Healthcare challenges from the developing world: post-immigration refugee medicine

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Worldwide, there are approximately 13 million refugees and asylum seekers.[1] Flight of refugees often occurs in the setting of war, famine, or human rights violations, resulting from a "well-founded fear of being persecuted for reasons of race, religion, nationality, membership in a particular social group, or political opinion."[2] Physicians in host countries increasingly encounter refugees in their practices and, owing to inadequate training, may not fully meet their complex medical needs.

Summary points

- The complex medical needs of refugees are often unmet owing to inadequate training of healthcare providers
- Medical problems include infectious diseases, psychiatric disorders, and complications from ritual female genital surgery
- Symptoms of infectious diseases and history of exposure to trauma and ritual female genital surgery should be sought in the medical history
- Routine laboratory screening for infectious diseases may detect parasites, sexually transmitted infections, hepatitis, and tuberculosis
- Further information on post-traumatic stress disorder, somatisation, and ritual female genital surgery may enable physicians to care better for refugees

Sources and selection criteria

Limited evidence exists to support many aspects of refugee health care. When scientific evidence is not available, recommendations stem from our experience in caring for a diverse group of refugees (East African, Balkan, and South East Asian) in a multidisciplinary setting involving primary care physicians, obstetrician-gynaecologists, psychiatrists, nurses, cultural interpreters, and social workers. This article is based on clinical expertise and a review of the literature obtained from a Medline search using the key words "refugee" and "asylum seekers." We suggest an approach to obtaining the refugee history, screening for infectious diseases and common psychiatric disorders, and dealing with special problems such as ritual female genital surgery (female circumcision).

Refugee camps and medical interventions before embarkation

Refugee camps represent the first point of escape, but continued interethnic strife, sexual violence, and disease epidemics often perpetuate the dangerous environment from which people fled. Although the United Nations High Commission for Refugees promises protection and basic medical care, refugees may actually have higher mortality in camps than in their home country. Major causes of mortality in refugee camps include diarrhoeal diseases, measles, acute respiratory tract infections, tuberculosis, and malaria. Mandated medical screening of refugees before arrival in the United States identifies those with "inadmissible conditions," including active infections such as tuberculosis, leprosy, and HIV infection. Typical screening of adult refugees involves a physical examination, brief mental health assessment, chest radiograph (sputum testing for tuberculosis if abnormal), and testing for syphilis and HIV. Enhanced health assessments may also be done to identify prevalent diseases that may serve as future public health targets before immigration. For example, frequent diagnoses of malarial (7%) and intestinal (38%) parasites in Barawan Somali refugees led the Centers for Disease Control to recommend mass treatment for all non-pregnant refugees older than 2 years; this consisted of single oral doses of sulfadoxine-pyrimethamine and albendazole before departure.[3]

Medical history and physical examination

Interpreter services are essential for obtaining the medical history and caring effectively for refugees. The lack of translators, particularly for new or small groups of refugees, is an important barrier to health care. Ideally, the interpreter not only translates but also acts as a mediator to explain the cultural context of a patient's symptoms. On first meeting the refugee, we clarify the purpose of a routine visit to a physician, the role of the interpreter, and the concept of preventive screening. Eliciting sensitive information, such as exposure to

Box 1: Medical history*

Life story
- Pre-flight:
  - Country of origin and reason for escape
  - Life and employment before immigration
  - Medical problems or stress in home country
- Path to host country:
  - Time spent in refugee camps, location of the camps
  - Physical separation from loved ones
  - Losses of family members or friends and reasons for death

Infectious diseases
- History of disease or exposure: tuberculosis, malaria, parasites, hepatitis, and sexually transmitted infections
- Review of systems:
  - Recurrent fevers, night sweats, weight loss
  - Cough, haemoptysis
  - Diarrhoea, visible parasites in stool
  - Jaundice
  - Vaccine status: previous records and history of infections or vaccination

Traditional medicine and substance misuse
- Use of herbal medicines
- Acupuncture, moxibustion, coining, other modalities
- Use of substances other than tobacco and alcohol

