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SOCIAL DETERMINANTS OF HEALTH OF UKRAINIAN FEMALE REFUGEES IN THE CZECH REPUBLIC

The main aim of the study was to investigate the social determinants of health in the Ukrainian female refugee sample in the Czech Republic. The results showed that some determinants of health like financial difficulties and socioeconomic status decline during forced migration, inaccessibility of healthcare services, health deterioration, the presence of chronic diseases, limitation in daily activity due to ill health, experienced discrimination in host country, lack of a person to share personal feelings and issues were significantly associated with poor self-reported physical health status.

Keywords: refugees, female's health, self-reported health, social determinants of health, the Czech Republic, Ukraine.

Introduction

Millions of Ukrainians were forced to flee their homes when Russia invaded Ukraine in search of safety in other countries including the Czech Republic. On May 14, 2023, there were 519 964 refugees from Ukraine that received "temporary protection" from the Czech government. Among them 28 % of the refugees are children and 47 % of the refugees are females (Operational Data Portal, 2023).

The Temporary Protection Directive, adopted by the European Commission (2001, 20 July), provides refugees from Ukraine with emergency protection and medical care. Temporary protection in the Czech Republic guarantees Ukrainians basic social rights, including public health insurance. A policy brief on the Czech healthcare system's response to the arrival of refugees from Ukraine reported that, on the one hand, refugees who have used health services appreciate their financial affordability, but on the other, they have also experienced unjust treatment and refusal by medical professionals (Czech Republic, 2023). Moreover, healthcare service access, barriers and challenges faced by refugees differ across countries because host nations' health systems vary and they offer different packages of treatment to Ukrainian refugees. Overall, it was highlighted that many of the challenges encountered by refugees in their host countries are equally encountered by the locals (WHO, 2023a).

Recent studies with Ukrainian refugees have focused on health care systems problems and challenges of host countries (Su et al., 2022; Fatyga et al., 2022; Spiegel, 2022), vaccination of refugees (Hill et al., 2022; Malchrzak et al., 2022; Rzymski et al., 2022), their treatment of chronic infection diseases (hepatitis, tuberculosis, HIV) (Mahase, 2022; Holt, 2022; Dahl et al., 2022) and other chronic diseases such as cancer and cardiovascular disease (Malicki et al., 2022; Guzik et al., 2022).

Ukrainian refugees in the Czech Republic

The Czech Republic's Ministry of Labour and Social Affairs (MLSA) polled Ukrainian refugees who had arrived there in June 2022. MLSA got responses from 29 012 adults and 21 224 children who applied for humanitarian aid via email. 80 % of the sample are women and children. Over 50 % of adults were working, 80 % of them held low-skilled jobs, and roughly 75 % of respondents said their financial situation was "very unsatisfactory" or "critical" (Klimešová et al., 2022). Panel waves created by the MLSA in collaboration with the Institute of Sociology of the Czech Academy of Sciences were conducted after the MLSA survey. In September 2022, data about the physical and mental well-being of Ukrainian migrants were gathered by a panel of 1,347 participants. Refugees expressed difficulties obtaining medical care: 62 % of adults and 53 % of children reported lacking a family doctor.

Furthermore, 19 % of refugees said they couldn't get a doctor's appointment when needed. The biggest obstacle was a lack of Czech language proficiency (45 %), a long waiting list and a lack of knowledge on how to find and register with a family doctor. According to the study (Hlas Ukrajinců: Zdraví a služby, 2022), refugees' socioeconomic circumstances have a direct impact on their health; specifically, those who are financially deprived,

with lack basic Czech language skills, and live in poor housing conditions estimated their health as worse. The study also revealed that 45 % of refugees experience moderate symptoms of depression or anxiety, which are linked to the refugees' experiences of family separation and other war-related issues, as well as their low socioeconomic status in the Czech Republic, which is characterised by unemployment, poor housing, material deprivation, a lack of language proficiency, and low levels of child enrollment in schools and kindergarten. The lack of knowledge about the services that are offered and the discrimination associated with seeking psychiatric support were cited as the main barriers to receiving medical assistance for mental health concerns (Hlas Ukrajinců: Duševní zdraví, 2022).

