Characteristics and Utilization of Primary Care Services in a Torture Rehabilitation Center

Alejandro Moreno,[1,2,3] **Linda Piwowarczyk,**[1,5] **Wayne W. LaMorte,**[4,6] **Michael A. Grodin**[1,3,5]

We conducted a retrospective chart review to look into the utilization of healthcare services of refugees. Between December 1998 and June 2001, 146 refugees received care at the Boston Center for Refugee Health and Human Rights. The mean age was 39 ± 1 years; 57% were males, and 84% were survivors of torture. A significant number of patients were diagnosed with major depression (70%), post-traumatic stress disorder (58%), past hepatitis A infection (77%), and tuberculosis classes 2 and 3 (42%). Patients had on average 2.3 ± 0.1 initial health assessments visits and 3.6 ± 0.3 primary care follow-up visits during a mean follow-up period of 12.8 ± 0.8 months. Subjects with two or fewer initial health assessment visits were less likely to be undergoing psychological counseling (OR: 0.22; 95%CI:0.08–0.58), less likely to be seeking asylum (OR: 0.16; 95%CI: 0.06–0.43), and more likely to be self-referred (OR: 9.6; 95%CI:2.4–39.6). Four or fewer primary care follow-up visits were more likely in subjects who had no health insurance (OR: 7.2; 95%CI:2.0–25.5) and less likely in those referred for psychological counseling (OR: 0.017; 95%CI:0.05–0.54). Patients had a higher prevalence of mental health conditions than that reported in other studies and often declined diagnostic and therapeutic interventions.

KEY WORDS: refugees; depression; post-traumatic stress disorder; primary care; utilization of health services.

INTRODUCTION

Refugees are individuals who "owing to a well-founded fear of being persecuted for reasons of race,

[1]Boston Center for Refugee Health and Human Rights, Boston Medical Center, Boston, Massachusetts.

[2]Austin Medical Education Programs at Brackenridge Hospital, Austin, Texas.

[3]Health Law Department, Boston University School of Public Health, Boston, Massachusetts.

[4]Department of Epidemiology, Boston University School of Public Health, Boston, Massachusetts.

[5]Department of Psychiatry, Boston University School of Medicine, Boston, Massachusetts.

[6]Department of Surgery, Boston University School of Medicine, Boston, Massachusetts.

[7]Correspondence should be directed to Alejandro Moreno, MD, MPH, FACP, JD Candidate 2006, Austin Medical Education Programs, Brackenridge Hospital, 601 East 15th Street, Annex Building, Austin, TX 78701; e-mail: almoreno@massmed.org.

religion, nationality, membership of a particular social group or political opinion..." request special protection from the host nation (1). Over the past 25 years, their numbers have rapidly increased worldwide from less than 4 millions to more than 14 millions (2). During this period of time, the United States (US) has resettled over 3.5 million refugees (3, 4), although the actual number is probably larger as a result of refugees who enter the country with other visas or have no legal status at all and defer applying for refugee status.

Refugees, and in particular those who have endured torture, often have complex health problems, which may include major depression, post-traumatic stress disorder (PTSD), malnutrition, tuberculosis (TB), and other chronic medical conditions (5–7). Currently, there are approximately 30 centers in the United States providing specialized services to fulfill the needs of this particular population (8). Services

available through these treatment centers include combinations of social, legal, mental health, and/or primary care services (8).

Most of the literature about the primary-care services that these treatment centers provide to this patient population has been limited to a description of their organizations, goals, and services (9, 10). Practically, no data exists about the characteristics and the utilization of primary-care services by this population. A Medline search using the keywords "refugee," "torture survivor," and "primary care services" reveals only one study on point. Eisenman *et al.* report that 6.6% of the patients attending a primary-care clinic at a tertiary-care center reported being victims of torture (11). It is uncertain if the known barriers to healthcare, such as language and insurance, play a role in the utilization of primary-care services by refugees. It is also unknown whether the history of abuse, uprooting, presence of mental health conditions or immigration status has any effect on the utilization of primary-care services. The study has two main goals: first, to describe social, demographic, medical, or mental health factors that have a positive or negative effect on the establishment of primary care; second, to identify which services available to the refugees were accessed and how frequent. A secondary goal of the study is to use its findings for future research. The information may be used to develop programs specifically tailored to the refugee population, in particular overcoming the barriers that create difficulties in accessing primary-care services, correcting negative perceptions about the health-care system, and increasing the cross-cultural awareness of the healthcare providers.

