* CDC. **Epidemic Malaria - Tadjikistan, 1995** MMWR June 21, 1996 / 45(24); 513-6

Study method

As part of an initial evaluation in Tadjikistan, of a reported a substantial increase in the incidence of malaria since 1991, all malaria cases were reported in hospitals, polyclinics, diagnostic centers, ambulatory clinics, or individual feldsher stations within 12 hours. Each case was reviewed. Cases enumerated in the surveillance system are those with a final diagnosis of malaria, based on the clinician's evaluation and/or results of the investigation, and may not require laboratory confirmation. Historically, reported malaria data in Tadjikistan were assessed for validity through a systematic random-sample surveillance system.

Findings

During January-September 1995, a total of 4332 cases of malaria were reported, a 146% increase over the same period in 1994 (1764 cases). In addition, during January-September 1995, 470 cases were reported in the capital city of Dushanbe (88.2 per 100,000) Although most of these cases occurred among persons who probably acquired infection in the southern oblasts bordering Afghanistan, approximately 24% did not have confirmed recent travel histories to a malaria-endemic area and may have acquired infection locally or these cases may represent relapses. Chloroquine resistance was not reported, although detailed drug-sensitivity studies were not conducted.

Relevance to emergency relief

Factors associated with the increased risk for epidemic malaria in Tadjikistan included the large population movements near the Afghanistan border, adverse economic conditions, breakdown of health-care services, shortages of trained public health personnel, and ongoing civil war that constrained epidemiologic investigation and implementation of control activities Systematic preventive measures -- including mosquito control -- were suspended because of shortages of gasoline, equipment, and insecticides. Because many cases in Tadjikistan were imported among refugees returning from northern Afghanistan, an area with chloroquine-resistant *P. falciparum.* The surveillance system needed to be strengthened. Optimal case management requires rebuilding diagnostic capability, ensuring ample supplies of antimalarial drugs, and having standardized treatment protocols. A needs assessment will be necessary to assist in developing enhanced surveillance, improved case management, and vector control, and to guide assistance

Key words: Tadjikistan, Afghanistan, malaria, surveillance, control, treatment. ß

*Reported by B Shoismatullaev, Republican Sanitary and Epidemiologic Service; A Sharipov, Kurgan-Tyube Zone Sanitary and Epidemiologic Svc, A Umarova, N Elizarova, F Odinaev, Institute of Preventive Medicine; and I Usmanov, Central Offices, Tadjikistan Ministry of Health. International Health Program Office; Malaria Section, Epidemiology Br, Div of Parasitic Diseases, National Center for Infectious Diseases, CDC
This study was also reported in Pitt S, Pearcy BE, Tevens RH, Shapirov, Satarov, Banatvala N War in Tajikistan and re-emergence of *Plasmodium falciparum.* The Lancet 352 (9136), 1998 1279 (Research letter).

No authors listed **[Cholera in Goma, July 1994. Bioforce].** Rev Epidemiol Sante Publique 1996, 44(4): 358-63 [Article in French]

Study method

Surveillance of cholera cases was conducted and camp conditions were assessed to determine the reasons for the spread of cholera and the time lapse before control measures were put in place.

Findings

The total number of cases of cholera was more than 36,000, of which half occurred within two weeks of the refugee influx It was necessary to wait until the laboratories isolated the first

strain of cholera before the international community took action in one of the most important outbreaks of cholera known. The average overall mortality was 28 per 10,000 in the second half of July, and the rate fell by August when the cause of death was more commonly shigella dysentery. There were several causes of this outbreak, among which the most important was the lack of water: during the first week, the average available of water was been evaluated at 200 ml per day per person; the other causes of this outbreak were the impossibility to dig latrines, the lack of hygiene, the level of health and the promiscuity among the refugees.

Relevance to emergency relief

One way to limit this outbreak of cholera would probably have been to anticipate the subsequent cases and deaths by a massive international response adapted to this risk, as soon the Rwandan refugees began to flood into Goma

Key words: Goma, cholera, surveillance, control

Swerdlow DL[1], Malenga G[2], Begkoyian G[3], Nyangulu D[4], Waldman RJ[5], Toole MJ[5], Puhr ND[1], Tauxe RV[1]. **Epidemic cholera among refugees in Malawi, Africa: treatment and transmission.** Epidemiology and Infection 1997, 118. 207-214

Study methods

Using camp registration records for population figures, several methods were used A systematic sample of patients, according to case definition, was examined and interviewed to evaluate the use of IV fluid in two treatment tents at the cholera camp associated with the Nyamithuthu Mozambican refugee settlement in Malawi on December 12, 1990. The prevalence of fevers was evaluated in one paediatric tent on December 12 All available charts of patients who died after admission to the cholera camp between September 29 and November 30 were reviewed. To determine modes of transmission of *v. cholerae*O1 during the outbreak, a matched case control study was performed between November 28 and December 4; respondents were asked about use of foods, water sources and utensils for the week before becoming ill for patients and the week before the interview for controls. A second case-control study, contrasting households was performed between December 10 and 14 to determine further, modes of cholera transmission. Rectal swabs of patients were analysed to identify *v. cholerae* and a sample of isolates was tested for susceptibility to antimicrobial drugs Representative samples of food and water from households were tested for the presence of *v cholerae*.

Findings

The outbreak mainly affected new arrivals who arrived in the camp before adequate water and sanitation were in place. Most deaths occurred within 24 hours of arrival and were presumably due to profound dehydration. Patients may have been exposed to transport problems but a large contributing factor was suboptimal oral rehydration or delay of IV treatment. Later deaths were associated with febrile illness and may also have been related to overuse of IV fluid Mortality was higher in children than in older patients. It appeared that cholera was transmitted by both water and food at the camp. Well water had originally been clean but there was evidence that it was contaminated during collection or during storage in the houses. Water from unsafe contaminated sources was also collected by refugees.

Relevance to emergency relief

Provision of adequate clean water from protected sources and adequate sanitation facilities are top priorities for emergency populations Early distribution of sufficient appropriate containers for washing and drinking water to allow protected storage of water in houses and washing that does not involved placing the hands in the water container. Supplies of chlorine for supplementary home chlorination need to be available early Routine chlorination of water supply is mandatory. Provision of sufficient firewood to allow daily cooking is important to

prevent storage of left-over food at warm temperatures for eating the next day. Sufficient cooking and storage utensils and soap are also crucial.

