HEALTH ASPECTS OF REPATRIATION OF EX-SOLDIERS

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1. INTRODUCTION

In May 1991 the Ethiopian People's Revolutionary Democratic Front (EPRDF) forces defeated the military force of the previous government. These defeated soldiers were found scattered allover the country with a higher concentration in the northern part, mainly in the regions of Eritrea, Tigrai, Gondar, Gojam and Wollo. The scenario of the situation just after the war was that the vanquished soldiers were left stranded in different areas; some on the move to the nearest towns on foot in large groups, and others confined to certain areas under captivity. It is to these military forces of the previous government that the reference is made as ex-soldiers. In June 1991, the International Committee of the Red Cross Society (ICRC) and the Ethiopian Red Cross Society (ERCS) engaged themselves in the repatriation process of the ex-soldiers. With the permission and assistance of the EPRDF, the work of repatriation started in June 1991. In the repatriation, the staffs of the Ministry of Health, ERCS and ICRC were involved actively, while the involvement of the Red Cross youth volunteers is also worth mentioning. By December 231991, a total of 222,373 ex-service men had been repatriated by the joint operations (Annex).

2. POPULATION MOVEMENT AND ITS IMPACT ON HEALTH

The patterns of population movement have been identified as one of the important social factors affecting both the transmission and control of tropical diseases(7,9). The relationship between migration and health outcomes has been studied by many researchers (9).

It is useful to note that population movement can also lead to changes in the biological factors affecting the transmission of tropical diseases; by increasing the exposure of population, to vectors, by importing new effective vectors into a new area, and by expanding the vector breeding sites (5,11).

The demographic and individual characteristics, and the environmental characteristics of the place of origin and destination should be noted in the population movement. Such information should be derived from the migrant population and places prior to the operation and be seriously considered in the planning phase (7,8).

Population movements can be internal and external (across borders of countries). In both types, the movement can be from rural to urban areas or vice versa. In the developing countries, the patterns of migration, which have impact on the transmission, and control of infectious diseases include movements in relation to economic development activities, social unrest, seasonal farming activities, etc. In affluent countries, international exchanges by means of travel for business and tourism are becoming important epidemiological factors in the spread of diseases. Such variations of population movements and the differential impact on the transmission and control of diseases have been recorded by different researchers (2,6).

Population movements have been linked with an increase in the incidence of specific tropical diseases such as malaria, schistosomiasis, filariasis, trypanosomiasis, etc. According to PAHO,

the geographical spread of malaria in the Americas has significantly increased within the last 20 years (1,4,9).

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The same facts have also been noted by Beltran and Sawyer in 1981 in Mexico and the Amazon regions (1).
In relation to population movement the data of epidemiological significance include: -
-Demographic information including population density;
-Group behaviour (water contact and excretion habits);
-Type and pattern of movement;
-The types of incidence and prevalence of infectious diseases in the place of origin and destination;
-The sanitation of the micro environment (transit centers);
-Water supply;
-The nutritional status of the migrants;
-The health status of the migrants;
-The mode of transportation;
-The duration of stay in the movement process;
-The socio-economic characteristics of the migrant population.

Migrants can influence the transmission of infectious diseases either by being active transmitters (in a new host setting) or by being passive acquirers, i.e., contracting the disease in the course of movement or at a place of destination or both (10).

In the control of infectious diseases during a situation of outbreaks or epidemic, the identification of the focus or foci of the transmission is an important aspect for the control process.

However, if the mobility of the population is higher then the non-focal pattern of transmission can occur and this can create problems in the control effort (9).

3. REPATRIATION OF THE EX-SOLDIERS

3.1. General

The repatriation work was an ERCS/ICRC joint operation and was started in June 1991. The interim period between the end of the war and the beginning of the repatriation operation was very short. Thus, the planning and resource mobilization for the operation were completed within the available time frame. The initial planning envisaged a relatively short operation period for the repatriation, but experiences proved the need for a longer operation.

