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## IMPACT OF OCCUPATIONAL THERAPY INTERVENTIONS ON QUALITY OF LIFE IN SCHOOL-AGED CHILDREN WITH AUTISM SPECTRUM DISORDER

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*Autism spectrum disorder (ASD) is a major medical and social challenge worldwide. According to WHO estimates, approximately 1 in 160 children has ASD, while surveillance data from the United States demonstrate a rising prevalence, reaching 1 in 36 among 8-year-old children in 2020 and 1 in 31 in 2022. In Ukraine, official statistics remain limited and incomplete; however, available data indicate a steady increase in ASD diagnoses since 2006. By 2017, the number of newly identified cases had grown 8.5-fold, reaching 27.8 per 100 000 children. Experts suggest that the real prevalence is substantially higher. Although more than 75 000 children in Ukraine were estimated to have ASD in 2019, electronic health-record data from 2023 list only 20 936 children with a confirmed diagnosis. The increase in reporting is associated with broader diagnostic criteria, improved awareness, and greater accessibility of assessment tools.*

*Under wartime conditions, disruptions of routines, environmental instability, and limited access to services negatively affect children's emotional well-being, learning, and participation in daily activities, highlighting the relevance of occupational therapy interventions. Occupational therapy is a key component of comprehensive rehabilitation for children with ASD, as the primary goals for both families and professionals involve the development of independence and functional participation.*

*Aim. The aim of the study was to evaluate changes in the overall PedsQL quality-of-life score in school-aged children with ASD during wartime and to compare the effectiveness of three approaches to occupational therapy interventions.*

*Methods. The study included children with ASD aged 8–12 years. Three groups of 20 participants each were formed (total n = 60): the first group (CG; 18 boys, 2 girls) received occupational therapy consultations; the second group (EG1; 17 boys, 3 girls) received clinic-based occupational therapy sessions; and the third group (EG2; 18 boys, 2 girls) received clinic-based occupational therapy sessions combined with school-environment adaptations.*

*Quality of life was assessed using the parent-proxy version of the PedsQL. Pre-post differences were analyzed using the Wilcoxon signed-rank test (p).*

*Results. All groups showed statistically significant improvements in total PedsQL scores (p<0.001). The greatest absolute improvement was observed in OG2: +34.7 percentage points (mean 44.5±1.8 → 79.2±2.9). OG1 demonstrated a +21.2-point increase (43.4±0.9 → 64.6±1.2), while the CG showed a smaller improvement of +6.7 points (40.3±1.7 → 47.0±1.6).*

*Conclusions. The findings confirm that the magnitude of quality-of-life improvement is dependent on the intensity and ecological relevance of occupational therapy interventions. The combination of clinical occupational therapy with school-environment adaptations was associated with the most substantial growth in PedsQL scores. These results align with existing evidence on the importance of sensory regulation and school-based supports for academic and behavioral outcomes in children with ASD.*

**Key words:** autism spectrum disorder, occupational therapy, quality of life, PedsQL, school environment, inclusive education, war.

**Маргарита Виноградова, Марина Вітомська, Юлія Шевчук. Вплив ерготерапевтичних втручань на якість життя дітей з РАС періоду другого дитинства**

*Розлади аутистичного спектра (РАС) є важливою медико-соціальною проблемою; за оцінками ВООЗ, приблизно 1 дитина із 160 має РАС. Водночас дані наглядових систем США демонструють зростання поширеності до рівня 1 на 36 серед 8-річних дітей у 2020 р. та 1 на 31 у 2022 р. В Україні відсутня офіційна та повна статистика,*

але за доступними джерелами показник розповсюдженості РАС також демонструє стійке зростання з 2006 року. До 2017 року кількість уперше встановлених діагнозів збільшилася у 8,5 разів. Станом на кінець 2017 року цей показник досяг 27,8 випадків на 100 тисяч дитячого населення. Водночас експерти припускають, що реальна кількість осіб з РАС значно більша за наявні показники. Протягом тривалого часу в Україні не велась окрема статистика щодо РАС, сьогодні ж статистичні дані залишаються неточними та неповними. Так, за інформацією станом на 2019 рік, в Україні понад 75 тисяч дітей мали РАС, але водночас, за даними електронної системи охорони здоров'я, станом на жовтень 2023 року на обліку перебуває лише 20 936 дітей з цим діагнозом. Зростання виявлення РАС пов'язують із розширенням критеріїв оцінювання, та зростанням доступності діагностичних інструментів.

В умовах війни порушення рутин, зміни середовища та обмеження доступу до послуг можуть погіршувати психоемоційний стан і участь дітей у процесі навчання та повсякденній активності. Ерготерапія є одним із ключових компонентів комплексної реабілітації дітей з РАС, оскільки пріоритетом родини та фахівців виступає розвиток функціональної незалежності та уможливлення участі у повсякденному житті.

Мета Метою дослідження було оцінити зміни загального показника якості життя за шкалою PedsQL у дітей шкільного віку з РАС в умовах воєнного часу та порівняти ефективність трьох підходів до ерготерапевтичних втручань.

