

- * Subit C, et al. **Nutritional anthropometric survey: Nakivale - Uganda, 1998** Report to UNHCR.

Study methods

As part of an assessment of nutritional status in all refugee settlements in Uganda, a comprehensive exhaustive survey of all children under 5 was carried out in Nakivale in Uganda in late 1998. The survey included questions about immunisation status, many aspects of feeding, sources of food, family income, etc. Nakivale is a settlement housing refugees from Rwanda, Zaire, Kenya, Congo, Somalia and Ethiopia.

Findings

The percentage of malnutrition of children between 6 and 59 months of age, was low but suboptimal nutritional status was present. The malnutrition level was slightly higher for Somalis and Zairians-Kenyans. The measles vaccinations coverage was low.

Relevance to emergency relief

Regular routine surveillance of nutritional status is important to identify children at risk to refer them to feeding centres and to follow defaulters. This strategy can lead to appropriate management of acute malnutrition and improved feeding program coverage. Implementation of strengthened health education programs focussing on child care and nutrition, weaning habits and reproductive health are recommended to improve health status. As with the previous study, although risk factors for sub-optimal nutrition were identified, it was not within the scope of this survey to analyse these risk factors but their identification would make it possible to target them in future interventions.

Improved measles vaccination coverage and strengthened EPI systems should be the aim of refugee health programs to avoid the possibility of outbreaks of measles in refugee settlements.

Note

Although the title of this study suggests a nutritional survey, a wide range of information about food sources, income, family planning etc., was gained.

Key words. Uganda, Nakivale, refugees, nutritional status, feeding programs, health education, immunisation

* The survey was conducted in response to request by UNHCR. It was implemented by Action Against Hunger - USA with the support of UNHCR and Uganda Red Cross and surveyors and supervisors from the communities

- * Grguric J, Kolacek S, Lulic-Jurjevic R. **Multi-indicator survey on children's nutrition in Croatia.** Coll Antropol 1998; 22(1): 85-95.

Study method

A Multi-Indicator Survey (MICS) on children in Croatia was conducted to establish the situation in terms of breastfeeding, nutrition and prevention of the most significant health problems in primary health care, ie acute respiratory and diarrhoeal diseases in children (ARI/CDD), and the level of knowledge. The survey for MICS in Croatia included altogether 370 segments, and from each segment, 40 households were selected

Findings

The breast-feeding rate was very low, with an unfavourable trend towards a decrease in the rate of breast-feeding in war areas. The prevalence of feeding using diluted cow's milk during the first six months was very high (30% in the first, and 60% in the second six months).

Relevance to emergency relief

The war negatively affected breast-feeding. This tendency may be common in such situation when mother's perceive that stress has a negative effect on their milk supply. Special strategies are needed to promote breast-feeding in war setting and especially in areas where breast-feeding is low.

Key words: Croatia, war, children, nutrition, survey, breast-feeding, cow's milk.

*Children's Hospital Zagreb, Croatia

***Upadhyay J. Persistent micronutrient problems among refugees in Nepal.** Food & Statistical Unit, Program coordination section, DOS, UNHCR, 1998; Geneva.

Study method

Nutritional surveillance was undertaken together with study of refugee food trading practices and food preferences in Bhutanese camps in Nepal

Findings

The food basket at the outset of the program consisted of polished rice, oil, salt, sugar and fresh vegetables. This ration was adequate in terms of calories and protein and as a consequence levels of wasting declined to 5%. Water and sanitation conditions as well as health delivery systems in the camps are considered to be better than other refugee camps in the developing world

Cases of beriberi were reported in September 1993 and surveillance of other micro-nutrient deficiency disorders was begun. Cases of pellagra and scurvy were also reported. In view of food habits polished rice (thiamine deficient) was supplied in the general ration. Provision of fresh vegetables was very difficult logistically so often had depleted micronutrient levels

Unfavourable exchange rates for general ration commodities increased the refugees dependence on the supplied general ration which on its own was deficient in key micronutrients. After the emergence of MDD the general food basket was modified to include micronutrient enriched blended food to make it adequate in terms of all the nutrients except for calcium, riboflavin (B2) and Vitamin A. Nutrition education programs were implemented.

Relevance to emergency relief

Due consideration should always be given to the food habits of refugees and micronutrients in planning the emergency food basket. In an emergency situation where access to a variety of micronutrients containing food commodities is not feasible, incorporation of fortified blended food into the general ration should be mandatory. Where MDD persists in spite of improvements made to the general ration, which should theoretically eradicate these deficiency diseases, other factors should be investigated and acted upon. Factors which might be considered include inequitable intra-household distribution of general rations and storage and cooking practices which reduce micronutrient content of the foods. In some cases, micronutrient tablets may need to be given.

Key words: nutritional surveillance, micronutrient deficiency, food rations

*Food & Nutrition coordinator for Asia before the current assignment

***Collins S, Myatt M, Golden B. Dietary treatment of severe malnutrition in adults.** American Journal of Clinical Nutrition 1998, 68(1): 193-9.

Study method

To compare the effects of two diets, differing primarily in protein content, on the nutritional rehabilitation of severely malnourished adults, a study took place in the Concern Worldwide Adult Therapeutic Feeding Centre in Baidoa, the town at the epicentre of the 1992 famine in Somalia. The response to treatment in 573 patients admitted to the centre between November 1992 and March 1993 was studied. Mortality, appetite, rates of oedema loss, and weight gain in two groups of patients receiving either a higher-protein or lower-protein diet were compared.

Findings

Among oedematous patients, the use of the lower-protein diet during the initial phase of treatment was associated with a threefold decrease in mortality and accelerated resolution of oedema. Among marasmic patients, no differences in mortality or rate of weight gain were observed. The large reduction in mortality associated with the use of the lower-protein diet in oedematous patients appeared to be due to the lower amount of dietary protein.