Attention to training of ORS 'officers' to supervise administration of ORS and guidelines for the administration and withdrawal of IV therapy were identified as critical for good management.

The importance of immediate implementation of health education for refugees concerning all aspects of cholera, its control and management at the earliest sign of an outbreak was identified.

Key words. Malawi, refugees, cholera, prevention, treatment, water

1 CDC, Foodborne and diarrhoeal diseases branch; 2. UNHCR, Blantyre; 3. MSF, Blantyre; 4 MOH, Malawi, 5 CDC, International Health program office

* CDC. **Epidemic Malaria Transmission - Armenia, 1997**. MMWR, July 03, 1998 / 47(25); 526-528.

Study method

This report summarizes surveillance for malaria in Armenia during 1996-1997. Data were gathered through the local system and reported nationally Clinical identifiation of cases was confirmed by microscopic examination of blood smears by the national laboratory. A convenience sample of mosquitos was trapped for identification..

Findings

Anopheles maculipennis was identified as the most common vector species captured (98%) All cases were caused by *Plasmodium vivax*. During 1988-1995, severe financial constraints and the war with Azerbaijan contributed to cessation of vector-control activities in Armenia These circumstances, combined with an eroding health infrastructure, may have hindered new malaria cases from being diagnosed, treated, and accounted for many of the imported cases in 1995 From 1994 to 1997, malaria cases increased from nil to 22 per 100,000 population The health information systems (HIS) in Armenia was restructured and included an emergency surveillance system designed to detect acute health risks. By 1996, through additional training and technical support, the MOH adopted a countrywide, comprehensive, and sustainable HIS reform program.

Relevance to emergency relief

Maintenance or restructuring of HIS are crucial following breakdown in civil structures

Malaria control and prevention in countries like Armenia should focus on surveillance, clinical practice, public education, and environmental control. Enhanced surveillance will include 1) initiating active, case-based surveillance; 2) establishing a regional surveillance network because malaria is endemic in neighboring countries; and 3) conducting epidemiologic and entomologic studies to characterize the affected population, determine risk factors for acquisition and transmission, and target interventions aimed at medical and community education.

Key words Armenia, malaria, surveillance, health information systems (HIS)

* Reported by: V Davidiants, MD, National Information and Analytic Center, M Manvrikian, MD, Sanitary Epidemiologic Svcs; G Sayadian, MD, Health Care System, A Parunakian, MD, Republican Sanitary and Epidemiologic Svc, B Davtian, MD, Ararat Regional Health Dept, Ministry of Health, Armenia World Health Organization, European Region, Copenhagen Capacity Development Br, Div of International Health, Epidemiology Program Office; Malaria Section, Epidemiology Br, Div of Parasitic Diseases, National Center for Infectious Diseases, and an EIS Officer, CDC. Editorial Note

* Pitt S, Pearcy BE, Tevens RH, Shapirov, Satarov, Banatvala N. **War in Tajikistan and re-emergence of *Plasmodium falciparum*.** The Lancet 352 (9136), 1998. 1279 (Research letter).

Study method

Historically, reported malaria data in Tadjikistan were assessed for validity through a systematic random-sample surveillance system requiring that a blood slide of every 10th smear-confirmed case be confirmed at State level. (Reporting of cases of malaria and sources of reporting was compulsory.)

Findings

A substantial increase in the incidence of malaria since 1991 During January-September 1995, a total of 4332 cases of malaria were reported, a 146% increase over the same period in 1994. Factors associated with the increased risk for epidemic malaria in Tadjikistan included the large population movements near the Afghanistan border, adverse economic conditions, breakdown of health-care services, shortages of trained public health personnel, and ongoing civil war that has constrained epidemiologic investigation and implementation of control activities Systematic preventive measures -- including mosquito control -- were suspended because of shortages of gasoline, equipment, and insecticides.

Relevance to emergency relief

The factors present in Tadjikistan are commonly present in emergencies. Because of the potential for increase in malaria prevalence in these circumstances, surveillance systems need to be strengthened and include collection of travel and exposure history to help target control measures. Optimal case management will require rebuilding diagnostic capability, ensuring ample supplies of antimalarial drugs, and having standardized treatment protocols. Improving the ability to monitor anopheline populations will focus control measures Needs assessments will be necessary to assist in developing enhanced surveillance, improved case management, and vector control, and to guide assistance from the international donor community.

Key words: Tadjikistan, war, malaria, surveillance, vector control.

*Reported by B Shoismatullaev, Republican Sanitary and Epidemiologic Service, A Sharipov, Kurgan-Tyube Zone Sanitary and Epidemiologic Svc, A Umarova, N Elizarova, F Odinaev, Institute of Preventive Medicine; and I Usmanov, Central Offices, Tadjikistan Ministry of Health International Health Program Office, Malaria Section, Epidemiology Br, Div of Parasitic Diseases, National Center for Infectious Diseases, CDC
This study was also reported by CDC. Epidemic Malaria -- Tadjikistan, 1995. MMWR June 21, 1996 / 45(24),513-6

CDC. **Cholera outbreak among Rwandan refugees -- Democratic Republic of Congo, April 1997.** MMWR May 22, 1998 / 47(19); 389-391.

Study method

Morbidity and mortality surveillance were conducted to monitor refugee health status during a cholera outbreak among 90,000 Rwandan refugees residing in three temporary camps between Kisangani and Ubundu, Democratic Republic of Congo (formerly Zaire). Surveillance was conducted in clinics and in the camp by trained CHWs. The daily number of deaths in the camps was obtained from Zairean Red Cross Society volunteers, who were responsible for burying bodies in mass graves.

Findings

There was a higher death rate than that observed in previous cholera outbreaks in refugee populations. The daily crude mortality rate (CMR) ranged from seven to 14 per 10,000 population; the average daily CMR during this period was 9.9 per 10,000 population

Cholera often occurred in severely malnourished patients who suffered from concurrent health problems who were aged greater than or equal to 5 years. Cholera cases also occurred among health-care workers at the cholera-treatment center.

Cholera-control interventions included filtration and chlorination of the camps' water systems, health education, and construction and maintenance of latrines.