Методи. У дослідженні взяли участь діти з РАС віком 8–12 років. Було сформовано три групи по 20 учасників у кожній, загальна кількість –  $n = 60$ : перша група, контрольна група (КГ; 18 хлопчиків, 2 дівчинки), отримувала ерготерапевтичні консультації; друга група, основна група 1 (ОГ1; 17 хлопчиків, 3 дівчинки), отримувала ерготерапевтичні заняття в умовах клініки; третя група, основна група 2 (ОГ2; 18 хлопчиків, 2 дівчинки), отримувала ерготерапевтичні заняття в умовах клініки у поєднанні з адаптацією шкільного середовища.

Якість життя оцінювали за допомогою батьківської проксі-версії опитувальника PedsQL. Відмінності показників до та після втручання аналізували за допомогою критерію Вілкоксона для пов'язаних вибірок із визначенням рівня статистичної значущості ( $p$ ).

Результати. Усі групи продемонстрували статистично значуще підвищення загального показника PedsQL ( $p < 0,001$ ). Найбільший абсолютний приріст досягнуто в ОГ2: +34,7 відсотків (середнє  $44,5 \pm 1,8 \rightarrow 79,2 \pm 2,9$ ), у ОГ1: +21,2 ( $43,4 \pm 0,9 \rightarrow 64,6 \pm 1,2$ ), у КГ: +6,7 ( $40,3 \pm 1,7 \rightarrow 47,0 \pm 1,6$ ).

Висновки. Підтверджено залежність динаміки якості життя від інтенсивності та контексту ерготерапевтичного втручання: поєднання клінічної ерготерапії з адаптацією шкільного середовища асоційоване з найбільш вираженим зростанням PedsQL. Результати узгоджуються з даними про залежність показників сенсорної регуляції та умов шкільного середовища з показниками функціональної незалежності та якості життя дітей з РАС.

**Ключові слова:** розлади аутистичного спектра, ерготерапія, якість життя, PedsQL, шкільне середовище, інклюзивна освіта, війна.

**Introduction.** Autism spectrum disorder (ASD) is currently regarded as one of the most significant medical and social challenges. According to modern estimates, approximately 1% of children worldwide have an ASD diagnosis. The World Health Organization reports that about 1 in 160 children is affected by ASD [1, 2]. At the same time, prevalence rates in the United States have nearly tripled: in the early 2000s the estimate was approximately 1 in 150 children, whereas by 2020 it had risen to 1 in 36 [3]. Moreover, data from the Centers for Disease Control and Prevention (CDC, 2022) indicate a prevalence of 1 in 31 among 8-year-old children [4]. In Ukraine, official and comprehensive statistics on ASD are lacking; however, available data indicate a steady increase in prevalence since 2006. By 2017, the number of newly established diagnoses had risen by a factor of 8.5. The annual prevalence rate has also demonstrated consistent growth:

- in 2010 – by 16.4%,
- in 2011 – by 37.8%,
- in 2012 – by 25.3%,
- in 2013 – by 38.0%,
- in 2014 – by 4.6%,

- in 2015 – by 26.4%,
- in 2016 – by 25.3%.

By the end of 2017, ASD prevalence reached 27.8 cases per 100,000 children [5, 6, 7, 8]. At the same time, experts suggest that the actual number of individuals with ASD in Ukraine is likely much higher than reported. For many years, ASD was not recorded as a separate diagnostic category, and current statistical data remain incomplete and fragmented. For example, while more than 75,000 children were estimated to have ASD in 2019, electronic health-record data indicate that as of October 2023 only 20,936 children with this diagnosis were officially registered [9].

Overall, the increase in ASD detection is attributed to expanded diagnostic criteria, greater professional awareness, and improved accessibility of assessment tools. One of the key classification changes involved merging previously separate diagnostic categories (“autism,” “Asperger’s syndrome,” and “pervasive developmental disorders”) into a single diagnosis – autism spectrum disorder – which reflects the continuum and heterogeneity of clinical presentations [10].

Clinical and scientific evidence highlights the critical importance of early intervention, which facilitates socialization and improves educational outcomes. According to Ukrainian studies, among children who began receiving services between the ages of 2 and 4, approximately 60% were later able to follow a mainstream school curriculum [11, 12].

ASD is not only a medical condition but also a socio-psychological issue that affects all environments in which a child functions. Parents of children with ASD more frequently experience stress, anxiety, and depressive symptoms [13, 14]. During wartime, these difficulties may intensify due to migration, disruption of familiar routines, instability of the educational process, and interruptions in access to medical and educational services [15, 16, 13]. Broader evidence on the impact of armed conflicts on children likewise indicates increased risks to mental health and academic functioning.