Note

The authors suggest that differences in the two diets other than or in addition to the protein content may have contributed to the reduction in mortality.

Relevance to emergency relief

The data obtained suggest strongly that severely malnourished adults, particularly those with oedema, recover more successfully with a diet of lower protein content than usually recommended. The lower-protein diet used in this study was much cheaper and more easily obtained than the conventional higher-protein diets in Baidoa.

Key words: Somalia, Baidoa, adults, malnutrition, mortality, two diets.

* Concern Worldwide, Dublin.

*Cliff J, Nicala D, Saute F, Givragy R, Azambuja G, Taela A, Chavane L, Howarth J. **Konzo associated with war in Mozambique.** Tropical Medicine and International health 1998; 2 (11): 1068-1074.

Study method

Information on cases was collected through active case detection with the help of community leaders, from a priest who had asked churches to compile numbers of patients and from rehabilitation centres that were set up. Focus group interviews on the agricultural and nutritional situation were conducted and mid-upper arm circumference in children was measured. Urine was collected from school children to measure cyanide exposure.

Findings

Owing to war, communities turned to bitter cassava (which grows quickly) as their staple and took shortcuts in its processing. 384 patients with symmetric spastic paraparesis (konzo) associated with cassava consumption and cyanide exposure were treated in rehabilitation centres; the prevalence rate in a badly affected area was 30/1000. Most patients were children over 3 and women. The epidemic lasted 2 years (the last year of war and the first of peace). Although most cases were reported from rural inland areas, patients also came from small towns and the coast. School children had raised urinary thiocyanate and linamarin and low inorganic sulphate concentrations. When the war ended, people continued to depend on inadequately processed bitter cassava. The necessary conditions for konzo were present: intensive cultivation of bitter cassava, insufficient processing, a probable high cyanide intake, and a low intake of protein-rich foods.

Relevance to emergency relief

When people are displaced by war, they are unable to sustain their usual cultivation practices. The range of food available and eaten are limited. Mechanisms are needed to conduct nutritional surveillance of displaced people to identify the need for distribution of relief food.

Key words. bitter cassava, cyanide poisoning, war.

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- *Riddoch CH, Mills CF, Duthie GG. **An evaluation of germinating beans as a source of vitamin C in refugee foods.** European Journal of Clinical Nutrition 1998; 52(2): 115-8.

Study method

To assess whether germinating pulses and beans are a potential source of vitamin C in rations for refugee communities with poor vitamin C status high pressure liquid chromatographic assessment of vitamin C content of a range of legumes following germination in light and dark and after cooking was conducted.

Findings

Many species of pulses produced significant quantities of vitamin C up to five days following germination in both light and dark although cooking caused a marked loss of ascorbate.

Relevance to emergency relief

Germination of approximately half of the seeds of the pulse constituents of many basic rations would be likely to generate, within a 3-5 day germination period, sufficient ascorbate to provide the 10 mg needed to protect adults against the development of scurvy. Education programs would need to accompany the trial introduction of this source of vitamin C to refugee populations.

Key words: refugee foods, germinating beans, vitamin C, cooking, education.

*Rowett Research Institute, Aberdeen, Scotland, UK.

- * Micronutrient Initiative, Canada. **In-country Capacity for Food Fortification.** 1998 Report. Published also in Field Exchange 1998,; 5: 9.

Study method

The study involved a mission to East Africa to examine how food aid for refugees and other emergency affected populations could be fortified using in-country processes. Travelling to Kenya, Tanzania and Uganda in late 1997, the study team visited twelve refugee camps or emergency affected areas, interviewed agencies involved in programming food aid or processing foods in major industrial areas, and conducted a series of meetings to bring together the various actors who are or could be involved in fortifying food aid.

Findings

It was found that fortification of emergency foods with a broad spectrum of about twenty vitamins and minerals appeared practical and affordable. Fortification could be done in major cities or on site using different methods and equipment. The commercial millers were wary of introducing fortification on their own, as it raised their costs and the government had not set any standards or even encouraged fortification. Most millers indicated that if donors provided the micronutrient dosing equipment, the technological expertise is in place to fortify and millers would be amenable to providing the service for NGOs. There are precedents of commercial/NGO cooperation in East Africa. Some difficulties working with East African mills, including shipping and handling problems, were noted. Mechanisms to ensure quality control, were believed to be successful.

Relevance to emergency relief

Fortification at the site of local, camp-based grain mills may prove to be one of the most cost-effective health interventions available to NGOs and may become a standard best practice for

emergency response. NGOs need to be more communicative about the conditions milled grains could expect to find from shipping, to storage, to consumption.

Key words: micronutrient fortification, food rations, milling

* Further information from Steven Hansch <@mtr net>

Borigato, V and Martinez F. **Iron nutritional status is improved in Brazilian preterm infants fed food cooked in iron pots.** European Journal of Clinical Nutrition 1998, 3: 855-859

Study method

A controlled trial was conducted to determine the efficacy of cooking food in iron pots to prevent anaemia in premature healthy infants from families of low socio-economic status between 4-12 months in Brazil. The study group of 22 infants had their food cooked in iron pots and the control group of 23 infants had food cooked in aluminium pots

Findings

At 12 months of age the group fed with iron pots had significantly better iron status as measured by indicators like haemoglobin level. Iron deficiency anaemia was observed in 36.4% of infants in the group fed food cooked in iron pots and in 73.9% of infants fed food cooked in aluminium pots.

Relevance to emergency relief

The results indicated that the iron added to food cooked in the iron pots was bio-available but still insufficient to satisfy high iron requirements of pre-term infants. The researchers concluded that cooking in iron pots might be considered a useful adjunct to programs to prevent iron deficiency in populations with high rates anaemia.