METHODS

Study Design

We conducted a retrospective chart review of all 146 patients seen at the Boston Center for Refugee Health and Human Rights (BCRHHR), Boston Medical Center (BMC), between December 1998 and June 2001. Charts were reviewed anonymously after securing the approval of the Institutional Review Board at Boston University Medical Center. The chart review included inspection of the intake instrument, progress notes, consult reports, laboratory results, and radiological reports. Data was abstracted by one of the coauthors (Alejandro Moreno).

Setting and Participants

The BCRHHR is a multidisciplinary clinic specialized in the care of refugees and survivors of torture that provides comprehensive medical, mental health, and dental care, as well as social and legal services. The Center also conducts research, scholastic, and advocacy activities. The BCRHHR serves patients who fall within the United Nations' definition of refugee, regardless of their legal status. Patients are referred to the Center by immigration attorneys, healthcare providers, family and friends, voluntary resettlement agencies, and the State refugee program. BCRHHR obtains its funding from the federal government, the United Nations, and from private donations.

All patients referred to the Center undergo an initial comprehensive health assessment conducted by a physician. The interviews with the patients are semi-structured; the information is recorded in an intake instrument (see Table I). Records from previous healthcare providers, including overseas medical evaluations, refugee arrival evaluations, emergency room visits and walk-in clinics, are obtained at this stage to complete any relevant information. After the initial comprehensive health assessment is completed, patients are offered primary-care services and any other service indicated by the initial assessment. Baseline information not obtained during the initial health assessment and the problem list are continuously updated during the primary care follow-ups or subsequent consult visits.

Four staff physicians and a nurse practitioner provide the primary-care services at the Center. They are trained in cross-cultural medicine, in diagnosing and co-managing mental health problems that commonly affect this patient population, and in diagnosing and treating tropical medicine diseases. Patients with established primary-care services somewhere else are followed as consults. Most of the consults originate from the residents' continuity clinic at BMC and other primary-care staff clinicians. A social worker, a psychologist, and a psychiatrist, all of them with vast experience treating refugees, provide the mental health services at the Center. Other providers at the Center, such as the dentist, dental hygienist, vocational counselor, and attorney, are trained to or have experienced dealing with this particular population.

Patients not proficient in English are interviewed for their initial health assessment, primary-care follow-ups, and consult visits with an interpreter.

Table I. Information Collected During the Initial Health Assessment Visits

1. *Demographics*: referral source, health insurance, gender, age, country of origin, marital status, family composition, date of arrival to the US, immigration status, level of education, occupation, languages, religion, and living conditions
2. *Trauma history*: reasons for persecution, family members affected (tortured, killed, detained, disappeared, and/or persecuted), age of first trauma, number of detentions, conditions during detention, socioeconomic repercussions of persecution and torture (loss of job, loss of socioeconomic status, destruction of property, battlefield conditions, life in a refugee camp, life in clandestiny), chronology of the travel to the US, length of travel, means of survival and support during uprooting, and forms of physical, sexual, and mental abuse
3. *Past history*: medical, surgical, mental-health history, substance abuse, family history, medications, allergies, previous immunizations (tetanus, diphtheria, measles, mumps, rubella, hepatitis B), and screening tests (complete blood count, TB skin test, hepatitis A, B, and C, syphilis, intestinal parasites, and HIV)
4. *Review of systems*: general, skin, eyes, ears, nose, throat, respiratory, cardiovascular, genitourinary, endocrine, neurologic, musculoskeletal, and mental
5. *Physical examination*: vitals, general appearance, head and face, eyes, ears, nose, throat, neck, lungs, cardiovascular, abdomen, extremities, genitals (including pelvic exam, if indicated), and nervous systems
6. *Mental examination*: mental status, language, delusions, hallucinations, reasoning, concentration, attention, and suicidal ideation
7. *Dental examination* (performed by dentist during the 2nd initial-health assessment visit or during the first primary-care follow-up visit)
8. *Radiological reports* (if indicated)
9. *Screening tests and immunizations* (patients without the immunizations or the screening tests mentioned above received them)
10. *Psychological instruments*: Hopkins symptom checklist and Harvard Trauma Questionnaire
11. *Problem list, assessment, and referrals*