The population movement in relation to the ex-service men had internal and international aspects. The internal movements focused on repatriating the groups within the country, i.e.,

transporting them from one region to another, while the international one dealt with repatriating the soldiers from the Sudan to different regions in Ethiopia.

In relation to mode of transportation, the soldiers from different areas in large and sporadic groups walked to the nearest shelter camps in unorganized fashion. All transportation was carried out using vehicles from the main shelters to the transit camps and to the areas of destination.

The Kessela groups were transported by planes to different transit. Centers and thereafter by vehicles.

The repatriation activities mentioned in this paper are those in which ERCS and ICRC had direct and active participation. The organizational set-up developed for the repatriation included the creation of main transit shelters or camps in different sites within the regions where high concentrations of ex-soldiers were found. Also, final transit centers were established where, during the short stay, about two days, essential documents used for getting the ration distribution in the respective ERCS branch offices were issued. All preliminary screening from a health point of view were planned to beeffected in the main shelter camps.

3.2. Shelter Sites and Living Conditions

The main shelters under the ERCS/ICRC operation were organized in:
-Mekele and Adigrat (in Tigrai region);
-Azezo and Alem Zaga (in Godnar region);
-Bahir Oar (in Gojam region);
-Hayk, Kombolcha, Haruba, Chorisa & Kedida I (in Wollo region).

The location of the main shelters were chosen by taking into consideration the density of ex- I soldier population in the northern part of Ethiopia. In Nazareth the main transit center was also organized. Some of the shelter camps were organized in the outskirts of the towns while others were established a few kilometers away from the towns but along the main highways.

All shelters were not initially meant to harbor such a large group at one time, and thus, there were not enough toilet facilities, water points, sleeping places and cooking facilities. As a result, the use of open fields for defecation was commonly noticed at the initial stages.

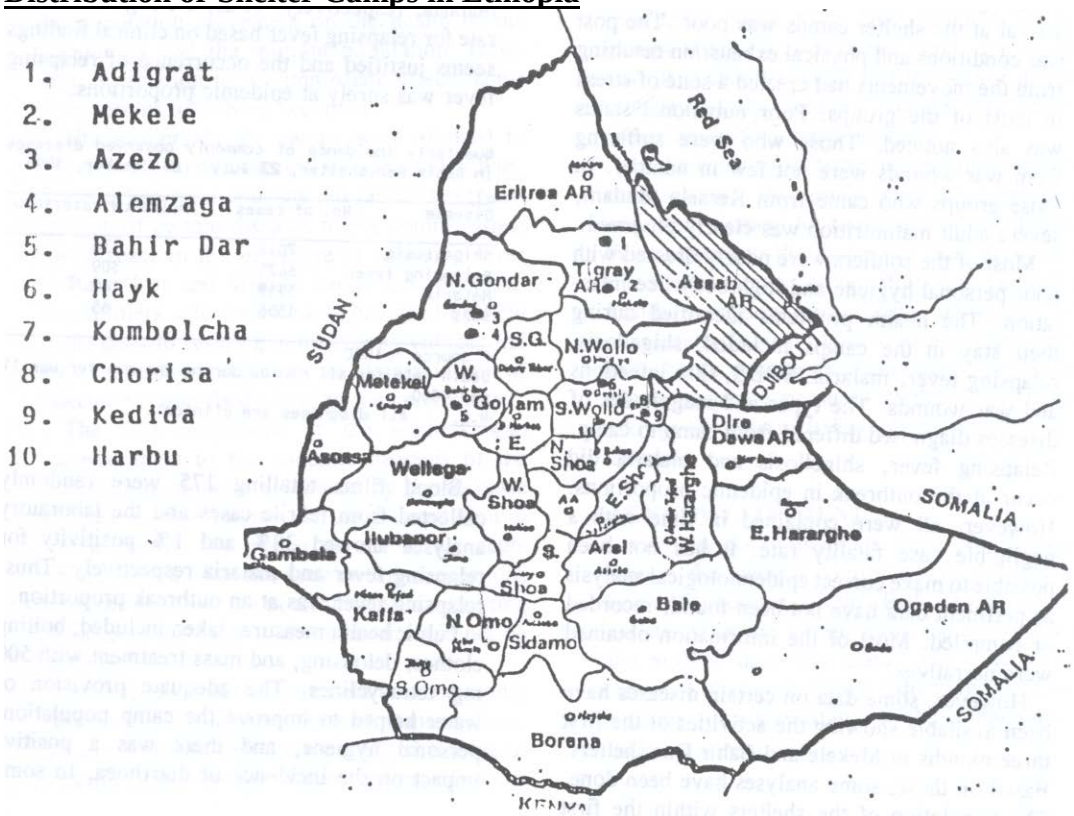
The influx of the ex-soldiers and the unexpected long stay of the groups in the camps demanded expansion of the service-giving facilities. The inadequacy of water supply at Bahir Dar shelter was noticed right from the start. Thus, more water points were added using collapsible water tanks. Additional trench latrines were also constructed.