Key words: Brazil, infants, anaemia, iron cooking pots.

*Briend A. **What is the average weight deficit of children seen in nutritional surveys? A proposed new method of estimation:** Summary of paper presented at the International Child Health Meeting on 'Managing Childhood Malnutrition' held in Birmingham. Field Exchange 1998; 4: 8

Study method

The method is based on two simple hypotheses: i) all children if well fed would form a population with a normal distribution of weight for height Z score with a mean of 0 and a standard deviation of 1 and ii) the rank of Z score of children is the same as the rank of the Z score they would have if well fed.

Findings

Nutritional survey data from an ACF survey in Kabul, showed that most children have weight deficits in populations that are under nutritional stress. This finding is apparently quite common in most nutritional surveys. Z scores may not be that effective in detecting children with an actual weight deficit, and that this may partly explain the failure of most nutritional programs to avoid leakage of food distributions targeted at children with weight for height Z scores below -2.

Note

Results given by the method were compared with real weight loss from longitudinal data. Although the method given in this publication give a first approximation of what happens, the

authors explain that it is consistently biased because a strong random component which affects the results was neglected.

Relevance to emergency relief

It is suggested that it makes more sense to calculate the 'average weight deficit' of children with a given Z score. Some children who were initially above the median Z score may lose considerable amounts of weight, without crossing the threshold, while others may be constitutionally thin and may have lost little weight and yet fall below this limit. The main message of the analysis, namely that weight loss occurs all over the weight range remains correct and the method gives a better idea of what happens than the classical approach based on counting individuals below - 2 Z scores.

Key words: Kabul, children, nutrition, weight loss, z scores.

*More details of the methodology can be obtained from Dr. André Briend INDERM U 290, Hospital Saint Lazare, 107 rue du Fauborg Saint Denis, 75475 Paris Cedex 10, France. E-mail: briend@ext.jussieu.fr

*Mears C, Young H. **Acceptability and use of cereal-based foods in refugee camps: case studies from Nepal, Ethiopia and Tanzania.** 1998; UK, Oxfam. (ISBN: 0 85598 402 3)

Study method

Analysis and evaluation were undertaken of two strategies that are currently employed to enhance micro-nutrient intake of emergency affected populations; i) the inclusion of fortified blended food in the refugee food rations and ii) the fortification of cereals at local or household level - in particular the opportunities for the fortification of cereals with micronutrients at local or household level. Field studies were undertaken in three sites (Bhutanese refugees in Nepal, Somali refugees in Ethiopia, and Burundi refugees in Tanzania). Qualitative methods were used, including key informant interviews, observation, semi-structured interviews, briefing and de-briefing sessions, and review of secondary sources.

Findings

All sites had a history of acute malnutrition and micronutrient deficiency and the planned ration was found to be deficient in micronutrients. A proportion of the food rations was sold by refugees in all sites, although blended food was sold on a very small scale, relative to the sale of other commodities. The items purchased by refugees were mostly food items, principally vegetables and more of the same or an alternative staple. No preparation methods were observed which seemed to be more than usually detrimental to the micronutrient content of the ration food, except multiple washing of rice (Nepal) and sieving of blended food (only by a small minority). Cooking methods of blended food varied between sites but were appropriate, even though it was only in Nepal that refugees had been explicitly informed about the fact that blended food were pre-cooked so that cooking time could be adapted accordingly.

Blended food was used and valued in all sites as a complementary food for infants. All members of the household in all sites, were said to be eating blended food, but children tended to be given another serving later in the day if they asked. Blended food appeared to be highly acceptable.

Fortification of cereal at the time of grinding or pounding at household level did not appear to be a feasible option. Camp level fortification would require appropriate technology, training and close monitoring.

The study results highlighted some technical and operational issues of quality control and timely supply of the locally produced products.

Relevance to emergency relief

Outbreaks of scurvy, pellagra and beri beri among refugees have concerned relief agencies. Presently, inclusion of fortified blended foods in the general ration is a much more commonly adopted strategy than fortification of cereals. Regional level fortification is an alternative which would require adequate milling capacity relatively close to the refugee population, a medium to long term commitment by donors, and considerable technical and management expertise at the milling site. It would be most appropriate where milled cereal was highly acceptable and mostly eaten, not sold or exchanged, due to limitations such as time, containers, space, and standard measures. Certain aspects of cereal use and acceptability which would also need to be considered for successful implementation of cereal fortification.

Key words: refugees, cereal, blended food, micro-nutrients, fortification

* by collaboration between Oxfam UK/I, the United Nations High Commissioner for Refugees, the Micronutrient Initiative and the World Food Program

***CDC/CARE Treatment of anaemia in Burundian refugee children: reducing the morbidity and mortality from anaemia. CDC/CARE 1998.**

Study method

In a randomised, double-blind clinical trial, 215 anaemic children were evaluated to determine an effective and feasible treatment for moderate and severe anaemia. All children received thrice-weekly oral iron for 12 weeks with home visits and one dose of directly observed therapy. Group I received a thrice-weekly vitamin placebo and standard malaria case management with chloroquine. Group II received vitamin placebo and monthly malaria treatment with sulfadoxine-pyrimethamine (SP). Group III received thrice-weekly vitamins A and C (VAC) plus monthly SP. Outcome measures included haemoglobin and transferrin receptor (TfR) levels.

Findings

The mean hemoglobin level increased from 6.6 to 10.2 g/dL by week 12, and the prevalence of anaemia (hemoglobin < 11.0 g/dL) decreased from 100% to 66 %. There were no significant differences in hemoglobin levels among groups. In contrast, a greater proportion of children who received VAC had normal iron stores at 12 weeks than those who received placebo. Children who received SP had lower mean TfR levels than those who did not receive SP.