Sexual history and genital surgery
- Reproductive history:
  - Gravidity, parity, outcome of previous childbirths
  - Sexual activity, desire for testing for sexually transmitted infections, contraception or pregnancy
- Ritual female genital surgery:
  - Ability to have intercourse, dyspareunia
  - Chronic urinary tract infections, pelvic pain, scar abscesses
  - Desire for revision of circumcision (defibulation)

Trauma history†
- Deprivation of food, water, or shelter
- Being lost, kidnapped, or imprisoned
- Enforced isolation
- Undergoing torture or serious injury
- Being brainwashed
- Being raped or sexually molested
- Witnessing a murder or violent acts
- Feeling close to death
- Being in a combat situation

*Contents of the box are based on clinical expertise as guided by limited scientific evidence
†Components of the trauma history are adapted from Harvard trauma questionnaire[6]

trauma, may begin by asking the patient's "life story" and focusing sequentially on life in the home country, reason for flight, details of escape, and status of family members (box 1).[4 5] We also do a complete review of infectious diseases by body system and inquire about use of traditional or herbal medicines. We ask African women about ritual female genital surgery, as it can have important implications for gynaecological health.

After rapport and trust have been established, we directly inquire about torture, rape, or other physical or psychological trauma by using an approach adapted from the Harvard trauma questionnaire (box 1).[6] Many translations of the questionnaire exist to facilitate taking the trauma history. Questions about depressive symptoms may need modification for each refugee group, and medical interpreters are helpful in this regard. For example, one direct translation of "depression" into Somali is "wal-wal," which also means "crazy."

A complete physical examination may reveal pathological and non-pathological conditions, including lymphadenopathy, goitre, and evidence of previous traditional medicine techniques. African and South East Asian refugees often have circular scars consistent with dermabrasion from coining or moxibustion. Signs of torture may be subtle and include occult fractures from beatings or 1-2 mm clustered scars from electrical burns.[7]

Routine screening

Guidelines for screening of refugees are mainly based on studies documenting a high prevalence of infectious diseases and medical disorders.[8 9] Obtaining records from overseas refugee screening may prevent repetitive testing. We begin with a complete blood count with differential and infectious disease screening (box 2). Common causes of anaemia among refugees include deficiencies of iron and other nutritional factors, haemoglobinopathies, α and β thalassaemia, and glucose-6-phosphate dehydrogenase deficiency. Eosinophilia warrants investigation for pathogenic parasites, even in mild cases. In a group of South East Asian refugees with eosinophilia and negative stool ova and parasite testing, a parasite was eventually detected in 95% of cases.[10]

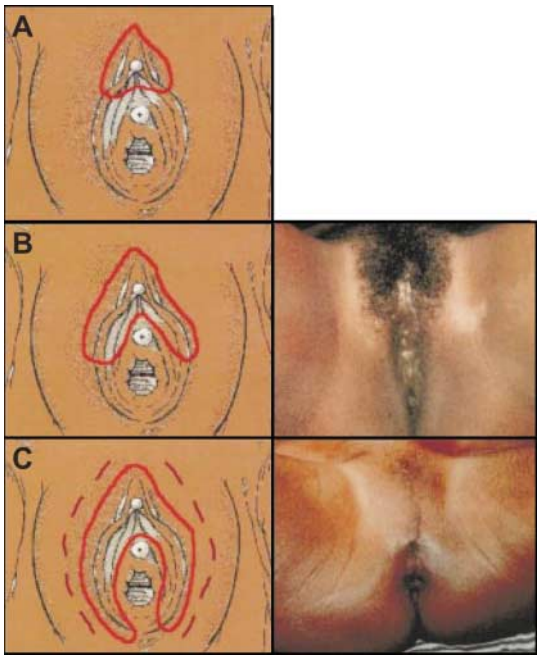
Screening for infectious diseases includes testing for tuberculosis, intestinal parasites, hepatitis, and sexually transmitted infections. Whether to give empirical treatment or to screen for parasites remains controversial. Estimates of cost effectiveness are based on a five day course of albendazole, whereas many