The period of middle childhood (8–12 years) corresponds to the early school-age stage and is characterized by the intensive development of activities of daily living (ADL), instrumental activities of daily living (IADL), school participation, and social interaction [17]. In children with ASD, difficulties in social interaction [18, 19, 20], pragmatic communication [21, 22, 23], behavioral rigidity and dependence on routines [24, 25], as well as sensory dysregulation [26] and related motor challenges [27, 28] become particularly evident at this age. Additional complications may arise due to comorbid conditions, including intellectual disabilities [29, 30, 31], epilepsy [32, 33], ADHD [34, 35], anxiety and affective disorders [31, 30], and somatic problems such as sleep or gastrointestinal disturbances [32, 35, 31, 36].

Occupational therapy is one of the key components of comprehensive rehabilitation for children with ASD, as the primary goal for families and professionals is the development of independence and functional participation [38, 39]. International literature also emphasizes the relationship between sensory processing and school-related emotional, behavioral, and academic outcomes in children with ASD, which provides a strong foundation for ecologically oriented (school-based) models of intervention.

This study was conducted within the framework of the Research Project of the National University of Physical Education and Sport of Ukraine, No. 4.1: “Improving functional independence and occupational participation among individuals with various clinical conditions through occupational therapy intervention programs.” State registration number: 0121U107532.

**Aim and Objectives.** The aim of the study was to evaluate changes in the overall PedsQL quality-of-life score in school-aged children with ASD during wartime and to compare the effectiveness of three approaches to occupational therapy interventions.

**Methods.** The study included children with ASD aged 8–12 years. Three groups of 20 participants each were formed (total  $n = 60$ ): the first group (CG; 18 boys, 2 girls) received occupational therapy consultations; the second group (EG1; 17 boys, 3 girls) received clinic-based occupational therapy sessions; and the third group (EG2; 18 boys, 2 girls) received clinic-based occupational therapy sessions combined with school-environment adaptations.

Inclusion criteria: a confirmed ASD diagnosis; age 8–12 years; preserved cognitive functioning; ability to follow verbal instructions; and a score of 30–37 on the Childhood Autism Rating Scale (CARS).

Exclusion criteria: significant cognitive or visual impairments; cardiopulmonary disorders; epilepsy or use of antiepileptic medications; and surgical interventions or injuries within the past year.

**Results.** This study implemented three approaches to occupational therapy intervention for children aged 8–12 years with ASD, differing in intensity, context, and the level of interaction between the therapist, the family, and the educational environment. The proposed intervention algorithms made it possible to assess how different formats of occupational therapy influence children’s quality of life under the conditions of full-scale war.

All groups were statistically homogeneous in their baseline quality-of-life indicators, confirming the comparability of the samples and the validity of further analysis of score dynamics. PedsQL data were collected using the parent-proxy version of the instrument and presented as percentage scores, reflecting parents’ perceptions of their child’s functioning in daily life.

#### Group 1 – Consultative Model

(20 children; consultations once every two weeks)

In this model, the occupational therapist worked primarily with parents, providing guidance on developing ADL/IADL skills, structuring routines, implementing visual schedules, and applying skill-building techniques (task chaining, prompting, positive reinforcement). Considerable attention was given to fine-motor development, sensory modification of the home environment, creation of a sensory diet, and strategies for self-regulation and stress management.

Parents essentially acted as co-therapists, integrating recommendations into everyday

routines – a factor of particular importance during wartime, when access to services is often limited due to safety concerns and frequent changes in place of residence.

Group 2 – Individual Clinic-Based Interventions (20 children; 3 sessions per week, 45 minutes each)

In this group, the occupational therapist worked directly with the child in a clinical setting. Interventions included training in self-care, development of sensorimotor and graphomotor skills, correction of feeding difficulties, simulation of daily living situations, and enhancement of communication, social skills, and self-regulation.

Sensory integration techniques were widely used (swings, balance surfaces, tactile paths, proprioceptive activities), along with emotional-regulation strategies. Skills were developed within a structured therapeutic environment and subsequently generalized to broader contexts.

Group 3 – Clinic-Based Interventions Combined with School-Environment Adaptation (20 children)

This model integrated regular clinical sessions (identical to those in Group 2) with school-based environmental intervention, which included:

- assessment of sensory, cognitive, and behavioral barriers within the classroom;

- creation of sensory-friendly corners, modification of lighting, and reduction of noise levels;

- implementation of visual schedules, social stories, and structured task sequences;

- adaptation of instructional materials;
- recommendations for organizing transitions between activities;

- adaptation of shelters and evacuation routes;
- training teachers and assistants on interaction strategies with children with ASD;

- ongoing monitoring and adjustment of interventions.

This approach provided multi-environmental support and facilitated the transfer of skills into real learning conditions.

Table 1 presents the total PedsQL percentage scores in the three groups before and after the intervention.

Additionally, the overall dynamics of the PedsQL scores are presented in Figure 1.