Relevance to emergency relief

Although neither SP nor VAC resulted in enhanced hemoglobin recovery, they did contribute independently to improved iron stores. Initial malaria and helminth treatment, followed by thrice weekly iron therapy resulted in substantial hemoglobin increase. We recommend this therapeutic approach for similar settings.

Key words: Burundi, refugees, children, anaemia, haemoglobin, transferrin.

*CDC, in collaboration with CARE, reported by K Tomashek

Bhatia R¹, Woodruff B². Nutrition survey of adolescents. NGOnut electronic discussion group Feb 11, 1999

Study method

Height, weight, age, and sex were recorded for a random sample of adolescents age 10-19 years in the four camps in Kenya housing Sudanese and Somali refugees. The body mass index (BMI) of each study subject was compared to the WHO BMI-for-age reference population.

Findings

Subjects with a BMI less than the 5th percentile of their age group in the reference population were defined as having acute protein-energy malnutrition. Using this definition, it was found that in Kakuma Camp, 223 (57%) of the 391 survey subjects were acutely malnourished. In the three camps in Dadaab District in eastern Kenya, 237 (61%) of 391 survey subjects were acutely malnourished. However, ancillary data, such as morbidity and mortality rates, did not support these high estimates of the prevalence of malnutrition among adolescents in both populations.

Relevance to emergency relief

The WHO BMI-for-age for adolescents is based on measurements of American adolescents in the first National Health and Nutrition Examination Survey (NHANES I). We strongly suspect that this reference may not be an appropriate comparison for all adolescents worldwide.

Key words: Kenya, Sudanese and Somali refugees, adolescents, malnutrition, BMI.

1 UNHCR, 2. Centres for Disease Control and Prevention, Atlanta, Ga

**CDC/CARE. Comparison of serum ferritin and transferrin receptors as measures of iron deficiency among Burundian refugee children in Western Tanzania
CDC/CARE 1999.**

Study method

Because assessing the importance of iron deficiency to anaemia in specific populations is difficult because traditional laboratory measures, such as serum ferritin, are skewed by inflammation and infection, the ability of serum ferritin (SF) and the new transferrin receptor (TfR) test were compared to identify iron deficiency. Serum samples were obtained from 215 children who participated in a therapeutic trial for anaemia. Sensitivity, specificity and positive predictive value (PPV) in detecting iron deficiency were calculated. Variables which may affect these laboratory tests, such as illness and specimen haemolysis, were evaluated

Findings

TfR level <8.5 ug/mL had a sensitivity of 84%, a specificity of 49%, and a PPV of 62% in a population with an anaemia prevalence of 50%. SF level <12 ng/mL had a sensitivity of 3%, a specificity of 100%, and a PPV of 100%. Even after increasing the SF cut-off ten-fold to 120 ng/mL, sensitivity was only 51%, specificity was 34% and PPV was 44%. There was no association between SF or TfR levels and sample haemolysis, enrolment blood smear positivity, or degree of malaria parasitaemia. However, more children with illness (fever > 37.5°C and recent reported illness) had abnormally elevated SF levels than those without illness.

Relevance to emergency relief

The diagnostic ability of SF is limited in populations, such as refugee children, with high levels of illness. TfR may be more useful in such populations to determine iron deficiency's contribution to anaemia.

Key words: Burundi, children, refugees, anaemia, ferritin, transferrin

***Colding B, Andersen PP. Improving the efficiency of food aid. A report prepared with financial support from DANIDA, 1998. Field Exchange 1999; 6: 8.**

Study method

A study was conducted to analyse the impact of an earlier desk study carried out in 1991 on the management and cost-effectiveness of Denmark's contribution to WFP.

Findings

One of the findings of the 1991 desk-review was that a change in the composition of the Danish food basket provided to WFP would greatly improve the impact of the contribution on the recipients and their food security. The Danish food basket in the 1980s and early 1990s contained canned meat, processed cheese and peas. The earlier study showed that a food basket of basic commodities such as peas, maize and soy flour would be able to feed many more people. The 1991 study recommendations to change the food basket and the resulting new food aid policy were met with strong opposition between 1992-5 from the Danish primary food producers but the Danish government held steadfast in its new policy direction. The 1998 DANIDA study showed that six times more people were fed with Danish food aid in 1997 than in 1990 largely as a result of this policy change and that three times more protein was provided at unchanged total cost.

Relevance to emergency relief

The 1998 study asserts that since Danish agriculture continues to be the sole source of food for Danish food aid, the sector did not lose revenue - although some sub-sectors have lost while others have gained. The main conclusion of the study is that the Danish government has achieved a six-fold increase in the impact of Danish food aid to WFP from 1990-1997 even though the real value of the regular contribution has decreased slightly over the period.

Key words: Denmark, cost-effective, food aid, agriculture.

*Ministry of Foreign Affairs, Denmark. The complete report is available from the Director General, International Food Policy Research Institute, 2033 K Street, NW Washington, DC 20006, USA.

Studies concerned with mental health

Hourani LL, Armenian H, Zurayk H, Afifi L. **A population-based survey of loss and psychological distress during war** Social Science and Medicine 1986; 23(3): 269-75

Study method

A household surveillance study of 5788 displaced and non-displaced civilians was conducted during the summer 1982 war in Lebanon. In order to determine demographic differences in the psychological response to war and help identify population groups possibly at-risk for mental disorder, an interview checklist of symptoms of psychological distress was developed and administered to a key informant in each household

Findings

The occurrence of psychological distress symptoms varied significantly by age, sex, nationality, socio-economic status, loss of physical health and economic loss. A more detailed analysis of the psychological effect of displacement or loss of one's home during war is presented. Displacement group differentials suggest that psychological distress may be more frequently perceived post-war and that both social integration and social isolation may play important roles in mediating the perception of psychological distress during war.