Box 2: Screening*

General
- Complete blood count with differential
- Rubella IgG (women of reproductive age)
- Hepatitis B and C
- Syphilis, gonorrhoea, chlamydia, and HIV-1
- PPD, chest radiography if >10 mm
- Stool ova and parasite examination (three morning specimens, different days)
- Oral examination and dental referral
- Vision and hearing screen

Optional
- Varicella IgG
- HIV-2 (West Africa)
- Urinalysis (if concern about schistosomiasis)
- Peripheral blood smear (if concern about malaria)
- PPD = purified protein derivative as used with Mantoux testing (tuberculosis)

*Screening items are in addition to recommended tests for healthcare maintenance (pap smear, mammogram, cholesterol testing)



World Health Organization classification for ritual female genital surgery. A (type I or Sunna): excision of the prepuce with or without excision of the clitoris. B (type II): excision of the prepuce and clitoris and partial or total excision of the labia minora. C (type III or pharaonic): excision of part or all of the external genitalia and stitching or narrowing of the vaginal opening. Type IV circumcision (not pictured) describes procedures that do not fit the previous classifications: piercing, cauterisation, or stretching of the clitoris or labia with the aim of narrowing the vagina. Reproduced courtesy of Nahid Toubia, president of the RAINBO organisation

centres administer a single dose.[11] Depending on the history of sexual activity, testing should include screening for gonorrhoea, chlamydia, syphilis, and HIV-1 (and HIV-2 for West African refugees). In lieu of vaccination records, testing for antibodies to indicate exposure to or vaccination against disease should be done. Antibody testing is more cost effective than varicella vaccination in refugees older than 5 years.[12] However, the positive predictive value of a varicella history is 93-100% and may be adequate for documentation in certain refugee groups. Additional components of screening include an oral examination, dental referral, and screening of vision and hearing.

Tuberculosis, parasites, and hepatitis

Tuberculosis is the third leading cause of mortality from infectious diseases after HIV/AIDS and diarrhoeal diseases; for example, one in three people in Africa are infected.[13] In one study, 7% of newly arrived refugees had active tuberculosis, and the risk of developing tuberculosis remains high years after immigration.[14 15] At the United States Center for International Health, 23% of tuberculosis cases were extrapulmonary.[8] For example, back pain (Pott's disease) or menorrhagia (endometrial tuberculosis) may be the presenting symptoms of tuberculosis. Other extrapulmonary sites include the prostate, parotid, chest wall, and pericardium.

Despite mass treatment before embarkation, persistent parasitaemia is relatively common. The most common parasites detected include hookworm (*Necator americanus* and *Ancylostoma duodenale*), whipworm (*Trichuris trichiura*), roundworm (*Ascaris lumbricoides*), and *Giardia lamblia*.[9] Classic complications of parasitaemia include anaemia (hookworm), intestinal obstruction (roundworm), Loeffler's syndrome (pulmonary hypersensitivity or infiltrates due to *Strongyloides* and *Ascaris*), cholangiocarcinoma (*Opisthorchis sinensis*), and bladder cancer (*Schistosomiasis haematobium*). A screening urinalysis for urinary schistosomiasis is indicated in refugees from areas of high prevalence such as West Africa. Malaria is uncommon in refugees, as most are empirically treated; however, untreated pregnant refugees are at risk.

