



ANALYSIS OF THE HEALTH NEEDS OF THE PAEDIATRIC IMMIGRANT POPULATION FROM UKRAINE WHO RECEIVED MEDICAL ASSISTANCE IN 2023 WITHIN THE FRAMEWORK OF THE CENTRE FOR MEDICAL SERVICES OF THE MILITARY INSTITUTE OF MEDICINE – NATIONAL RESEARCH INSTITUTE IN WARSAW



Analiza potrzeb zdrowotnych populacji dziecięcej imigrantów z Ukrainy, którym udzielono pomocy medycznej w 2023 roku w ramach Centrum Pomocy Medycznej Wojskowego Instytutu Medycznego – Państwowego Instytutu Badawczego w Warszawie

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Abstract

Introduction and objective: The influx of Ukrainian refugees, caused by the armed conflict in Ukraine that began in 2022, necessitated the development of new standards of medical assistance in Poland. Therefore, the Centre for Medical Services for Refugees was established on the premises of the Military Institute of Medicine – National Research Institute. Based on the analysis of collected medical data, the main goal of the article was to define the health status and the most common health problems of the Ukrainian paediatric immigrant population. **Materials and methods:** Ukrainian children with refugee status seeking help at the Centre were included in the study. During the 56 days of the Centre's operation, medical assistance was provided to 130 paediatric patients as part of 211 medical consultations carried out from May to July 2023. Detailed analysis of the children's demographic data, epidemiological factors, current health issues, medical history and documentation was conducted. **Results:** The need for continuing the treatment for chronic diseases (30%, 64 visits) was the most common reason for appointment, while infections constituted the second most frequent reason (27%, 56 visits). Based on information collected by means of questionnaires, the majority of children (74%) were fully vaccinated, partially vaccinated and unvaccinated children accounted for 1% and 3%, respectively, whereas 22% of respondents refused to answer questions regarding vaccinations. According to the survey on infectious diseases, two cases of viral hepatitis and one case of tuberculosis were identified. There were no cases of HIV/AIDS. **Conclusions:** The general health status of paediatric Ukrainian refugees was good, not significantly different from the Polish population, and their health needs also did not differ from those of Polish patients. The patients did not present symptoms typical of a war migrant population. The results of the implemented programme confirm the usefulness of establishing the Centre for Medical Services for Refugees as a space for professional medical care and a great tool for public health data collection.

Streszczenie

Wprowadzenie i cel: Napływ ludności cywilnej (głównie kobiet i dzieci) pochodzenia ukraińskiego spowodowany konfliktem zbrojnym w Ukrainie, zapoczątkowany w lutym 2022 roku, spowodował konieczność opracowywania nowych standardów pomocy medycznej. W tym celu, korzystając z zasobów Wojskowego Instytutu Medycznego – Państwowego Instytutu Badawczego, utworzono Centrum Pomocy Medycznej, działające w okresie od maja do lipca 2023 roku. Na podstawie analizy zgromadzonych danych medycznych pacjentów zgłaszających się do Centrum podjęto próbę zdefiniowania najczęstszych problemów zdrowotnych populacji pediatrycznej imigrantów wojennych z Ukrainy. **Materiał i metody:** Badaniem objęto dzieci pochodzenia ukraińskiego, mające status uchodźcy wojennego. W ciągu 56 dni działania Centrum udzielono pomocy medycznej 130 pacjentom pediatrycznym, w ramach 211 przeprowa-