Spanish speaking patients are all evaluated by Spanish speaking providers. BMC has interpreters on site for 17 different languages, all of whom are familiar and sensitive with the complexities of the refugee population. If no BMC interpreter is available for a particular language, an interpreter from a voluntary resettlement agency, an interpreter by phone, or a relative is asked to interpret for the patient. Relatives are never asked to interpret sensitive issues such as the trauma history, except when patients specifically ask for a relative to interpret these topics. As a policy, the BCRHHR does not allow children to interpret for their relatives.

Measurements and Definitions

To determine what factors affected the utilization of primary-care services, we analyzed variables that other studies have looked into when evaluating access to healthcare services, long-term health outcomes, utilization of mental health services, and psychological morbidity in refugees and immigrants in general (12–17). These variables included the following: (a) Demographics, such as age, gender, marital status, health insurance, proficiency in English, level of education, immigration status, and employment status; (b) indicators of the severity of trauma, such as torture, forms of abuse, detentions, age of first trauma, length and frequency of captivity, life in clandestiny, means of social support during trauma, and loss of socioeconomic status; (c) presence of post-trauma; (d) presence of chronic medical illnesses, such as diabetes mellitus, tuberculosis (TB), and human immunodeficiency virus (HIV) infection; (e) presence of mental health conditions, such as PTSD, depression, and anxiety; (f) presence of permanent scarring or physical disability from torture.

We arbitrarily chose two or fewer initial health-assessment visits and four or fewer primary-care follow-up visits as cut-off points to dichotomize these variables. Since, patients were seen at least twice a year by the primary care provider (PCP), they were considered lost to follow-up if they missed more than two consecutive appointments without rescheduling.

To assess whether cumulative trauma has an effect on the utilization of primary-care services, we developed a scale made up by the most common forms of abuse reported by patients (21 forms of physical torture, 19 forms of mental torture, and 5 forms of sexual torture). Each form of torture received a value of 1, and it was counted only once, regardless of the number of times a patient experienced it.

We defined torture according to the World Medical Association's Declaration of Tokyo ("the deliberate, systematic or wanton infliction of physical or mental suffering by one or more persons acting alone or on the orders of any authority, to force another person to yield information, to make a confession, or for any other reason") (18). Psychiatric conditions were defined according to the criteria set forth by the Diagnostic and Statistics Manual of Mental Illnesses IV-TR (19). Post-trauma was defined as a violent event capable of causing psychological harm (i.e. rape, domestic violence, ethnic

discrimination, assault, etc.) that occurred after resettling in the US. Finally, we considered that a healthcare provider had asked a patient about past-trauma if he/she had inquired about previous violent incidents, including torture and persecution.

Neither the intake instrument nor the trauma scale are validated instruments because the intent is not to develop assessment tools, but to determine whether there is a descriptive association between the use of primary-care services and the social history, the trauma events related by the patient, and the presence of medical and mental-health conditions.

Providers use several different methods to corroborate information self reported. This is routinely done for all patients, but with special care in asylum applicants as they have a potential motivation to exaggerate about their trauma history. For instance, past medical and mental-health conditions are corroborated by reviewing old records, when available, or by performing a diagnostic test, if feasible. Providers look into the internal consistency of the trauma events and how they correlate with the physical findings or with any other reliable information. For example, the presence of lineal marks around the ankles would confirm the story of being restrained with shackles for a significant period of time. For several patients, their traumatic experiences were corroborated by newspaper articles. For instance, one patient described how his wife was killed by a subversive group when he refused to quit running for office. A newspaper article reported the killing of the patient's wife at the hands of the subversive group that operated in his home state. Furthermore, patients often undergo preliminary screening with attorneys or social workers from other non-governmental organizations prior to their referral to the Center.