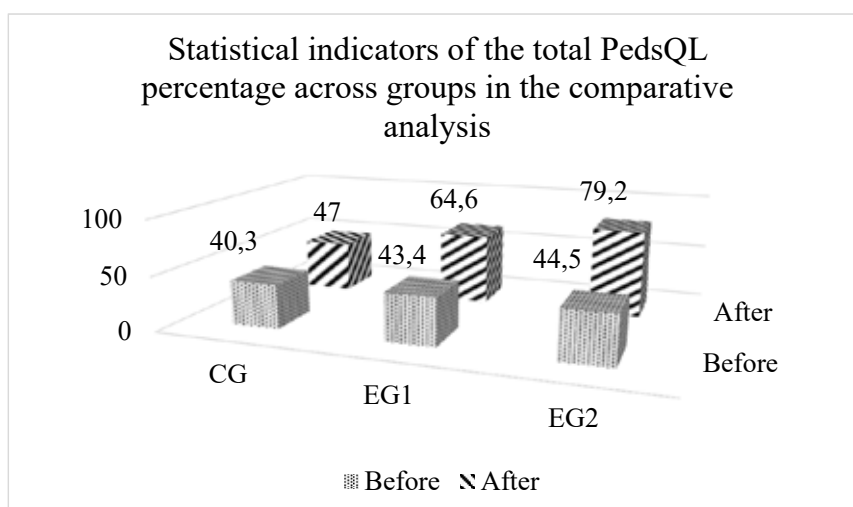
In the EG2 group, the median baseline quality-of-life score was 44.8%, increasing to a median of 80% after completion of the program ( $p < 0.001$ ). The absolute improvement in mean values amounted to +34.7 percentage points. In the EG1 group, the median score increased to 64.5% ( $p < 0.001$ ), with an absolute gain of +21.2 percentage points. The

Table 1

**Total PedsQL percentage scores in the three groups before and after the intervention**

Група	Before: median (25–75 %)	After: median (25–75 %)	Before: mean ± SD	After: mean ± SD
EG2	44.8 (43.7–45.8)	80 (78.2–81.1)	44.5 ± 1.8	79.2 ± 2.9
CG	39.7 (39.2–41.6)	46.8 (46.0–48.2)	40.3 ± 1.7	47 ± 1.6
EG1	43.4 (43–44.1)	64.5 (63.6–65.2)	43.4 ± 0.9	64.6 ± 1.2

\*  $p < 0.001$ .



**Fig. 1. Dynamics of the total PedsQL score across the three groups**

control group (CG) also demonstrated a statistically significant increase ( $p < 0.001$ ), although the absolute change was minimal (+6.7 percentage points).

Thus, the most substantial improvement in quality of life was observed in EG2, followed by EG1, with the smallest change recorded in the CG. This gradient aligns with contemporary evidence indicating that school performance and quality of life in children with ASD are sensitive to sensory characteristics of the environment and opportunities for self-regulation. Notably, specific subscales of the Short Sensory Profile – such as Auditory Filtering – have been shown to account for a significant proportion of variance in academic performance.

The clinical interpretation of these findings lies in the likely differences in opportunities for skill generalization. The improvement observed in EG1 compared to the CG can be understood as the effect of higher-intensity clinic-based occupational therapy, which may influence both the physical and emotional functioning of the child. The superior outcomes in EG2 further align with contemporary approaches that shift the focus from remediation toward optimizing participation through adaptation of shared environments (classroom structure, rules, sensory load) and interprofessional collaboration

within the school setting. This was reflected in the marked improvement in the “school functioning” domain, a change not observed in the other groups. This component significantly contributed to the overall increase in the total PedsQL score in EG2.

**Conclusions.** Upon completion of the program, all three support models were associated with statistically significant improvements in overall PedsQL quality-of-life scores ( $p < 0.001$ ). However, the magnitude of the effect differed substantially:

EG2 (+34.7 p.p.) > EG1 (+21.2 p.p.) > CG (+6.7 p.p.).

These findings confirm that both the intensity and the ecological context of occupational therapy interventions are critical determinants of quality-of-life improvement in school-aged children with ASD.

In the context of war, these results carry additional practical significance, as armed conflict is associated with deterioration in children’s mental health and academic functioning, disruption of educational trajectories, and increased burden on families.

For this reason, multi-environment models that include intervention directly within the child’s natural settings may help maintain predictability, support participation in learning, and facilitate the transfer of newly acquired skills into real-life situations.