dzonych konsultacji lekarskich. Szczegółowej analizie poddano dane demograficzne i epidemiologiczne, bieżące problemy zdrowotne, wywiad chorobowy oraz dokumentację medyczną zgłaszających się dzieci. **Wyniki:** Najczęstszym powodem zgłoszenia się pacjentów była potrzeba kontynuacji świadczeń/leczenia z powodu przewlekłego problemu zdrowotnego (30%, 64 wizyty). Drugą co do częstości przyczynę zgłoszeń stanowiły infekcje (27%, 56 wizyt). Z wywiadu zebranego od opiekunów wynikało, iż większość (74%) dzieci była szczepiona zgodnie z ukraińskim kalendarzem szczepień, 1% stanowiły dzieci szczepione częściowo, 3% dzieci niezaszczepione, a w 22% przypadków odmówiono odpowiedzi na pytanie dotyczące szczepień. Na podstawie ankiety dotyczącej chorób zakaźnych stwierdzono dwa zachorowania na wirusowe zapalenie wątroby i jedno zachorowanie na gruźlicę. Nie odnotowano HIV/AIDS wśród badanych pacjentów pediatrycznych. **Wnioski:** Stan zdrowia przybyłych do Polski dzieci pochodzenia ukraińskiego był dobry, nieodbiegający znacząco od populacji polskiej, a ich potrzeby zdrowotne nie różniły się w większości od potrzeb pacjentów polskich. Pacjenci nie prezentowali objawów typowych dla populacji migrantów wojennych. Wyniki przeprowadzonego programu potwierdzają przydatność tworzenia centrów pomocy medycznej dla migrantów jako przestrzeni do fachowej opieki medycznej oraz gromadzenia danych z zakresu zdrowia publicznego.

Keywords: children, epidemiology, vaccinations, migrants, war refugees

Słowa kluczowe: dzieci, epidemiologia, szczepienia, migranci, uchodźcy wojenni

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Introduction

Russia's invasion of Ukraine, which began on February 24, 2022, resulted in a massive influx of war refugees to Poland. In the first three days of invasion, 115,000 Ukrainians crossed the border of our country. This number rose to 2.3 million over the next five weeks. By July 2023, a total of 13.8 million war refugees had crossed the Ukrainian-Polish border, with women and children accounting for up to 97% [1]. According to the Office of the c.c. of Warsaw, more than 1.1 million refugees from Ukraine have passed through the capital in the year since the start of the military conflict [2].

According to official sources, there were more than 104,000 Ukrainians living in Warsaw in February 2023, of which 17,000 were under 18 years of age [2].

When crossing the Polish border, the immigrants were not familiar with the functioning of the Polish healthcare system, and their socioeconomic status mostly limited their ability to use private services. Additionally, the patients usually lacked medical records confirming information about their current health status, past hospital admissions, surgeries or medications taken, which made the diagnostic and therapeutic process challenging.

It was therefore necessary to determine in detail what resources should be used and what organisational modifications should be introduced in the health and social care system to meet the specific needs of migrants from Ukraine. A model of care based on Centres for Medical Services (CUM) for Refugees is one potential systemic solution to this problem. The idea behind CUM is to set up specialised medical units providing a wide range of medical services in the districts/voivodeships, with the services optimally adjusted to the specific needs of this population.

In line with this model of care, a CUM was established on the premises of the Military Institute of Medicine – National Research Institute in Warsaw (WIM-PIB). This project was conducted with the participation of WIM-PIB personnel and doctors of the Hashemite Kingdom of Jordan Armed Forces for a period of 2 months.

In this paper, we analyse the health problems of children presenting to CUM.

Aim

The aim of this study was to perform a detailed analysis of the health status and define the most common health problems in the paediatric population of Ukrainian war immigrants presenting to CUM.

Materials and methods

Information materials posted on television, in the press and on social media were used to recruit patients for the study. Ukrainian patients aged <18 years and with war refugee status, who presented to CUM were enrolled in the project. The CUM operated for 56 days (from mid-May to mid-July 2023). During this period, medical service was provided to 130 paediatric patients as part of 211 medical consultations. All children reporting to CUM were examined by a paediatrician, and a surgical consultation was also possible. Patients were assisted by an interpreter during each visit (after giving a consent). If other specialist consultations were needed, a referral was issued within the framework of general social insurance benefits. During medical appointment, the patient's caregiver was asked to complete a self-administered questionnaire in Ukrainian to collect data on infectious diseases or their risk factors. The questions enquired about past or present viral hepatitis, tuberculosis, parasitic infestations, psychoactive substance abuse and hav-

ing a tattoo. Demographic, epidemiological data, current health problems, medical history and medical records of children presenting to CUM were analysed in detail.