Statistical Analysis

Data was described using means, standard errors, and percentages. Univariate analyses were conducted using the Student's *t*-test, the chi-square test, or Fisher's exact test as appropriate. Multiple logistic regression analysis was used to adjust for confounding variables. The models for the regression analysis were created using the variables associated with access to healthcare, long-term health outcomes, utilization of mental health services, and psychological morbidity as mentioned above, as well as those variables that had a statistical significant association in

Table II. General Characteristics ($N = 146$)

Female (%)	43
Torture survivor (%)	84
Age (years, mean $\pm$ SE)	39 $\pm$ 1
Age of first trauma (years, mean $\pm$ SE)	26.8 $\pm$ 1.1
Geographic origin (%)	
Africans	54
Latin Americans & Caribbeans	32
Asians	8
Europeans	8
Health insurance (%)	
Free care pool (no insurance)	75
Medicaid	22
Private insurance	2
Medicare	1
Marital status (%)	
Married/living with partner	56
Never married	31
Widowed	6
Divorced/separated	5
Unknown	1
Immigration status (%)	
Asylum applicant	44
Refugee/asylee	32
Other visa status	12
No visa	8
US Citizen/resident	5
Employed or Studying (%)	21
Level of education (years, mean $\pm$ SE)	10.7 $\pm$ 0.5
English Proficiency (%)[a]	53
Referred by (%)	
Health professional	36
Attorneys/NGOs[b]	35
Self referred	29
Length of residence in the US (years, mean $\pm$ SE)	1.7 $\pm$ 0.4

Note. Twelve subjects with unknown employment status.
[a]Able to understand or speak well enough to get by.
[b]Non-governmental organizations.

the univariate analysis with the frequency of initial health assessment visits or the frequency of primary-care follow-ups.

RESULTS

Table II presents general characteristics of the study population. Patients originated from 43 different countries; the largest numbers were from Uganda, Guatemala, Democratic Republic of Congo, and El Salvador, with 18, 14, 9, and 8 patients, respectively. Of 69 patients not proficient in English, only 46% required interpreter services because the others were evaluated by Spanish speaking providers.

Table III presents the main reasons for persecution and the social repercussions of trauma, and

Table III. Main Reasons for Persecution and Social Repercussions of Trauma

	N = 146
Main reason for persecution (%)	
Ethnic persecution	27
Political persecution	25
Civil war	23
Relative of an activist	12
Religious persecution	5
Refused to cooperate[a]	3
Humanitarian work[b]	2
Other	1
Social repercussions of trauma (%)	
Lost school/job	77
Lost social status	73
Lived clandestinely[c]	66
Personal property destroyed	54
Internally displaced	38
Endured battlefield conditions	33
Lived in a refugee camp	29
Witnessed torture of relatives	18

[a]Patients who became victims after refusing to serve as informants, messengers, or supporters of either underground groups or government agents.
[b]Patients who became victims of either underground groups or government agents for working with non-political, non-governmental organizations that provided humanitarian relief in conflict areas.
[c]Patients who were forced to change identity or physical appearance or who were forced to live inside a safe house without outside contact.

Table IV. Forms of Physical, Psychological, and Sexual Abuse (N = 109)

Most common forms of physical abuse (%)	
Beating	78
Handcuffs	40
Traumatic removal of appendages and crushing injuries	21
Exposed to drugs, chemicals, and extreme temperatures	20
Shackles	16
Burns	14
Electric shocks	14
Most common forms of mental abuse (%)	
Threats	100
Forced to observe dead bodies	50
Forced to witness killings	31
Falsely accused	40
Forced to witness torture	22
Solitary confinement	20
Most common forms of sexual abuse (%)	
Stripped naked	25
Rape	23
Trauma to genitalia	22
Sexual humiliation	20

Note. Cumulative torture scale score (mean $\pm$ SE) is equal to 7.6 ± 0.7

Table IV shows the different forms of abuse. Eleven percent (16/146) of the patients declined to reveal all or part of their trauma history, including suffering torture. Of the 130 patients who disclosed their trauma history, 84% reported torture; 63% were detained 455 times for an average of 1.6 ± 0.2 detentions per individual.

After uprooting and torture, 43 (29%) patients continued experiencing significant physical and psychological trauma in the US. Forms of post-trauma included domestic violence (60%[26/43]), racial and ethnic discrimination—which included violent acts, such as assaults (32% [14/43]), forced prostitution (5%[2/43]), and rape (2%[1/43]). Women were more likely than men to experience post-trauma (26 vs. 17, $p = .02$). Similarly, Latin American and Caribbeans were more likely than Africans, Europeans, and Asians to experience post-trauma (22 vs. 16, 3, 2, respectively, $p < 0.01$).

