Mass Infections In Refugee Camps

Hakan Erdem
ECCMID 2015, Copenhagen
April 25-28, 2012
Presentation Plan

1) Refugees and problems
2) Camps, organization
3) Infectious problems
   ✓ Emergency phase
   ✓ Post-emergency phase
4) The reasons of infections
5) Planning & coordination
Refugees: 11 million
Asylum seekers: 1.7 million
Refugee-like: 0.8 million
IDPs: 24 million

UNHCR Global Appeal 2015 Update
Who are they?

<table>
<thead>
<tr>
<th>Characteristics of torture</th>
<th>N = 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reasons for torture</td>
<td></td>
</tr>
<tr>
<td>Political opinion</td>
<td>63 %</td>
</tr>
<tr>
<td>Role in a social group</td>
<td>43 %</td>
</tr>
<tr>
<td>Gender</td>
<td>10 %</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>10 %</td>
</tr>
<tr>
<td>Religion</td>
<td>10 %</td>
</tr>
<tr>
<td>Political activity</td>
<td>10 %</td>
</tr>
<tr>
<td>Type of abuser</td>
<td></td>
</tr>
<tr>
<td>Police/prison guard</td>
<td>56 %</td>
</tr>
<tr>
<td>Social/ethnic group</td>
<td>41 %</td>
</tr>
<tr>
<td>Political party members</td>
<td>30 %</td>
</tr>
<tr>
<td>Military</td>
<td>41 %</td>
</tr>
<tr>
<td>Physical torture techniques</td>
<td></td>
</tr>
<tr>
<td>Blunt trauma</td>
<td>93 %</td>
</tr>
<tr>
<td>Positional torture</td>
<td>40 %</td>
</tr>
<tr>
<td>Denied food/water</td>
<td>30 %</td>
</tr>
<tr>
<td>Sexual assault</td>
<td>37 %</td>
</tr>
<tr>
<td>Terrible prison conditions</td>
<td>27 %</td>
</tr>
<tr>
<td>Denied medical care</td>
<td>20 %</td>
</tr>
<tr>
<td>Broken teeth</td>
<td>13 %</td>
</tr>
<tr>
<td>Penetrating injuries</td>
<td>17 %</td>
</tr>
</tbody>
</table>

Diagnosis of mental illnessa  

<table>
<thead>
<tr>
<th>Psychological symptoms</th>
<th>N = 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulty sleeping</td>
<td>93 %</td>
</tr>
<tr>
<td>Feelings of sadness/depressed mood</td>
<td>93 %</td>
</tr>
<tr>
<td>Isolation/poor social interactions</td>
<td>83 %</td>
</tr>
<tr>
<td>Recollections</td>
<td>76 %</td>
</tr>
<tr>
<td>Nightmares</td>
<td>76 %</td>
</tr>
<tr>
<td>Difficulty concentrating</td>
<td>66 %</td>
</tr>
<tr>
<td>Avoidance</td>
<td>66 %</td>
</tr>
<tr>
<td>Poor appetite</td>
<td>52 %</td>
</tr>
</tbody>
</table>

Post-traumatic stress disorder              | 69 %   |
Depression                                  | 69 %   |

Feelings of guilt                           | 52 %   |
Poor memory                                 | 24 %   |
Headaches                                   | 24 %   |
Detachment                                   | 24 %   |
Startling                                    | 17 %   |
Flashbacks                                   | 17 %   |
Suicide attempt                              | 7 %    |

Syrians (258,313), Iraqis (14,635)
Camps, overall: 272,948
Health Service: Free of charge for all refugees
Total expenditures: 5.6 billion USD

<table>
<thead>
<tr>
<th>Outpatients (camps / hospitals)</th>
<th>Hospitalized</th>
<th>Surgical operations</th>
<th>Births in the hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,954,826 / 367,5498</td>
<td>305,161</td>
<td>230,851</td>
<td>49,047</td>
</tr>
</tbody>
</table>

Turkish Republic Disaster and Emergent Situation Management Directorate (AFAD),
Information note, 16 April 2015
Camp Advantages

- Provides asylum and protection
- Suitable for temporary situation
- Easier repatriation
- Easier for population estimates
- Easy planning
- Allows visibility and advocacy

- Mass vaccinations
- Population estimates
- Assessing needs
- Basic services (distributions)
- Monitor health status

@ by author
Camp Disadvantages

- Overcrowding
- Outbreaks
- Security problems inside the camp
- Degradation of environment
- Dependence on external aid
- Social isolation
1984-1985 Famine

- Korem, Ethiopia...
- 50,000 people lived in the highlands
  - In tents
  - Huts made of branches
  - Outdoors
- Night temp < 0°C
- Thousands died of typhus and cholera

