

Prevalence of Communicable and Non-communicable Disease in a Village of Jilib District, in the Framework of a Primary Health Care Programme

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1. Introduction

The present report is based on the work of a team of Italian physicians and biologists, working in collaboration with their Somalian colleagues, who are implementing a Primary Health Care programme in the Jilib district in southern Somalia. In 1983, and again in 1985, demographic, socio-economic and health care data were collected for the purpose of identifying the population's needs and to serve as guidelines for strategy and action priority. Together with an analysis of the social structure and the observation of the community's life habits, the study has pointed to the advisability of drawing up a programme covering the various aspects of local culture.

The work represents the first stage of a process in which the rural community is collaborating in the planning of the action to be taken, evaluating its impact and directing the subsequent action (Bennet 1979:7).

In particular, the report contains results of an epidemiological survey carried out on a sample of healthy subjects ranging in age from 0 to 14 years belonging to the village of Mareerey.

2. Description of the Area

The Jilib district lies in the southern part of the Middle Juba region, almost 350 km south of Mogadishu; crossed for all its length by the river Juba and its minor branch, the little Juba.

The village of Mareerey, situated on the right bank of the Juba river, is among the biggest of the area. It is the capital (*beel*) of an administrative district in which is located a plant for the manufacture and processing of sugar cane which provides permanent and seasonal jobs for about 10,000 persons.

The demographic survey carried out by CISP in July 1985 revealed the population of the Mareerey village to be 1918 persons, belonging to 420 households. The breakdown by sex and age is shown in Fig. 1. As well as having the « wide-

based » appearance common to many developing countries, the age pyramid is characterized by an apparent reduction in the number of subjects in the 10 to 19 year age range. This is due to the migration of subjects between the ages of 20 and 29 years of both sexes, who thus fill the corresponding sectors of the pyramid.

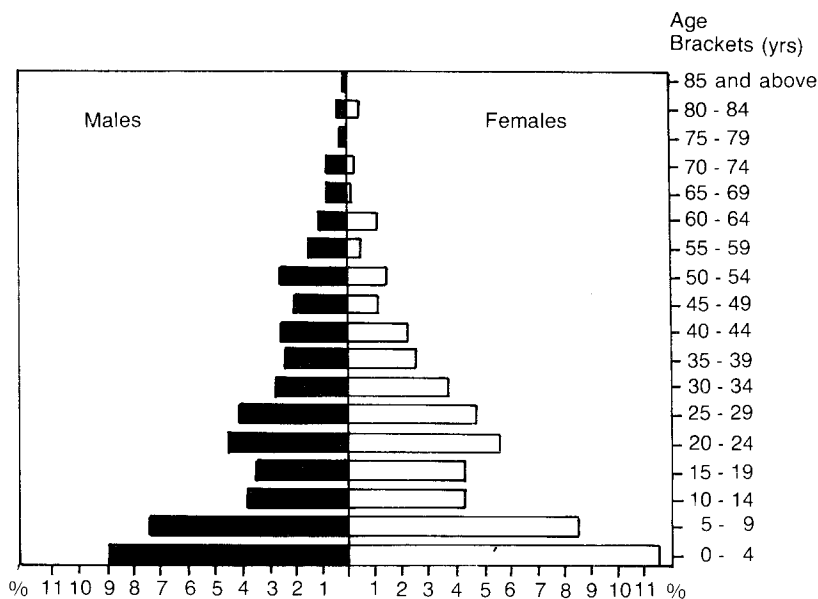


Fig. 1 - Age pyramid of Mareerey (1985 census, C.I.S.P.)

The population below the age of 15 represents 44.5% of the total, and corresponds to the national average of 44% (S.D.R., 1985).

The average age of the Mareerey population is 21 years. A comparison is made in Table 1 between some national figures and those of Mareerey and other rural

Table 1
Comparison of vital indicators in Mareerey and other areas of Somalia

	National Values (1)	Benadir. Bay and. L. Shebeli (2)	2 villages L. Shebeli (3)	Mareerey (M. Juba) (4)
Crude Birth Rate (per 1,000)	48.1	—	65.3	59.0
Crude Death Rate (per 1.000)	19.1	—	31.3	40.1
Infant Mortality Rate (per 1.000)	165	184	225	190

(1) SDR - Ministry of National Planning, 1985

(2) University of North Carolina, 1981

(3) Cappelli A. et alii, 1985

(4) CISP, 1985

areas (University of North Carolina 1981; Cappelli A. et al. 1985: 60). It is immediately apparent that the mortality rates at Mareerey are among the highest. In particular, the high rate of infant mortality is an immediate indicator of the area's health needs.

