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## **Assessing the Impact of Parental Labor Migration on Children's Health**

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### **Abstract**

In the Republic of Moldova, the phenomenon of children separated from one or both parents who went abroad to work has reached one of the highest levels in Europe. A total of 36,817 children were affected by parental labor migration in 2019, and 29,186 children in 2020. In order to define the quality of life of migrants' children, there were researched different aspects of their lives. As the instrument for given research there was used the Pediatric Quality of Life Inventory (PedsQL™4.0) questionnaire. The research sample comprised 280 people, which was divided into 4 groups: group I-70 children affected by parental labor migration, group II-70 children without parental labor migration experience, group III-70 parents/guardians of children affected by parental labor migration, group IV-70 parents/guardians of children without parental labor migration experience. Scientific arguments were made in the study supporting an innovative methodology for assessing children's quality of life - the Pediatric Quality of Life Inventory (PedsQL™ 4.0) questionnaire, which facilitated the assessment of patients' health affected by parental labor migration. The study showed that the Total Score of the Quality of Life of the patients ranged from  $56.01 \pm 12.75$  points at the age of 5–7 years and  $46.77 \pm 11.09$  points in adolescents aged 13–18 years, the figures being significantly lower compared to patients not affected by migration ( $p = 0.000$ ).

*Keywords: children's health, physical health, quality of life, parental labor migration*



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## References

1. Antia, K., Boucsein, J., Deckert, A., Dambach, P.: Effects of international labor migration on the mental health and well-being of left-behind children: a systematic literature review. *Int. J. Environ. Res. Public Health* **17**(12), 4335 (2020). <https://doi.org/10.3390/ijerph17124335>
2. Bai, G., Herten, M., Landgraf, G., Korfage, I., Raat, H.: Childhood chronic conditions and health-related quality of life: findings from a large population-based study. *PLOS ONE* **12**(6), e0178539 (2017). <https://doi.org/10.1371/journal.pone.0178539>
3. Butz, C., Valleru, J., Castillo, A., Butter, E.: Implementation of an outcome measure in pediatric behavioral health: a process improvement initiative. *Pediatr Qual Saf.* **2**(6), e043 (2017). <https://doi.org/10.1097/pq9.0000000000000043>
4. Cebotari, V., Siegel, M., Mazzucato, V.: Migration and the education of children who stay behind in Moldova and Georgia. *Int. J. Educ.Dev.* **51**, 96–107 (2016). <https://doi.org/10.1016/j.ijedudev>
5. Clarke, S., Eiser, C.: The measurement of health-related quality of life (QOL) in pediatric clinical trials: a systematic review. *Health Qual. Life Outcomes* **2**, 66 (2004). <https://doi.org/10.1186/1477-7525-2-66>
6. Clark, H., Coll-Seck, A., Banerjee, A., Peterson, S., et al.: A future for the world's children? A WHO-UNICEF-Lancet Comm. *Lancet* **395**(10224), 605–658 (2020). [https://doi.org/10.1016/S0140-6736\(19\)32540-1](https://doi.org/10.1016/S0140-6736(19)32540-1)
7. Corona, M., Bhabna, J., Wickramage, K., et al.: International migration of unaccompanied minors: trends, health risks, and legal protection. *Lancet Child Adolesc Health* **5**(12), S2352–4642(21)00194–2 (2021). [https://doi.org/10.1016/s2352-4642\(21\)00194-2](https://doi.org/10.1016/s2352-4642(21)00194-2)
8. Curtis, P., Thompson, J., Fairbrother, H.: Migrant children within Europe: a systematic review of children's perspectives on their health experiences. *Public Health* **158**, 71–85 (2018). <https://doi.org/10.1016/j.puhe.2018.01.038>
9. Dawson, E., Koceja, L., Stein, E., et al.: Perspectives of caregivers on the effects of migration on the nutrition, health and physical activity of their young children: a qualitative study with immigrant and refugee families. *J. Immigr.Minor. Health* **22**(2), 274–281 (2020). <https://doi.org/10.1007/s10903-019-00905-6>