Relevance to emergency relief

Research on the psychological effects of war had been conducted on a limited number of population groups and had generally failed to study the experience of particular losses while warfare was still in progress. In this instance, the authors found an unremarkable proportion of psychological stress. They suggested that stress might be low during war if people are displaced into safe centres or relatives' homes

Key words Lebanon, displacement, war, psychological distress.

Tsoi MM, Yu GK, Lieh-Mak F **Vietnamese refugee children in camps in Hong Kong.** Social Science and Medicine 1986, 23(11): 1147-50.

Study method

Vietnamese refugee children staying in an open camp in Hong Kong were interviewed to find out the nature of their war experience. The effects of war and refugee experience on their fears about being hurt or killed were assessed.

Findings

Most of the Vietnamese children in the present sample travelled to Hong Kong with their family and had little experience of separation, death or injury of close family members. However, about two-thirds of them had witnessed violence and one-third reported experience of being assaulted. Children exposed to unpleasant war experience were more likely to report a fear of being hurt than those not exposed to similar negative events. However, there was no consistent finding relating other types of fear to war experience. The family and the cohesiveness of the community in which they lived may have protected them against adverse psychological reactions. There appeared to be a resilience to single traumatic experience whereas repeated experiences were more damaging.

Note

The authors had some concerns about standardisation of the survey instrument. They were interested to test the generalisability of findings in 'closed' camps in Hong Kong.

Relevance to emergency relief

It is important to keep refugee families together. The social cohesiveness of a community has a protective effect on individuals.

Key words: Hong Kong, refugees, children, violence.

Moorehead C (ed). **Refugee children: Somalia**. 1989; Barrie and Jenkins, London, UK.

Study method

Child refugees from Ethiopia in Somalia were interviewed.

Findings

Most of the children could not remember their previous lives. They performed many of the household tasks but also spent time at school. Family structures were damaged and the 43 camps in Somalia were largely societies of women and children. The aspiration of the children had been changed; they wished to continue their education and gain paid employment.

Note

The Somali camps were beyond the emergency phase but the issues raised are important because the disruption of emergency displacement can result in permanent changes to future prospects for children.

Relevance to emergency relief

It is important to address the education of children in emergency populations as soon as possible.

Key words: Somalia, Ethiopia, refugees, family structures, children, education.

*Bryce JW, Walker N, Ghorayeb F, Kanj M. **Life experiences, response styles and mental health among mothers and children in Beirut, Lebanon**. Social Science and Medicine 1989; 28(7): 685-95.

Study method

A sample of 152 women living in Beirut, Lebanon was studied to determine the relationship between life experiences, mothers' depression, and children's health and behaviour. Measures of the perceived negative impact of both war and nonwar related events, measures of available social support, sociodemographic variables, coping or response strategies and displacement were used to predict mothers' depressive symptomatology and their children's health.

Findings

The level of perceived negative impact of war-related events was found to be strongly associated with higher levels of depressive symptomatology among mothers. More surprising was the relative importance of experiences unrelated to the war in predicting higher levels of depressive symptoms.

Relevance to emergency relief

Among the most noteworthy of the findings was the association between the use of an emotional response style and the measure of psychological dysfunction. Finally, the level of a mother's depressive symptomatology was found to be the best predictor of her child's reported morbidity, with higher levels of symptoms associated with higher levels of morbidity

Key words: Lebanon, Beirut, women, mothers, depression, children's health, behaviour

*School of Public Health, University of Michigan, Ann Arbor.

- *Summerfield D, Toser L. **'Low intensity' war and mental trauma in Nicaragua: a study in a rural community.** *Medicine and War* 1991; 7(2): 84-99.

Study method

A survey was conducted among ex-refugees still living in the war zone after the 'low intensity' warfare, aimed at terrorising the rural population of Nicaragua during the 1980s.

Findings

The results revealed that two thirds of men and almost all women suffered psychological disturbance on the General Health Questionnaire. Somatisation was central to the subjective experience and communication of the distress caused by the Contra war. Sustained sleep disturbance, hyperalertness and other anxiety-based symptomatology and poor concentration were very common and were exacerbated by war-related cues. One quarter of men and half of women merited a diagnosis of posttraumatic stress disorder. Some distress reflected unresolved grief states.

Caveats

The study was not conducted in an emergency setting. The mental and social costs of terrorisation have been insufficiently documented in the emergency settings

Relevance to emergency relief

Although this study was not conducted in an emergency setting, the results could be very relevant to emergency situations where the population has suffered acute war related trauma. Strategies to address these problems are still to be developed and tested.

Key words: Nicaragua, ex-refugees, warzone, psychological disturbance, distress, somatisation, post traumatic stress disorder.

*Department of Psychiatry, St George's Hospital, London

- *Ajdukovic M, Ajdukovic D. **Psychological well-being of refugee children.** *Child Abuse and Neglect* 1993; 17(6): 843-54.

Study method

Data about the family situation and the psychosocial adaptation of refugee children to displacement was gathered during detailed structured interviews with the mothers, while the study families were accommodated either in a shelter or with host families.

Findings

A considerable range of stress-related reactions among displaced children were identified (eg, sleeping and eating disorders, separation fears, and withdrawal or aggression). Refugee children exhibited a significantly higher incidence of stress reactions if their mothers had difficulty

copied with the stress of displacement. The findings also indicated that children in the collective shelter were at greater mental health risk than their peers housed with host families.