Hepatitis B is endemic in Africa and South East Asia, with rates of current or past infection as high as 50-80%. Death from cirrhosis or hepatoma occurs in up to one third of carriers who acquired hepatitis B perinatally. We screen for hepatitis C in any patient who has had a previous blood transfusion, ritual female genital surgery, or surgical procedure, and we routinely screen African and South East Asian refugees (prevalence of 5% and 2.5%).[16]

Mental health and trauma

Tackling the complex mental health needs of refugees is particularly challenging for both primary care providers and mental health professionals. Many studies report refugees to be at a higher risk of psychiatric disorders such as depression, suicide, psychosis, post-traumatic stress disorder, and substance misuse, often directly related to past physical or psychological trauma.[17–20] Understanding a patient's trauma history is critical to treating psychiatric and medical disorders. Approximately 5-10% of refugees in the United States have experienced a form of torture, including electric shocks, beatings, caning of the soles of the feet, rape, and forced witnessing of torture or executions.[21] Sexual violence is prominent in the torture of women and may be spontaneous or systematic ("rape camps"). The problems of many refugees, however, may not be adequately described by Western psychiatric categories.[22] Demoralisation and bereavement may be incorrectly labelled as depression. An effort should be made to simultaneously explore psychiatric symptoms, exposure to trauma, and potential social and economic factors contributing to a refugee's mental health. Referral to social workers, cultural case mediators, and community organisations may be appropriate.

Post-traumatic stress disorder

Post-traumatic stress disorder is the most common consequence of violence and describes at least one month of recurrent, painful re-experiencing of a traumatic event, emotional numbing or hyperarousal, and avoidance of trauma related memories.[23] Critical factors in developing post-traumatic stress disorder include severity, duration, and closeness of exposure to the trauma. Although studies of drug treatment in refugees with post-traumatic stress disorder are rare, selective serotonin reuptake inhibitors are considered a good first line treatment.[24 25] Earlier studies recommended an 8-12 week drug trial, but recent studies have found symptomatic improvement as soon as 2-5 weeks. However, severely traumatised refugees may fail to respond to drugs alone. Both exposure

Additional educational resources

Journal articles

Walker PF, Jaranson J. Refugee and immigrant health care. *Med Clin North Am* 1999;83:1103-20

Burnett A, Peel M. Health needs of asylum seekers and refugees. *BMJ* 2001;322:544-7

Burnett A, Peel M. Asylum seekers and refugees in Britain: the health of survivors of torture and organised violence. *BMJ* 2001;322:606-9

Websites

US Committee for Refugees (www.refugees.org)—Lists statistics, news, and information pertinent to refugees, and lists international refugee assistance organisations

EthnoMed (www.ethnomed.org)—Provides culture specific information on health beliefs and healthcare barriers for multiple refugee and immigrant groups. Factsheets on hepatitis, breast cancer, and diabetes are translated into several languages

Harvard Program in Refugee Trauma (hprt-cambridge.org)—Provides questionnaires and checklists for assessment of mental health in several languages, including the Harvard trauma questionnaire, Hopkins symptom checklist-25, and a simple depression screen

Research Action and Information Network for the Bodily Integrity of Women (www.rainbo.org)—An international non-governmental organisation working to eliminate the practice of ritual female genital surgery. The website provides information on obtaining technical manuals for healthcare providers

therapy and cognitive behaviour therapy have been found to be beneficial for post-traumatic stress disorder in refugees.[26 27] Treatment may begin with an adequate trial of a selective serotonin reuptake inhibitor; if minimal response occurs, consultation with a psychiatrist is indicated to determine if additional drugs (α blocker), therapy, or both should be added. Psychologists specialising in the mental health of refugees may represent an additional source of expertise, particularly with a form of therapy. Lack of availability of psychiatric care appropriate to culture and language may, however, represent a barrier to effective treatment.[28]

Somatisation

Psychological trauma may present as somatic complaints in refugees. A diagnosis of somatisation disorder requires symptoms of pain (at least four sites), two gastrointestinal symptoms, one sexual symptom, and one pseudoneurological symptom.[23] Physical complaints must begin before age 30, result in considerable impairment, and lack a medical cause. Refugees may be at risk for somatisation because psychiatric disease is often not culturally accepted, and somatic rather than psychiatric complaints increased their previous chances of accessing health care. In addition, pain thresholds may be lower in this population as a result of psychological distress and depression. Somatisation occurs more commonly in unemployed and less educated refugees.[29 30] Epstein suggests an approach for patients with unexplained somatic symptoms that includes acceptance of suffering, tolerance of uncertainty, and limitation of iatrogenic harm.[31] The physician simultaneously considers symptoms, pathological findings, and mental health, focusing care on functional improvement rather than cure.

