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HEALTH PROTECTING PROGRAM, MENTAL HEALTH AND PSYCHOSOCIAL WELL-BEING AS PART QUALITY OF LIFE IN SCHOOL AGE CHILDREN

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Summary.

A supportive school environment and adequate physical activity are crucial for enhancing children's overall health and Health-Related Quality of Life (HRQoL). Regular physical activity in children is associated with improved fitness, higher cardiometabolic health, and better mental and psychosocial well-being.

***Objective** of the study was to evaluate the impact of a health-preserving school program on children's HRQoL, with particular focus on mental health.*

***Material and methods.** A cross-sectional study included 79 healthy schoolchildren aged 11-12 years. The main group (32 participants) underwent a specialized health-preserving school program for one year, and results were compared with a control group (47 children). HRQL was assessed using the generic CF-87 questionnaire, emphasizing psychological well-being, self-esteem, and general mental health. The recommended principles of bioethics were adhered to during the research.*

***Results.** The school-based program promoted physical activity and fitness through collaborative games and group tasks. While total HRQoL scores were slightly higher in the main group, mental and psychosocial self-esteem indicators showed significant improvement (80.6 ± 2.8% vs. control group 68.2 ± 3.3%, $p < 0.05$). Participants in the main group reported better functioning in schoolwork, sports participation, communication, friendship-building, and family relationships over the preceding month.*

***Conclusions.** This study demonstrates the effectiveness of experiential health-preserving school programs in increasing physical activity and positively influencing children's HRQoL, particularly mental health and psychosocial self-esteem*

***Key words:** Children; Health Protecting School Program; Health-Related Quality of Life; Physical Activity; Mental Health.*

Introduction

Safeguarding children's health and ensuring optimal developmental conditions are critical global priorities. As a foundation of national prosperity, health underpins scientific, cultural, and economic advancement [1, 2]. Pediatric health emerges from complex interactions between genetic, social, cultural, environmental, and medical factors [3]. Childhood represents a crucial window for establishing motor competencies, healthy behaviors, and lifelong well-being patterns. Consequently, protecting school-aged children's health constitutes an urgent societal priority, particularly as health declines may stem not only from illness but also from inadequate physical activity and poor exercise tolerance [4]. Contemporary research demonstrates that moderate-to-vigorous physical activity enhances physical health and cognitive function, including memory, executive processing, attention, and academic performance [5].

Physical activity serves as a cornerstone for improving the Health-Related Quality of Life (HRQoL) in children [6]. Regular activity correlates with reduced adiposity, improved fitness, and enhanced cardiometabolic profiles. Despite this, global data indicates fewer than 30% of children achieve recommended daily activity levels of 60 minutes moderate-to-vigorous intensity [7].

Schools provide ideal settings for health interventions, given children's substantial time investment in educational institutions [8]. Multilevel actions across individual, familial, community, institutional, and policy domains can positively impact mental health and psychosocial well-being [9, 10].

Specialized instruments measure well-being in pediatric populations. Current research remains predominantly disease-focused, fragmented across diagnostic categories, and oriented toward symptomatic assessment. Most studies concentrate on pathological conditions such as cardiac disorders, epilepcy, autism spectrum disorders, attention-deficit/hyperactivity disorder, etc. [11-13]. Current practice favors abbreviated questionnaires like SF12, EQ-5D though these capture limited functional aspects and primarily serve disabled or ill populations [14-16]. While valuable for monitoring disease progression, even comprehensive systems like the PedsQL™4.0 measurement model–integrating generic core scales with disease-specific modules for assessing HRQoL across healthy and clinical populations–prove inadequate for evaluating mental and psychosomatic health dimensions [17].

Health-Related Quality of Life (HRQoL) constitutes a multidimensional construct shaped by environmental, demographic, physiological, and pathological determinants [18, 19]. Significant knowledge gaps persist regarding biological mechanisms, functional capacity, health perceptions, and environmental influences. Despite numerous multidimensional instruments and conceptual models for assessing HRQoL in neurodevelopmental conditions, their implementation remains limited in clinical and research settings [20, 21].

Preliminary evidence suggests shared predictors of HRQoL across neurodevelopmental conditions, with positive correlations observed for adaptive functioning, positive self-perception, adequate physical activity, resource access, and supportive family environments [22, 23]. Conversely, HRQoL measures also capture mental and psychosomatic pathologies, typically showing negative associations with disease-specific characteristics and psychiatric symptoms [24, 25].