## BIBLIOGRAPHY

1. World Health Organization. Autism [Електронний ресурс]. WHO. 2025. URL: <https://www.who.int/news-room/fact-sheets/detail/autism-spectrum-disorders>
2. Zeidan J., Fombonne E., Scora J., Ibrahim A., Durkin M. S., Saxena S., Yusuf A., Shih A., Elsabbagh M. Global prevalence of autism: a systematic review update. *Autism Research*. 2022. № 15(5). P. 778–790. DOI: <https://doi.org/10.1002/aur.2696>
3. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. 5th ed., text revision. Washington: American Psychiatric Association Publishing. 2022. DOI: <https://doi.org/10.1176/appi.books.9780890425787>
4. Maenner M. J., Warren Z., Williams A. R., Amoakohene E., Bakian A. V., Bilder D. A., Durkin M. S., Fitzgerald R. T., Furnier S. M., Hughes M. M. та ін. Prevalence and Characteristics of Autism Spectrum Disorder Among Children Aged 8 Years... Morbidity and Mortality Weekly Report. *Surveillance Summaries*. 2023. № 72(2). P. 1–14. DOI: <https://doi.org/10.15585/mmwr.ss7202a1>
5. Morrison C., Cashin A., Foley K. R. Daily living skill support for autistic people through a neurodiversity-affirming practice lens. *Australian Occupational Therapy Journal*. 2025. № 72(2). e13002. DOI: <https://doi.org/10.1111/1440-1630.13002>
6. Nguyen A. The relationship between the biopsychosocial model and autism spectrum disorder. *Stimulus: A Medical Humanities Journal*. 2022. № 2. Article 21. DOI: <https://doi.org/10.32855/2767-7281.1164>
7. Shaw K. A., Williams S., Patrick M. E. та ін. Prevalence and Early Identification of Autism Spectrum Disorder Among Children Aged 4 and 8 Years... *MMWR Surveillance Summaries*. 2025. № 74(SS-2). P. 1–22. DOI: <http://dx.doi.org/10.15585/mmwr.ss7402a1>
8. Smith R., Fortin A. H., Dwamena F., Frankel R. An evidence-based patient-centered method makes the biopsychosocial model scientific. *Patient Education and Counseling*. 2013. № 91(3). P. 265–270
9. Центр громадського здоров'я України. Аутизм: неінфекційні захворювання [Електронний ресурс]. URL: <https://phc.org.ua/kontrol-zakhvoryuvan/neinfekciyni-zakhvoryuvannya/inshi-neinfekciyni-zakhvoryuvannya/autizm>
10. Cimera R. E. The Monetary Benefits and Costs of Hiring Supported Employees: Revisited. *Journal of Vocational Rehabilitation*. 2006. № 24(3). P. 137–144
11. Казак Л. М. Застосування комплексного підходу у процесі корекції розладів аутистичного спектру... Актуальні проблеми корекційної педагогіки, психології та реабілітації: матеріали III Всеукр. студентської наук.-практ. конф. Суми, 2019. С. 45–47
12. Чуприков А. П., Хворова Г. М. Розлади спектра аутизму: медична та психолого-педагогічна допомога. Львів: Мс, 2012. 184 с.

