Recurrent pellagra in Angola

Summary of report

Since March 1999, successive waves of people have arrived in the town of Kuito, Angola, displaced by fighting in their native Bie province. As a result, June 1999 saw the creation of thirteen camps for internally displaced persons (IDPs) in the north, south and east of the town which have continued to expand since. Currently, the resident population of Kuito is about 80,000 and the total of IDPs approximately twice that figure. Roughly 80km to the east lies the municipality of Camacupa where a number of IDP camps are also located. Camacupa came under government control in early 2000.

For the past three years, there has been an annual epidemic of pellagra in the Kuito area of Angola. There have been three major peaks of the outbreak all occurring between June and October each year. By the end of August 1999, the first cases of pellagra were identified in the Kuito camps. In response, a study of the ongoing pellagra problem in Kuito took place between July 17th and August 1st 2001. This involved:

- an analysis of humanitarian agency reports on the outbreak
- analysis of WFP data on planned and distributed rations
- interviews with agency staff and other key informant interviews
- transect walks through camps with visits to households and clinical diagnosis of pellagra cases
- observation of clinicians admitting new pellagra patients
- ward rounds in therapeutic feeding centres (TFCs)
- market visits to assess food availability.

Main findings

Transect walks through four camps in Kuito and three camps in Camacupa involved clinical assessment of whether there were cases of pellagra in 300 and 200 households respectively. This led to an estimated prevalence of approximately 10% pellagra in the IDP camps around Kuito and 30% in Camacupa. Since January 2000 there have been a greater number of the resident population affected.

During the transect walks it became apparent that health professionals were not good at recognising the symptoms of pellagra. This may be partly explained by the fact that most teaching/text-book photographs are based on cases presenting with 'classical' symptoms whereas in the field most cases do not present with textbook lesions. This is a major drawback of teaching material used. The authors caution that this may have the worrying implication that pellagra exists in other areas of Angola but may be unrecognised. However it is likely that the epicentre of this epidemic is Bie province for a number of reasons. In Bie land is devoted largely to maize (niacin-deficient) cultivation and there are no groundnuts (niacin-rich) in the diet. Furthermore, in recent years there has been a reduced consumption of animal products, also a good source of niacin.

There do not appear to be substantial numbers of people with niacin deficient diarrhoea or nervous system complaints without skin lesions in Kuito. However, the signs are more advanced in Camacupa where diarrhoea seems to be a feature.

The pellagra patients are normal weight or overweight. This is because the nutrients involved (pyridoxine,
riboflavin and niacin) give rise to a type 1 deficiency which is not associated with loss of body weight (wasting) rather than a type II deficiency which is characterised by stunting and wasting. The fact that pellagra is apparently mainly occurring in female and adolescent residents of normal body weight indicates that those who are not eligible to receive any WFP rations may be those most at risk. The general ration is targeted to IDPs while the vulnerable group feeding is targeted to patients in TFCs or those with pellagra and their families.

The population is clearly in nutritional crisis with a continued high mortality rate for over three years. Although nutritional deficiencies underlie this excess mortality they are not reflected in the rate of wasting. Crude mortality rates in March 2001 were 1.4/10,000/day and had risen to 4.0/10,000/day by July 2001. Surveys conducted between March 1999 and June 2001 found global rates of malnutrition ranging from 3-16% in the camps in Kuito (with four out of the seven surveys recording rates of less than 10%) and 3-8% in towns. Type I nutrient deficiency as the dominant type of micronutrient deficiency does not directly give rise to wasting; it does however cause severe illness including both pellagra and kwashiorkor, immuno-incompetence and death. The survey data show both an excess of severe malnutrition and more particularly mortality rates that are far higher than would be anticipated given the overall rate of wasting. For example, in March 1999, overall rates of malnutrition were 3% while rates of severe malnutrition were 1.3%.

There have not been outbreaks of malaria, cholera, shigellosis or other major infectious disease epidemics to account for the high mortality rate. These findings should alert the responsible agencies to the probability of widespread type I nutrient deficiency and lead specifically to programmes aimed at improving the quality of the diet rather than simply supplying sufficient energy and protein.

A major proportion of the population is entirely dependent upon humanitarian aid. Almost 60% of the population receives humanitarian aid and over two fifths of all food eaten in the area is flown in by WFP. Without this sustained effort the population would starve. It is noticeable that the widespread pellagra outbreak reached a peak two to three months after gaps in the WFP pipeline led to the food actually distributed having a niacin content lower than that known to cause overt clinical pellagra in otherwise healthy experimental subjects. During these periods there were marked reductions in the delivery of CSB and beans.

Recommendations from the study included:

1. That the WFP food basket for both general distribution and vulnerable group feeding be revised to improve the provision of micronutrient rich foods with emphasis on niacin, pyridoxine and riboflavin (CSB and/or groundnuts).
2. In the meantime that the currently agreed food basket be fully supplied and about 35% of cargo capacity space used for non-maize food items
3. That there be a market intervention in Kuito and elsewhere in Bie to bring niacin rich food for sale, at cost or at a subsidised price, to the nongeneral ration receiving population.
4. That the mills in Lobito, the port of entry for shipments of maize, be upgraded and fortification equipment purchased and installed.
5. That all the maize imported into Kuito be milled in Lobito and fortified with a micronutrient mix, that includes niacin, riboflavin, pyridoxine, iron zinc, vitamin C and antioxidants such a vitamin E, before it is flown in and distributed.
6. That an extra 60,000 hectares of land be brought into cultivation in the Kuito area in the long term.
7. That the land provision to families should wherever possible be increased from the present 0.5 hectares to close to 3 hectares.
8. That the seeds distributed for crop production on this land are diversified and the technical help of a nutritionist is sought by the agricultural agencies.

Taken from Field Exchange 15

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