Results

The age distribution of paediatric patients presenting to CUM is shown in table 1.

About 54% of children had a single visit to CUM and they did not require follow-up or further treatment. Several follow-up consultations were needed for 46% of patients (tab. 2).

The number of consultations provided in each month of the Centre's operation was comparable. A total of 67 (32%) consultations were given in May, 80 (38%) in June and 64 (30%) in July. The need for continuation of services/treatment for a chronic condition was reported for 64 visits (33% of all visits). Infections were the reason for 56 appointments (26.54%). The smallest number of appointments were for managing injuries (2 visits) and issuing referrals (2 visits) (fig. 1). More than half of the caregivers declared that their children did not suffer from chronic diseases (60.77%) and were not taking medication on a regular basis (84.62%).

Consultation by a specialist other than a paediatrician was indicated 67 times (31.75% of visits); 13 referrals

to hospital (6.16% of visits) and 52 prescriptions were issued (24.64% of visits). Seven medical certificates on the health status were issued (3.32% of visits). During 76 consultations (36.02%), it was necessary to extend the diagnosis with laboratory or imaging tests (fig. 2).

According to medical history collected from the caregivers, most of the children had received mandatory vaccinations in Ukraine. A full and partial course of vaccinations was declared by 73.85% and 1% of respondents, respectively, whereas unvaccinated patients accounted for 3.08% of all admitted patients, and 22% of caregivers did not answer the question on vaccination (fig. 3).

It was found from the questionnaires on infectious diseases and their risk factors completed by caregivers that two children had current or past hepatitis and one child was diagnosed with tuberculosis. There was one case of a positive history of psychoactive substance use. There was no history of HIV/AIDS among children presenting to CUM (tab. 3).

Discussion

The Centre for Medical Services for Refugees operating from May to July 2023 on the premises of WIM-PIB, was a pilot project aimed at developing an optimal organisational model and conditions for the use of the National

Table 1. Age characteristics of paediatric patients presenting to the Centre for Medical Services

Age group (years)	Number of patients	Percentage
0-3	14	10.77%
4-6	19	14.62%
7-10	30	23.08%
11-14	37	28.46%
15-18	30	23.08%

Table 2. Number of paediatric appointments at the Centre for Medical Services

Number of appointments	Number of patients	Percentage
1	70	53.85%
2	45	34.62%
3	9	6.92%
4	6	4.62%

Table 3. Summary of survey results on the prevalence infectious diseases or risk factors for infectious diseases in children treated at CUM

Illness/event	Number of patients with positive history	Percentage
HIV/AIDS	0	0%
Viral hepatitis	2	1.54%
Tuberculosis	1	0.77%
Parasites	9	6.92%
Psychoactive substance abuse	1	0.77%
Tattoo	0	0%
Missing data	6	4.66%

Healthcare System support unit under conditions of a mass influx of migrants. The CUM made it possible to assess in practice whether it was possible to provide effective emergency services in a crisis situation, using the resources of the Military Institute of Medicine – National Research Institute. The proposed organisational solution was a form of support for the health care system, implemented at the level of outpatient medical care within the already existing infrastructure.

This solution is intended to relieve the burden on the host country’s health care system, ensuring that migrants maintain continuity of medical care to a degree adequate to their defined needs. Its aim is to counteract the effects of humanitarian crises and it mainly responds to the urgent, complex health needs of refugees.

