is essential if we accept the thesis that the current health crisis related to the coronavirus pandemic is a syndemic, as some researchers perceive it. Syndemic is the “biological and social interactions that are important for prognosis, treatment, and health policy”.<sup>26</sup> Considering that COVID-19 is much more dangerous to people who suffer from non-communicable diseases (NCDs) (e.g., hypertension, obesity, diabetes, cardiovascular, chronic respiratory disorders and cancer), there is an urgent need to pay more attention to this group of diseases, taking into account socioeconomic inequality at the same time. Horton suggests that “in the case of COVID-19, attacking NCDs will be a prerequisite for successful containment”.<sup>27</sup> Considering coronavirus as a syndemic force is a broad view, which encompasses education, employment, housing, food and the environment.<sup>28</sup>

Health is treated as a positive concept, which stresses social and personal resources and physical capacities. It is not only health care that is responsible for health promotion, but also people’s healthy lifestyle, which leads to their wellbeing. The *Ottawa Charter* has a significant impact on developing a holistic and positive view of understanding health. This approach requires different activities and strategies on many levels – starting from healthy public policy and moving to personal skills.<sup>29</sup> The current situation shows that health promotion should take actions on different levels to contain the spread of the coronavirus. Brownson et al.<sup>30</sup> [19] divided the levels as follows:

- *downstream level* – refers to individuals behavior change and disease management;
- *midstream level* – focusing on interventions influencing organizations and communities;

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<sup>24</sup> World Health Organization, *Health Promotion*, <https://www.who.int/westernpacific/about/how-we-work/programmes/health-promotion> [access: 3 Feb. 2021].

<sup>25</sup> S. Van den Broucke, *Why health promotion matters to the COVID-19 pandemic, and vice versa*, Health Promotion International, 2020, 0, p. 1-6.

<sup>26</sup> R. Horton, *Offline: COVID-19 is not a pandemic*, The Lancet, 2020, 396, p. 874.

<sup>27</sup> Ibidem, p. 874.

<sup>28</sup> Ibidem.

<sup>29</sup> K. Dadaczynski et al., *Health, well-being and education. Building a sustainable future. The Moscow statement on Health Promoting Schools*, Challenges of Health Promoting Schools, 2020, 120, p. 11-19.

<sup>30</sup> R.C. Brownson, R. Seiler, A.A. Eyler, *Measuring the impact of public health policies*, Preventing Chronic Disease, 2010, 7, p. 1-7.

– *upstream level* – deals with public health policies that affect the whole population.

At the heart of health promotion activities in the COVID-19 crisis is the need to increase people's control over their health, strengthen social cohesion, and rebuild public trust and collective responsibility for the health and wellbeing of the population. Effective community involvement, supported by digital opportunities for secure communication, is the key to successfully dealing with this crisis and its many destructive consequences at the social level. As such, health promotion activities play a key role in empowering communities and individuals to respond effectively and manage the psychosocial effects of the multi-layered consequences of this pandemic.<sup>31</sup>

As far as children and adolescents are concerned, a health-promoting approach is especially important in the school setting. Many international agencies report the importance of integrating wellbeing and health promotion into planning educational strategies and school management with the threat of a pandemic.<sup>32</sup> The Health Promoting School (HPS) model can provide a useful framework for developing cross-sector cooperation between the health and education sectors. The HPS approach recognizes that learning and health are closely related, aims at individual and organizational change, and acknowledges that all aspects of the school can affect student health.<sup>33</sup> Many of the features of HPS can be crucial during the pandemic. The HPS approach covers the main elements of health promotion identified by international agencies to guide emergency response, such as intersectorality, sustainability, empowerment and public health engagement, equity and a life course perspective.<sup>34</sup> It supports collaboration between schools and families as well as community and health services. Moreover, evidence-based programs and good practice also provide practical tools to support a health promotion strategy during this difficult period.

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<sup>31</sup> L. Saboga-Nunes et al., *A Health Promotion Focus on COVID-19: Keep the Trojan horse out of health system*.

<sup>32</sup> *Education responses to COVID-19: an implementation strategy toolkit*, OECD Education Policy Perspectives, 5, <https://www.oecd-ilibrary.org/docserver/81209b82-en.pdf?expires=1618159144&id=id&accname=guest&checksum=D1D38302949F62151EEE5BA7FE5266C4> [access: 02 Feb. 2021].