A majority of patients (71%) reported having at least one medical condition prior to their arrival in the US while 32% reported having a psychological condition since the uprooting. Seventy-seven percent reported at least one somatic complaint during the initial health assessment, and all patients reported at least one psychological complaint. Of the 109 patients who reported torture, 58% had at least one physical finding from torture, of which the most common was scarring (45 [41%]). Africans were more likely than the other three geographic groups to have scarring on physical examination ($p < .05$). The most common medical and psychological diagnoses included major depression (70%), PTSD (58%), generalized anxiety (35%), hypercholesterolemia (23%), hepatitis B infection (14%), and chronic arterial hypertension (13%).

Table V shows disease screening and preventative measures. Nineteen percent of the patients were tobacco users, and 12% had a CAGE score ≥ 2 (a validated alcohol screening test). Only two patients reported using other substances. Despite receiving cultural-sensitive information about screening tests and vaccinations, a significant number of patients declined these interventions. Reasons for refusal varied according to the offered test. For instance, reasons given by patients who declined having a PPD skin test included a previous history of BCG vaccination (12 patients), no particular reason (7 patients), and a high socioeconomic status, thus little risk for the infection (3 patients). Fifty-two patients declined to bring stool samples for ova and parasites. Patients

Table V. Disease Screening and Health Promotion Interventions

	Indicated[a] (n)	Declined (%)	Positive test/vaccine administered (%)
Health screening			
PPD skin test	123	17	42
Reactive rapid plasma regain (RPR) serology	112	13	1
Intestinal parasites	107	49	36
Hepatitis B surface antigen	98	17	46
Hepatitis A antibody	91	20	77
Hepatitis C antibody	91	26	4
HIV antibody[b]	85	14	24
Immunizations			
Tetanus and diphtheria	143	24	76
Measles, mumps, and rubella	96	49	51
Influenza	51	24	76
Hepatitis B	40	48	53
Polyvalent pneumococcal vaccine	40	25	75

[a]Eligible for screening if no documentation of a screening test within the past 2 years or previous treatment/immunization is available. Eligible for vaccination if clinically indicated, no records of previous vaccinations, negative antibodies, or no contraindications is available.

[b]All patients were offered HIV testing during initial health assessment, except those who PCP considered unable to cope with the added stress of a positive test result.

cited the following arguments: no particular reason (20 patients), recent antiparasitic treatment (14 patients), a desire to avoid memories of past abuse (10 patients), difficulties with transportation (6 patients), and lack of time to bring samples to the laboratory (2 patients).

Table VI summarizes the utilization of health services. On an average, patients had 2.3 initial health evaluation visits (SE ± 0.1) and 3.6 primary-care follow-up visits (SE ± 0.3). The average duration of primary-care follow-up during the study period was 12.8 months (SE ± 0.8). Of the 119 patients who accepted a referral to see a PCP after completing the

Table VI. Utilization of Health Care Services

	Referrals Indicated[a] (n)	Accepted (%)
Primary care	131	91
Psychotherapy		
Pharmacotherapy	115	48
Counseling	115	65
Dental care[b]	60	87
Social services	60	85
English as a second language	69	59
Legal services[c]	27	78

[a]Patients were referred if a need was identified during the initial health evaluation or subsequent primary care follow-ups.

[b]Include referrals to community providers.

[c]Include immigration, housing, and criminal related matters.

initial health assessment, 22% did not return for any primary-care follow-up and 18% were lost after having at least one primary-care follow-up. The 15 patients with current PCP were followed as consults for services other than primary care. Of the 64 patients seeking official refugee status through the asylum program (asylum seekers), 82% had medical affidavits written as part of their asylum claim.