Relevance to emergency relief

Housing of refugees with host families rather than in collective centres results in less mental health risk in the short term. However, this arrangement is unlikely to be sustainable.

Key words: Croatia, displaced children, stress, mental health.

*School of Social Work, Faculty of Law, University of Zagreb, Croatia.

*Zivcic I. **Emotional reactions of children to war stress in Croatia.** Journal of American Academy of Child and Adolescent Psychiatry 1993 1; 32(4): 709-13.

Study method

To assess the emotional reaction of children exposed to different levels of war stress in Croatia. 480 children completed the Croatian version of the Child Depression Inventory (CDI) and the Mood Scale. Their parents and teachers also completed the analogue Mood Scale.

Findings

Both groups, refugees and local children, showed more depressive symptoms on the CDI in comparison with the children of the same age assessed before the war in Croatia. Displaced children manifested more negative emotions (especially sadness and fear) than did their local peers, based on self-report as well as parents' and teachers' reports. Poor correlations were found between the children's self-report and their parents' and teachers' report on the Mood Scale.

Relevance to emergency relief

The findings of parents' and teachers' knowledge about their children's mood, more obvious in the group of displaced children, deserve special attention because of the increased risk for the children. It is recommended that we consider working with the parents, not just children, in promoting children's mental health during times of stress.

Key words: Croatia, war, displaced, children, stress.

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

(see Reproductive Health and Women's Issues)

al-Eissa YA. **The impact of the Gulf armed conflict on the health and behaviour of Kuwaiti children.** Social Science and Medicine 1995; 41(7): 1033-7.

Study method

To assess the psychological reactions of Kuwaiti children to war-related stresses in the early period of the Gulf crisis following the summer 1990 Iraqi invasion of Kuwait, a sample of 106 children was drawn from Kuwaiti displaced families and a comparable control sample was obtained from Saudi families in Riyadh, Saudi Arabia. An interview checklist of symptoms of physical and psychological distress was administered to the index child and a female key informant in each household of cases and controls.

Findings

Most Kuwaiti children were exposed to unpleasant war experiences. It was found that Kuwaiti children exhibited a substantially greater degree of dysfunctional social and emotional behaviour. The types of adverse behaviours were a function of the child's age, sex and experience of aggression.

Relevance to emergency relief

The findings support the notion that a negative relationship exists between armed conflict and the health and behaviour of the children. The complex needs of children exposed to violence require professionals to seek ways of combining psychodynamic interventions and relief programs.

Key words: Kuwait, children, war, psychological reaction, behaviour

* Department of Paediatrics, College of Medicine, King Saud University, Riyadh, Saudi Arabia.

***Macksoud MS, Aber JL. The war experiences and psychosocial development of children in Lebanon. Child Development 1996; 67(1): 70-88.**

Study method

To examine the number and types of war traumas children face growing up in a war-torn country and the relation of such traumatic experiences to their psychosocial development, a sample of 224 Lebanese children (10-16 years old) were interviewed using measures of war exposure, mental health symptoms, adaptational outcomes, and Post-Traumatic Stress Disorder (PTSD).

Findings

The number of war traumas experienced by a child was positively related to PTSD symptoms; and various types of war traumas were differentially related to PTSD, mental health symptoms, and adaptational outcomes. For example, children who were exposed to multiple war traumas, were bereaved, became victims of violent acts, witnessed violent acts, and/or were exposed to shelling or combat exhibited more PTSD symptoms. Children who were separated from parents reported more depressive symptoms and children who experienced bereavement and were not displaced reported more playful behaviour.

Relevance to emergency relief

Implications for program interventions and directions for future research on the effects of war on the psychosocial development of children are explored. Without continuing research efforts, intervention guidelines will remain patchy. Children who remained in their families and communities but who have lost close family members will need special PTSD interventions while children who have been separated from family and community need to be reunited as soon as possible.

Key words: Lebanon, war, children, PTSD.

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***Miller KE. The effects of state terrorism and exile on indigenous Guatemalan refugee children: a mental health assessment and an analysis of children's narratives. Childhood Development 1996; 67(1):89-106**

Study method

This study examined the mental health and psychosocial development of 58 Guatemalan Mayan Indian children living in 2 refugee camps in the Mexican state of Chiapas. Conventional assessment instruments were adapted and semistructured interviews were utilised to gather data from children regarding various developmental, sociocultural, and political topics.

Findings

Data showed minimal evidence of psychological trauma in this sample although continuing fear was present. In addition, data showed a positive relationship between children's mental health and the health status (physical and mental) of their mothers. In particular, a strong association was found between depressive symptomatology in girls and poor health status in their mothers.

Relevance to emergency relief

Although there seems to be resilience, the mental health of refugees needs to be addressed as part of comprehensive health care. All efforts are needed to keep families together.

Key words: Mayan Indian children, mental health, girls, mothers

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- *Savin D, Sack WH, Clarke GN, Meas N, Richart I **The Khmer adolescent project: III. A study of trauma from Thailand's Site II refugee camp.** Journal of the American Academy of Child Adolescent Psychiatry 1996; 35(3). 384-91.

Study method

To determine the prevalence rates of post traumatic stress disorder (PTSD) and depression in a sample of 99 Cambodian youths, aged 18 to 25 years, living in the Site II refugee camps along the Thai-Cambodian border, a Khmer translated version of the depression section of the Schedule for Affective Disorders and Schizophrenia for School-Age Children-Epidemiological Version and the PTSD section of Diagnostic Interview Schedule for Children and Adolescents were used in interview format by trained bilingual research assistants. Khmer versions of the Beck Depression Inventory and the Impact of Events Scale were also administered.

Results were compared with data collected in a similarly aged sample of Cambodian refugees living in the United States.

