Chapter 10

Health and Morbidity among Rendille Pastoralist Children

Effects of Sedentarization

MARTHA A. NATHAN M.D., ERIC ABELLA ROTH, ELLIOT FRATKIN,
DAVID WISEMAN M.D. AND JOAN HARRIS R.N.

1. INTRODUCTION

Children throughout the developing world are at risk for undernutrition and infectious diseases. Poor nutrition not only hinders physical and cognitive development (Sigman et al., 1998; Walker et al., 1998), but deleterious immune effects invite viral and bacterial infection (Kossmann, 2000a; Kossmann, 2000b). Conversely, serious infection in an otherwise well-nourished child absorbs much-needed calories and often prevents intake of food, leading to undernutrition and wasting.

According to UNICEF (2001), malnutrition is associated with half of all deaths in under-fives worldwide. The first ranks of the global disease burden and source of child mortality for children in the developing world include diarrhea, respiratory infections and malaria, with measles declining precipitously in many areas due to effective immunization (WHO, 2003). Diarrhea, respiratory infection, and malaria are the three infections most influenced by environmental exposures (WHO, 1997). Thus, when evaluating the health of children in the developing world, it is important to assess the prevalence and impact of these three disease sets.
Under-five mortality in Kenya is one of the world’s highest at 122 per thousand. Per year 132,000 under-five deaths are reported (UNICEF, 2004). The major infectious killers of Kenyan children remain diarrhea, acute respiratory infection, and malaria, although HIV/AIDS is fast becoming a risk for childhood mortality (National Research Council, 1993; Omondi-Odhiambo, 1984; UNICEF, 2004).

Pastoralist Rendille children in Marsabit District, Kenya, survive in what would seem to outsiders to be a particularly bleak, child-hostile environment, growing up in an arid and isolated region where food, clean water, sanitation, health facilities, and schools are all in short supply, and infectious diseases are constant threats. What is known of the health problems of pastoralists is limited and underscores the high prevalence of infection. Hill’s edited volume (1985) on health, nutrition, and demography in Mali assembled several non-controlled studies of farming, agro-pastoral, and pastoral groups. One study by Chabasse et al. (1985) reported that nomadic groups had higher rates of tuberculosis, brucellosis, syphilis, trachoma, and child mortality (children five and under) than settled agricultural populations. However, the latter suffered higher rates of bilharzia, and parasitic infections and more malaria and anemia, particularly among those groups living close to rivers.

The South Turkana Ecosystem Project (STEP) of the late 1980s researched ecology, health, nutrition, and fertility of nomadic Turkana of Kenya (Little and Leslie, 1999). Here researchers found that settled Turkana experienced reduced fertility, increased morbidity (particularly from malaria) and increased child mortality. Settled children under five showed more growth stunting than nomadic children, although settled children over five were heavier, which was attributed to greater role of carbohydrates in their diets, particularly for children receiving supplemental feeding in schools. Nomadic Turkana women, however, were taller, heavier, and had lower blood pressure than settled women (Brainard, 1990; Campbell et al., 1999; Galvin, 1992). Previously, Brainard (1986) found that nomadic Turkana suffered substantially higher infant mortality than settled Turkana agriculturalists, and Murray et al. (1980) noted increased iron-deficiency but overall decreased morbidity among pastoralist Turkana when compared with settled fish-eating Turkana.

2. RENDILLE SEDENTARIZATION PROJECT

The Rendille Sedentarization Project was undertaken to evaluate the health and nutrition of Rendille pastoralists and assess the impact of the many aspects of sedentarization, focusing particularly on women and children. When pastoralists settle in Marsabit District they change their relationship to towns, clinics, work, markets, schools, and water. Settling introduces Rendille children to exposure to disease in more densely populated settlements but may also bring increased sanitation and safer child-rearing practices through maternal education (see Roth and Ngugi, this volume, Chapter 13).

Long distances and lack of transportation limit access to preventive and curative services for traditional Rendille pastoralists. Average distances traveled by patients to Laisamis Hospital, the closest hospital for our nomadic study population, were 60 km according to a study by the Ministry of Planning and National Development. (Ministry of Planning and National Development, Kenya, 1994b). Moving near towns shortens that distance considerably allowing preventive—immunization—and early interventive services for acute serious infections.

Settling may also introduce environmental change. Rendille traditionally live in the dry lowlands of Marsabit District in small nomadic villages like Lewogoso. There and in