Thirty-nine percent of the patients had previously accessed primary-care services, of which 15 patients were still seeing their PCP. A majority of the patients (59%) had also previously received care from healthcare providers other than PCP, e.g. emergency rooms and walk-in clinics. Healthcare providers other than PCPs were more likely than PCPs to ask patients about past trauma (58% vs. 19%, $p = .01$)

The multiple logistic regression models revealed some significant associations. Subjects with two or fewer initial health assessment visits were less likely to receive psychological counseling (OR: 0.22 0.08–0.58), less likely to be seeking asylum (OR: 0.16; 95% CI: 0.06–0.43), more likely to be self-referred (OR: 9.6; 95% CI: 2.4–39.6), and more likely to have had previous primary-care services (OR: 3.1; 95% CI: 1.2–8.4)). Four or fewer primary-care follow-up visits were more likely in subjects who had no health insurance (OR: 7.2; 95% CI: 2.0–25.5) and less likely in those referred for psychological counseling (OR: 0.017; 95% CI:0.05–0.54).

DISCUSSION

The major finding of this study is the high percentage of patients that declined diagnostic or therapeutic interventions. Interview techniques, environmental cues, or diagnostic interventions may retraumatize refugee patients during clinical encounters and there may be primary justifications to avoid interventions (9). For instance, a vaccination may resemble a stab wound or collecting a stool sample may remind a torture victim of unsanitary conditions during imprisonment as we found in several of our patients. Addressing the trauma history, particularly during the initial-health assessment should be done carefully as refugees might not be psychologically prepared to discuss these issues (20). In addition to avoidance and psychological unpreparedness, fear of stigmatization, different cultural values, and mistrust are important reasons that may explain why patients declined some interventions, particularly psychological counseling, and psycho-pharmacotherapy (21). Two other factors that may have played a role are conflicts of schedule and lack of transportation. We do not believe that lack of proficiency in English or lack of insurance played a role because interpreters were available at all times and patients without insurance were covered by the Boston Health Net, a safety net for uninsured patients. However, future studies are needed to determine the exact effect that these factors may have.

We did not find any statistical significant difference between those patients who received primary-care services, those who declined up-front primary-care services after having the initial health assessment, those who accepted primary-care services but never returned for follow-up, and those who were lost to follow-up after some time. The lack of difference among these four groups of patients may be due to the retrospective nature of the study. A prospective study designed to survey those patients who refused up-front primary-care services, as well as those who failed keep up their primary-care services once this service is established may help in devising strategies aimed at preventing primary-care drop-outs and at facilitating overall access to the healthcare system.

The prevalence of some mental health conditions in our study is higher than that reported by others (12, 14). Of the known risk factors for psychological problems, our study population had a higher prevalence of torture (84%) compared to estimates drawn from 12 Western centers specialized in assisting survivors of torture (5–35%) and a study of foreign-born patients visiting a primary-care clinic (6.6%) (11, 22). A significant proportion of our patients who endured torture (58%) had permanent physical sequelae, such as scarring and permanent neurological deficits, a factor known to be associated with higher psychological morbidity (23). A significant proportion of our patients (35%) also lacked mental preparedness for uprooting and torture, as they became victims during the sudden outbreak of civil war (12). Other factor that may explain the higher prevalence of mental-health conditions include the significant social repercussion suffered by these patients during and after the uprooting (i.e. loss of employment, loss of social status, uncertain legal status, and post-trauma).

A high percentage of our patients (32%) acknowledged having psychological conditions since their trauma. This finding may be explained in part by the fact that a significant number of our patients had previously accessed the healthcare system (59% had seen a provider other than a PCP and 19% had a previous PCP). Provider awareness of culture-specific syndromes illness may also have played a role. For instance, some of our Latino patients who described suffering "*sustos*" (a feeling of intense fear and uncertainty) since their traumatic were classified as having anxiety. Finally, a significant proportion of our patients (24%)—most of the Latino patients— resettled during the late 80s and the early 90s; time alone may have given them a chance to go through an acculturation process, thus making it easier to accept health conditions that are otherwise cultural taboos.

As expected, this study population had a high prevalence of infectious diseases associated with immigrants from developing countries. The prevalence of positive PPD skin tests (42%), syphilis (1%), and intestinal parasites (36%) are comparable with that reported in other studies (43%, 1.4%, and 29.9%, respectively) (6). The high prevalence of somatic complaints (77% reporting at least one somatic complaint) was also expected since this study population had been greatly traumatized (24).