Caveats

The overall evaluation of cholera control measures was not possible because of the dispersion of the refugees by unidentified armed forces on April 21, 1997.

Relevance to emergency relief

The findings in this report indicate that the implementation of a rapid surveillance system facilitated recognition of the need for increased health-care services and appropriate intervention strategies Timely surveillance using simple case definitions is crucial to targeting interventions during the emergency phase of refugee situations.

The case-fatality ratio for cholera in this outbreak was substantially higher than that observed in previous outbreaks of cholera in refugee camps This situation in the Democratic Republic of Congo demonstrates the importance of immediate and unrestricted access to displaced populations by the international community if local authorities do not have the means or the political will to assist in emergency situations

Key words: Rwandan refugees, surveillance, cholera, water, health education

Reported by: F Matthys, Medecins Sans Frontieres Belgium, Brussels, Belgium S Male, Z Labdi, Office of the United Nations High Commissioner for Refugees, Geneva, Switzerland International Emergency and Refugee Health Program, National Center for Environmental Health; and an EIS Officer, CDC.

Naficy A, Rao MR, Paquet C, Antona D, Sorkin A, Clemens JD. **Treatment and vaccination strategies to control cholera in sub-Saharan refugee settings: a cost-effectiveness analysis.** Journal of the American Medical Association 1998, 279(7): 521-5. (see Studies on Information Management)

* CDC. **Epidemic Typhoid Fever - Dushanbe, Tajikistan, 1997.** MMWR September 18, 1998 / 47(36);752-6

Study method

Epidemiologic and laboratory surveillance was conducted in Dushanbe, Tadjikistan during an outbeak of *Salmonella typhi*. A case-control study to identify risk factors for infection was conducted and municipal drinking water quality, water wastage were evaluated Health-education campaigns were implemented

Findings

In 6 months in 1997, around 10,000 cases of typhoid fever were reported and 30% confirmed with 95 deaths after which incidence decreased Isolates were multi drug resistant to traditional first-line and second-line therapy for typhoid fever None were resistant to ciprofloxacin.

Sedimentation basins and filters in water treatment plants were full of silt, and ineffective at removing solids and biological contaminants from river water. Higher colony counts at taps suggested that further contamination occurred within the distribution system. Damage to water distribution pipes contributed to cross-contamination of drinking water with waste water

Drinking unboiled water were significantly associated with illness. Routinely boiling water in one's home for drinking was protective

Relevance to emergency relief

Water and sanitation interventions are crucial elements of early interventions in emergency situations Continued epidemiologic and laboratory surveillance are needed to guide resource allocation by international relief agencies. In addition it is necessary to monitor the effectiveness of efforts to prevent transmission of communicable diseases such as typhoid and to determine appropriate antimicrobial therapy. When typhoid is detected, public education campaigns stressing the importance of boiling all drinking water, conserving water, and promoting basic hygiene measures to prevent the spread of typhoid fever will need to be strengthened until the water supply reliably provides safe drinking water,.

Key words· Dushanbe, Tajikistan, epidemic typhoid fever, water, hygiene, education.

* Reported by: A Samaridin, M Akhmedov, M Karimova, A Pirova, K Pirmamadov, M Rakhmonova, Dushanbe Sanitary Epidemiologic Svc; B Shoismatuloyev, Republican Sanitary Epidemiology Svc; I Dmitrievna Tkachuk, L Gasanova, S Lomakina, City Hospital Number 2, N Kravchenko, Dushanbe City Health Dept, K Faramusova, D Inomzoda, Red Crescent Society of Tajikistan; I Usmanov, A Akhmedov, Tajikistan Ministry of Health; K Metzler, Association for Technical Collaboration (GTZ), Wels, Germany Refugee Health Unit, National Center for Environmental Health, Div of International Health, Epidemiology Program Office, Hospital Environment Laboratory, Hospital Infections Program, and Foodborne and Diarrheal Diseases Br, Div of Bacterial and Mycotic Diseases, National Center for Infectious Diseases; and EIS officers, CDC

Raoult D[1], Ndihokubwayo JB[2], Tissot-Dupont H[3], Roux V[4], Faugere B[5], Abegbinni R[6], Birtles RJ[7] **Outbreak of epidemic typhus associated with trench fever in Burundi.** The Lancet 1998, (352) 9125.

Study method

During a field study in February, 1997, 102 refugees with sutama (typhus) underwent clinical examination and interview Serum samples were collected and infesting body lice removed Microbiological analysis included antibody estimations and specific PCRs aimed at diagnosis of *Rickettsia prowezekii*, *Bartonella quintana*, and *Borrelia recurrentis*. Between January and September, 1997, nationwide epidemiological data on the prevalence and distribution of sutama was obtained through liaison with local health services. A second field study in March, 1997, entailed the collection of further serum samples from suspected cases of sutama in different regions of Burundi.

Findings

Most of the 102 patients with sutama during initial assessment showed manifestations similar to those previously described for typhus in Africa, though skin eruptions occurred in only 25% of cases. Microbiological testing revealed evidence of *R prowazeki* infection in 75% of patients, confirming that most cases of clinically-diagnosed sutama were epidemic typhus, and supporting the reliability of clinical diagnosis as a basis for the nationwide surveillance of the disease. Up to September, 1997, 45,558 typhus cases were clinically diagnosed, most of which occurred in regions at an altitude of over 1500 m Serological testing of 232 individuals from different regions of Burundi provided microbiological evidence to support clinical diagnoses in seven provinces, confirming the widespread nature of the outbreak *B quintana* was detected. A fatality rate of 15% among jail inmates fell to 0·5% after administration of a single dose of 200 mg doxycycline to suspected cases.

Relevance to emergency relief

Transmission of both *R prowazekii*-induced typhus and *B quintana*-induced trench fever to a large number of people in Burundi followed a widespread epidemic of body-louse infestation. Diagnosis of typhus could be reliably made by means of clinical criteria, and the disease could be efficiently and easily treated by antibiotics. This epidemic highlights the appalling conditions in central-African refugee camps and the failure of public-health programs to serve their inhabitants Louse-associated disease remains a major health threat in this and other war-torn regions of the world.

Key words. Burundi, epidemic typhus, body-louse, surveillance, public health.