3. Material and Methods

The data referred to in the present communication involve 141 individuals, 69 of whom males and 72 females. The majority of subjects are in the lowest age group (0-23 months), as shown in Table 2. The subjects examined were randomly selected from among individuals who were apparently healthy, in August 1985. Each baby was accompanied by one of his parents. Clinical examination and the main anthropometric measurements (Jelliffe 1966: 64-78) were performed. For 100 subjects aged 2-14, morning stool and urine samples were also collected for laboratory analysis.

Table 2
Study population: age distribution
Mareerey Child Health Survey, 1985

Age brackets (months)	Males	%	Females	%	Total	%
0-23	34	24.11	31	21.99	65	46.10
24-59	15	10.64	14	9.93	29	20.57
60 and above	20	14.18	27	19.15	47	33.33
Total	69	48.93	72	51.07	141	100.00

4. Results

We shall now report the more significant public health data emerging from our work regarding the prevalence of intestinal helminthiasis and vesical schistosomiasis and the state of nutrition.

4.1 Intestinal helminthiasis

Intestinal helminthiasis is a particularly common disease in tropical countries, in areas with poor sanitation. Furthermore, hot damp climates favour the eggs' survival and make health measures more difficult (Trowell and Jelliffe 1958: 402).

In Somalia simple and multiple infestation is quite common among all age groups.

The 1982 National Morbidity Survey indicated, for the Middle Juba region, a prevalence of ascariasis of 221 per thousand, expressed as the mean of all age groups (WHO 1984: 49).

Seventy-three out of the 100 subjects examined by us had one or more intestinal parasites (Table 3). Faeces analysis revealed the presence of *Ascaris Lumbricoides* eggs in 69% of cases, of *Trichurus Trichiura* eggs in 16% and of *Ascylostoma Duodenale*. Polyparasites accounted for 21%.

We found no serious complications due to ascariasis, although it is com-

monplace to find children with swollen abdomen, colic-type abdominal pain, constipation and anorexia.

4.2 Vescical schistosomiasis

Areas in Africa with abundant water, like those covered by our survey, are a constant source of *Schistosoma*. When the water is channelled through irrigation canals, as in the case of the Mareerey area, the possibility of transmission increases considerably and there is a significant rise in prevalence (Arfaa 1975: 280-283).

Our survey revealed 44 positive cases out of a total of 100 taken from different age groups. A Department of Community Medicine Study carried out at Samey-Samey in 1976 on the banks of the Shebeli river showed, for the same age groups, a prevalence of 54% (Tresalti et al. 1981: 62). Another study carried out in 1980 at Homboy, in the Jilib district, where the Shebeli river peters out in a swampy zone, revealed 98.8% positive cases (Cahill 1980: 65).

The big relevance of the problem for public health is connected to the medium and long term consequences of the disease: stenosis and dilatation of ureters, vescical fibrosis, until mono and bilateral hydronephrosis, with later uremia.

4.3 State of nutrition

The state of nutrition is an essential parameter for defining the state of health of the population and for determining the higher risk groups.

In Somalia the problem of protein-calorie malnutrition occurred in an acute form during the 1974-75 drought, and even persists today, especially among the rural and nomadic communities (Panatta 1984: 11).

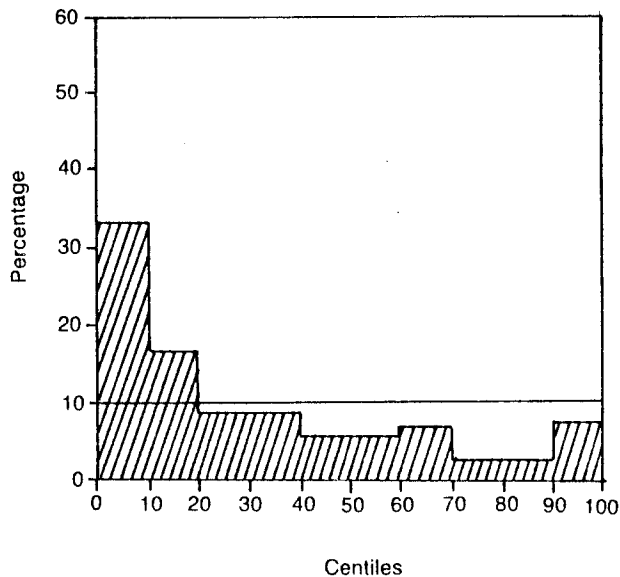


Fig. 2

According to the National Health Plan (1980-85), 26% of the children below the age of 5 years are 75% under the standard weight for their age (2nd and 3rd degree malnutrition according to Gomez) (S.D.R., 1980: 140).