Social Determinants of Health

The social determinants of health (SDH) are "the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life" (WHO, 2023c). Social determinants have always been crucial to people's health and well-being, but they have become even more critical for refugees' health due to trauma and stressful changes in their life. Trauma involves being uprooted and forced to move, experiencing violence, terror, loss or separation from family members, lack of food or water, ill health without access to medical care, and injury, as well as spending time in refugee camps (Liddell et al., 2019; Porter & Haslam, 2005). The social determinants of health are a term used to describe factors, which include the physical environment, housing, employment, financial status, access to healthcare services, social support, local language proficiency, discrimination, time since immigration, exposure to torture and trauma, place of origin, and others (Kemmak et al., 2021). In addition, these social determinants are divided into pre-migration and post-migration.

This study is part of a bigger research project (2022–2025) with a concurrent mixed methods research design which investigates and compares the physical, mental, and social health of Ukrainian female refugees settled in the Czech Republic and Ireland and explores their coping strategies and health care needs. The aim of the present study is to explore the evidence on the social determinants of health among Ukrainian female refugees living in the Czech Republic since 24 February 2022 because of the crucial role that social factors play in influencing the health of refugees. Specific objectives are to investigate the association of self-reported physical health with (1) social capital, (2) socioeconomic, and (3) sociomedical determinants, adjusted by the demographic characteristics of respondents.

Methods

Participants and data collection

The study focuses on female Ukrainian migrants who have made their way to the Czech Republic. The admission requirements were being a female over 18 and having immigrated to the Czech Republic because of the full-scale war. A Ukrainian-language online survey that included questions about self-reported health and demographic information was used to collect the data. The survey was disseminated via social media platforms, including Facebook, Telegram, Viber, non-governmental organisations assisting refugees, and Czech schools where Ukrainian children attend. Overall 919 respondents participated in the study. Female participants in the study were required to sign electronically a consent form before completing the survey questionnaires. They were also informed that participation was completely voluntary and that they could terminate taking part in the research at any time. Data collection took place between June and September 2022.

Demographic characteristics

Age, marital status, number of children, place of residence (in Ukraine and the Czech Republic), employment status (in Ukraine and the Czech Republic), and financial situation (in Ukraine and the Czech Republic) were all collected in order to characterize the participants (Table 1).

Self-reported physical health status

Self-reported physical health as an indicator is linked to both the burden of disease and mortality and is frequently employed as a proxy for physical health when comprehensive assessments of health are not feasible. The World Health Organization recommends using this indicator, which is among the most well-liked in health research, to track health outcomes. Numerous studies (Guimares et al., 2012; Wuorela et al., 2020) have shown that self-reported health is a good predictor of health status as well as morbidity, mortality, and a measure of the use of healthcare services. Respondents were asked to provide an assessment of their physical health as of today using a 5-point scale: "very bad", "bad", "fair", "good", or "very good", and the responder had to select one of them.

Statistical analysis

Binomial logistic regression analysis was performed to investigate the association between self-reported physical health status and social capital (Model 1), socioeconomic (Model 2), and socio-medical (Model 3) determinants. The results are reported in odd ratios (OR) with 95 % confidence intervals (CI). The analysis was performed via

Statistical Package for the Social Sciences IBM SPSS version 28. All statistical analysis was performed at a 5 % level of significance.

Socio-demographic characteristics of Ukrainian female refugees in the Czech Republic

The descriptive data (Table 1) indicates that the respondents' average age was 38 years (M = 37.61; SD = 9.57). 68.4 % of them said they were married or cohabiting and more than 70 % of respondents said they had children under the age of 18. The majority of respondents have a university degree (71 %), have lived in Ukrainian cities and towns (86.7 %), and had a job in Ukraine (73.8 %). The two largest cities in the Czech Republic, Prague (20 %) and Brno (19 %), are home to about 40 % of the refugees. Prior to participating in the survey, the refugee stayed in the Czech Republic for an average of 15 weeks (M = 15.12; SD = 5.33). The study found that 39.7 % of respondents intended to return to Ukraine, 9,2 % did not, and other respondents were unsure about the response. Only 27.7 % of females reported registration with family doctors. In terms of self-reported health, 43 % of females said they were in good health, 46.8 % said they were in fair health, and 10.2 % said they were in bad and very bad health. In addition, 27.9 % said that their health had gotten worse in the previous month.