13. Itani T., Jacobsen K. H., Kraemer A. Suicidal ideation and planning among Palestinian middle school students... *International Journal of Pediatrics and Adolescent Medicine*. 2017. № 4(2). P. 54–60
14. Enea V., Diaconu-Gherasim L. R. Raising a Child with Autism Spectrum Disorder... *Journal of Mental Health Research in Intellectual Disabilities*. 2020. № 13(4). P. 283–321. URL: <https://eric.ed.gov/?id=EJ1274948>
15. Swaab L., Goodwin J., Wroel J., Woolard A., McCormack L., Campbell L. Stigma Associated with Parenting an Autistic Child with Aggressive Behaviour... *Review Journal of Autism and Developmental Disorders*. 2021. № 10(4). P. 281–294. DOI: <https://doi.org/10.1007/s40489-021-00292-5>
16. Pisula E., Winczura B., Banasiak A. Wsparcie dzieci i młodzieży w spektrum autyzmu – uchodźców z Ukrainy... 2023
17. Мангушева О. О. Короткий термінологічний словник ерготерапії. Українське товариство ерготерапевтів. 2021. URL: <https://bit.ly/3yB4McT>
18. Boonen H., Maljaars J., Lambrechts G., Zink I., Van Leeuwen K., Noens I. Behavior problems among school-aged children with ASD... *Research in Autism Spectrum Disorders*. 2014. № 8(6). P. 716–725. DOI: <https://doi.org/10.1016/j.rasd.2014.03.008>
19. Deckers A., Muris P., Roelofs J., Arntz A. A Group-Administered Social Skills Training... *Journal of Autism and Developmental Disorders*. 2016. № 46(11). P. 3493–3504. DOI: <https://doi.org/10.1007/s10803-016-2887-1>
20. Kasari C., Brady N., Lord C., Tager-Flusberg H. Assessing the minimally verbal school-aged child... *Autism Research*. 2013. № 6(6). P. 479–493. DOI: <https://doi.org/10.1002/aur.1334>
21. Costescu C., Pitariu D., David C., Rosan A. Social communication predictors in autism spectrum disorder... *Journal of Experimental Psychopathology*. 2022. № 13(3). DOI: <https://doi.org/10.1177/20438087221106955>
22. Jain D., Multani K. S., Dodiya A., Benani U., Iyer A. Adaptive behavior in children with autism spectrum disorder... *Autism*. 2025. № 29(4). P. 829–837
23. Tansley R., Parsons S., Kovshoff H. How are intense interests used within schools... *European Journal of Special Needs Education*. 2022. № 37(3). P. 477–493
24. Ibañez L. V., Kobak K., Swanson A., Wallace L., Warren Z., Stone W. L. Enhancing interactions during daily routines... *Autism Research*. 2018. № 11(4). P. 667–678
25. Benson J. D., Blaskowitz M. G., Collins A., Smitsky D., Chippich E., Connell C. The effect of a sensory activity schedule... *Journal of Occupational Therapy, Schools, & Early Intervention*. 2022. № 15(4). P. 439–454
26. Chi I. J., Lin L. Y. Using the Assessment of Motor and Process Skills... *American Journal of Occupational Therapy*. 2022. № 76(2). P. 7602205100
27. Вітомська М. В., Борис М. І. Сенсорноінтегративний підхід ерготерапії... Сучасні технології в галузі фізичного виховання, спорту, фізичної терапії та ерготерапії: матеріали XI Міжнар. наук.-метод. конф. Харків, 2021. С. 137–139
28. Burns J., Phung R., McNeill S., Hanlon-Dearman A., Ricci M. F. Comorbidities Affecting Children with ASD... *Paediatrics & Child Health*. 2023. № 28(Suppl. 1). P. e6–e7. DOI: <https://doi.org/10.1093/pch/pxad055.014>
29. Goldin R. L., Matson J. L., Cervantes P. E. The effect of intellectual disability... *Research in Autism Spectrum Disorders*. 2014. № 8(11). P. 1552–1556
30. Rai D., Heuvelman H., Dalman C., Culpin I., Lundberg M., Carpenter P., Magnusson C. Association between ASD and depression... *JAMA Network Open*. 2018. № 1(4). e181465
31. Dizitzer Y., Meiri G., Flusser H., Michaelovski A., Dinstein I., Menashe I. Comorbidity and health services usage... *Epidemiology and Psychiatric Sciences*. 2020. № 29. e95. DOI: <https://doi.org/10.1017/S2045796020000050>
32. Besag F. M. Epilepsy in patients with autism... *Neuropsychiatric Disease and Treatment*. 2017. № 14. P. 1–10
33. Hours C., Recasens C., Baleyte J. M. ASD and ADHD comorbidity... *Frontiers in Psychiatry*. 2022. № 13. 837424
34. Ivanović I. Psychiatric comorbidities in children with ASD... *Frontiers in Psychiatry*. 2021. № 12. 673169
35. Rowe M., Shergill S., Maitra R. The relationships between anxiety, psychotic-like experiences and autism... *Frontiers in Psychology*. 2025. № 16. 1549886
36. Gan H., Su Y., Zhang L., Huang G., Lai C., Lv Y., Li Y. Questionnaire-based analysis of ASD and gastrointestinal symptoms... *Frontiers in Pediatrics*. 2023. № 11. 1120728
37. Bougeard C., Picarel-Blanchot F., Schmid R., Campbell R., Buitelaar J. Prevalence of ASD and comorbidities... *Frontiers in Psychiatry*. 2021. № 12. 744709
38. Козій Т. П., Велюш Д. Ю. Ерготерапія при аутизмі... Сучасні проблеми логопедії та реабілітації: матеріали VI Всеукр. наук.-практ. конф. Суми, 2017. С. 22–28
39. Novak I., Honan I. Effectiveness of paediatric occupational therapy... *Australian Occupational Therapy Journal*. 2019. № 66(3). P. 258–273

## REFERENCES

1. World Health Organization. Autism. WHO. 2025. URL: <https://www.who.int/news-room/fact-sheets/detail/autism-spectrum-disorders>
2. Zeidan J., Fombonne E., Scora J., Ibrahim A., Durkin M. S., Saxena S., Yusuf A., Shih A., Elsabbagh M. Global prevalence of autism: a systematic review update. *Autism Research*. 2022. № 15(5). P. 778–790. DOI: <https://doi.org/10.1002/aur.2696>
3. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 5th ed., text rev. Washington: American Psychiatric Association Publishing. 2022. DOI: <https://doi.org/10.1176/appi.books.9780890425787>