Ritual female genital surgery

Ritual female genital surgery, also known as female circumcision or genital mutilation, is mainly done in Africa and affects 130 million women and girls worldwide.[32] Ritual female genital surgery continues to be done for complex cultural reasons, although condemned by the World Health Organization because of its serious health consequences. In 1990 the Centers for Disease Control estimated that 168 000 girls and women in the United States were likely to have undergone ritual female genital surgery, and subsequent Somali immigration greatly increased this number. Although discrete WHO classifications of ritual female genital surgery exist, people doing the procedure are informally trained, resulting in inexact surgical outcomes (figure). Physicians in host countries may encounter long term complications of ritual female genital surgery, including dyspareunia, inability to have intercourse, chronic pelvic inflammatory disease, recurrent urinary tract infection, and scar abscesses. Gynaecology referral for defibulation (take down or revision of ritual female genital surgery) may be indicated for pelvic examination or treatment of resulting medical complications, or before labour and delivery.

Conclusion

Providing culturally sensitive and competent health care to refugee populations can be as rewarding as it is challenging and often has a major impact on the life of a new refugee. Primary care for refugees begins with understanding reasons for flight and a group's particular exposure to infectious disease and psychological trauma, which may focus medical history and screening. Increased knowledge about the complex medical needs of refugees can help the primary care physician to care more effectively for this special population. A society's moral strength can be measured by how it treats its most vulnerable citizens.

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Competing interests: None declared.

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Lesson of the week

Charles Bonnet syndrome—elderly people and visual hallucinations

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Not all elderly people presenting with visual hallucinations have dementia

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When a patient presents with vivid visual hallucinations, a doctor probably considers common diagnoses such as delirium, dementia, psychoses, or a drug related condition. Charles Bonnet syndrome, however, is a condition characterised by visual hallucinations alongside deteriorating vision, usually in elderly people.[1] The correct diagnosis of this distressing but not uncommon condition is of utmost importance, considering the serious implications of the alternative diagnoses.

Case report

Neighbours brought an 87 year old white widower—who lived alone in a flat—to the medical assessment unit of a district general hospital. They were concerned that he was becoming demented. Apparently he had reported seeing people and animals in his house—including bears and Highland cattle. He verified these statements and said he had been seeing them for the previous six weeks. He had also often seen swarms of flies and blue fish darting across the room.

He knew that these visions were not real and they didn't bother him much, but he thought he might be losing his mind. The visions lasted for minutes to hours, and the cattle used to stare at him while quietly munching away at the grass. The visions tended to occur more in the evenings before he switched on the lights.

His medical problems included chronic lymphatic leukaemia, which had been in remission for the past five years. He was registered blind and had been diagnosed as having gross bilateral macular degeneration. He had never had hallucinations before. He also had chronic obstructive airways disease and essential hypertension. He had had no other neurological illness and no mental health problems. He did not drink alcohol or smoke. He had been taking oxprenolol for hypertension for the past 10 years. He had no family history of note.

His cognitive examination was normal for his age, after the loss of vision was taken into account. His visual acuity in both eyes was 1/60 with loss of central field. Fundi showed macular degeneration. The rest of the neurological examination was normal.

Detailed investigations (including a full blood count; glucose; electrolytes; and tests for renal hepatic and thyroid function, vitamin B-12, and folate levels) yielded normal results. Detailed psychiatric assessment did not pinpoint a cause and suggested more detailed investigations for delirium. As a metabolic and infection screen was normal and he was otherwise well oriented, delirium did not seem a likely diagnosis. Electroencephalography and magnetic resonance imaging showed no important abnormalities. No diagnosis was apparent even after a week of inpatient tests and ward rounds. An early dementia seemed to