Self-reported health and social determinants of health associations

The associations between self-reported physical health and social determinants were investigated using binomial logistic regression analysis. All models used self-reported physical health (SRPH) as a dependent variable and were adjusted by sociodemographic variables. "Good SRPH," which includes very good and good categories, and "Poor SRPH," which includes satisfactory, bad, and very bad categories, were used to categorize SRPH. Social capital, socioeconomic, and sociomedical determinants of health were included as predictor variables.

Table 1. **Socio-demographic, self-reported physical health characteristics of Ukrainian female refugees in the Czech Republic (n = 919, 2022)**

Socio-demographic characteristics	Absolute	Relative (%)
Age (in years)		
Under 30	198	21.9
30-40	379	41.9
Above 40	328	36.2
Marriage status		
Single	141	15.8
Married	610	68.4
Divorced/separated	141	15.8
Have children under 18 years old		
No	268	29.3
Yes	646	70.7
Residence in Ukraine		
Countryside	93	10.2
Town	257	28.3
City	558	61.5
Economic Financial Status Now		
Better	80	8.8
The same	141	15.4
Worst	692	75.8
Economic Financial Status Before War		
Not enough money for food	10	1.1
Enough money for food, buying clothes was difficult	176	19.3
Enough money for food, clothes, making savings	618	67.8
May buying expensive things, making big savings	108	11.8
Self-Reported Physical Health		
Very Good	35	3.8
Good	358	39.2
Fair	427	46.8
Bad	74	8.1
Very Bad	19	2.1

Model 1 (Social Capital, Table 2) included information about having relatives or friends in the Czech Republic before arrival, some difficulties like lack of living space, living in the same space with strangers, ignorance of the Czech language, experiencing discrimination, cultural differences in communication, changes in the relationship with family members, colleagues, neighbours during the wartime, participation in events organized for Ukrainian refugees and their children, membership in Ukrainian religious communities in the Czech Republic. Model 1 explained 14.3 % (Nagelkerke R^2) of the variance in self-reported poor health and correctly classified 65.3 % of cases.

Model 2 (Socioeconomic, Table 3) included such variables as the economic situation (in Ukraine/the Czech Republic), financial difficulties, employment (in Ukraine/the Czech Republic), and getting enough financial aid and support with accommodation. Model 2 explained 14.2 % (Nagelkerke R^2) of the variance in self-reported poor health and correctly classified 65.1 % of cases.

Model 3 (Sociomedical, Table 4) included information about access to needed health care services and dental care, estimation of changes in physical health during the last month, having wounded or damaged health due to the war, having chronic diseases, having needs in continuous medical care, getting a vaccination against COVID-19, having registered with the local family doctor, having free health insurance from the Czech governmental, having any limitation in daily activity because of ill health. Model 3 explained 46.6 % (Nagelkerke R^2) of the variance in self-reported poor health and correctly classified 77.4 % of cases.

Socio-demographic variables included the age of respondents categorised into age groups (under 30, 30-40, and above 40), marital status categorised into three groups (single, married, divorced), lived in Ukraine categorised into three groups (village, town, city), also used variables: having children under 18 years, and staying in the Czech Republic (in weeks).

In the Full Model (Table 5) were included all significant variables from Social Capital Model 1, Socioeconomic Model 2, and Sociomedical Model 3. Nagelkerke R^2 for Full Model was 46.3 %, and 77.4 % of cases were correctly classified.

The binomial logistic regression analysis results are presented in the tables below.

Firstly, in **Social Capital Model 1**, having age above 40, being a city-habitant in Ukraine, experiencing discrimination as a Ukrainian refugee in the host country, lack of a person to share personal feelings and problems were statistically significant social determinants associated with poor self-reported physical health status. Females, who have children under 18 years were less likely to report poor physical health compared with females without.

