Health and ill health of asylum seekers in Switzerland: an epidemiological study

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Background: Although the focus of health care for people seeking asylum in Western European countries is usually on communicable diseases, there is little data about the general health care need of this population. In this study, we investigated the actual burden of disease among asylum seekers. **Methods:** Data were collected from a Swiss Health Maintenance Organisation (HMO; a type of managed care organization in which physicians act as gate keepers) that was set up specifically to provide health care for asylum seekers. The data included socio-demographic characteristics, international classification of diseases (ICD-10) diagnoses and number of clinic visits. Descriptive statistics were used to assess the types of health problems and the number of clinic visits. Logistic regression analysis was used to determine whether age, gender or country or region of origin was predictive in terms of incidence of disease as diagnosed by using ICD classifications. **Results:** The total number of asylum seekers (mean age 22 years; 38% women) enrolled in the HMO from 2000 through 2003 was 979. Half of this group came from the former country of Yugoslavia. The remainder came primarily from sub-Saharan Africa, Turkey, Iraq and Sri Lanka. The most common health problems encountered in the population included musculoskeletal diseases, respiratory diseases, depression and post-traumatic stress disorder. The prevalence of all disease clusters was significantly associated with age. One-fifth of the population did not request health care at all during the time they were enrolled in the HMO. It is not known whether those who did not visit the medical clinic did not require health care or just chose not to request clinic services. **Conclusions:** The most frequent health problems encountered in the study population were chronic medical conditions, not communicable acute diseases. Although health care services provided to asylum seekers usually focus on episodic acute care, what this group actually needs is continuity of care.

Keywords: asylum seekers, health care, migration, minorities, refugees

Introduction

The migration, both voluntary and forced, of people from countries outside Western Europe to Western Europe is not only a major issue in terms of political debate, it is also a major concern in terms of providing appropriate health care for these new residents.[1,2] Worldwide, there are approximately 13 million people seeking asylum in other countries. Most of those who are under the mandate of the United Nations High Commissioner for Refugees (UNHCR)[3] remain in Asia or Africa, near their home countries; but some manage to travel legally or illegally to European countries to seek asylum there.[1] Over the period of this study, the number of applications for asylum in Europe rose from 430 000 in the year 2000 to 440 000 in 2001, decreased slightly to 425 000 in 2002 and then dropped to 350 000 in 2003.[4] During this same time period, the situation in Switzerland showed a similar trend. In 2000, there were 133 000 people seeking asylum in Switzerland; this was ~1.5% of the Swiss resident population and 6.5% of the foreign resident population. The respective numbers for the following years were 99 000 in 2001, 93 000 in 2002 and 94 000 in 2003.[5]

In general, refugees who arrive in a host country and file an application for asylum undergo a health assessment, which normally involves a medical examination, screening for a few communicable diseases and vaccinations.[1,6,7] Guidelines for the screening of refugees are based primarily on reports that document a high prevalence of infectious diseases among people who are travelling from one country to another.[8] Switzerland's guidelines for providing health care to this population are fairly well attuned to the possible presence of communicable diseases in the population and provide for tuberculosis screening, hepatitis B screening and vaccination against tetanus, diphtheria, poliomyelitis, measles, pertussis and rubella. Less attention is paid to other possible diseases that they may have. Switzerland recently abolished systematic radiological examination to test for tuberculosis,[9–11] but asylum seekers still are viewed, more often than not, as people who have acute and communicable diseases and who therefore present a potential health risk to the local population.

Although the topic of health care in populations of refugees and asylum seekers appears with increasingly frequency in the international literature, the studies often are based on anecdotal evidence. Epidemiological and clinical studies are lacking altogether in some areas, are limited in scope, or do not comprise representative samples of the population.[1,2,12] There are indications that mental health problems [e.g. depression and post-traumatic stress disorder(PTSD)] and other diseases are highly prevalent in populations of asylum seekers.[13,14] However, in a comparative study of access to health care for asylum seekers in the European Union (EU), the authors discovered that although medical screening was provided in all but one EU country, screening for mental health problems was done in less than half of these countries.[1]

The prevalence of infectious diseases has not been investigated thoroughly using representative samples.[12] And although there are reports that show a lower prevalence of communicable diseases among refugees than among other travellers,[15] the communicable disease 'myth' remains prevalent.