1,3,4,7 WHO Reference Centre for Rickettsial Diseases, Université de la Méditerranée, Marseille, France
2 CHU de Bujumbura, Bujumbura, Burundi
5. Hôpital Houphouet Boigny, Laboratoire de Parasitologie, Marseille, France
6. WHO Bujumbura, Burundi

* Aaby P, Martins C, Balé, Lisse I **Assessing measles vaccination coverage by maternal recall in Guinea-Bissau.** The Lancet 1998; 352 (9135) (letter).

Study method

A rapid random cluster survey with the EPI surveillance method was conducted among 50,000 people who took refuge in the villages outside Bissau when war broke out in Guinea-Bissau in June 1998, The aim of the survey was to assess whether a measles vaccination campaign was needed Information from mothers about whether their child had been vaccinated against measles was sought in 3 ways.

Findings

The coverage according to the mothers was high. Combining the three different questions on measles vaccination, over all coverage was around 80% Subsequently, 122 of the refugee children aged 9-23 months were identified in the health program register in the area they had fled; according to the register, 108 (89%) had been vaccinated.

In the following 6-7 weeks there were only 8 diagnoses of definite measles among 8233 registered and treated patients

Relevance to emergency relief

This situation exemplifies the need to make appropriate decisions about priorities in emergency situations when there are few resources available and no time to correct wrong decisions Although it is generally a good rule that measles vaccination is a priority in an emergency, implementation of vaccination was complicated in this case because the storage of the Expanded Programme on Immunization (EPI) was in the area occupied by foreign troops and subject to the most intensive fighting. The rainy season which starts in June is not a time of intensive measles transmission and the coverage for measles vaccine appeared to be high. It was assumed that the chance of a major epidemic was slim The first relief activity to be implemented by health authorities was rice distribution.. Transport capacity was used for importing drugs and the few available physicians and nurses organised consultations in the four largest villages in the refugee area.

Key words: Guinea-Bissau, measles, vaccination, coverage, mothers, priorities.

*Bandim Health Project, Bissau, CP 861, Guinea-Bissau; and Department of Epidemiology Research, Danish Epidemiology Science Centre, Statens Serum Institut, Copenhagen S, Denmark.

*Heyman SN, Ginosar Y, Niel L, Amir J, Marx N, Shapiro M, Maayan S **Meningococcal meningitis among Rwandan refugees: diagnosis, management, and outcome in a field hospital.** International Journal of Infectious Diseases 1998; 2(3): 137-42.

Study method

To study the diagnostic process, clinical course, and outcome of Rwandan refugees with meningococcal meningitis who were treated in an Israeli field hospital in Goma, Zaire, in mid 1994, patient hospital charts and laboratory records were reviewed with critical evaluation of clinical presentation and diagnostic tests.

Findings

A total of 65 patients were identified as having group A meningococcal meningitis. Latex agglutination test for Neisseria meningitidis soluble antigen in the cerebrospinal fluid was found to be a superior diagnostic tool, as compared to Gram stain, and at least as effective as culture. The mortality rate was 14%; mortality was markedly affected by co-morbidity (eg dysentery, pneumonia, and malnutrition).

Note

Encephalopathy may be a diagnostic pitfall in the perspective of coexisting epidemics, requiring a high index of suspicion and routine lumbar puncture.

Relevance to emergency relief

The outcome of patients with meningococcal meningitis, treated in referral centers within a disaster area may be favorable, despite overwhelming coexisting epidemics, and may be comparable to that achieved in advanced medical facilities. The latex agglutination test is highly useful in achieving prompt diagnosis of meningococcal meningitis, in particular when sample handling for culture and microscopy is suboptimal However, surveillance procedures in camps need to be highly developed and based on trained community health workers who can refer suspicious cases to the referral centre.

Key words: Rwandan refugees, meningitis, surveillance, community health workers, referral.

*Department of Medicine, Hadassah Hospital, Mt Scopus, Jerusalem, Israel.

*Murray J, McFarland DA, Waldman RJ. **Cost-effectiveness of oral cholera vaccine in a stable refugee population at risk for epidemic cholera and in a population with endemic cholera.** Bulletin of the World Health Organisation 1998, 76(4): 343-52.

Study method

This article reviews the potential cost-effectiveness of B-subunit, killed whole-cell (BS-WC) oral cholera vaccine in a stable refugee population and in a population with endemic cholera.

Findings

In the population at risk for endemic cholera, mass vaccination with BS-WC vaccine is the least cost-effective intervention compared with the provision of safe drinking-water and sanitation or with treatment of the disease In a refugee population at risk for epidemic disease, the cost-effectiveness of vaccination is similar to that of providing safe drinking-water and sanitation alone, though less cost-effective than treatment alone or treatment combined with the provision of water and sanitation.

Relevance to emergency relief

There is a need for better information on the feasibility and costs of administering oral cholera vaccine in refugee populations and populations with endemic cholera. Recent large epidemics of cholera with high incidence and associated mortality among refugees have raised the question of whether oral cholera vaccines should be considered as an additional preventive measure in high-risk populations. The timely provision of safe drinking water and sanitation are not only protection against cholera. These interventions should be implemented in all emergencies as first priority.

Key words. cholera, vaccination, cost-effectiveness, water, sanitation.

*BASICS (Basic Support for Institutionalizing Child Survival), Arlington, VA 22209, USA

*Laureillard D, Paquet C, Malvy D **[Ciprofloxacin in the treatment of dysentery caused by type 1 Shigella dysenteriaeduring an epidemic in Rwandan refugees in Goma in 1994]** Sante 1998; 8(4): 303-5. [Article in French]

Study method

The causal organism in an outbreak of dysentery caused by type I *Shigella dysenteriae* among Rwandan refugees at Goma, in what was then Zaire, in 1994 was resistant to all antibiotics available from the public health authorities. The only effective antimicrobial agent available was ciprofloxacin. It was given to 326 inpatients at the Médecins Sans Frontières (MSF) Centre, mostly children under the age of 5, pregnant women and immunocompromised patients. A standard dose schedule was used. 1 g ciprofloxacin per day in two doses for 5 days for adults, 250 mg for children weighing less than 20 kg and 500 mg for children weighing less than 50 kg. The results were evaluated

Findings

The treatment was effective in 285 patients (85.6%) according to clinical criteria. Treatment was unsuccessful in 6 patients and 14 decided to stop taking the medication although it was having a positive effect. No side effects clearly caused by the treatment have been reported. This is consistent with previous reports showing that ciprofloxacin is clinically effective against epidemic dysentery caused by multi-drug resistant Shigella dysenteriae type I. However

Relevance to emergency relief

Fluoroquinolones are effective for treatment of dysentery caused by type I *Shigella dysenteria* but they are expensive and difficult to obtain and their use would require improvements in logistics and compliance

*Epicentre, Paris, France

*Naficy A, Rao MR, Paquet C, Antona D, Sorkin A, Clemens JD. **Treatment and vaccination strategies to control cholera in sub-Saharan refugee settings: a cost-effectiveness analysis.** Journal of the American Medical Association 1998, 279(7): 521-5.