We also found that providers other than PCPs were more likely than PCPs to ask refugee patients about past trauma. We believe that the former group may have included providers, such as social workers, that have a higher awareness for victimization. As reported by Eisenman *et al.*, awareness plays an important role on why PCPs fail to ask patients about torture (11). US health professionals in general learn little during their training about caring for

this patient population. Two surveys, the first one of the US medical schools and the second one of the US public health schools, found that only a minority of them teach their students about domestic and international human rights violations and the medical, mental health, social, and legal consequences of such violations (25, 26). In addition, health professionals working primarily in large urban centers have reported how ill-prepared they are for the task of caring for immigrant populations (27).

In addition, provider awareness may be an important element in how refugee patients perceive the quality of the healthcare they receive. A refugee patient who suffered torture and somatizes may become frustrated when his/her primary-care provider fails to address in a culturally-sensitive manner, the underlying reason for the complaints (24). The dissatisfaction may be translated as reluctance to continue accessing the healthcare system (24). It may also make the process of social reintegration during the resettlement period harder, particularly for those refugee patients with significant psychological co-morbidities and poor social support (24).

Our population has a similar number of primary-care follow-up visits per year than a national study of foreign-born US residents (3.6 per year vs. 4.6 per year, respectively), even though the two studies have different insurance coverage (15). For instance, the percentages of patients with no health insurance and with Medicaid in our study (75% and 22%) were three times higher than the national study (26.2% and 6.5%). As expected, proxies for psychological conditions and trauma (e.g. psychological counseling) were associated with higher utilization of primary-care services. Because producing a medical affidavit requires a more thorough evaluation, we also expected to have longer initial health assessments in asylum seekers. Finally, we believe that patients with previous primary-care services had fewer initial health assessment visits compared to patients without previous primary care because health information, such as past medical history, vaccinations, and screening test results, was available from old medical records.

We recommend that PCPs pay special attention to the concrete needs of this patient population. For instance, the PCP should actively participate in the asylum application of those patients seeking their refugee status through this pathway by writing a medical affidavit when indicated. PCPs are often the first person on whom refugees trust; therefore, they are in a key position to make the resettlement for refugees easier. For instance, in our practice, the PCP often attends with the patient the first psychotherapy session or the first interview with the immigration attorney in order to validate these interventions. We believe that this strategy coupled with a heightened awareness of culture-related complaints and a strong-supportive role explain why more than half of the patients offered psychological counseling accepted it.

In our system, fulfilling social needs, such as food assistance, vouchers for transportation, and job referrals for asylum seekers, was relatively easy compared to fulfilling their housing needs. These patients are often forced out by the same person who had agreed to shelter them upon arrival. Moreover, because these patients are not eligible for state assistance, they are often faced with the prospect of living in shelters or moving from house to house.

This study has a number of limitations, including the study's retrospective design. However, this limitation is minimized as all patients underwent a standardized, semi-structured health assessment protocol. The retrospective chart review was considered the most suitable study design to answer the proposed study questions since little is known about refugee patients in primary-care settings, and no other immigrant or victimized population can be fully compared with this particular patient population.

Selection bias might have played a role in our findings as our patients may represent refugees willing to or with access to healthcare. For instance, a significant proportion of our patients (44%) were asylum applicants who may have had a secondary gain from keeping their appointments and referrals, as clinic providers often wrote medico-psychological affidavits for the immigration proceedings. This may explain why asylum applicants were more likely to have longer initial-health assessments (more than two visits) than non-asylum applicants (two or fewer visits). A future study may look into the utilization of primary-care services among asylum applicants when the primary provider is involved and is not involved in the write-up of immigration affidavits.

Since the data was obtained from a single center, generalization to other refugee populations may be limited. We acknowledge that given the complexity of this particular patient population, we may have not accounted during the analysis for all the variables associated with the utilization of health services as the study was limited to information already recorded in the medical record. For instance, although we assessed the quantity of primary-care follow-up visits,

we did not look into the interpersonal relationship between the patient and the PCP.

Providers should remember that their efforts to avoid victim re-traumatization may create legal or ethical dilemmas as reporting transmissible illnesses, screening for infectious diseases, or administering vaccinations is mandatory for some refugee upon entering the US or for those asylees applying for adjustment status (28).

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