When providing medical support for war refugees, it is important to bear in mind the specific health problems that affect this immigrant population, which are not usually observed in the host population. Compared to the native population, migrants have a higher risk of traumatic experiences and thus dissociative disorders or post-traumatic stress disorder (PTSD). Furthermore, by the very fact of migration, they are often in large concentrations, such as refugee camps, which makes them more vulnerable to infectious diseases. Additionally, chronic conditions or malignancies may be overlooked and diagnosed late due to the circumstances and the prioritisation of activities other than seeking medical attention by the refugee population. Medical professionals providing services to such patients need to be aware of these issues in order to offer the highest level of care and be able to select an appropriate management strategy [3].

With this in mind, we decided to conduct a detailed analysis of the medical records of paediatric patients attend-

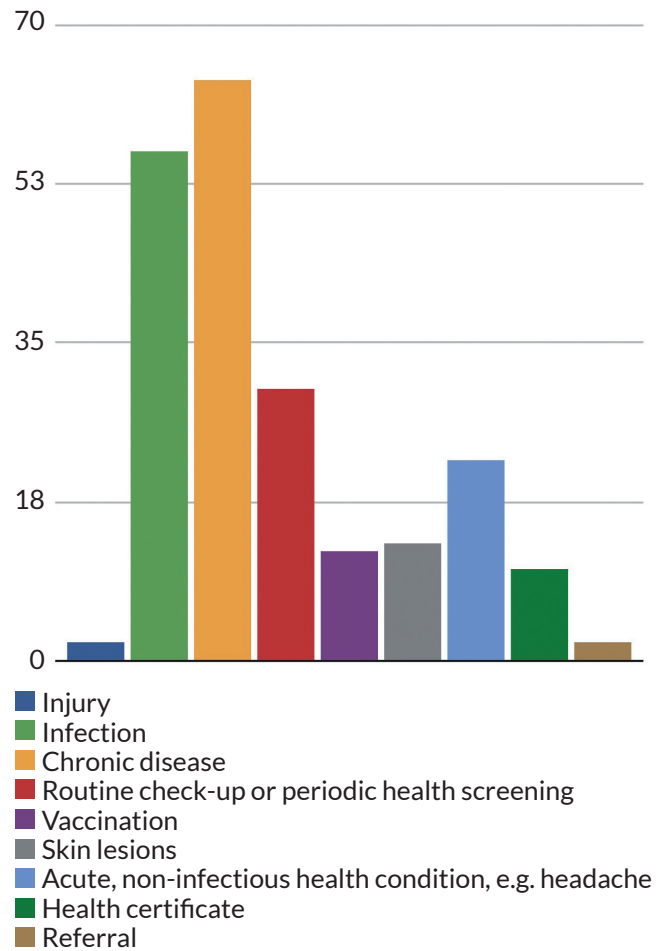


Figure 1. Overview of appointments at the Center of Medical Services among paediatric patients, including the reason for the visit