Study method

To determine the cost-effectiveness of alternative intervention strategies, including vaccination, to control cholera outbreaks in sub-Saharan refugee camps, a cost-effectiveness analysis based on probabilities of cholera outcomes derived from epidemiologic data compiled for refugee settings in Malawi from 1987 through 1993 was conducted; data for costs were obtained from a large relief agency that provides medical care in such settings A hypothetical refugee camp

with 50,000 persons in sub-Saharan Africa was evaluated for a 2-year period. Comparison was undertaken of the costs and outcomes of alternative strategies in which appropriate rehydration therapy for cholera was introduced preemptively (at the establishment of a camp) or reactively (once an epidemic was recognized) and in which mass immunization with oral B subunit killed whole-cell (BS-WC) cholera vaccine was added to a rehydration program either preemptively or reactively.

Findings

In a situation with no available rehydration therapy suitable for the management of severe cholera, a strategy of preemptive therapy ($320 per death averted) costs less and is more effective than a strategy of reactive therapy ($586 per death averted). Adding vaccination to preemptive therapy is expensive: $1745 per additional death averted for preemptive vaccination and $3833 per additional death averted for reactive vaccination However, if the cost of vaccine falls below $0.22 per dose, strategies combining vaccination and preemptive therapy become more cost-effective than therapy alone.

Relevance to emergency relief

Provision for managing cholera outbreaks at the inception of a refugee camp (preemptive therapy) is the most cost-effective strategy for controlling cholera outbreaks in sub-Saharan refugee settings. Should the price of BS-WC cholera vaccine fall below $0 22 per dose, however, supplementation of preemptive therapy with mass vaccination will become a cost-effective option.

Key words. cholera, vaccine, cost-effective

* National Institute of Child Health and Human Development, Bethesda, Md 20892, USA.

Toole M, Rodger A, Deutschmann P. **TB treatment and control in conflict situations** 1999; Macfarlane Burnet Centre for Medical Research, Melbourne, Australia

Study method

To establish the effectiveness and feasibility of the use of the WHO strategy for TB treatment and control in a conflict situation, the strategy was implemented in refugee, displaced and local communities in the Churachandpur district in Manipur State, India, where the incidence of HIV infection is extremely high The TB program was based in the Primary Health Care program and the services of the local health staff including community health workers. Passive case finding was conducted and patients were asked to inform their families and contacts that they should attend the clinic. All aspects of the control strategy were documented and evaluated.

Findings

Security issues were addressed through a Memorandum of Understanding signed by community leaders representing opposing ethnic groups The memorandum included facilitation of implementation of the TB program. Diagnosis: for every 5 slides exmined, one case of TB was found. Most cases were new sputum positive cases in all ages groups from 15-65 years of age. With CAT1 treatment there was a 94% conversion rate at 3 months. DOTS were administered by health workers and the default rate was very low.

Relevance to emergency relief

TB treatment and control is possible in a conflict setting Combination medication 3 times weekly rather than daily adminstration is more acceptable and convenient The use of outreach workers from each ethnic group is very important Limiting distances to be travelled for both workers and patients facilitates DOTS and aids compliance. Local community orientation is essential and adequate funding and a reliable supply of drugs are crucial For individuals to

remain in the TB treatment program after the resolution of conflict, an income generation component should be built into the program.

Key words. India, Manipur, conflict, displaced, TB, HIV, treatment.

Reproductive health and women's issues

Quillan JP, Kwong A, Passmore P. **An epidemiological investigation of pre-eclampsia and elevated blood pressure among Kampuchean refugee women at Sakaeo Holding Centre, Thailand.** Journal of Tropical Medicine and Hygiene 1983; 86 (5): 185-91.

Study method

An investigation involving admission and delivery logs was undertaken at Sakaeo Holding Centre in Thailand to determine the cause for an increase in the frequency of pre-eclampsia and elevated blood pressure among Kampuchean refugee women. Review of antenatal records was conducted.

Findings

A pre-eclampsia incidence rate of 12.6 per 100 deliveries from March to August 1982 was revealed. Haematocrit levels were significantly lower in the second and third trimesters among cases When other Kampuchean holding centres were visited, pre-eclampsia and elevated blood pressure cases were few, and haematocrit levels were substantially higher than at Sakaeo

Relevance to emergency relief

After an iron therapy program was instituted at Sakaeo, there was a decrease in the number of pre-eclampsia cases

Key words: Sakaeo Holding Centre, Kampuchean refugee women, pregnancy, pre-eclampsia, iron.

Boesen IW **Towards the self-reliance of Afghan refugees: a study of the need and feasibility of establishing income-generating and skill-training programs for Afghan refugees in Pakistan, particularly with a view to women.** Danish Refugee Council 1983; Copenhagen.

Study method

A survey was conducted in the Mardan district of the income generating projects of women.

Findings

Afghan women were at a particular disadvantage in view of their traditional occupational patters, emphasising domestic and agricultural activities, and purdah. Many items which could be income generating such as soap, baskets, etc. are made by specialists and can be bought cheaply in markets. Women's skills need to be upgraded and their products marketed. Programs that involved women working in their homes rather than in a central location would be more acceptable.

Relevance to emergency relief

Women's income generating activities need to be developed. Difficulties with distribution of materials to homes and the problems associated with isolation of women could mean that some

activities could be better if gradually centralised resulting in a combination of central and home activities Women should be trained as instructors

Key words: Afghan women, income generation, training

United Nations Children Fund. **Analysis of the situation of women and children in the refugee camps of Ntega and Marangara.** UNICEF 1988.