Findings

The enduring nature of PTSD was evident in this sample of Khmer youths who had survived the Pol Pot regime as children. Similar rates of Pol Pot-related PTSD were found when compared to rates from the US sample. Subclinical forms of PTSD were found in those who reported their worst trauma during life in the camp, while the full PTSD syndrome was associated with those who reported trauma occurring during the earlier Pol Pot regime. Extremely high rates of depressive disorder were found which were interpreted as related to the repatriation back to Cambodia as this study was undertaken. PTSD in this sample appeared to be specifically related to earlier war trauma, while depressive symptoms appeared more related to subsequent stressors.

Relevance to emergency relief

Strategies to address PTSD are needed in emergency populations

Key words: Thailand, Khmer, war, Pol Pot, adolescents, children, PTSD.

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Miller LC¹, Langhans N¹, Schaller JG¹, Zecevic E². **Effects of war on the health care of Bosnian children.** Journal of the American Medical Association 1996; August 7 letter

Study method

The families of all 60 children admitted during February 1996 to the relocated Pedijatrijska Klinika in Sarajevo during the siege were interviewed. Demographic information, anthropometric measurements, diagnoses, injuries sustained by the children and their families, war-related deaths and prisoners of war among family members, and transport problems getting to the hospital were recorded. Comparison of each child's management with prewar standards and practices was undertaken. Anthropometric data were compared with World Health Organization standards.

Findings

The most common admitting diagnosis was pulmonary disease. Anthropometric measurements differed little from prewar levels. Three children were wounded during the war, one third had at least one close relative killed, and one third had one or more close family members injured. Most deaths occurred among civilians and often were witnessed by the children. Many families had at least one relative as a prisoner of war and three children have overt psychological problems attributable to the war.

Transport disruption caused difficulties in getting to the clinic and deficiencies in facilities, directly affected the care of children.

The emotional impact on the children of their experiences of the siege of Sarajevo is yet to be measured. Nearly every family of this unselected group of children had members who died, were injured, or were prisoners of war.

Relevance to emergency relief

Living through these experiences will have hidden delayed costs, especially among the young. Culturally relevant mechanisms are needed early in emergencies to address psychological sequelae in children.

Key words: Sarajevo, Bosnian children, war, siege, deaths, transport disruption, anthropometric data,

1. New England Medical Centre, Boston, Mass. 2. Sarajevo Pedijatrijska Klinika, Sarajevo, Bosnia-Herzegovina.

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

(See Reproductive Health and Women's Issues)

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

(see Reproductive Health and Women's Issues)

***Mollica RF, Poole C, Son L, Murray CC, Tor S. Effects of war trauma on Cambodian refugee adolescents' functional health and mental health status. Journal of American Academy of Child and Adolescent Psychiatry 1997; 36 1098-106**

Study method

To measure the effect of war trauma on the functional health and mental health status of Cambodian adolescents living in a refugee camp on the Thai-Cambodian border, a multistage probability sample identified 1,000 households in the camp known as Site Two. Interviews were conducted in each household with randomly selected adults 18 years of age and older. All adolescents aged 12 and 13 years old, along with one parent were interviewed. Culturally sensitive instruments were used

Findings

Parents and adolescents reported the latter having experienced high levels of cumulative trauma, especially lack of food, water, and shelter. The most commonly reported symptoms were somatic complaints social withdrawal attention problems, anxiety, and depression.

Caveats

Dose-effect relationships between cumulative trauma and social functioning or health status were lacking.

Relevance to emergency relief

There was important negative psychosocial impact of violence on Cambodian adolescents which is probably comparable in other similar situations. Lack of findings related to physical health status and the presence of positive social functioning of many youths should not deter health care providers and public health officials from diagnosing and treating underlying high levels of psychological distress.

Key words: Thai-Cambodian border, Cambodian adolescents, war, trauma, health status, somatic problems

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***Sikic N, Javornik N, Stracenski M, Bunjevac T, Buljan-Flander G. Psychopathological differences among three groups of school children affected by the war in Croatia. Acta Med Croatica 1997; 51(3) 143-9**

Study method

To assess the consequences of extreme violence such as war torture in children, rating scales and assessment instruments for children aged < 15, were used to assess the broad spectrum of psychopathology in this age group. Questionnaires were used in a group of almost 2000 school children 7-16 years. The sample was divided into 3 groups: 843 non-displaced, 377 displaced and 669 refugee children.

Findings

Results of statistical analysis showed the three groups of children (non-displaced, displaced and refugees) to significantly differ in 13 out of 15 psychopathologic clusters. The first discriminative function indicated depression, violence and antisocial behaviour to be rare in non-displaced children, more pronounced in displaced, and most pronounced in refugee children. The second discriminative function showed hyperactivity, anxiety and psychosomatic

disturbances to be rare in non-displaced children; more frequent in refugee, and most expressed in displaced children

Relevance to emergency relief

According to the results of this study, the displaced and refugee children are most affected by psychopathologic disturbances. Identification of traumatised children is crucial and should be directed to more complete evaluation of their symptomatology and functioning.

Key words: psychopathology, children, trauma, war, refugees, displaced

*Croatian Red Cross, Zagreb, Croatia.

- * Goldstein RD, Wampler NS, Wise PH **War experiences and distress symptoms of Bosnian children.** Paediatrics 1997; 100(5). 873-8.

Study method

A cross-sectional survey of 364 internally displaced 6 to 12-year-old children and their parents living in central Bosnian collectives was conducted during the war. Parents were surveyed for their children's war experiences; the children were surveyed for war-related distress symptoms.