In relation to die environmental characteristics of the areas where die shelters were located, warm and temperate climatic conditions were prevalent.

3.3. Demographic Characteristics and Group Behaviour

Homogenicity has been noted in the age and sex distribution of the migrant population, i.e., all were men within the age range of 18 to 50 years. Hetrogenicity was recorded with regard to their previous occupations and educational standards, i.e. the men had previously been students, factory workers, peasants, etc. However, as soldiers, all shared common group behaviour. In relation to excretion habits significant individuals tended to use the open field rather than the trench latrines.

Distribution or Shelter Camps in Ethiopia



3.4. Characteristics of the Places of Origin and Destination

Most of the ex-soldiers, who were gathered in the main shelter camps, were previously located in Eritrea, Gondar, Gojam, Wollo and in some parts of Tigrai where they were exposed to diseases prevalent in the lowlands and temperate areas. Diseases of public health importance, such as relapsing fever, malaria, schistosomiasis, menin-gococcal meningitis, infectious hepatitis, typhus, typhoid fever, shigellosis, etc., are
known to be endemic in these areas.

The destinations of the soldiers were highly divergent and covered different areas in all administrative regions both in rural and urban set-ups. Thus, it is difficult to describe the Characteristics.

3.5. Health Aspects of the Soldiers

The general condition of the soldiers upon arrival at the shelter camps was poor. The post war conditions and physical exhaustion resulting from the movements had created a state of stress in most of the groups. Poor nutritional status was also noticed. Those who were suffering from war wounds were not few in number. In those groups who came from Kessela (Sudan), severe adult malnutrition was clearly observed.

Most of the soldiers were poorly dressed with poor personal hygiene and high body lice infestation. The health problems identified during their stay in the camps included; shigellosis, relapsing fever, malaria, SODS, skin infections and war wounds. The types and magnitudes of diseases diagnosed

differed from camp to camp. Relapsing fever, shigellosis and malaria did occur at the outbreak in epidemic proportions. However, all were contained in time with a negligible case fatality rate. It has not been possible to make correct epidemiological analysis as pertinent data have not been found, recorded or compiled. Most of the information obtained were narratives.

However, some data on certain diseases have been available showing the activities of the first three months in Mekele and Bahir Dar shelters. Based on these, some analyses have been done. The population .of the shelters within the first. three months ranged from 13,338 to 33,700 in Mekele camp and from 1,600 to 65,000 in Bahir Dar with an average of 20,000 and 20,942 for the mentioned towns, respectively.

Quarterly incidence of commonly observed diseases in Mekele shelter 12 July - 19 October, 1991

Disease	No. of cases	incidence rate/1000
Shigellosis	1702	85
Relapsing fever	8480	424
SODS	851	43

*Source - ICRC
Death rate for all causes during the quarter was 12 per 1000.
NB All diagnoses are clinical

Blood films totalling 1335 were collected from relapsing fever and malaria suspected febrile cases. The laboratory analyses showed 50.3% and 0.3% positivity for relapsing fever and malaria, respectively. Thus, the high incidence rate for relapsing fever based on clinical findings seems justified and the occurrence of relapsing fever was surely at epidemic proportions.