Study method

To assist with the formation of resettlement strategies for Burundian refugees regarding women and children, orphans, vulnerable groups, education of children, food aid distribution, etc. a survey was conducted along with observation and interviews.

Findings

Demographic characteristics, socio economic conditions and observations about the administration of the settlement were highlighted.

Note

This entry was prepared from a summary that did not provide much detail.

Relevance to emergency relief

Emergency aid proposals for the populations in general and for women, children and vulnerable groups in particular were made.

Key words. Ntega, Marangara, Burundian refugees, women, children, resettlement.

*Madzokere C. **Gender and work, past, present, future: the situation of rural Mozambican women at Mazowe river bridge camp in Zimbabwe.** Journal of Social Development in Africa 1993; 8(2): 23-32.

Study method

The roles and status of women prior to displacement and since arrival in the camp were examined through discussions with the women

Findings

Mozambican took the major responsibilities for domestic and other chores in the camp, the same as they had in their homes An inequitable division of labour between men and women existed. A large number of men were leaving the camp but were returning from time to time. Their role as family providers was greatly reduced but they were still considered the decision makers, leaving women vulnerable and dependent.

Relevance to emergency relief

The future of Mozambican women was likely to change due to skills being given in the camps. However, use of skills independently would become more possible if women were supported not only with material and financial resources, but also with opportunities and positive attitudes towards them

Keywords: Mozambican women, Mazowe River, refugees, skills

*School of Social Work, Harare, Zimbabwe

Women's Commission for Refugees and Children **Report on the situation of women in UN and UNHCR administered refugee operations as observed by members of the Women's Commission for Refugee Women and Children.** 1989. New York, USA.

Study method

During 1988/89 members of the Commission visited three significant refugee populations: Afghan refugees in Pakistan, Kampuchean refugees in Thailand, Mozambican refugees in Malawi. Observations and discussions were conducted

Findings

Although 80% of refugees are women and children, priorities for their families had not been elicited. Domestic violence must be recognised and dealt with. Education needs to be addressed.

Relevance to emergency relief

Women's organisations should be encouraged in camp settings. Women's priorities should be taken into account and women should be responsible for setting goals affecting themselves and their children. A new attitude about the role of women as decision makers about their own fate needs to be adopted by the UN, its agencies and NGOs.

Key words: Women's Commission, refugees, women, children, camps, women's organisations.

Fitzgerald, MA. **Firewood, violence against women, and hard choices in Kenya.** Refugees International, no date

Study method

A six- month survey from February 1993, and interviews were conducted

Findings

During the survey, 192 cases of rape of Somali refugees were documented There was a high rate of violence against Somali refugee women in Kenya when they left the camps to search for firewood. During a one- month period there were 24 sexual assaults on women ranging from 10 years old to 50 years old. Many are gang raped The women were also shot, beaten, knifed, severely beaten and robbed. Perpetrators are Somali refugees living in the camps, Kenyan bandits, and to a lesser extent, Somali militias who cross the border from Somalia on raids. Often, women who are raped are divorced by their husbands and outcast from their families. Women may turn to prostitution in order to survive. Young girls who were virgins at the time of the rape have their legs tied together for days in the belief that it will restore the girl's virginity.

Note

UNHCR estimates that, because of the severe stigma attached to a women who has been raped, the actual figures could be 10 times greater that the number of reported rape cases

Relevance to emergency relief

A program to cultivate trees in the community for firewood was proposed and to provide counsellors and medical and legal staff to aid women who had been sexually assaulted.

Key words: Kenya, Somali refugees, women, violence sexual assault, rape, firewood

*Cossa HA, Gloyd S, Vaz RG, Folgosa E, Simbine E, Diniz M, Kreiss JK. **Syphilis and HIV infection among displaced pregnant women in rural Mozambique**. International Journal of STD and AIDS 1994; 5(2): 117-23.

Study method

A cross-sectional study was conducted among displaced pregnant women in Mozambique to determine the prevalence and correlates of HIV infection and syphilis Between September 1992 and February 1993, 1728 consecutive antenatal attendees of 14 rural clinics in Zambezia were interviewed, examined, and tested for HIV and syphilis antibodies

Findings

The seroprevalence of syphilis and HIV were 12 2% and 2.9%, respectively. Reported sexual abuse was frequent but sex for money was uncommon. A positive MHA-TP result was significantly associated with unmarried status, history of past STD, HIV infection, and current genital ulcers, vaginal discharge, or genital warts. Significant correlates of HIV seropositivity included anal intercourse, history of past STD, and syphilis. In summary, displaced pregnant women had a high prevalence of syphilis but a relatively low HIV seroprevalence suggesting recent introduction of HIV infection in this area or slow spread of the epidemic.

Relevance to emergency relief

A syphilis screening and treatment program is warranted to prevent perinatal transmission and to reduce the incidence of chancres as a cofactor for HIV transmission

Key words: Mozambique, displaced pregnant women, syphilis, HIV, screening, treatment.

*Department of Epidemiology, University of Washington, Seattle.

Kozaric-Kovacic, D., Folnegovic-Smaic, V., Skrinjaric, J., Szajnberg, N., Marusic A. **Rape, torture, and traumatisation of Bosnian and Croatian Women: psychological sequelae.** American Journal of Orthopsychiatry July 1995, 65(3): 428-433.

Study method

A convenience sample of 25 Bosnian women were admitted to the Zagreb Obstetrics and Gynaecological Clinic given psychological assessment. Women were categorised as those who were not impregnated, those who were impregnated and requested an abortion, and those who were impregnated and carried the foetus to term.

Findings

All 25 women had been repeatedly raped. About half the rapes took place in concentration camps, others at home or in a 'Bordello' camp. The majority of the women were raped as one of a group. Half the women sought help for depression, 4 for attempted suicide, and 8 for psychotherapeutic support during pregnancy or after abortion. The impregnated women all experienced feelings of alienation towards the foetus; for those who carried the foetus to term, the feelings of alienation did not change with the birth of the child and all the women abandoned the infants.

Relevance to emergency relief

Because the rapes often occurred with multiple other traumas, it is difficult to assess whether the psychological sequelae are due to rape alone. All of the women in the study expressed feelings of distrust, suspicion, shame, and humiliation. Because these women experienced multiple trauma, the psychological effects cannot be definitively attributed to rape alone. It is important for relief agencies to recognise the need for culturally appropriate mechanisms to address the needs of traumatised women.