Findings

The children were exposed to virtually all of the surveyed war-related experiences. The majority had faced separations from family, bereavement, close contact with war and combat, and extreme deprivation. The prevalence and severity of experiences were not significantly related to a child's gender, wealth, or age, but were related to their region of residence, with children from the region of Sarajevo having the highest prevalence of experiences. Almost all the children met criteria for posttraumatic stress disorder. Significant life activity affecting sadness and anxiety were reported by most of the children, respectively. High levels of other symptoms surveyed were also found. Children with greater symptoms had witnessed the death, injury, or torture of a member of their nuclear family, were older, and came from a large city.

Relevance to emergency relief

The war-related experiences of the children studied were both varied and severe, and were associated with a variety of psychological sequelae. This experience underscores the vulnerability of civilians in areas of conflict and the need to address the effects of war on the mental health of children.

Key words: Sarajevo, Bosnian children, war, conflict, separation, PTSD, mental health.

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- *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 Gynecologica Scandinavica 1997; 76(4). 350-4.

(See Reproductive Health and Women's Issues)

- Englund H. **Death trauma and ritual: Mozambican refugees in Malawi.** Social Science and Medicine 1998; 46: 1665-1674.

Study method

The traditional funeral rituals and spirit exorcism of vengeful spirits as healing therapy among Mozambican refugees in Malawi were examined.

Findings

Treatment of war trauma has become a key issue in humanitarian assistance. Problems were identified with the use of 'western' methods that draw on the role of exploring refugees' past experiences and verbalising trauma as part of therapy. These methods were found to be inappropriate. It was found that funeral rites and other cultural practices were employed by communities.

Caveats

In recognising the short coming of 'western methods' there may be excessive reliance on any traditional methods used and a reduced interest in providing appropriate, culturally acceptable support for traumatised refugees

Relevance to emergency relief

It is suggested that there are ways in which people involved in humanitarian assistance could acknowledge traditional practices for healing the psychological trauma associated with war and violence. However, there is a danger that relief agencies and others involved in humanitarian assistance, having recognised that 'western methods' are inappropriate, may think they can leave solutions to mental problems to the traumatised communities. Further study is needed for development of effective strategies to provide healing therapies.

Key words: Malawi, Mozambican refugees, psychological trauma, western methods, rituals, funerals, healing therapies.

*Servan-Schreiber D, Le Lin B, Birmaher B. **Prevalence of post traumatic stress disorder and major depressive disorder in Tibetan refugee children.** Journal of the American Academy of Child and Adolescent Psychiatry 1998, 37(8): 874-9

Study method

As part of an exploratory mission of the international medical relief organization, 61 randomly selected children from four group homes of the Tibetan Children Village in Dharamsala, India, were interviewed for symptoms of PTSD and MDD. The survey assessed the prevalence of posttraumatic stress disorder (PTSD) and major depressive disorder (MDD) in children who escaped from Tibet and found refuge in Tibetan settlements in India.

Findings

11.5% of the children met DSM-IV criteria for PTSD, and the same proportion met criteria for MDD. Children who had arrived from Tibet more recently (in the previous 18 months) showed a tendency for greater prevalence of PTSD than children who had been refugees longer. Tibetan children who succeed in their journey into exile suffer levels of stress-related disorders comparable with those of children in war situations or those exposed to natural disasters. However, in this population, several protective factors may help reduce the level of distress over time

Relevance to emergency relief

It is necessary to develop community-based mental health interventions.

Key words: Dharamsala, Tibetan refugees, PTSD, MDD

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Dahl S, Mutapcic A, Schei B. **Traumatic events and predictive factors for post traumatic symptoms in displaced Bosnian women in a war zone.** *Journal of Trauma Stress* 1998; 11(1). 137-45.

Study method

A study was conducted among 209 displaced women attending a Women's Centre in a war zone in Bosnia-Herzegovina in 1994. Information on war-related traumatic events, sociodemographic factors and posttraumatic symptomatology was collected by means of a questionnaire. Post-traumatic symptoms were registered by using a 10-item Posttraumatic Symptom Scale. Women with six or more symptoms were classified as a 'posttraumatic symptom case'.

Findings

Among women who had survived the most severe traumas (concentration camps or other kinds of detention) the proportion of PTS-cases was highest. High numbers of traumas, having children, being over 25 years of age, and the reporting of an absent husband, were characteristics associated with being a PTS-case. In the multivariate analysis, severe trauma and reporting of an absent husband remained significantly associated with PTS-cases. Clinical implications were discussed.

Relevance to emergency relief

The complex needs of women exposed to war trauma and displacement require professionals to seek ways of combining culturally appropriate psychodynamic interventions with relief and clinical programs.

Key words: war, trauma, post-traumatic symptoms.

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*Thabet AA, Vostanis P. **Post-traumatic stress reactions in children of war.** *Journal of Child Psychology and Psychiatry* 1999; 40(3): 385-91.

Study method

To estimate the rate of post-traumatic stress reactions in Palestinian children who experienced war traumas, and to investigate the relationship between trauma-related factors and PTSD reactions a sample of 239 children of 6 to 11 years of age was surveyed. Measures included the Rutter A2 (parent) and B2 (teacher) scales, the Gaza Traumatic Event Checklist, and the Child Post-Traumatic Stress Reaction Index.

Findings

Three quarters of children in the sample reported PTSD reactions of at least mild intensity, while almost half reported moderate/severe PTSD reactions. The total number of experienced traumas was the best predictor of presence and severity of PTSD.

Relevance to emergency relief

Intervention programs for post-war children need to be evaluated, taking into account developmental and cultural aspects, as well as characteristics of the communities involved.

Key words: Gaza, Palestinian children, post-traumatic stress reactions, intervention programs.

*Gaza Community Mental Health Program, Palestine

Médecins Sans Frontières **Kosovo: accounts of a deportation.** Médecins Sans Frontières
April, 1999. (See Information Management)