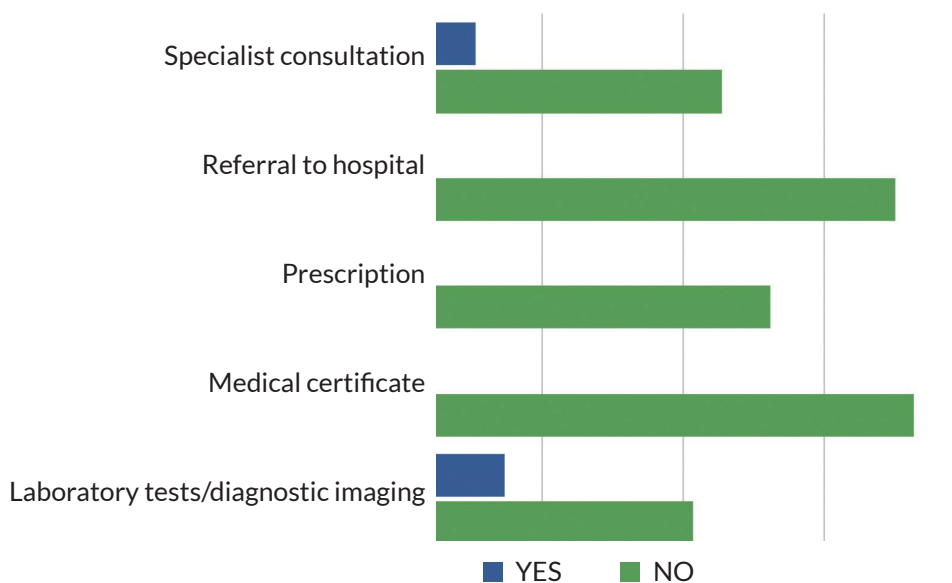


Figure 2. Type of medical services provided to paediatric patients at the Centre of Medical Services

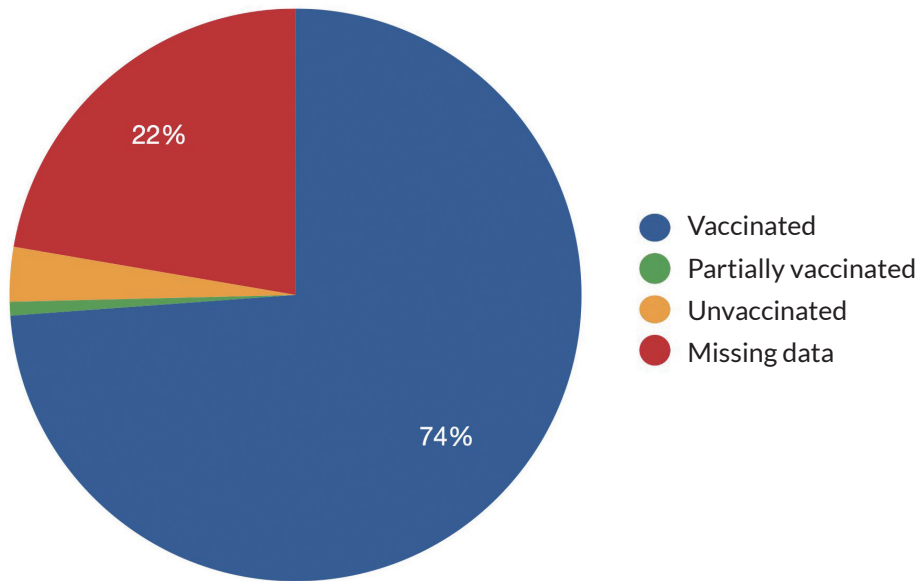


Figure 3. Vaccination status among paediatric patients reporting to the Centre of Medical Services

ing CUM to define their most common health problems and possibly optimise medical care.

Data obtained showed that the vast majority of paediatric patients examined at CUM did not report problems typical of the war migrant population. The patients did not present hygienic neglect, acute symptoms of infectious diseases or acute psychiatric disorders. Most children presented to the Centre due to an acute infection or to continue treatment of a chronic health problem.

Based on the collected data, it should be concluded that the health status of the Ukrainian refugee population arriving in Poland was good and did not differ significantly from the Polish population. It is also worth noting that the Centre did not introduce admission limits. Therefore, treatment of 130 patients within 211 visits over 56 days (an average of 3.8 visits/day) seems relatively modest.

All of the above indicates that the population described was probably already absorbed by the Polish public health care system. The Centre, on the other hand, mainly received patients with health problems that the system was unable to address immediately, e.g. due to distant appointments at specialist clinics or the inability to hold a paediatric consultation due to infectious symptoms on the day of the request.