Quarterly incidence of commonly observed diseases in Bahir Dar shelter 23 July - 25 October, 1991

Disease	No. of cases	incidence rate/1000
Shigellosis	7037	336
Relapsing fever	6471	309
Malaria	3119	149
SODS	1356	65

*Source - ICRC
Death rate for all causes during the quarter was 11 per 1000.
NB All diagnoses are clinical

Blood films totalling 175 were randomly collected from febrile cases and the laboratory analyses showed 38% and 1% positivity for relapsing fever and malaria respectively. Thus, relapsing fever was at an outbreak proportion. Public health measures taken included; boiling clothes, delousing, and mass treatment with 500mg tetracyclines. The adequate provision of water helped to improve the camp populations personal hygiene, and there was a positive impact on the incidence of diarrhoea. In some ~shelters, cases of active pulmonary tuberculosis were identified. About 80 cases were identified in Mekele shelter alone, and all were without treatment. Later on such causes were transferred to hospitals under the Ministry of Health.

3.6. Evacuation System

In the main shelters some soldiers stayed for about two months. However, the average duration of time was one month. Two evacuations by buses and trucks, i.e. done in July, and September/October 1991, have been recorded.

During the first evacuation no screening of febrile cases was realized. In the second evacuation a trial was made to screen those cases with possible infection diseases.

4. IMPACT OF THE EX-SOLDIERS MOVEMENT ON THE TRANSMISSION AND CONTROL OF DISEASES

It is not easy to visualize the delayed effect of the population movement on the health of the community and the migrant population. However, in relation to the immediate effects some observations have been recorded.

The soldiers in the camps were allowed to move freely to the nearest villages and towns. These urban-rural contacts did favor the transmission of certain diseases to the communities. An increase in the incidence of relapsing fever in Bahir Dar and Mekele towns was observed. The soldiers sold the blankets provided to them to the persons residing in the nearby villages and towns thereby mediating the transmission of infected vectors (body lice) to the community.

The free movement of the soldiers also exposed them to the endemic diseases of the surrounding areas as evidenced by the increase of malaria cases among the camp population in Harbu shelter. As proper screening for acute febrile diseases was not done during evacuations from the shelters, the possibility of transmitting diseases in the place of destination could not be ruled out.

As defecation in the Open field was commonly observed in the adjacent areas of some shelters, the rainy season definitely promoted the faecal contamination of the water points of some villages thereby causing transmission of water-borne diseases.

The long stay of active pulmonary tuberculosis cases with an interruption of the treatment might have favored the spread of the bacilli within the camp population. The possibility of resistant strain development and its spread could not also be ruled out. 5.

5.RECOMMENDATIONS

Generally speaking the repatriations of the ex-soldiers have been realized with minor health problems but with success, and the encountered acute health problems were contained in time. Diseases of explosive epidemic potentiality. Such as meningococcal menlngitis are endemic in the north western part of Ethiopia. This problem did not occur; most probably because of the seasonal influence and the high probability that the soldiers had been vaccinated during recruitment. However, vaccination against meningococcal meningitis could have been planned for the groups at their arrival in the camps for precaution. It is also the opinion of the author that the mobility of the soldiers outside their shelter areas should have been limited.

In the chain of transmission of any communicable disease, the reservoir of the agent is an important element for the control of the disease. With respect to the ex-service men grouped in the shelter camps, little effort was exerted in health screening both during admission and evacuation. In such captured groups there seems to be better conditions to conduct screening and take appropriate measures. In the future, under-takings of these facts have to be seriously considered.