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In this study, we have investigated the health of people who are seeking asylum in one of the major cities in Switzerland. The study goal was to estimate the actual burden of disease among asylum seekers. Based on the literature, we hypothesized a high proportion of communicable diseases, rather than of non-communicable diseases.

Methods

Study setting

After refugees arrive in Switzerland, they must apply for asylum at one of five reception centres, from which they are randomly assigned to one of the 26 Swiss cantons according to a pre-established distribution quota. This cross-sectional, retrospective study was conducted in the canton of Basel-Stadt, a major Swiss city that was required under the relocation quota system to take 2.3% of the people seeking asylum in Switzerland. The canton had organized its system of health care for this population by using an Health Maintenance Organisation (HMO) model, a type of managed care organization in which physicians act as gate keepers.[16] It set up two HMO structures specifically to provide health care to refugees assigned to the area. One of these HMOs, called the A-Care HMO, was unique in that it was integrated within the University Hospital, a public institution, and was coordinated by the hospital's Department of Ambulatory Internal Medicine that provided primary care to about 70% of the HMO's patients. From 2000 through 2003, each asylum seeker who was relocated to the Basel-Stadt canton was assigned to one of the two existing HMO's by using alternated systematic sampling. The patients had free access to the HMO to which they were assigned, and their health care costs were completely covered.

For this study, we focused on all asylum seekers who were enrolled in the A-Care HMO from 2000 through 2003; this group comprised 50% of the relocated refugee population in the canton.

Study design

The data were aggregated and cross-controlled from the following routine hospital administration data bases: demographic data, accounting, electronic diagnosis (according to ICD—International Classification of Diseases, version ICD-10[17]) and the database detailing the medical actions (interventions). Physicians did not necessarily systematically specify diagnoses according to ICD classifications because there was no obligation to do so in this particular ambulatory care setting. In addition, physicians may have indicated just the main reason for the medical consultation, not necessarily all diagnoses.

Researchers obtained additional demographic data about each patient from the Federal Office for Migration, and then aggregated all data into one data set that contained complete information about all of the individuals who were enrolled in the A-Care HMO from January 2000 through December 2003.

The study received clearance from the EKBB Ethical Committee (Ethik-Kommission beider Basel).

The HMO enrolees were grouped according to their countries of origin. Other variables used in this study were age, gender, the type and number of diagnoses and the number of clinic visits as calculated over 1 year. Clinic visits included all doctor consultations, lab examinations and diagnostic and therapeutic interventions. We also calculated a dichotomous variable that indicated requests for health care by enrolees, and we defined eight diagnostic groups to use according to the ICD classification system, which divides diseases into the following categories: diseases of the musculoskeletal system, diseases of the respiratory system, mental disorders, skin diseases, injuries, infectious and parasitic diseases, cardiovascular diseases, and pregnancy, childbirth, and puerperium-related conditions.[17]

Data analysis

The variables were described by using measures of central tendency and dispersion (means/median, interquartile range/SD). We used multiple logistic regression analysis to identify factors that might be associated with the asylum seekers' health problems by using the diagnostic categories as an outcome variable, by using origin, age and gender as predictors, and by using the number of visits as a possible confounding variable. Analyses were carried out by using SPSS 14 and Stata 8.2 software. The α-level was set at 0.05.

Results

Contrary to the expectations that existed when the Swiss government organized the health care and screening programme for asylum seekers,[18] the actual proportion of communicable diseases in this study group was low. Non-communicable diseases and psycho-social disorders were the most frequently identified health problems. Asylum seekers suffered primarily from low-back pain, different forms of depression, PTSD and respiratory diseases. There were twice as many people in each of these ICD diagnostic categories as there were people with infectious diseases.

Patient characteristics

The asylum seekers' groups according to origin were either kept as separate groups or combined into new, regional groups depending on the number of individuals from each country. The final groups that were used in the study were (i) Serbia-Montenegro together with Kosovo and Bosnia-Herzegovina (SKB); (ii) sub-Saharan Africa (SSA); (iii) Turkey; (iv) Iraq; (v) Sri Lanka; and (vi) all other nationalities (AON), in which asylum seekers from AON were placed. The sub-Saharan African group included, in decreasing order of numbers, people from the Congo, Angola, Nigeria, Togo, Ethiopia, Cameroun, Guinea, Somalia, Sierra Leone, Liberia, Sudan, Burundi, Mauritania, Guinea-Bissau, Gambia, Côte-d'Ivoire, Kenya, Niger and Burkina Faso. The AON group included people from the countries of Afghanistan, Albania, Algeria, Armenia, Azerbaijan, Bangladesh, Belarus, Bulgaria, the Republic of China, Ecuador, Georgia, India, Iran, Kazakhstan, Colombia, Lebanon, Libya, Lithuania, Morocco, Moldavia, Mongolia, Pakistan, Russia, Syria, Tunisia, Ukraine and Vietnam.