A study carried out in Mogadishu and Hargheisa MCH centers showed respectively 19 and 30% of mild and severe malnutrition (Abbas 1975: 197).

At Mareerey, the survey of the state of nutrition of children, boys and girls, up to the age of 14 showed an overall drop in the auxological indices compared with WHO standards (WHO 1983: 61-101).

Fig. 2 shows the percentage distribution of the individuals examined according to weight by height measurements. 50% of the population lays below the twentieth centile.

A comparative analysis of three age groups — the first between 0 and 23 months, the second between 24 and 59 months and the third from 5 years on reveals a greater drop in the nutritional indicators in the 2-5 years-old group. This figure emerges from a calculation of the S.D. score for the weight by height distribution (Fig. 3). It may also be pointed out that 60% of the children lay 1 S.D. below the international standard.

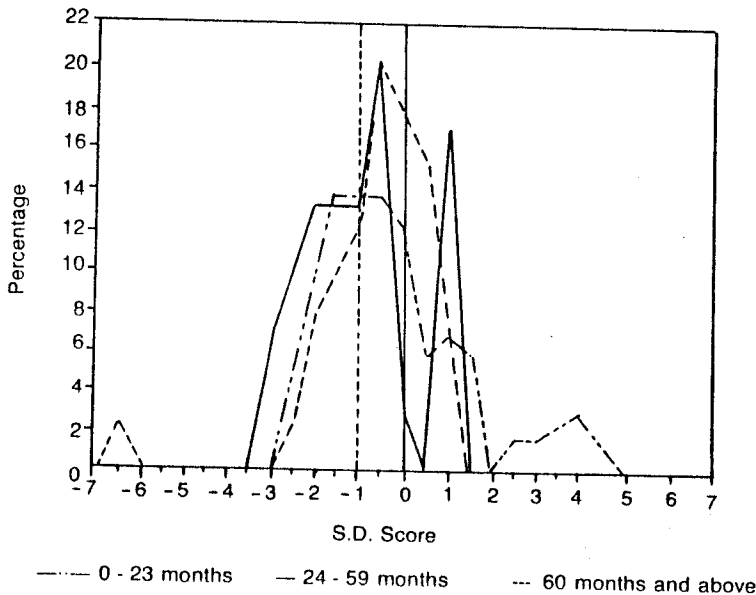


Fig. 3

Adopting Gomez' classification for the definition of malnutrition, we find that 8.51% of the subjects are grade III, 29.08% are grade II and 35.46% are grade I, while only 26.95% are normal (Table 3). A comparative examination of the three age classes, set out in Table 3 shows a fairly constant percentage of grade II and III malnutrition, while a peak occurs in the slightly malnourished of the 2-5 year old age group. The normal nourished children decrease to a minimum in the same 2-5 years old group.

Table 3
Prevalence of malnutrition (Gomez method)
Children aged 0-14 years
Mareerey Child Health Survey, 1985

Degree of Malnutrition	No. of Individuals	%
Normal (above 89% of std. W/A)	38	26.95
Grade I (75-89%)	50	35.46
Grade II (60-74%)	41	29.08
Grade III (below 60%)	12	8.51
Total	141	100.00

Tentative explanations may be weaning patterns and infections or infestations, to which the child becomes more exposed after the age of 2 years.

Clinical cases of marasmus, kwashiorkor and mixed forms have been observed, above all in children aged from 2 to 4 years.

The interruption of breast-feeding, which occurs between 18 and 24 months, often as a result of the mother's subsequent pregnancy, is not always accompanied by transition to a suitable diet.

The food traditionally given to children both during breast-feeding and after weaning is « mashari », a kind of highly diluted maize flour porridge. However, no other semi-solids are included in the « mashari » to facilitate the transition to an adult diet.