Rwandan Crisis

After the Emergency-2

♣ Intestinal parasites
♣ Tuberculosis
♣ Hepatitis B
♣ HIV
♣ Syphilis
♣ …

Infection Data for the Refugees in Turkey

Respiratory tract: 252,169

Diarrhea: 28,922

Vesicular eruptions: 1,767

Maculopapular eruptions: 80

Petechial eruptions: 39

Hepatitis A: 40

Tuberculosis: 25

Turkish Public Health Agency, Reports of Syrian Guests, January 1, 2014 to January 1, 2015
Respiratory Pathogens, Kenya

Influenza like illness
Severe acute respiratory infection
6224 naso/oropharyngeal samples

Arthropod-borne Infections

- Malaria, Rickettsioses, Dengue
- Zoonozes
  - Leptospirosis
- Low birth weight
  - Fever >3 days, OR 1.3 (1.0-1.7)
  - Rickettsioses, OR 5.3 (1.4–20.1)

WHO malaria report 2014, http://www.who.int/gho/malaria/malaria_003.jpg?ua=1
Iatrogenic Infections and Chaos

The extent?

Chiang-Rai Province, Thailand

Pediculus capitis infestation in children, 14%

Major Reasons of Infections
Reason-1

*Inadequate sheltering*
Reason-2

Limited amounts of potable water
Reason-3

Low standards of environmental hygiene
Reason-4

Declining nutritional status
Reason-5

Low vaccination coverage
Reason-6

Overcrowding
Planning, refugee influx...
Protocols for Newcomers

USA, Australia...

- Tuberculosis
- Malaria
- Intestinal/tissue invasive parasites
- Sexually transmitted diseases (Syphilis, HIV, Gonorrhea, Chlamydia)

Turkey

- Procedures?
- Pending?

U.S. Department of Health and Human Services.
Rapid Health Assessment Team

WHO, Communicable disease control in emergencies, the field manual
Emergency Phase

- Crude mortality rate
- >1 death per 10,000 per day

- Awareness on basic rules of hygiene
- Control of excreta disposal
- Water supply
- Water quality
Post-emergency Phase

- Crude mortality rate
  - <1 death per 10,000 per day
Case Management, MD Visits

Reviewing the systems
♣ Recurrent fevers
♣ Night sweats
♣ Weight loss
♣ Cough, hemoptysis
♣ Diarrhea, visible parasites
♣ Jaundice
♣ Vaccine status

Surveillance

Establish at the beginning

Rates and causes of mortality

Morbidity data for common diseases

Infections with epidemic potential

Data on vaccination coverage

Data on malnutrition

INFORMATION FOR DECISION MAKING
Prevention

Adequate Sheltering
Health education
Management of corpses
Water and sanitation
Vector control
Vaccination
Provision of Water

Assess the existing water sources

Temporary: Tanks

Water Quality?

Arrival

5 L/per day

Wells

15-20 L/daily

Toilets

1 latrine or trench for 50-100 persons

1 latrine or trench for 20 persons

1 latrine or trench per family

In the first days

As soon as possible

Optimization

Personal Hygiene

♣ In the emergency phase
♣ Large-scale distribution of soap
♣ With a minimum of 250-500 gr/mo

Vaccine-Preventable Diseases

- MMR
- Influenza
- Polio
- Varicella
- H. influenzae Type B
- DTaP
- Hepatitis A-B
- Pneumococcal vaccine
- Meningococcal vaccine
- Rotavirus

CDC, Immigrant and Refugee Health
http://www.cdc.gov/immigrantrefugeehealth/exams/diseases-vaccines-included.html
Measles, Top Priority

Tuareg refugee camps, Mauritania...
40% of the childhood deaths were due to measles

All refugees were included in Turkish national immunization program
Managing Corpses

- Dead bodies, highly contagious
  - Cholera
  - Typhus or plague (lice or fleas)
HOT ZONE 08.13.14 5:55 AM ET

Kissing the Corpses in Ebola Country

Ebola victims are most infectious right after death—which means that West African burial practices, where families touch the bodies, are spreading the disease like wildfire.
Burial, simplest method

Quicklime

Protect corpses from animals

Dig communal graves

Avoid returning bodies to families
Managing Infections in the Refugee Camps

Staff management and coordination
Why not join us?

ESCMID Study Group for Infections in Travellers and Migrants - ESGITM

News & Activities

ESGITM @ ECCMID 2015 in Copenhagen, Denmark

- Saturday, 25 April 2015
  11.00 - 13.00 (Hall B)

ESGITM Educational Workshop EW11: Final destination ICU - cases of severely ill travellers. Organized jointly with the Critically Ill Patients Group (ESGCIP).
Thanks...

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