4. Maenner M. J., Warren Z., Williams A. R., Amoakohene E., Bakian A. V., Bilder D. A., Durkin M. S., Fitzgerald R. T., Furnier S. M., Hughes M. M. et al. Prevalence and characteristics of autism spectrum disorder among children aged 8 years – Autism and Developmental Disabilities Monitoring Network, 11 sites, United States, 2020. *Morbidity and Mortality Weekly Report. Surveillance Summaries*. 2023. № 72(2). P. 1–14. DOI: <https://doi.org/10.15585/mmwr.ss7202a1>
5. Morrison C., Cashin A., Foley K. R. Daily living skill support for autistic people through a neurodiversity-affirming practice lens. *Australian Occupational Therapy Journal*. 2025. № 72(2). Article e13002. DOI: <https://doi.org/10.1111/1440-1630.13002>
6. Nguyen A. The relationship between the biopsychosocial model and autism spectrum disorder. *Stimulus: A Medical Humanities Journal*. 2022. № 2. Article 21. DOI: <https://doi.org/10.32855/2767-7281.1164>
7. Shaw K. A., Williams S., Patrick M. E. et al. Prevalence and early identification of autism spectrum disorder among children aged 4 and 8 years – Autism and Developmental Disabilities Monitoring Network, 16 sites, United States, 2022. *MMWR Surveillance Summaries*. 2025. № 74(SS-2). P. 1–22. DOI: <http://dx.doi.org/10.15585/mmwr.ss7402a1>
8. Smith R., Fortin A. H., Dwamena F., Frankel R. An evidence-based patient-centered method makes the biopsychosocial model scientific. *Patient Education and Counseling*. 2013. № 91(3). P. 265–270.
9. Tsentr hromadskoho zdorovia Ukrainy. Autyzm: neinfektsiini zakhvoriuvannia. URL: <https://phc.org.ua/kontrol-zakhvoryuvan/neinfekciyni-zakhvoryuvannya/inshi-neinfekciyni-zakhvoryuvannya/autyzm>
10. Cimera R. E. The monetary benefits and costs of hiring supported employees: revisited. *Journal of Vocational Rehabilitation*. 2006. № 24(3). P. 137–144.
11. Kazak L. M. Zastosuvannia kompleksnoho pidkhodu u protsesi korektsii rozladiv autystychnoho spektru v ditei doshkilnoho viku. Aktualni problemy korektsiinoi pedahohiky, psykholohii ta reabilitatsii: materialy III Vseukrainskoi studentskoi naukovo-praktychnoi konferentsii. Sumy: Sumy State Pedagogical University imeni A. S. Makarenka. 2019. P. 45–47.
12. Chuprykov A. P., Khvorova H. M. Rozlady spektra autyzmu: medychna ta psykholoho-pedahohichna dopomoha. 2012.
13. Itani T., Jacobsen K. H., Kraemer A. Suicidal ideation and planning among Palestinian middle school students living in Gaza Strip, West Bank, and United Nations Relief and Works Agency camps. *International Journal of Pediatrics and Adolescent Medicine*. 2017. № 4(2). P. 54–60.
14. Enea V., Diaconu-Gherasim L. R. Raising a child with autism spectrum disorder: a systematic review of the literature investigating parenting stress. *Journal of Mental Health Research in Intellectual Disabilities*. 2020. № 13(4). P. 283–321. URL: <https://eric.ed.gov/?id=EJ1274948>
15. Swaab L., Goodwin J., Wroel J., Woolard A., McCormack L., Campbell L. Stigma associated with parenting an autistic child with aggressive behaviour: a systematic review. *Review Journal of Autism and Developmental Disorders*. 2021. № 10(4). P. 281–294. DOI: <https://doi.org/10.1007/s40489-021-00292-5>
16. Pisula E., Winczura B., Banasiak A. Wsparcie dzieci i młodzieży w spektrum autyzmu – uchodźców z Ukrainy i ich rodzin: raport z badań. 2023.
17. Manhusheva O. O. Korotkyi terminolohichnyi slovnyk erhoterapii. *Ukrainske Tovarystvo Erhoterapevtiv*. 2021. URL: <https://bit.ly/3yB4McT>
18. Boonen H., Maljaars J., Lambrechts G., Zink I., Van Leeuwen K., Noens I. Behavior problems among school-aged children with autism spectrum disorder: associations with children's communication difficulties and parenting behaviors. *Research in Autism Spectrum Disorders*. 2014. № 8(6). P. 716–725. DOI: <https://doi.org/10.1016/j.rasd.2014.03.008>
19. Deckers A., Muris P., Roelofs J., Arntz A. A group-administered social skills training for 8- to 12-year-old high-functioning children with autism spectrum disorders: an evaluation of its effectiveness in a naturalistic outpatient treatment setting. *Journal of Autism and Developmental Disorders*. 2016. № 46(11). P. 3493–3504. DOI: <https://doi.org/10.1007/s10803-016-2887-1>
20. Kasari C., Brady N., Lord C., Tager-Flusberg H. Assessing the minimally verbal school-aged child with autism spectrum disorder. *Autism Research*. 2013. № 6(6). P. 479–493. DOI: <https://doi.org/10.1002/aur.1334>
21. Costescu C., Pitariu D., David C., Rosan A. Social communication predictors in autism spectrum disorder: theoretical review. *Journal of Experimental Psychopathology*. 2022. № 13(3). DOI: <https://doi.org/10.1177/20438087221106955>
22. Jain D., Multani K. S., Dodiya A., Benani U., Iyer A. Adaptive behavior and its differences between children with autism spectrum disorder and social communication disorder. *Autism*. 2025. № 29(4). P. 829–837.
23. Tansley R., Parsons S., Kovshoff H. How are intense interests used within schools to support inclusion and learning for secondary-aged autistic pupils? A scoping review. *European Journal of Special Needs Education*. 2022. № 37(3). P. 477–493. DOI: <https://doi.org/10.1080/08856257.2021.1911520>
24. Ibañez L. V., Kobak K., Swanson A., Wallace L., Warren Z., Stone W. L. Enhancing interactions during daily routines: a randomized controlled trial of a web-based tutorial for parents of young children with ASD. *Autism Research*. 2018. № 11(4). P. 667–678. DOI: <https://doi.org/10.1002/aur.1919>
25. Benson J. D., Blaskowitz M. G., Collins A., Smitsky D., Chippich E., Connell C. The effect of a sensory activity schedule on the on-task behaviors of children with autism spectrum disorders. *Journal of Occupational Therapy, Schools, & Early Intervention*. 2022. № 15(4). P. 439–454.
26. Chi I. J., Lin L. Y. Using the Assessment of Motor and Process Skills and the Pediatric Evaluation of Disability Inventory to assess self-care performance among preschool children with autism spectrum disorder. *American Journal of Occupational Therapy*. 2022. № 76(2).