Key words: Bosnian and Croatian women, refugees, rape, psychological trauma, pregnancy, abortion.

*Van Rensburg EJ, Lemmer HR, Joubert JJ. **Prevalence of viral infections in Mozambican refugees in Swaziland.** East African Medical Journal 1995; 72(9): 588-90.

Study method

The seroprevalence for antibodies to HIV-1, HTLV-I, hepatitis B virus (HBV), hepatitis C virus (HCV) and hepatitis E virus (HEV) were determined in a large group of Mozambican refugees living in Swaziland in 2 different camps by the collection of serum samples in both camps.

Findings

The difference between the camps was in the HIV-1 seroprevalence which was much higher in one camp. The prevalence for other antibodies in the two camps were similar.

Relevance to emergency relief

The phenomenon is possibly related to the location of the Malindza camp in the northern most populous area of Swaziland, resulting in more frequent contact between refugees and the local Swazi population Refugee camp populations do interact with host populations and precautions need to be in place to prevent the spread of infectious diseases from one population group to the other. To prevent the spread of STDs access to condoms and IEC campaigns in the refugee and host populations about prevention of STDs are crucial from the beginning of refugee settlements.

Key words: Swaziland, Mozambican refugees, Malindza, STDs, HIV, hepatitis.

*Department of Medical Virology, University of Stellenbosch, Republic of South Africa

*Miller LC, Jami-Imam F, Timouri M, Wijnker J. **Trained traditional birth attendants as educators of refugee mothers.** World Health Forum 1995; 16(2) 151-6.

Study method

Following training courses for traditional birth attendants among refugee Afghan women in Pakistan, a survey was conducted to test the knowledge and practices of the participants and of mothers whose babies had been delivered by them, using untrained birth attendants as the basis for comparison.

Findings

Marked improvements in knowledge and skills were demonstrated, and recommendations made by the trained birth attendants about breast-feeding, maternal nutrition, immunisation and hygiene were generally followed by mothers before and after delivery. Furthermore, far fewer complications and deaths were associated with deliveries performed by trained birth attendants than with those conducted by their untrained colleagues

Relevance to emergency relief

The training of traditional birth attendants was clearly an effective way to educate women about hygiene and health.

Key words: Pakistan, Afghan refugee women, traditional birth attendants, training.

*Mercy Corps International, Quetta, Pakistan.

*Bos P, Steele AD, Peenze I, Aspinall S. **Sero-prevalence to hepatitis B and C virus infection in refugees from Mozambique in Southern Africa.** East African Medical Journal 1995; 72(2): 113-5.

Study method

Serological markers for evidence of past exposure to hepatitis B virus (HBV) and hepatitis C virus (HCV) were investigated in a cohort of refugees from Mozambique.

Findings

Serological markers for past exposure to HBV were detected in 56% of the population and, in addition, 13.2% carried the HBV surface antigen. Anti-HCV antibodies could be confirmed in 3 2% of the population and occurred mostly in the older individuals. Only one anti-HCV antibody positive individual was positive for HBsAg.

Relevance to emergency relief

Blood borne viruses are common in populations in some areas. Universal precautions need to be implemented to prevent transmission in health facilities. Education campaigns and general precautions need to be put in place early in humanitarian emergencies and surveillance strategies need to be devised to monitor the prevalence of the viruses.

Key words: Southern Africa, Mozambique, refugees, hepatitis, blood-borne virus, surveillance

*Department of Virology, Medical University of Southern Africa, Medunsa, Pretoria.

*Simic S, Idrizbegovic S, Jaganjac N, Boloban H, Puvacic J, Gallic A, Dekovic S **Nutritional effects of the siege on new-born babies in Sarajevo.** European Journal of Clinical Nutrition 1995; (49) Suppl 2: S33-6.

Study method

To investigate the influence of maternal nutrition on perinatal mortality, morbidity, malformations and low birth weight, all mothers and their babies born in Kosevo Hospital, Sarajevo during three different time periods during war were sampled. The results were compared with statistics compiled in 1991 (pre-war) on 8676 babies Birth outcome data were compiled for all three time periods and a questionnaire was administered to mothers on arrival at the clinic to gather information about their estimated weight prior to pregnancy and their estimated weekly food intake during pregnancy. Mothers were weighed and measured within 12 hours of delivery.

Findings

Underweight women had babies with the lowest mean birthweight (3072 grams) and the highest percentage of low birth weight babies (13.0%). Perinatal mortality increased from 15.8/1000 live births in 1991 (pre-war) to 36/1000 in May 1993-February 1994. Morbidity among babies increased from 3.4% to 8.2% in the same time period. There was a significant increase in babies born with malformations from 0 4% in the pre-war period to 3 0% in May 1993 to February 1994.

Relevance to emergency relief

War had a deleterious effect on birth outcomes in Sarajevo and this outcome can be expected in other similar settings Relief agencies need to be prepared to support initiatives to strengthen antenatal and delivery care where possible in such circumstances.

Key words: Sarajevo, pregnancy, antenatal care, birth outcomes, nutrition

*University of Sarajevo Clinical Centre, Gynaecology and Obstetrics Clinic

Gardner, R., Blackburn, R. **Violence against women** In People who move new reproductive health focus. Population Reports, November 1996, Series J, No. 45

Study method

A survey of Burundian refugees in Tanzania was conducted.

Findings

It was found that 25% of women in the refugee camp had experienced sexual violence from the start of their flight to the time of the survey. Perpetrators of violence against women in refugee and displaced populations are other refugees, including family members, border guards, police and soldiers. Types of violence include rape, and forced prostitution to obtain food and other basic necessities

Caveats

Reported cases of rape may represent only a fraction of the whole; a study in Uganda found that half of women who reported a rape for the study had not previously told anyone about it.

Relevance to emergency relief

It is necessary to develop culturally appropriate interventions to support and counsel women who have been raped. It is crucial that a safe environment is provided for women in camps

Key words: Tanzania, Burundian refugees, women, sexual violence.

*Kuvacic I, Skrablin S, Hodzic D, Milkovic G **Possible influence of expatriation on perinatal outcome.** Acta Obstetrica et Gynacologica Scandinavica 1996; 75 367-371.