Over the duration of the study, a total of 979 asylum seekers were enrolled in the A-Care HMO. Table 1 shows the patient characteristics for this population. The sample was representative of the general population of asylum seekers in Switzerland, who are relatively young and predominantly male. In general, the asylum seekers had a mean age of 22.1 years. There were also children in the sample, 30% of whom were under 16 years ($n = 293$). The median duration of patient enrolment in the A-Care-HMO was slightly over 7 months.

Over the 4 years of the study, 18.8% of all the people enrolled in the A-Care HMO did not use any of the health care services that were available. The group with the highest proportion of individuals who sought health care was from SSA (24.9%); the group with the lowest proportion of individuals who sought health care was the group of enrolees from Serbia-Montenegro, Kosovo and Bosnia-Herzegovina. Out of the total study population, 61% of the asylum seekers had no

Table 1 Patient characteristics of asylum seekers (2000–2003)

Country or region of origin	Total number of enrolees in group	Female n (%)	Mean age years n (SD)	Median number of diagnoses (interquartile range)	Median duration of the HMO insurance years (interquartile range)	Median number of clinic visits standardized per year (interquartile range)	Asylum seekers who did not use any health care resources n (%)
Serbia-Montenegro, including Kosovo and Bosnia-Herzegovina	494	206 (42%)	20.5 (15.4)	0 (1)	0.5 (1.0)	1.9 (12.2)	119 (24.1)
Turkey	63	24 (38%)	27.2 (14.2)	2 (5)	0.8 (1.6)	13.2 (21.7)	7 (11.1)
Iraq	48	12 (25%)	23.6 (11.0)	0.5 (3)	0.9 (1.0)	9.7 (24.0)	4 (8.3)
Sri Lanka	47	25 (53%)	22.6 (15.2)	0 (3)	0.6 (2.3)	5.7 (14.6)	10 (21.3)
SSA[a]	111	36 (32%)	20.8 (11.8)	2 (4)	1.0 (1.4)	10.0 (16.2)	10 (9.0)
AON	216	72 (33%)	24.2 (12.5)	1 (3)	0.6 (1.1)	7.5 (19.3)	34 (15.7)
Total	979	375 (38%)	22.1 (14.3)	0 (3)	0.6 (1.2)	5.8 (18.0)	184 (18.8)

n = number; SD = standard deviation

a: Members of this group include persons from the following countries: the Congo, Angola, Nigeria, Togo, Ethiopia, Cameroun, Guinea, Somalia, Sierra Leone, Liberia, Sudan, Burundi, Mauritania, Guinea-Bissau, Gambia, Côte-d'Ivoire, Kenya, Niger and Burkina Faso

ICD diagnosis, either because they did not request health care or because the physician had not indicated an ICD diagnosis.

Diagnostic groups

Table 2 shows the distribution of ICD diagnoses within the study population. The most frequently diagnosed diseases among this population were diseases of the musculoskeletal system, in particular low-back pain. Diseases of the respiratory system also occurred frequently in the population, acute upper respiratory tract infections being the most common condition. Although respiratory diseases were diagnosed almost as often as musculoskeletal diseases, they resulted in fewer visits to the HMO (i.e. 5030 visits versus 6097 visits for musculoskeletal diseases). Among mental disorders, the most frequent diagnoses were depression (F32.9 and F33.1) and PTSD (F43.1).

Most diagnoses in the cardio-vascular disease category were for arterial hypertension, and they necessitated a much higher number of patient visits to the clinic than did other categories of ICD classifications for disease. Injuries also necessitated a high number of visits per patient—higher than the number of clinic visits for patients diagnosed with diseases, excluding cardio-vascular disease, indicating that the treatment of an injury requires more medical care. Pregnancy, childbirth and puerperium required the most number of visits per person.

Infectious and parasitic diseases (mainly tuberculosis and HIV/AIDS) were less prevalent than the totals for musculoskeletal and respiratory diseases or for mental disorders, and the number of clinic visits per patient for these conditions was the lowest of all ICD categories.