<sup>33</sup> N. Bartelink, K. Bessems, *Health promoting schools in Europe State of the art*; Schools for Health in Europe Network Foundation: Haderslev, Denmark, 2019, <https://www.schoolsforhealth.org/sites/default/files/editor/fact-sheets/she-factsheet-no5-english.pdf> [access: 05 February 2021]; T. Vilaça et al., *SHE School Manual 2.0. A methodological guidebook to become a health promoting school*; Schools for Health in Europe Network Foundation: Haderslev, Denmark, 2019, [https://www.schoolsforhealth.org/sites/default/files/she\\_school\\_manual\\_2.0.pdf](https://www.schoolsforhealth.org/sites/default/files/she_school_manual_2.0.pdf) [access: 05 Feb. 2021].

<sup>34</sup> L. Saboga-Nunes et al., *A Health Promotion Focus on COVID-19: Keep the Trojan horse out of health system*; H. Turunen et al., *Health Promoting Schools – a complex approach and a major means to health improvement*, Health Promotion International, 2017, 32, p. 177-184.

## Health education and health literacy as core HP components in the times of COVID-19

Health education is an integral and primary component of health promotion. It is essential for people to make healthy changes in their lives. As a consequence of those changes, individuals improve their health and well-being, and also health literacy. Although traditionally the main aim of health education was to communicate information to the public, nowadays, its modern campaigns are committed to “hear the individuals and communities on their health-related concerns and habits, and promote their skills to take control over health, ultimately leading to increased health literacy and individual and social empowerment and change”.<sup>35</sup>

The concept of health education is orientated on increasing health literacy and it is more common for professionals to focus on this health promotion concept. A high level of health literacy is very advisable to individuals and society. The most popular definition of health literacy is the WHO definition, which implies achieving a level of knowledge, personal skills, and confidence to improve individual and community health by changing personal’s lifestyles and living conditions. Health literacy means “more than being able to read pamphlets and make appointments. By improving people’s access to health information, and their capacity to use it effectively, health literacy is critical to empowerment”.<sup>36</sup> The Consortium Health Literacy Project European (HLS-EU) formulated the newest definition of health literacy. It encompasses the perspective of public health and can be specified to accommodate an individual approach by substituting the three domains of health “healthcare, disease prevention and health promotion” with “being ill, being at risk and staying healthy”. According to HLS-EU,

health literacy is linked to literacy and entails people’s knowledge, motivation and competencies to access, understand, appraise, and apply health information, in order to make judgments and take decisions in everyday life concerning healthcare, disease prevention and health promotion to maintain or improve quality of life during the life course.<sup>37</sup>

Health literacy, which can be observed as a set of skills, varies from individual to individual. This means that interventions in this area should focus on

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<sup>35</sup> R. Campos, L. Fernandes, *Health education for awareness and behavioral change and influence*, [In:] *Good Health and Well-Being. Encyclopedia of the UN Sustainable Development Goals*, Eds. W. Leal Filho, T. Wall, U. Azeiteiro, A. Azul, L. Brandli, P. Özuyar, Cham, 2019.

<sup>36</sup> *Health Promotion Glossary*, Geneva 1998, <https://www.who.int/healthpromotion/about/HPR%20Glossary%201998.pdf?ua=1> [access: 03 Feb. 2021].

<sup>37</sup> K. Sørensen et al., *Health literacy and public health: A systematic review and integration of definitions and models*, *Public Health*, 2012, 12, 3.

improving people's skills and capacities through educational activities. At the same time, individuals with a high level of health literacy skills may have real trouble applying those skills in unfamiliar environments.<sup>38</sup> Therefore, social and environmental conditions are a crucial determinant of health and health literacy.

A health literate society is one that is aware of the severity of the situation and knows how to protect itself and others with basic actions. In the case of the coronavirus pandemic, this means physical distancing and washing hands. It is also a society where existing systems and services can provide clear and appropriate communication.

In the current context, an individual's information-driven behavior sits alongside medical and governmental action. It is crucial that health authorities apply health literacy principles and provide information that is easy-to-understand, easy-to-access, and barrier-free. Health literacy is critical to slowing down the spread of the virus and mitigating the impact and effects of COVID-19.<sup>39</sup>

During the coronavirus pandemic, a high level of health literacy can be beneficial in the context of an abundance of information available, particularly in the media. People can feel lost facing information that can be different. The ability to critically perceive health information is crucial. Regular health education can provide this skill. For data to be helpful it must be understood, accepted and applied. "Authorities should take that into account when informing the public about COVID-19 and adapt the information to the literacy needs of the people they want to reach"<sup>40</sup>. It is also necessary to provide clear and correct health and mental health information to the whole family, including children and adolescents. Understanding coronavirus and COVID-19 is very important to prevent negative feelings and help comply with government rules.<sup>41</sup>

Okan et al.<sup>42</sup> recommend that when providing information about coronavirus, health literacy should take into account the following:

- provide information in an understandable way, recognizing that people and groups with low health literacy may need more explanation and different communication formats such as animations that explain the virus, the disease, its transmission and protective measures;

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<sup>38</sup> D. Nutbeam, J.E. Lloyd, *Understanding and Responding to Health Literacy as a Social Determinant of Health*, Annual Review Public Health, 2021, 42, p. 159-173.