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REFERENCES
1. Beltran-Hemandez, F. La ..Iud et al Medio Tropical. La. migracione. intens. en Chiapa., Mexico. Paper
presented at the seminsrio oobre migracione. Humans. y Malaria OMS/OPS, Brazilia, Brazil. 1981.
2. Gedde., A.M. and P.M. Gully. The Returning Traveller. Royal CoUege of Physicia1lS of London. 1981; 15: No.2, 124-127.
3. Kloo., H., et al. Haematobuim Shistomiasis among seminomadic .nd .gricultural Afar in Ethiopia. Tropical
Geography ...ed. 1977; 29: 399-406.
4. PAHO. Malaria in the U.S.A., 1978. Epidemiological Bull, PA HO. 1980; I: 7-9.
5. PAHO. Report of the advisory committee on Medical Research Working group on Social Science Health Research. PAHO/ACMR, 1982; 21/5.
6. ProIhero, R.M. population movements and problems of malaria eradication in Africa. WHO Bull. 1961; 24: 405-425.
7. Prolhero, R.M. Diseases and mobility: A neglected factor in epidemiology International Journal of epidemiology. 1977; 6: 259-267.
8. Reid, D.D. The future of migrant studies. Israel Journal of Medical Science. 1971; 7: No.12, 1592-1595.Prolhero (1977).
9. Roaenfield, P.L., et al. Social and economic research in UNDP/World Bank/WHO special program for Research and Training in Tropical Diseases. Sac. Sci. Ned. 1981; 15A: 529-538.
10. We-n, A.F. The role of migrant studies in epidemiological research. Israel J. J. of Med. Science. 1971; 1584-1591.
11. WHO Expert Committee on Malaria. Seventh report, WHO Technical Report Series 640, Geneva. 1979.

ANNEX

Total Number of Ex-service Men Transported to Different Regions as of December 1991

To: Addis Ababa	35,654
Sidamo	18,943
Illubabor	14,328
West Shoa	12,217
Arsi	11,892
South Wollo -c	11,860
Wollega	11,137
North Gondar jlC,	9,497
East Gojam	9,334

West Gojam	8,901
South Shoa	9,284
North Omo	8,587
East Shoa	8,208
East Hararge	8,180
Bale	8,140
North Shoa	6,201
Keffa	4,403
West Hararge	4,473
Borena	2,624
Tigrai c	5,052
South Gondar	2, 711
Gambella	2,234
Dire Dawa	1,404
South Omo	1,097
Ougaden	892
North Wollo	419
Metekel	60
Assab	115
Eritrea	31
Total	**222,373**

- Source -ERCS -Activity implementation reports December 1991 -Relief Dept.

DISCUSSION

Chairperson -Prof. Jemal Abdulkadir
Speaker -Dr. Getachew Gizaw, ERC
Rapporteur -Dr. Shabbir Ismail, DCH, AAU

Prof. Jemal invited the speaker after giving a brief introductory remark about the background of Dr. Getachew.

Then Dr. Getachew took the floor and started with introductory remarks on the effects of the defeat of the Military Force of the previous government by the EPRDF. As a result all the defeated soldiers were found scattered all over the country, mainly in the northern parts of the country, i.e., Eritrea, Tigrai, Gondar, Gojjam and Wollo. These abandoned soldiers made different movements, either in an organized or scattered manner to the near by towns. Therefore, in June 1991, the JCRC and ERCS in close assistance with the EPRDF engaged in repatriation of these soldiers to their homelands. Accordingly, as of December 23, 1991 a total of 222,373 ex-soldiers were repatriated by the joint operation. Dr. Getachew then went on discussing the population movement and its impact on health, referring to pertinent literature. The discussion mainly focused on migration and its social as well as medical outcomes. It was noted that transmission of tropical diseases by the introduction of moving susceptible population to specially disease-endemic areas was stressed. Types of the population, the internal as well the international, were also described.

REPATRIATION

Problems encountered were inadequate planning and very short time for preparation. Soldiers were repatriated both from those within the country as well as those who came from abroad, mainly the Sudan. Means of transport used for the repatriation process were walking, by vehicles and airplanes. The organizational setups of the concentration of the soldiers were in main and transit shelter camps.

SHELTER SITS AND LIVING CONDITIONS

Ten camps in four different northern regions were erected. There were some disparities between expectations and the actual happenings. These were lack of space and place for waste disposal, long duration of stay at the camps and shortage of water supply.

DEMOGRAPHIC CHARACTERISTICS

Homogeneity among the soldiers was noted by age and sex as well as open-field habit of defecation. Heterogeneity was seen on their previous occupational and educational status.