Social capital is a very broad theory, in the current study, we focused on the statement that social capital occurs in a variety of circumstances. Three typical contexts for examining social capital and health are family, the workplace and neighbourhood (community) (Moore & Kawachi, 2017). Social capital is crucial for refugees' well-being and health, according to a survey of refugees living in Canada, numerous formal and informal social networks are very important because they offer support and aid to refugees who are struggling with issues relating to their finances, career, personal lives, or health (Lamba & Krahn, 2003). Female refugees who came to the Czech Republic were mainly in urban habitats (89.8 %) and had jobs in Ukraine (73.8 %), but because of forced migration, they lost their workplace and neighbourhood social networks which could additionally result in the deterioration of their health statuses.

Moreover, findings from previous studies indicate that discrimination against refugees is a significant extra factor in reports of poor health. Furthermore, it was found that discrimination and consequent poor health affect females more compare to males (Rapp et al., 2019). Additionally, another study with migrants reported that experiences of discrimination were associated with worse self-reported health (Tong & Kawachi, 2020). Similarly, we found that Ukrainian female refugees in the Czech Republic who experienced discrimination were more likely to report poor health.

A literature review (2007–2018) conducted by Rodgers et al. showed that social capital may be an important protective factor for some physical health outcomes, but further research is needed to confirm and clarify these findings (Rodgers et al., 2019) as well as meta-review made by Ehsan et al. demonstrated that uncertainty exists over the evidence on how many facets of social capital affect various actors' health outcomes (Ehsan et al., 2019). In our research, we also got some inconsistent results because, on the one hand, the likelihood that respondents would rate their physical health as poor was higher among those who said they had no one with whom to communicate personal feelings and issues, but on the other hand, females who reported having relatives and friends in the Czech Republic before arrived also have a significant association with poorly reported physical health status. This inconsistency could be clarified during the qualitative part of the study.

Table 2. **The binomial logistic regression analysis (Social Capital Model 1)**

Category Variable	Model 1 (SocCap) N = 767		
		OR	**95 % CI**
Age groups	Under 30	Ref.	
	30-40	1.32	(0.84-2.08)
	Above 40	**2.03****	**(1.26-3.25)**
Marital status	Single	Ref.	
	Married	1.14	(0.67-1.92)
	Divorced	1.32	(0.71-2.45)
Having children under 18 years	No	Ref.	
	Yes	**0.65***	**(0.43-0.99)**
Lived in Ukraine	Village	Ref.	
	Town	1.36	(0.81-2.29)
	City	**1.57***	**(1.10-2.25)**
Stayed in the CR (weeks)		1.01	(0.98-1.04)
Having relatives. friends in CZ before arrival	No	Ref.	
	Yes	**1.51***	**(1.09-2.09)**
Difficulties in CZ: Lack of living space	No	Ref.	
	Yes	1.39	(0.97-2.01)
Difficulties in CZ: Living with strangers	No	1	
	Yes	1.42	(0.98-2.06)
Difficulties in CZ: Language	No	Ref.	
	Yes	1.32	(0.89-2.00)
Difficulties in CZ: Cultural differences	No	Ref.	
	Yes	1.64	(0.99-2.73)
Difficulties in CZ: Discrimination	No	Ref.	
	Yes	**1.84***	**(1.07-3.16)**
Having someone to share personal feeling or issues with	Difficult to answer	**1.65***	**(1.03-2.64)**
	No	**1.66***	**(1.12-2.45)**
	Yes	Ref.	
Relationship with family members	Get better	0.80	(0.50-1.26)
	The same	0.90	(0.53-1.56)
	Get worst	Ref.	
Relationship with colleagues. neighbours	No	1.55	(0.93-2.57)
	Not yet, but plan to	1.13	(0.63-2.01)
	Yes, rarely	1.39	(0.84-2.30)
	Yes, often	Ref.	
Participation in UA religious communities	Yes	Ref.	
	Not yet, but plan to	2.03	(0.99-4.18)
	No	1.62	(0.97-2.71)
Nagelkerke R^2		**0.143**	
Correctly classified cases		**65.3**	

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Table 3. **The binomial logistic regression analysis (Socioeconomic Model 2)**