Therefore, the sample examined displays nutritional characteristics similar to those of other children in rural areas with a farming economy. A study carried out by the Department of Community Medicine of the National Somali University in 1981 - 82 on a sample of children aged from 0 to 5 years showed an average value of weight per age of 80% of the WHO standard and an average value of length per age of 91% of the standard. The values we found for the same age group are, respectively, 81% and 94% (Hassan et alii 1985: 6).

With respect to subjects living in urban areas, whose size has been reported by Grassivaro Gallo and Franceschetti Mestriner (1980: 550), the mean value of weight for age is 86% for males and 91% for females (89% sexes combined).

Despite variations in the indicators and the reference standards, malnutrition always seems to be a significant problem in the Mareerey village.

5. Conclusions

The high degree of community involvement in the identification of the needs and in the management of the action programme augurs well for a possible solution to some problems.

In co-operation with the village committee, CIPS has thus been able to promote works of environmental improvement such as latrines, solid and liquid waste disposal systems, land improvement at village level. It has also provided a convenient drinking water supply system by digging a well. Furthermore, it has implemented food and health education programmes.

This has been part of the more general PCH programme carried out in the

area in agreement with the Ministry of Health of Somalia, which included also the setting up of a mother-child health care service and an outpatients' service, together with the performance of analyses and free distribution of essential drugs, and linked with a Community Health Workers and Traditional Birth Attendants network, also set up as part of the programme.

It will now be necessary to make a careful evaluation of the parameters observed and to further investigate several hitherto incompletely clarified relationships between the population's living habits, its social structure and its state of health.

References

- AA.VV. 1981, *The 1980-1981 Somalia Fertility and Mortality Survey of Benadir, Bay and Lower Shebeli: a Summary*, Laboratories for Population Statistics Summary Series n° 4 University of North Carolina, Chapel Hill, mim.
- AA.VV., 1984, *Demographic and Socioeconomic Implications of Settlement Schemes for the Nomad Population in Somalia*, University of North Carolina, Chapel Hill, mim.
- Abbas, A.S. 1975, « Protein-calorie Malnutrition in the Somali Democratic Republic », *Journal of the Egypt Public Health Association*, 1, 3-4: 195-199.
- Arfaa, F. 1975, « Studies on Schistosomiasis in Somalia », *Amer. J. Trop. Med. Hyg.*, 24, 2.
- Bennet, F.J. (ed.) 1979, *Community Diagnosis and Health Action*, University of Nairobi, Department of Community Health, Bennet, Nairobi, Macmillan Tropical Community Health Manuals.
- Cahill, K.M. 1980, *Somalia: a Perspective*, Albany, The State University of New York Press.
- Cappelli, A. et alii 1985, « Primi risultati del censimento con finalità demografico-sanitarie dei villaggi di Beled-Amin e Mareerey (Lower Shebeli) », *Quaderni di Cooperazione*, 5, Roma.
- Grassivaro Gallo, P. and M. Franceschinetti Mestriner 1980, « Growth of Children in Somalia », *Human Biology*, 52.
- Hassan, I.Y. et alii 1985, « Prevalence of Malnutrition in Two Somali Villages. Methodological Experiences and Empirical Results », *Department of Community Health Research, Report n° 4*, mim.
- Jelliffe, B.D. 1966, « The Assessment of the Nutritional Status of the Community », *WHO, Monograph Series* n° 53.
- Ministry of Health, S.D.R. 1980, « National Health Plan 1980 to 1985 », Mogadiscio, mim.
- Ministry of National Planning, S.D.R. 1985, « Annual Development Plan 1985 », mim.
- Panatta, G.B. 1984, « Evaluation of WFP Assisted Project », *Food and Nutrition Aspects*, FAO, mim.
- Tresalti, E. et alii 1981, « Rilevazione sulla prevalenza e l'incidenza dell'infestazione da Schistosoma heamatobium in alcuni villaggi della Somalia, in rapporto ad un intervento di medicina comunitaria », in: *Esperienze didattiche e ricerche scientifiche della facoltà medica di Mogadiscio*, Roma.
- Trowell, H.C. and D.B. Jelliffe 1968, *Diseases of Children in the Subtropics and Tropics*, London, Edward Arnold Publishers.
- WHO, 1983, « *Measuring Change in Nutritional Status* », Genova.
- WHO, 1984, « *Epidemiological Surveillance of Communicable Diseases in Somali Democratic Republic* », National Morbidity Survey 1980-1982, mim.