CHARACTERISTICS OF THE PLACES OF ORIGIN AND DESTINATION

Most of the ex-soldiers who were gathered in the main shelter camps were previously located in Eritrea, Gondar, Gojjam, Wollo and in some parts of Tigrai. They were exposed to diseases prevalent in the lowland and temperate areas. Endemic diseases in these areas are reported to be relapsing fever, malaria, schistosomiasis, meningococcal meningitis, infectious hepatitis, typhus, typhoid fever shigellosis, etc. The destinations of soldiers were highly divergent, i.e., to all

administrative regions of the country both to the urban as well as to the rural settings. Hence, description of the characteristics is difficult.

HEALTH ASPECTS OF EX-SOLDIERS

Health problems encountered during the admission to the camps were: poor health status, physical exhaustion, stress, poor nutritional status leading to severe adult malnutrition, war wounds, poor dressing, poor personal hygiene and high body louse infestation.

FURTHER DISCUSSION

Professor Jemal summarized the main areas and highlights of the talk given by Dr. Getachew and opened the floor for further discussion. Comment Dr. Melakeberhane Dagnew shared his experience at Gondar during the crisis time. All the above-mentioned facts were also observed in Gondar , and especially at the Gondar College of Medical Sciences Hospital.

Q. Why were soldiers repatriated to Addis? What are the health effects on Addis? Are they being followed now? Are they being followed in other regions?

A. The mandate of ICRC and ERCS is only to repatriate and the follow-up is the activity of the MOH. Appropriate recommendations are already given. Addis served as a by-pass to other areas. The same effect of movement and migration can be seen in Addis too.

Q. Did you do any health education activities in the camps?

A. A lot of health education was being done but in general it was not very productive. The main reasons were: lack of interest on the side of the soldiers, aggressive behaviour of the soldiers and the stress situation in the camps. Comment (Dr. Tamirat)- All ERCS executives should have shifted to the settlement sites to

work on-site as much disaster has occurred but has not been reported. Preparation was less in transportation between camps such as from Adigrate to Mekele. GCMS could have handled a lot, but instead ERCS officials did not even appropriately consult the GCMS. Crime and killings had increased. Evacuation was low.

Q. How do you assess your preparedness for such disasters? What were the shortcomings? What lessons were learned?

A. Concerning the preparedness, this was an unusual situation and hence it was not well planned and prepared, thus crisis-oriented management was used. It was not anticipated at all and not enough time for planning was present. We did only what we could do, for instance, the airlifting of drugs was done whenever possible. The other fact was that the aggressive and non- cooperative nature of the soldiers hindered even some of the attempted activities. In general the work done was good.

Lessons learned were that .the mobility of the soldiers was directly related to the extent of the spread of some diseases like relapsing fever. It is always good to delouse earlier and to have an adequate supply of water to contain epidemics. The other lesson learned was that all camps should receive equal attention. In this operation ICRC and ERCS did little in Dessie and Hayke camps compared to the one in Mekele.

Comment (the UNICEF representative) -felt that ERC/ICRC were quite well prepared. The joint activity by the MOH, Malaria Control Program, ICRC and ERC was successful. The relapsing fever epidemics were also contained in time and with less cost of life. Health education was being

given, though in a wave and not in the classic ways, but she felt that the attempt had been made. A joint effort by all parties concerned should take place immediately, as happened in Mekele camp.

Comment (Dr. Getachew) -Mekele camp was better organized later but not initially. In general, organizational capability of ERCS and the financial capacity of ICRC led to successful repatriation. The ICRC should be appreciated for its less bureaucratic work and airlifting procedures.

Comment (the Malaria Control Representative) - Malaria was a problem in Harbu camp. He gave the extent of relapsing fever in the different camps. He added that relapsing fever is becoming a problem, and attention should be paid.
Q. How was the mass, treatment of relapsing fever with tetracyclines, regarding the J .H. reaction?
A. Major problems were not encountered. This may have been underestimated due to the situation, and it may not have been followed properly.

Professor Jemal added that it should be studied anyway.