Category Variable	Model 2 (SocEcon) N = 651		
		OR	**95 % CI**
Age groups	Under 30	Ref.	Ref.
	30-40	1.20	(0.72-2.00)
	Above 40	**1.71***	**(1.00-2.90)**
Marital status	Single	Ref.	Ref.
	Married	0.92	(0.50-1.69)
	Divorced	0.96	(0.48-1.93)
Having children under 18 years	No	Ref.	Ref.
	Yes	0.81	(0.51-1.29)
Lived in Ukraine	Village	Ref.	Ref.
	Town	1.34	(0.71-2.53)
	City	0.79	(0.44-1.42)
Stayed in the CR (weeks)		1.02	(0.99-1.06)
Difficulties in CZ: Financial	No	Ref.	Ref.
	Yes	**1.89****	**(1.27-2.81)**
Accommodation in the CZ	Social accommodation	Ref.	
	Renting accommodation	1.3	(0.78-2.19)
	Free accommodation (friends, volunteers)	1.25	(0.78-2.00)
	Other (refugee camps)	1.42	(0.81-2.49)
Having enough financial aid	Yes	Ref.	
	No	0.94	(0.60-1.46)
	Difficult to say/ N/A	0.99	(0.46-2.12)
Having enough support with accommodation	Yes	Ref.	
	No	1.14	(0.70-1.84)
	Difficult to say/ N/A	0.86	(0.49-1.52)
Economic situation in the CZ compare to UA	Better	Ref.	
	The same	**4.12*****	**(1.85-9.18)**
	Worst	**3.94*****	**(1.82-8.51)**
Economic situation before the war	Enough money for food, but difficult to buy clothing	Ref.	Ref.
	Enough money for food, clothes, and some saving	**0.53***	**(0.31-0.91)**
	Enough money for expensive things and big saving	**0.28*****	**(0.14-0.56)**
Employment in the CR	No	Ref.	Ref.
	Yes	0.85	(0.57-1.25)
Employment in UA	Public organization	Ref.	Ref.
	Private organization	0.85	(0.57-1.25)
	Housewife	0.66	(0.39-1.12)
	Social financial aid	1.40	(0.69-2.83)
Nagelkerke R^2		**0.142**	
Correctly classified cases		**65.1**	

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Furthermore, studies have shown that age and gender are significantly related to the mental and physical health outcomes of refugees and internally displaced people (Beiser & Hou, 2017; Cantekin & Gençöz, 2017). Similarly, in our study, where respondents were female, in the oldest age group (older than 40 years) respondents were more likely to report having poor health than younger ones.

Secondly, in **Socioeconomic Model 2**, such social determinants as the age above 40, financial difficulties, and particularly, having the same or worst economic situation in the Czech Republic compared to Ukraine were important determinants associated with poor reported physical health. On the opposite, females who had some or significant savings from Ukraine were less likely to report having poor physical health. This is apparently because they had the possibility to use their savings to relocate to a host country, which is positively correlated with their health status.

One of the most crucial post-migratory factors faced by refugees is financial and socio-economic status. The positive association between financial difficulties and self-reported poor health are very well documented in other studies (Evans et al., 2020; Tucker-Seeley et al., 2013). Likewise, our study's adjusted analyses showed that financial difficulties are correlated with poor self-reported health. The Ministry of Labour and Social Affairs of the Czech Republic reported that almost 75 % of Ukrainian refugees expressed being in a "very unsatisfactory" or "critical" financial situation after arriving there (Klimešová et al., 2022). Moreover, changes in socioeconomic status measured as changes in the economic situation in the Czech Republic compared to Ukraine revealed that respondents whose economic circumstances were the same or worsened were more likely to report poor physical health.

Earlier studies also have found solid evidence that socioeconomic disadvantage is a risk factor for developing mental and physical health conditions (Kivimäki et al., 2020). In addition, the findings showed that socioeconomic status significantly affected physical health (Wang et al., 2019). Research outcomes with Syrian refugees in Germany revealed a positive correlation between pre-migration self-reported socioeconomic status and a number of subjective health indicators, including health satisfaction, self-reported health, and mental health, but longitudinal analysis suggested that having a high socioeconomic status before migration offers little protection from the negative health effects of migration in the long term (Bauer et al., 2020). In the current study, Ukrainian female refugees spent an average of 15 weeks in the Czech Republic before taking part in the survey, hence, females who had savings from Ukraine were less likely to report being in poor health.