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10. Dawson-Hahn, E.E., Pidaparti, V., Hahn, W., Stauffer, W.: Global mobility, travel and migration health: clinical and public health implications for children and families. *Paediatrics Int. Child Health* **41**(1), 3–11 (2021). <https://doi.org/10.1080/20469047.2021.1876821>
11. Desai, A., Zhou, C., Stanford, S., Haaland, W., Varni, J.: Validity and responsiveness of the pediatric Quality of Life Inventory (PedsQL) 4.0 Generic Core Scales in the pediatric inpatient setting. *JAMA Pediatrics* **68**, 1114–1121 (2014)
12. Donath, C., Bergmann, M., Kleim, S., Hillemacher, T., et al.: Epidemiology of suicidal ideation, suicide attempts, and direct self-injurious behavior in adolescents with a migration background: a representative study. *BMC Pediatr.* **19**(1), 45 (2019). <https://doi.org/10.1186/s12887-019-1404-z>
13. Fellmeth, G., Rose-Clarke, K., Zhao, C., et al.: Health impacts of parental migration on leftbehind children and adolescents: a systematic review and meta analysis. *Lancet* **392**(10164), 2567–2582 (2018). [https://doi.org/10.1016/S0140-6736\(18\)32558-3](https://doi.org/10.1016/S0140-6736(18)32558-3)
14. Fellmeth, G., Rose-Clarke, K., Zhao, C., et al.: Parental migration for labor and health in children and adolescents left-behind children: a systematic review and meta- analysis. *Arch. Dis. Child.* **104**(2), 110 (2019). <https://doi.org/10.1136/archdischild-2019-rcpch.263>
15. Florian, S., Ichou, M., Panico, L.: Parental migrant status and health inequalities at birth: the role of immigrant educational selectivity. *Soc. Sci. Med.* **278**, 113915 (2021). <https://doi.org/10.1016/j.socscimed.2021.113915>
16. Frank, L., Schenk, L., Rommel, A., et al.: Inanspruchnahme ambulant ärztlicher leistungen und zufriedenheit mit der versorgung bei kindern und jugendlichen mit migrationshintergrund - ergebnisse der KiGGS-studie. *Bundesgesundheitsbl* **63**, 103–112 (2020). <https://doi.org/10.1007/s00103-019-03069-8>
17. Garson, J., Loizillon, A.: Changes and challenges. Europe and migration from 1950 to Present. In: *The Economic and social aspects of migration. Conference Jointly Organized by The European Commission and the OECD*, 21–22, January, 2003, Brussels, Luxembourg (2016). <https://www.oecd.org/migration/mig/15516948.pdf>
18. Gonzalez-Rabago, Y., La Parra, D., Puigpinos-Riera, R., Pons-Vigues, M.: Cómo medir el estatus migratorio de la población infantil y juvenil? Estudios sobre salud y desigualdades en salud en Europa [How to measure the migration status of the child and young population? Studies on health and inequalities in health in Europe]. *Gaceta sanitaria.* **35**(1), 81–90 (2021). <https://doi.org/10.1016/j.gaceta.2019.06.003>