27. Vitomska M. V., Borys M. I. Sensorointehratyvnyi pidkhid erhoterapii dlia ditei z rozladamy autystychnoho spektru. Suchasni tekhnolohii v haluzi fizychnoho vykhovannia, sportu, fizychnoi terapii ta erhoterapii: zbirnyk naukovykh prats XI Mizhnarodnoi naukovo-metodychnoi konferentsii. Kharkiv. 2021. P. 137–139.
28. Burns J., Phung R., McNeill S., Hanlon-Deerman A., Ricci M. F. Comorbidities affecting children with autism spectrum disorder: a retrospective chart review from the main referral site for ASD evaluation in Manitoba. *Paediatrics & Child Health*. 2023. № 28(Suppl. 1). P. e6–e7. DOI: <https://doi.org/10.1093/pch/pxad055.014>
29. Goldin R. L., Matson J. L., Cervantes P. E. The effect of intellectual disability on the presence of comorbid symptoms in children and adolescents with autism spectrum disorder. *Research in Autism Spectrum Disorders*. 2014. № 8(11). P. 1552–1556. DOI: <https://doi.org/10.1016/j.rasd.2014.08.006>
30. Rai D., Heuvelman H., Dalman C., Culpin I., Lundberg M., Carpenter P., Magnusson C. Association between autism spectrum disorders with or without intellectual disability and depression in young adulthood. *JAMA Network Open*. 2018. № 1(4). e181465.
31. Dizitzer Y., Meiri G., Flusser H., Michaelovski A., Dinstein I., Menashe I. Comorbidity and health services' usage in children with autism spectrum disorder: a nested case-control study. *Epidemiology and Psychiatric Sciences*. 2020. № 29. e95. DOI: <https://doi.org/10.1017/S2045796020000050>
32. Besag F. M. Epilepsy in patients with autism: links, risks and treatment challenges. *Neuropsychiatric Disease and Treatment*. 2017. № 14. P. 1–10. DOI: <https://doi.org/10.2147/NDT.S120509>
33. Hours C., Recasens C., Baleyte J. M. ASD and ADHD comorbidity: what are we talking about? *Frontiers in Psychiatry*. 2022. № 13. 837424. DOI: <https://doi.org/10.3389/fpsy.2022.837424>
34. Ivanović I. Psychiatric comorbidities in children with ASD: autism centre experience. *Frontiers in Psychiatry*. 2021. № 12. 673169. DOI: <https://doi.org/10.3389/fpsy.2021.673169>
35. Rowe M., Shergill S., Maitra R. The relationships between anxiety, psychotic-like experiences and autism: a systematic review. *Frontiers in Psychology*. 2025. № 16. 1549886. DOI: <https://doi.org/10.3389/fpsyg.2025.1549886>
36. Gan H., Su Y., Zhang L., Huang G., Lai C., Lv Y., Li Y. Questionnaire-based analysis of autism spectrum disorders and gastrointestinal symptoms in children and adolescents: a systematic review and meta-analysis. *Frontiers in Pediatrics*. 2023. № 11. 1120728. DOI: <https://doi.org/10.3389/fped.2023.1120728>
37. Bougeard C., Picarel-Blanchot F., Schmid R., Campbell R., Buitelaar J. Prevalence of autism spectrum disorder and co-morbidities in children and adolescents: a systematic literature review. *Frontiers in Psychiatry*. 2021. № 12. 744709. DOI: <https://doi.org/10.3389/fpsy.2021.744709>
38. Kozii T. P., Veliush D. Yu. Erhoterapiia yak skladova kompleksnoi reabilitatsii pry autyzmi ta yii efektyvnist. Suchasni problemy lohopedii ta reabilitatsii: materialy VI Vseukrainskoi zaochnoi naukovo-praktychnoi konferentsii. Sumy. 2017. P. 22–28.
39. Novak I., Honan I. Effectiveness of paediatric occupational therapy for children with disabilities: a systematic review. *Australian Occupational Therapy Journal*. 2019. № 66(3). P. 258–273.

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