Thirdly, **Sociomedical Model 3**, showed that such social determinants as don't have access to needed health care services, having a worsening of health during the last month, having one and more chronic diseases and limitations in daily activity because of ill health were associated with poor self-reported physical health. Also, respondents who reported not having wounded or damaged health due to war were less likely to report being in poor health.

Hence, another important post-migratory factor has been proved to influence perceived health is access to healthcare services, especially for vulnerable categories of refugees like women with children. According to the studies conducted in Poland, Romania, Slovakia and Slovenia (May 2022–March 2023) was found that the main issues were connected with differences in Ukraine and the host countries' health care systems, especially regarding waiting times for appointments, specialist care, access to prescribed medications (WHO, 2023a). It is similar to another study conducted in Romania, a lot of challenges for Ukrainian refugees were caused by differences between the health systems in both countries and the refugees' expectations (WHO, 2023b). In addition, dental care is a significant obstacle due to the high cost and lack of facilities (WHO, 2023a).

The literature review conducted by Lebano et al. reported that there is evidence of inequalities between migrants and non-migrants in access to healthcare services, despite efforts to promote equal access to healthcare. The review conducted by Lebano et al. indicated that there are unmet healthcare needs, particularly in the areas of dental and mental health, as well as the existence of barriers to healthcare access such as language and discrimination (Lebano et al., 2020). For example, former studies with Syrian refugees found unmet healthcare needs because of some barriers, including language and not understanding how the new healthcare system works (Tuck et al., 2019). An Australian study reported such barriers as language, scheduling conflicts, long waiting lists, and a lack of understanding of the healthcare system (Kohlenberger, 2019). According to our study, the correlation between poor self-reported physical health and not having access to needed healthcare services was also proved. In our study, only 27.7 % of Ukrainian females said they have registered with a family doctor in the host country. Also, it was reported from Poland, Romania, Slovakia and Slovenia that there are not enough family doctors willing to register Ukrainian refugees as patients in these countries (WHO, 2023a).

Table 4. **The binomial logistic regression analysis (Sociomedical Model 3)**

Category Variable	Model 3 (SocMed) N = 603		
		OR	**95 % CI**
Age groups	Under 30	Ref.	
	30-40	1.03	(0.55-1.97)
	Above 40	1.42	(0.72-2.78)
Marital status	Single	Ref.	
	Married	0.71	(0.33-1.53)
	Divorced	0.78	(0.33-1.85)
Having children under 18 years	No	Ref.	
	Yes	0.89	(0.48-1.65)
Lived in Ukraine	Village	Ref.	
	Town	0.99	(0.46-2.15)
	City	0.54	(0.27-1.11)
Stayed in the CR (weeks)		1.01	(0.97-1.06)
Having access to needed health care services	No	**2.13****	**(1.30-3.49)**
	Yes	Ref.	
	Difficult to say/ N/A	0.95	(0.43-2.13)
Having access to needed dental care	No	1.15	(0.57-2.30)
	Yes	Ref.	
	Difficult to say/ N/A	0.93	(0.40-2.16)
Physical health during the last month	Better	Ref.	
	The same	1.46	(0.74-2.91)
	Worst	**5.04*****	**(2.29-11.08)**
Wounded or damaged health due to war	Yes	0.49	(0.13-1.84)
	No	**0.48***	**(0.25-0.94)**
	Difficult to say	Ref.	
Having chronic diseases	No	Ref.	
	Yes, 1	**1.78***	**(1.11-2.83)**
	Yes, 2	**3.13****	**(1.52-6.43)**
	Yes, 3 and more	**4.05***	**(1.15-14.28)**
Needed continuous medical care	Yes	0.58	(0.31-1.10)
	No	0.97	(0.43-2.20)
	Difficult to say	Ref.	
Vaccinated against COVID-19	No	Ref.	
	Yes, 1 dose	0.70	(0.22-2.26)
	Yes, 2 dose	1.05	(0.61-1.82)
	Yes, 3 dose (booster)	0.46	(0.20-1.07)
Registered with family doctor	Yes	Ref.	
	No, but still looking for	0.79	(0.46-1.37)
	No, lost hope to find one	1.30	(0.69-2.47)
	No, not looking, using UA POINT	0.56	(0.28-1.12)
Having free health insurance	No	Ref.	
	Yes	1.11	(0.67-1.83)
Having limitations in daily activity	No	Ref.	
	Yes	**6.49*****	**(3.58-11.76)**
Nagelkerke R^2		**0.466**	
Correctly classified cases		**77.4**	