Study method

To test the hypothesis of possible influence of environmental stress on the length of gestation the data on deliveries in three six months periods during active war in and pre-war in Croatia were analysed. Deliveries of women from non-displaced population and deliveries from women from occupied areas of Croatia, as well Croatian refugee women from expatriated populations from Bosnia and Herzegovina and Serbia were compared The duration of pregnancy, foetal weight, immediate neonatal condition, mode of delivery and perinatal outcome in non-displaced and expatriated population were compared.

Findings

The number of deliveries by displaced women more than doubled. Most notably, expatriated women delivered twice as often prematurely in comparison to non-displaced women. Birth weight of their infants was significantly more often under 2500 grams Slight increase in overall perinatal mortality was observed. Perinatal mortality in the expatriated population was significantly higher than in the non-displaced population Increase in perinatal mortality could be attributed exclusively to increase in prematurity rate.

Relevance to emergency relief

Results support the concept of possible influence of stress, fear, exile and inadequate antenatal surveillance on the length of gestation Provision of antenatal care should be a priority in emergency situations.

Key words: Croatia, Bosnia, Herzegovina, environmental stress, pregnancy, perinatal outcome, antenatal care.

*Department of Obstetrics and Gynaecology, University Medical School of Zagreb, Institute for Perinatal Medicine, Zagreb, Croatia.

*Frljak A, Cengic S, Hauser M, Schei B **Gynaecological complaints and war traumas. A study from Zenica, Bosnia-Herzegovina during the war.** Acta Obstetrica et Gynacologica Scandinavica 1997; 76(4)· 350-4.

Study method

To establish the most commonly occurring gynaecological problems during different periods in the war and relate these to war traumas, Information from 486 records of consecutive gynaecological consultations in four different periods during in 1993/94 were retrospectively recorded at a Women's Therapy Centre established in Zenica, Bosnia-Herzegovina to offer reproductive health services and psychosocial assistance.

Findings

Vaginal discharge, pelvic pain, and amenorrhoea were the most commonly occurring problems A higher proportion of pregnant women requested legal abortion in the first period compared to later periods when the situation was improved. In a small number of consultations a history of rape during the war was recorded. Additionally, many had suffered from other types of war traumas. The reporting of war traumas was significantly related to suffering from pelvic pain.

Relevance to emergency relief

The focus on the needs of victims of rape during war has highlighted the need for reproductive services as part of emergency situations The suffering of war traumas has to be taken into account in the handling of gynaecological problems.

Key words· women, war, rape, gynaecological consultations

*Medica Women's Therapy Centre, Zenica, Bosnia-Herzegovina

*Mayaud P, Msuya W, Todd J, Kaatano G, West B, Begkoyian G, Grosskurth H, Mabey D **STD rapid assessment in Rwandan refugee camps in Tanzania**. Genitourinary Medicine 1997; 73(1) 33-8.

Study method

To obtain baseline information on sexually transmitted diseases (STDs) in the Rwandan refugees camps in Tanzania, prior to establishment of STD services, a rapid assessment technique was used to measure STD prevalences among: antenatal clinic (ANC) attenders, men from outpatient clinics and men from the community Interviews (by questionnaire), genital examination were conducted for all and genital swab sampling for females and urine samples for men for a range of STDs were done

Findings

All groups reported frequent experience with STDs and engaging in risky sexual behaviour prior to the survey. During the establishment of the camps, sexual activity was reportedly low. Over 50% of ANC attenders were infected with agents causing vaginitis including gonorrhoea.. In outpatient males, the prevalence of urethritis was 2.6% and of serological syphilis was 6 1% Among males in the community, the prevalence of urethritis was 2.9% (the majority being asymptomatic infections). Frequent over-reporting of STD symptoms, unconfirmed clinically or biologically, was noted.

Relevance to emergency relief

STD case detection and management should be improved by training health workers in using the WHO syndromic approach, and through IEC campaigns encouraging attendance at clinics Rapid epidemiological methods provide quick and useful information at low cost in refugee camps

Key words: Tanzania, Rwandan refugees, STDs, health workers, IECs.

*African Medical Research Foundation (AMREF), Mwanza, Tanzania

Nduna S., Goodyear, L **Pain too deep for tears: assessing the prevalence of sexual and gender violence among Burundian refugees in Tanzania.** International Rescue Committee, September 1997.

Study method

In 1996, IRC conducted in-depth interviews and a systematic sample survey amongst Burundian refugee women living in 3 refugee camps in Tanzania Both methods were used with two goals in mind The first was to assess the prevalence of sexual and gender violence in the camps, and the second was to compare methods to see which types of information could best be collected by which method.

Findings

The interview method showed that 22% of the women refugees between the ages of 12 and 49 had experienced sexual violence since the start of the conflict in Burundi, while the survey showed a slightly higher number of 27% among the same age group. These percentages were obtained by using the UNHCR estimate that, in non-refugee situations, only 5-10% of rapes are reported. In this case, 55 women age 15-49 out of a population of 3,803 (1.45%) reported occurrences of sexual violence since becoming a refugee. This figure was estimated to represent between 15-29% of the actual population that experienced sexual violence and the average was given at 22%.

In both the interviews and the survey, the majority of sexual violence survivors were between 12-18 years and the primary perpetrators were other refugees and Tanzanian locals. Although the vast majority of respondents were women, the interviews did have reports from 10 males under 18 and three girls under 12 The interviews revealed that most of the incidences occurred within one of the camps.

Note

The majority of the population had lived in the camp for over three years, thus creating a much longer exposure to risk than in Burundi or in transit. The survey showed that most incidents occurred in Burundi. The authors hypothesise that this may be due to the survey design, or the fact that many women had to hide in the bush prior to fleeing the country and this left them vulnerable to violence.

Relevance to emergency relief

It is necessary to develop culturally appropriate interventions to support and counsel women who have been raped. It is crucial that a safe environment is provided for women in camps

Key words Tanzania, Burundi, refugees, sexual violence.

Centre for Research in the Epidemiology of Disasters, Department of Public Health , Catholic University of Louvain with the cooperation of United Nations High Commission for Refugees. **The reproductive health needs of refugees: evidence from three camps in Ethiopia.** Department of Public Health, Catholic University of Louvain, 1997. Report ECHO/ET-/B7-219/95/0101