Research on physical activity, sedentary behavior, and HRQoL has primarily focused on pediatric populations with chronic illnesses [25]. However, studies investigating transdiagnostic predictors across neurodevelopmental profiles in healthy populations remain urgently needed. Such research is crucial for developing care frameworks that address the common needs of neurodivergent individuals across diagnostic categories [26-29].

Objective of the study was to examine the influence of health-preserving school programs on children's HRQoL, with particular emphasis on mental health.

Materials and methods

A cross-sectional descriptive study included 79 healthy schoolchildren aged 11-12 years (mean age 11.6±0.7 years). The main group (32 participants) underwent a specialized health-protective school program for one year, with results compared to a control group (47 children). The program incorporated valeological support with a rationally organized regimen including morning gymnastics, daily outdoor physical activity and games, respiratory exercises, ophthalmic training, sand art therapy, and ergonomic workspace organization. Assessments included nutrition status, physical activity habits, sedentary behavior outside school, resting anthropometric and blood pressure measurements, pulse oximetry, physical readiness tests and health-related quality of life (HRQoL) evaluation. The generic CF-87 questionnaire assessed social/cognitive functions through section 7 (psychological well-being), section 8 (self-esteem), general mental health (MHS), physical health (PHS), and total quality of life (QLS). Specific focus was placed on General Health (GGH), Self Estime (SE), and Family Activity/Coersion (FA, FC). Data were processed using variational statistics in Statistica 6.0 (StatSoft), expressed as mean ± standard error. Statistical analysis employed Student's t-test for numerical variables, with two-tailed p-values, and $p<0.05$ was considered statistically significant. The recommended principles of bioethics were adhered to during the research.

Results of the research

The selection of the CF-87 questionnaire for assessing psycho-emotional aspects of HRQoL was based on its comprehensive coverage of relevant domains. For example, while the KIDSCREEN-52 instrument measures Psychological Well-being (6 items), Moods and Emotions (7 items), Self-Perception (5 items, totaling 18 items), the generic CF-87 questionnaire includes 44 items addressing these dimensions. Potential interpersonal bias may have occurred due to multiple researchers assisting with questionnaire administration.

Both study groups comprised children without developmental disorders, congenital anomalies, or chronic diseases. Anthropometric measurements indicated age-appropriate height and weight parameters, though six children were classified as underweight based on body mass index (BMI).

The school-based program aimed at enhancing physical activity and fitness incorporated collaborative games and group tasks. Total HRQoL scores measured by CF-87 were moderately low overall, primarily due to poor general health and physical activity metrics. The main group showed non-significantly higher total scores (59.8 ± 1.4% vs. control 55.9 ± 1.4%, p = 0.17). Two subscales demonstrated non-significantly higher values in the control group: GGH (51.3 ± 4.9% vs. 56.1 ± 3.6%, p=0.16) and PHS (54.4 ± 1.9% vs. 56.5 ± 1.8%, p=0.37). All other indices were elevated in the main group (Fig. 1).