Multiple regression analysis

The data from the logistic regression analysis (Table 3) shows that the country or region of origin was predictive for some diagnoses. Because most of the differences were between the AON group and the other groups, Table 3 presents results of the other groups with AON as the reference.

What is not apparent from Table 3 is that Turks [odds ratio (OR): 3.1; 95% confidence intervals (CI): 1.5–6.6) and Sri Lankans (OR: 4.0; 95% CI: 1.6–9.7) had more injuries than people in the group from Serbia-Montenegro, Kosovo and Bosnia-Herzegovina.

As the table shows, gender never appeared as a significant predictor, but age was positively related to diagnoses in all ICD categories except the category that included pregnancy, childbirth and puerperium.

Discussion

Over the last two decades, there has been a considerable amount of research documenting the needs of asylum seekers.[2] Nevertheless, little has been known about the epidemiology of ill health in asylum seekers.[19] As the data show, the actual percentage of this population that suffers from acute, communicable diseases is much lower than the percentage that suffers from non-communicable diseases. Our data are in line with other studies undertaken in other contexts where PTSD prevalence among asylum seekers is high,[13,20] and the number of communicable diseases low.[15] Because primary care physicians tend to do little routine screening for psychiatric disorders,[21,22] and even less so when language barriers exist,[23] the incidence of mental health problems in this population might be higher than what was diagnosed in this study.

It is unlikely that the one-fifth of asylum seekers who were enrolled in the HMO but did not use any HMO clinic services sought health care elsewhere. Their health insurance was

Table 2 Health problems of asylum seekers by ICD diagnostic group (*n* = 979)

ICD diagnostic group	Number of individual diagnoses	Total number of clinic visits[a] 2000–2003	Median number of clinic visits per person with ICD diagnosis standardized per year (inter quartile range)	Median number of visits per person with no ICD diagnosis for that person standardized per year (inter quartile range)
Musculoskeletal system diseases (M block[b])	142 (14.5%)	6,097	24 (41)	2 (7)
Respiratory system diseases (J block)	138 (14.1%)	5,030	19.5 (34)	2 (8)
Mental disorders (F block)	134 (13.7%)	5,418	23 (44)	2 (8)
Skin diseases (L block)	86 (8.8%)	3,314	19 (37)	3 (10)
Injuries (S block and T block)	84 (8.6%)	4,085	25.5 (48.5)	3 (9)
Infectious and parasitic diseases (A block and B block)	62 (6.3%)	2,269	17 (26)	3 (11)
Cardiovascular diseases (I block)	43 (4.4%)	2,765	45 (61)	3 (11)
Pregnancy, childbirth and puerperium (O block)	44 (4.5%)	2,369	40.5 (32.5)	3 (10)

ICD = International Classification of Diseases
a: With or without ICD diagnosis
b: The blocks refer to the ICD categories

Table 3 Predictive factors for health problems in population of asylum seekers as derived from logistic regression model (*n* = 979)