* p < 0.05; ** p < 0.01; *** p < 0.001

Table 5. **The binomial logistic regression analysis (Full Model)**

Category Variable	Model 4 (Full) N = 711		
		OR	**95 % CI**
Age groups	Under 30	Ref.	
	30-40	0.89	(0.52-1.54)
	Above 40	1.29	(0.74-2.23)
Having children under 18 years	No	Ref.	
	Yes	0.83	(0.51-1.35)
Lived in Ukraine	Village	Ref.	
	Town	1.18	(0.59-2.36)
	City	0.62	(0.33-1.17)
Having relatives, friends in CZ before arrival	No	Ref.	
	Yes	**1.66***	**(1.12-2.47)**
Difficulties in CZ: Discrimination	No	Ref.	
	Yes	1.28	(0.65-2.50)
Difficulties in CZ: Financial	No	Ref.	
	Yes	**1.56***	**(1.04-2.33)**
Having someone to share personal feeling or issues with	Difficult to answer	1.23	(0.62-2.44)
	No	0.75	(0.46-1.22)
	Yes	Ref.	
Economic situation in the CZ compare to UA	Better	Ref.	
	The same	**2.70***	**(1.07-6.83)**
	Worst	2.17	(0.91-5.14)
Economic situation before the war	Enough money for food, but difficult to buy clothing	Ref.	
	Enough money for food, clothes, and some saving	0.83	(0.45-1.54)
	Enough money for expensive things and big saving	0.53	(0.24-1.16)
Having access to needed health care services	No	**2.09*****	**(1.38-3.15)**
	Yes	Ref.	
	Difficult to say/ N/A	0.70	(0.34-1.5)
Physical health during the last month	Better	Ref.	
	The same	1.03	(0.55-1.93)
	Worst	**3.47*****	**(1.68-7.18)**
Wounded or damaged health due to war	Yes	0.93	(0.31-2.80)
	No	1.8	(0.54-6.03)
	Difficult to say	Ref.	
Having chronic diseases	No	Ref.	
	Yes, 1	**1.81****	**(1.19-2.73)**
	Yes, 2	**3.75*****	**(1.99-7.06)**
	Yes, 3 and more	**5.43****	**(1.66-17.73)**
Having limitations in daily activity	No	Ref.	
	Yes	**7.16*****	**(4.03-12.69)**
Nagelkerke R^2		**0.463**	
Correctly classified cases		**77.4**	

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

According to previously mentioned studies conducted in Poland, Romania, Slovakia and Slovenia, Ukrainian refugees with chronic illnesses and/or other special needs frequently struggle to get the treatment and information they require about medical services (WHO, 2023a). The findings from other studies also showed that the increased disease burden experienced by females is reflected in their poorer self-reported health (Berglund et al., 2014; Malmusi et al., 2012). Our study outcomes supported this because respondents with chronic diseases and limitations in daily activity due to ill health reported their health status as much worse than others. On the other side, those who did not claim to have been hurt or to have had a negative impact on their health due to the war were less likely to report being in poor health.

Finally, in **the Full Model**, self-reported poor physical health was statistically significant and positively associated with such social determinants related to financial difficulties and socioeconomic status, inaccessibility of healthcare services, health deterioration during the last month, the presence of one or more chronic diseases, and limitation in daily activity due to ill health. Hence, Ukrainian female refugees settled in the Czech Republic are vulnerable to poor health status caused by some social determinants of health because they are directly related to poor health status.

Limitations of the study

Some limitations should be highlighted. The introduction of an online survey engaged mainly educated women with strong digital abilities to participate. In order to triangulate the data, additional analysis will be done, including in-depth interviews with Ukrainian female refugees in the Czech Republic. Older females with poor digital literacy would be included in future studies. Self-reporting health may also contain some social desirability bias, however, the present study employed certain methods to mitigate this bias, including forced-choice questions, anonymity, and self-administered questionnaires.