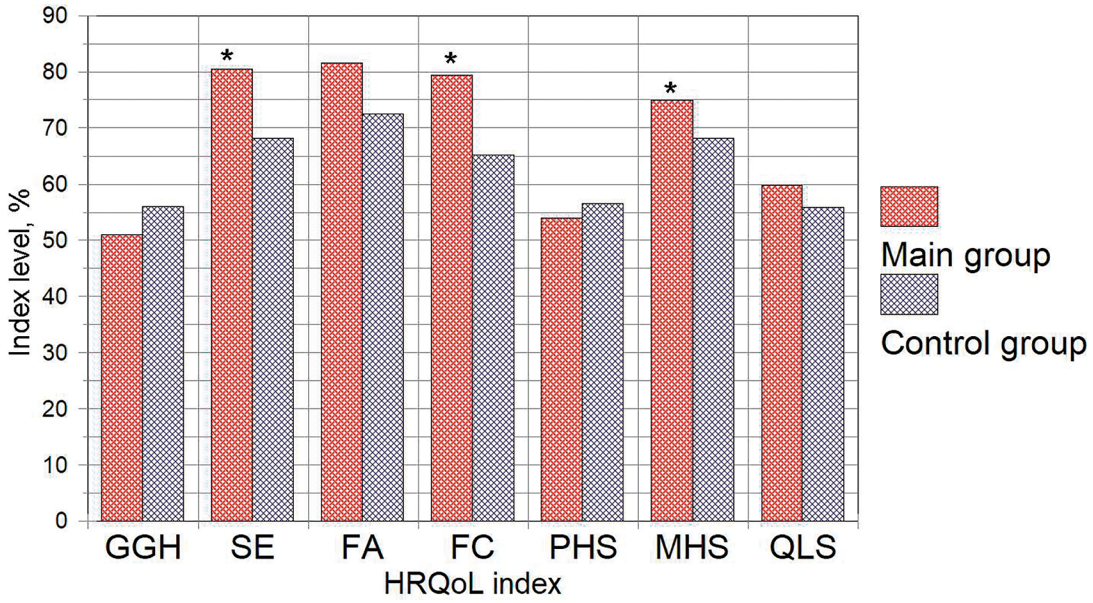

Fig. 1. The summary statistic of HRQoL data by groups

Children in the main group demonstrated significantly better mental and psychosocial self-esteem indicators (80.6 ± 2.8% vs. control group 68.2 ± 3.3%, $p<0.05$). During the prewious month, these children reported improved performance in schoolwork, enhanced athletic ability, better social interactions, stronger communication skills, and more meaningful friendships. They also described feeling better overall about themselves and

reported improved family relationships. Both family activity and cooperation scores were significantly higher in the intervention group (80.5 ± 2.8% vs. 68.8 ± 3.6%, $p < 0.05$).

The health-protective school program implemented for the main group created environments that encouraged active play, reduced sedentary behavior, and increased physical activity levels and cardiorespiratory fitness. These improvements appear rooted in enhanced self-regulation processes. Self-regulation encompasses control of physical activity levels, behavior, cognitive function, and emotional management, ultimately leading to better adjustment reflected in positive social relationships, productivity, academic achievement, and overall well-being [4, 10, 26, 29].

Conclusions. This study provides evidence supporting the effectiveness of experiential health-preserving school programs in improving physical activity and positively influencing children's HRQoL, particularly in mental health and psychosocial self-esteem.

Future experiential learning interventions should strengthen evidence through rigorous methodological approaches and clear reporting of educational components.

Conflicts of interests: The authors declared no conflict of interest.

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ЗДОРОВ'ЯЗБЕРІГАЮЧІ ПРОГРАМИ, ПСИХІЧНЕ ЗДОРОВ'Я ТА ПСИХОСОЦІАЛЬНЕ БЛАГОПОЛУЧЧЯ ЯК ЧАСТИНА ЯКОСТІ ЖИТТЯ ДІТЕЙ ШКІЛЬНОГО ВІКУ

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Резюме.

Сприятливе шкільне середовище та рівень фізичної активності є ключовим до покращення здоров'я в цілому та якості життя, пов'язаної зі здоров'ям (ЯЖПЗ) дитячого населення. Регулярна фізична активність у школярів сприяє покращанню фізичної форми, вищому серцево-метаболічному рівню, психічному здоров'ю та психосоціальному благополуччю.

Метою дослідження було вивчити вплив здоров'язберігаючої шкільної програми на якість життя дітей, особливо на психічне здоров'я.

Матеріал і методи. Проведено дослідження за участю 79 здорових школярів 11-12 років. Основна група дітей (32 особи) була залучена до спеціальної оздоровчої шкільної програми протягом одного року та отримані результати порівнювалася з даними контрольної групи (47 дітей). Для оцінки ЯЖПЗ загальний опитувальник CF-87 був використаний з особливою увагою до психологічного благополуччя, самооцінки та загального психічного здоров'я. При проведенні досліджень зберігалися рекомендовані принципи біоетики.

Результати. Застосована шкільна програма була спрямована на розвиток фізичної активності та оздоровлення дітей і поєднувалася зі співпрацею дітей в іграх та виконанні спільних завдань. Загальний рівень ЯЖПЗ був дещо кращим, показники психічної та психосоціальної самооцінки були достовірно вищими в основній групі ніж в контрольній (80,6±2,8% проти 68,2±3,3%, $p<0,05$). За попередній місяць діти основної групи відчули себе краще в навчанні, у вмінні займатися спортом, у навичках розмовляти та дружити з іншими, ладнати в родині.

Висновки. Це дослідження надає докази, що підтверджують ефективність шкільних програм зі збереження здоров'я, які покращують фізичну активність і позитивно впливають на якість життя дітей, особливо на психічне здоров'я та психосоціальну самооцінку.

Ключові слова: діти; здоров'язберігаючі шкільні програми; якість життя; фізична активність; психологічне здоров'я.

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