The issue of the declared high vaccination coverage among patients managed at CUM requires detailed analysis. Epidemiological studies in the Ukrainian population have shown that the percentage of children vaccinated against diseases included in the Polish immunisation programme should be lower than that resulting from the declarations of caregivers at CUM. In 2016, only 20% of children in Ukraine were vaccinated for diphtheria, tetanus, and whooping cough, 40% for measles and tuberculosis and 50% for polio. In the following years, vaccination rates improved and in 2022, 78% of children were vaccinated against diphtheria, tetanus and pertussis,

69% for polio, 71% for tuberculosis and 69% for measles [4, 5]. It is worth noting at this point that the mandatory vaccination programme in Ukraine, compared to that in Poland, lacks compulsory vaccination against rotavirus and pneumococci [4, 5]. However, medical history collected from the caregivers of children at CUM showed that 73.85% of patients were vaccinated according to the immunisation schedule, with those unvaccinated accounting for only 3.08%. These data suggest that the vaccination rate among Ukrainian migrants to Poland is higher than the vaccination rate in the general Ukrainian population. However, it may be that patients presenting to the CUM provided incorrect data or refused to answer when completing their named questionnaires to avoid ostracism or for fear of being forced to vaccinate. This is confirmed by WHO data collected through anonymous questionnaires among Ukrainian refugees arriving in Poland in 2022. According to these data, only >70% of children aged 1–4 years who arrived in Poland had been vaccinated against childhood diseases [6].

Despite the relatively common reluctance of Ukrainians to vaccinate, the influx of war refugees from Ukraine does not seem to have had a significantly negative impact on the epidemiological situation in Poland. Although the high incidence of tuberculosis, including drug-resistant tuberculosis, measles or HIV infections in the population living in Ukraine is constantly highlighted, it should be noted there has been no sharp increase in the incidence of infectious diseases in Poland either at that time or at present. Mostly typical diseases endemic in Poland (e.g. chickenpox) and isolated outbreaks related to the stay of Ukrainian refugees in collective accommodation facilities were recorded. It should be noted that these were mainly outbreaks of food-borne infections, typical and common also in the Polish population, caused by pathogens such as rotavirus, norovirus, or outbreaks of respiratory-transmitted diseases, e.g. influenza-like illnesses. This phenomenon can be explained by the results of a study on the migration patterns of Ukrainians, con-

ducted by an interdisciplinary team of Ukrainian and Polish experts.

The results of the study and the analysis of recent data have shown that the vast majority of refugees from Ukraine who arrived in Poland after February 24, 2022 were middle-class people seeking shelter from the war and its negative consequences [7]. In a study by Professor Długosz, 97% of all respondents were women and only 3% were men (during the introduction of martial law in Ukraine, most men were banned

from leaving the country). The mean age of the survey participants was 36 years; 76% of respondents had higher education; 91% were urban residents before moving to Poland; and 52% described their socio-economic status as good or very good. In comparison, according to data from the Central Statistical Office, collected as part of the National Population and Housing Census 2021, 23.1% of the population in Poland have a higher education [8], and the middle class in our country accounts for 54% [9]. The above data show that Ukrainians arriving in Poland before the outbreak of war and leaving their country were at a similar socio-economic level as most Poles, which also influenced their gradual integration into Polish society.

Language barrier was the main non-medical problem encountered when providing services to the Ukrainian refugee population. It often had a negative impact on doctor-patient communication and caused difficulties both for the doctor (correct history collection), and for the patient (understanding the recommendations). At CUM, this problem was partly solved owing to the Ukrainian hospital staff members involved in the project, who had lived in Poland for many years and served as interpreters during medical appointments.

Limitations

Since the Ukrainian migrants participating in the study had most often already stayed in Poland for several months, the investigated population did not fully reflect the behaviour and health needs of the population at the time of the crisis-induced mass migration.

Conclusions

Acute infections or the need to continue treatment of a chronic illness were the main reasons for children's visits to the Centre for Medical Services. Patients did not present symptoms typical of the war migrant population.

Based on the analysis, it should be concluded that the health status of the paediatric population of Ukrainian refugees who arrived in Poland was good and did not differ significantly from that of the Polish population.

This pilot programme has confirmed the feasibility of creating Centres for Medical Services for Refugees as a space for expert medical care and the collection of public health data.

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