<sup>39</sup> O. Okan, K. Sørensen, M. Messer, *COVID-19 : A guide to good practice on keeping people well informed*, The Conversation, 2020, March 19, <http://theconversation.com/covid-19-a-guide-to-good-practice-on-keeping-people-well-informed-134046> [access: 03 Feb. 2021].

<sup>40</sup> S. Van den Broucke, *Why health promotion matters to the COVID-19 pandemic*, p. 2.

<sup>41</sup> T. Wiguna et al., *Brief Research Report on Adolescent Mental Well-Being*.

<sup>42</sup> O. Okan, K. Sørensen, M. Messer, *COVID-19 : A guide to good practice*.

- explain the situation transparently and clarify the overriding objectives repeatedly to prepare people for the fact that interventions and recommendations might change when new evidence arrives, and scenarios must be adapted;
- communicate new evidence and information without being afraid to correct earlier messages and statements if necessary;
- avoid blaming, but instead strengthen the well-informed responsibility of the individual while showing solidarity with vulnerable population groups.

To limit the spread of false or misleading information, some basic principles may be applied in terms of health literacy. This includes encouraging people to cross-check the credibility of information, to verify the source of information, to check the information by consulting the second source, to discuss with family members and trusted health professionals information that is doubtful, and to think twice before sharing information that has not been checked.<sup>43</sup>

According to Leena Paakkari and Olli Pakkari the theoretical concept for adolescent's health literacy and its measurement contains five components:

- theoretical knowledge about health (e.g., understanding of basic concepts, phenomena regarding health);
- practical knowledge about the health (e.g., the ability to apply the rules of hygiene, safety, search for information, use medical assistance);
- ability to critical thinking (e.g., the ability to understand health-related issues, assess the accuracy of information);
- self-consciousness (e.g., ability to reflect, assessment of own thoughts, emotions and behavior);
- citizenship (e.g., ability to take social responsibility for health).

All these components should be an essential element for shaping health literacy during the health education process,<sup>44</sup> especially in pandemic times. According to researchers<sup>45</sup> children's and adolescents' health literacy enables them to:

- access and navigate health information environments,
- understand health messages,
- think critically about health claims and make informed decisions about health,
- acquire health knowledge and use it in new situations,
- communicate about health topics and concerns,
- use health information to promote their own health, that of others, and environmental health,

<sup>43</sup> Ibidem.

<sup>44</sup> L. Paakkari, O. Paakkari, *Health literacy as a learning outcome in school*, Health Education, 2012, 112, p. 133-152.

<sup>45</sup> O. Okan, L. Paakkari, K. Dadaczynski, *Health literacy in schools. State of the art. SHE factsheet no. 6. Schools for Health in Europe: Finland and Germany*, 2020, <https://www.schoolsforhealth.org/sites/default/files/editor/fact-sheets/factsheet-2020-english.pdf> [access: 03 March 2021].

- develop healthy behaviors and attitudes,
- engage in healthy activities and avoid unnecessary health risks,
- become aware of their own thinking and behaving,
- identify and assess bodily signals (e.g., feelings, symptoms),
- act ethically and socially responsible,
- be a self-directed and life-long learner,
- develop a sense of citizenship and be capable of pursuing equity goals,
- address social, commercial, cultural, and political determinants of health.<sup>46</sup>

Moreover, the coronavirus pandemic caused an overabundance of valid and invalid information which spread rapidly via internet and digital communication channels (known as infodemic). Such exceptional emergencies put additional demands on children, possibly inducing insecurity or even anxiety. Thus, children and adolescents are required to adopt digital health literacy competencies, including social media literacy and information literacy, in order to navigate in the digital and media information environments and use digital technology appropriately.<sup>47</sup>

## **Conclusions for educational practice**

The coronavirus pandemic is teaching people that believing in the predictability and control of events that has dominated our thinking may be overly optimistic. Learning to accept unpredictability and learning to live with it is essential. The only certainty is that the world will be different after the pandemic, and the current crisis will be a turning point for health promotion.<sup>48</sup>

The most important lesson we can learn from the coronavirus outbreak is that health promotion should not wait until a crisis occurs, but prepare an early response. To deal effectively with an epidemic, there is a need to understand not only the biological mechanisms by which the virus works, but also the ways in which people make decisions and respond to threats, as a critical element in reducing transmission of the virus is rapid and widespread behavioral change. Evidence based studies show that a perceived lack of consistency, competence, fairness, objectivity, empathy, or sincerity in crisis response could lead to distrust and fear. Inversely, when the public perceives measures as having these characteristics, as well as being easily understood and communicated through trusted and accessible channels, and when the necessary services are available, people are willing to make informed choices,

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<sup>46</sup> Ibidem.