Conclusion

Refugees are the population most at risk for health issues. A study with Ukrainian female refugees in the Czech Republic revealed that there are some socio-demographic (age above 40, being city-habitant in Ukraine) and social determinants of health such as (1) financial difficulties and socioeconomic status decline during forced migration, (2) limited access or inaccessibility of healthcare services, (3) health deterioration during the last month, one or more chronic diseases, limitation in daily activity due to ill health (4) experienced discrimination as a refugee in host country, (5) do not have someone to share personal feelings and issues, which are significantly associated with perceived poor physical health. On the contrary, females (1) with children under 18 years, (2) with savings from Ukraine, and (3) not having wounded or damaged health due to war were less likely to report being in poor health.

The research findings may be incorporated into Czech social policy to assist female refugees from Ukraine in their integration and prevent the deterioration of their physical health. Firstly, poverty is a significant social determinant of health, it is crucial to guarantee sufficient financial aid and employment opportunities for Ukrainian refugees in the Czech Republic. Secondly, the most vulnerable refugees including women with children should have access to essential medical care as needed. Thirdly, it's important to educate refugees about how the host country's health care system works and how to seek medical and social services when necessary.

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СОЦІАЛЬНІ ДЕТЕРМІНАНТИ ЗДОРОВ'Я УКРАЇНСЬКИХ БІЖЕНОК У ЧЕСЬКІЙ РЕСПУБЛІЦІ

Основною метою дослідження було виявити соціальні детермінанти здоров'я та їх зв'язок із самооцінкою стану фізичного здоров'я у вибірці українських біженок (N = 919), що переїхали до Чеської Республіки. Середній вік респонденток становив 38 років. Більшість із них зазначили, що перебувають в офіційному або цивільному шлюбі (68 %) та мають дітей віком до 18 років (70 %). Українські біженки, що взяли участь у дослідженні, мали вищу освіту (71 %), працювали в Україні (74 %) та мігрували до Чехії з міської місцевості (88 %). До участі в опитуванні жінки перебували в Чехії в середньому 15 тижнів. Щодо самооцінки фізичного здоров'я, то 43 % опитаних оцінили своє здоров'я як добре, 46,8 % – як задовільне, а 10,2 % – як погане чи дуже погане. Крім того, 27,9 % зазначили, що стан їхнього фізичного здоров'я за останній місяць погіршився. Для дослідження зв'язку між самооцінкою стану здоров'я та соціальним капіталом і соціально-економічними та соціально-медичними детермінантами, скоригованими за соціально-демографічними показниками респонденток, було проведено біноміальний логістичний регресійний аналіз. Зроблено висновок, що всі моделі були значущими для пояснення самооцінки фізичного здоров'я українських біженок. У процесі дослідження виявлено деякі соціально-демографічні (вік понад 40 років, проживання в міській місцевості до вимушеної міграції) та соціальні детермінанти здоров'я: 1) фінансові труднощі та погіршення соціально-економічного статусу під час вимушеної міграції; 2) обмежений доступ або недоступність медичних послуг у приймаючій країні; 3) погіршення здоров'я протягом останнього місяця, наявність одного або кількох хронічних захворювань, обмеження повсякденної активності через погане самопочуття; 4) досвід дискримінації в приймаючій країні; 5) відсутність людини, з якою можна поділитись особистими почуттями та проблемами, які значною мірою пов'язані з гіршою самооцінкою фізичного здоров'я. Натомість жінки (1) з дітьми до 18 років, (2) із заощадженнями з України та (3) ті, що не повідомляли про поранення чи завдання шкоди здоров'ю внаслідок війни, рідше оцінювали своє здоров'я як погане. Результати дослідження можуть бути використані в соціальній політиці Чехії для полегшення інтеграції українських біженок і запобігання погіршенню їхнього здоров'я.

Ключові слова: біженки, здоров'я жінки, самооцінка здоров'я, соціальні детермінанти здоров'я, Чеська Республіка, Україна.

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