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19. Gorbunov, G.: Impact of labor migration of parents on children's health in the republic of Moldova. *BMJ Journals. Archives of Disease in Childhood* **102** (Suppl 2), A26 (2017).  
<https://doi.org/10.1136/archdischild-2017-313273.67>
20. Gutmann, M., Aysel, M., Özlu-Erkilic, Z., et al.: Mental health problems of children and adolescents, with and without migration background, living in Vienna, Austria. *Child Adolesc. Psychiatry Ment. Health* **13**, 35 (2019). <https://doi.org/10.1186/s13034-019-0295-y>
21. Hjern, A., Jeppsson, O.: Mental health care for refugee children in exile. In: Ingleby, D. (eds) *Forced Migration and Mental Health. International and Cultural Psychology Series*. Springer, Boston, MA (2005).  
[https://doi.org/10.1007/0-387-22693-1\\_7](https://doi.org/10.1007/0-387-22693-1_7)
22. Kharel, M., Akira, S., Kiriya, J., Ong, K., Jimba, M.: Parental migration and psychological well-being of left-behind adolescents in Western Nepal. *PLOS ONE* **16**(1), e0245873 (2021)  
<https://doi.org/10.1371/journal.pone.0245873>
23. Knipe, D., Lambert, H., Pearson, M., Eddleston, M., et al.: Are left-behind families of migrant workers at increased risk of attempted suicide? - a cohort study of 178,000 individuals in Sri Lanka. *BMC Psychiatry* **19**, 25 (2019). <https://doi.org/10.1186/s12888-018-2000-8>
24. Kunwar, R., Vajduc, C., Muscatello, D.: Parental international migration is not associated with improved health care seeking for common childhood illnesses and nutritional status of young children left-behind in Nepal. *Public Health* **186**, 137–143 (2020). <https://doi.org/10.1016/j.puhe.2020.06.049>
25. Li, K., Guang, Y., Ren, L., et al.: Network analysis of the relationship between negative life events and depressive symptoms in the left-behind children. *BMC Psychiatry* **21**(1), 429 (2021).  
<https://doi.org/10.1186/s12888-021-03445-2>
26. Ma, J.L., Sheng, N., Ding, W.W., Zhang, Y.: Zhongguo dang dai er ke za zhi = Chinese J. Contemp. *Pediatric*. **20**(1), 60–66 (2018). <https://doi.org/10.7499/j.issn.1008-8830.2018.01.013>
27. Joseph Mattingly, T., Kiser, L., Hill, S., Briggs, E.C., Trunzo, C.P., Zafari, Z., Betancourt, T.S.: Unseen Costs: the direct and indirect impact of U.S. immigration policies on child and adolescent health and well-being. *J. Trauma. Stress* **33**(6), 873–881 (2020). <https://doi.org/10.1002/jts.22576>
28. Michaud, P., Weber, M., Namazova-Baranova, L., Ambresin, A.: Improving the quality of care delivered to adolescents in Europe: a time to invest. *Arch. Disease Child*. **104**(3), 214-216 (2018).  
<https://doi.org/10.1136/archdischild-2017-314429>



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29. Mishra, P., Choudhary, P., Anand, A.: Migration and child health: understanding the coverage of child immunization among migrants across different socio-economic groups in India. *Child Youth Serv. Rev.* **119**, 105684 (2020). <https://doi.org/10.1016/j.chilyouth.2020.105684>
30. Petersen, K., Chen, G., Mpundu-Kaambwa, C., Stevens, K.: Measuring health-related quality of life in adolescent populations: an empirical comparison of the CHU9D and the PedsQL™ 4.0 Short Form 15. *Patient* **11**(1), 29–37 (2018). <https://doi.org/10.1007/s40271-017-0265-5>
31. Oberg, C.: The arc of migration and the impact on children’s health and well-being forward to the special issue-children on the move. *Children* **6**(9), 100 (2019). <https://doi.org/10.3390/children6090100>
32. Racaite, J.: Parent emigration and physical health of children left behind: systematic review of the literature. *Eur. J. Pub. Health* **29**(4), 392 (2019). <https://doi.org/10.1093/eurpub/ckz186.024>
33. Racaite, J., Lindert, J., Aantia, K., Winkler, V., Sketerskiene, R., et al.: Parent emigration, physical health and related risk and preventive factors of children left behind: a systematic review of literature. *Int. J. Environ. Res. Public Health* **18**(3), 1167 (2021). <https://doi.org/10.3390/ijerph18031167>
34. Riza, E., Kalkman, S., Coritsidis, A., et al.: Community-based healthcare for migrants and refugees: a scoping literature review of best practices. *Healthcare* **8**(2), 15 (2020). <https://doi.org/10.3390/healthcare8020115>
35. Russell, E., Tsai, C., Linton, J.: Children in immigrant families: advocacy within and beyond the pediatric emergency department. *Clin. Pediatric Emerg. Med.* **21**(2), 1–12 (2020). <https://doi.org/10.1016/j.cpem.2020.100779>
36. Varni, J.W., Sherman, S.A., Burwinkle, T.M., et al.: The PedsQL™ family impact module: preliminary reliability and validity. *Health Qual. Life Outcomes* **2**, 55 (2004). <https://doi.org/10.1186/1477-7525-2-55>