ICD diagnostic group	OR for +1 year of age (CI)	OR for female gender (CI)	OR for +1 clinic visits during study in 2000–2003 (CI)	Reference: OR origin All Other Countries (CI)	OR origin Serbia-Montenegro, including Kosovo and Bosnia-Herzegovina (CI)	OR origin Turkey (CI)	OR origin Iraq (CI)	OR origin Sri Lanka (CI)	OR origin Sub-Saharan Africa (CI)
Musculoskeletal system diseases (M block[a])	1.05 (1.04–1.07)	1.08 (0.73–1.62)	1.01 (1.01–1.02)	1.00	0.71 (0.43–1.18)	1.82 (0.88–3.74)	1.06 (0.42–2.65)	1.28 (0.52–3.16)	1.57 (0.83–3)
Respiratory system diseases (J block)	1.04 (1.02–1.05)	1.00 (0.68–1.49)	1.01 (1.01–1.01)	1.00	0.54 (0.33–0.87)	0.6 (0.26–1.37)	0.84 (0.35–2.06)	1.61 (0.73–3.57)	1.39 (0.76–2.53)
Mental disorders (F block)	1.06 (1.04–1.07)	0.93 (0.62–1.41)	1.01 (1.01–1.02)	1.00	0.79 (0.48–1.31)	1.54 (0.74–3.21)	1.24 (0.52–2.99)	0.38 (0.11–1.36)	1.03 (0.51–2.07)
Skin diseases (L block)	1.03 (1.02–1.05)	1.32 (0.83–2.11)	1.01 (1–1.01)	1.00	0.46 (0.26–0.81)	0.73 (0.29–1.82)	0.71 (0.23–2.18)	0.88 (0.31–2.49)	1.16 (0.57–2.37)
Injuries (S block and T block)	1.02 (1–1.04)	0.82 (0.5–1.34)	1.01 (1.01–1.02)	1.00	0.81 (0.41–1.61)	1.86 (0.74–4.67)	3.97 (1.62–9.73)	1.1 (0.3–4.04)	3.12 (1.47–6.6)
Infectious and parasitic diseases (A block and B lock)	1.02 (1–1.04)	0.68 (0.38–1.22)	1.01 (1–1.01)	1.00	0.2 (0.1–0.4)	0.3 (0.09–1.04)	0.47 (0.13–1.62)	0.54 (0.15–1.87)	0.89 (0.43–1.86)
Cardiovascular diseases (I block)	1.11 (1.08–1.14)	1.44 (0.7–2.94)	1.01 (1–1.02)	1.00	1.51 (0.57–3.95)	0.39 (0.06–2.69)	0.98 (0.1–9.1)	0.64 (0.07–5.96)	4.07 (1.22–13.57)
Pregnancy, childbirth and puerperium (O block)	1.00 (0.97–1.02)	…	1.03 (1.02–1.04)	1.00	0.32 (0.13–0.8)	0.7 (0.17–2.86)	0.43 (0.05–3.84)	0.61 (0.12–3.03)	1.6 (0.57–4.48)

ICD = International Classification of Diseases
a: The blocks refer to the ICD categories

provided and paid for by the government, and all of their health care bills had to go through the HMO for reimbursement. Either these individuals were healthy during the time of their enrolment in the HMO, or they suffered from an illness but did not seek health care. If they were ill and did not seek health care, one reason may have been that the language barrier and a limited access to interpreters discouraged them from doing so.[24,25]

Our multiple logistic regression analysis suggests that country or region of origin and its political background (e.g. turmoil, violence and war) may be a common denominator in explaining some of the health problems of asylum seekers. The fact that individuals from the AON group generally scored lower for most of the disease groups suggests that these individuals had different socio-demographic characteristics and a different set of pre-migration experiences than those who came in large numbers from other countries. The fact that people in the group from Serbia-Montenegro, Kosovo and Bosnia-Herzegovina also showed low prevalence of disease and injuries could be due to the fact that the wars in the former Yugoslavia had ended a number of years earlier (the 'Dayton' agreement ended the war in Bosnia-Herzegovina in 1995) and that some of them migrated mostly for economic reasons.

Study limitations

Our study had some limitations. The fragmented landscape of the Swiss health care system,[26] which offers several different models of health care for asylum seekers, made it difficult to compare our findings with those from elsewhere in the country. The HMO population did not include people who had fled their country but had not filed an asylum application and were therefore 'illegal immigrants'. The use of the ICD system was not mandatory for the physicians who were working in primary care; therefore, the picture in terms of diagnoses may be incomplete. Because there was no systematic interpreter use, language barriers may have sometimes impaired a physician's ability to make a diagnosis. Also, the ICD system does not necessarily correspond to what patients think they have, and in this study we had no data documenting the patients' perspective.[27]

Conclusions

The findings of our study have implications for the organization of health care for asylum seekers. The health status of asylum seekers varies, depending on the political, psycho-social and economic circumstances in which the migration occurred. Because there is not a high prevalence of communicable disease in this population, as has been commonly believed, the myth that communicable diseases predominate in populations of individuals seeking asylum must be dispelled. In contrast to the current health care structures that focus on episodic ('acute') care and that target communicable diseases, there is a need to promote models that offer continuity of services and emphasize treatment of chronic illnesses, including mental illness.

Acknowledgements

Key points

- The focus of health care for asylum seekers is usually on communicable diseases. However, there has been little data about their general health care needs. This study fills in some gaps in what was scant information about the general health care needs of asylum seekers.
- The actual burden of disease among asylum seekers in Switzerland was found to be primarily low-back pain and other musculoskeletal diseases, respiratory diseases and mental disorders.
- The most frequently encountered health problems among asylum seekers were chronic conditions, rather than communicable acute diseases.
- Although the provision of health care for asylum seekers usually focuses on episodic acute care, there is a need to promote models that offer a continuity of service and care for chronic illnesses, including mental illness.

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