<sup>47</sup> O. Okan et al., *Coronavirus-Related Health Literacy: A Cross-Sectional Study in Adults during the COVID-19 Infodemic in Germany*, *International Journal of Environmental Research and Public Health*, 2020, 17.

<sup>48</sup> S. Van den Broucke, *Why health promotion matters to the COVID-19 pandemic*, p. 1-6.

protect themselves, and comply with recommended practices.<sup>49</sup> This challenge could be achieved by systematic health education, leading to health literacy growth in whole societies. Children and youth should be given special care because most of them do not have any tools to face the current coronavirus reality. The first environment where the process of health socialization and shaping children and youth's health literacy is the family. The process of health socialization is also related to the acquisition of psychosocial skills that will enable a person to undertake and carry out tasks and challenges of everyday life while maintaining health. At the same time, due to the enormous role of education in the process of health education, next to family, educational institutions are of great importance in transferring knowledge and shaping pro-health habits. Through systematic health education, the school should provide reliable knowledge in the field of health, pro-health behaviors, and health risk factors. Regarding the youngest children, while planning health education, digital health literacy should be considered due to the permanent and increasing use of new media and access to mobile apps (e.g., health information). What is more, Nutbeam and Muscat pointed out that conflating the traditional health education interventions with interventions designed to improve health literacy could be dangerous. They adjust it so that such interventions do not always reflect the skills-directed methods and learning theories that are required to develop interactive and critical health literacy.<sup>50</sup>

A huge task is faced by health promoting schools, which can provide conditions for preparing students to cope with difficult and uncertain situations, strengthening their health literacy. Furthermore, school health promotion may enhance the development of compensatory measures that would alleviate the sense of loneliness and anxiety caused by social distancing. To achieve this, more attention should be given to all members of the school community, including parents, teaching them how to spend time in confinement and how to deal with the stress that results from it.<sup>51</sup>

The identified objectives are achievable taking into account the pillars and values of HPS such as participation, empowerment, inclusion and equity. They relate to the whole school approach, gathering evidence of all HPS components importance. The HPS model offers an ideal intervention framework for enhancing health literacy within a holistic school approach, including the social environment of the pupils, structural conditions, community, and po-

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<sup>49</sup> B. McCloskey et al., *Monitoring behavioural insights related to COVID-19*, *The Lancet*, 2020, 395, p. 1229-1314.

<sup>50</sup> D. Nutbeam, D.M. Muscat, *Advancing health literacy interventions*, [In:] *Health Literacy in Clinical Practice and Public Health: New Initiatives and Lessons Learned at the Intersection With Other Disciplines*, Eds., R.A. Logan, E.R. Siegel, Amsterdam 2020, p. 115-127.

<sup>51</sup> S. Van den Broucke, *Why health promotion matters to the COVID-19 pandemic*, p. 1-6.

licy. Collaboration with the community and all stakeholders may be seen as a prerequisite for achieving mentioned objectives, confirming that the HPS approach as well as the cross-sectoral cooperation in health promotion are essential in the time of crisis.<sup>52</sup>

The highest priority in the times of coronavirus and following it are to protect and support children and youth in improving their health and wellbeing by enhancing their empowerment, resilience and health literacy.

This could be accomplished by strengthening individual resources and capacities, and creating environments which are supportive, responsive and needs-orientated.<sup>53</sup>

This is a big responsibility for adults – parents, teachers, pedagogics, psychologists, and healthcare system specialists.

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<sup>52</sup> World Health Organization, *Life skills education school handbook: prevention of noncommunicable diseases: approaches for schools*. Geneva, 2020, file:///D:/Download/9789240005020-eng.pdf [access: 03 March 2021].

<sup>53</sup> R.H. Dodd, K. Dadaczynski, O. Okan, K.J. McCaffery, K. Pickles, *Psychological Wellbeing and Academic Experience of University Students in Australia during COVID-19*, *International Journal of Environmental Research and Public Health*, 2021, 18, 866.

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