MAKING DECISIONS ON HEALTH CARE:
Household Management of Malaria and Visceral Leishmaniasis (Kala-azar) in Baringo, Kenya

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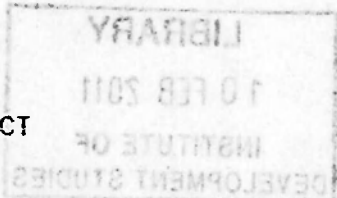
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ABSTRACT

When confronted with illness, households have to make decisions on the type of health care to seek. Studies in social medicine have in recent years attempted to delineate the factors which influence illness behaviour (health seeking behaviour). In medical anthropology, the major focus has been on the role of aetiological beliefs and cultural factors while sociologists have identified enabling and predisposing factors as the key factors behind health seeking behaviour. This paper discusses from these two perspectives, household management and decision making on two illnesses: malaria and visceral leishmaniasis (Kala-azar).

Data from this study shows that the factors influencing illness behaviour in relation to the two diseases include: cost, perceived efficacy of treatment, quality of care, accessibility and symptom identification. Gender and social networks also play an important role in influencing household decisions on health care. Multiple use of therapies emerged in the treatment of malaria and Kala-azar. The decision to use more than one health resource (provider) seemed to have been largely due to the failure of an earlier treatment to effect cure and the perception that the resource used as an alternative would be able to cure the disease. Households utilised these various health resources either simultaneously or sequentially during a single illness episode.

The study argues that constraints to seeking health care can be traced to the structural organisation of the health care system and to some extent to households' social conditions. The paper concludes with policy suggestions whose implementation could lead to better maximisation of health care resources by households.

1.0 INTRODUCTION

How do individuals and/or households make decisions on health care when confronted with illness?. What factors influence these decisions?. Studies in social medicine have in recent years attempted to address this issue. Broadly, the factors which have been identified as influencing illness behaviour (health-seeking behaviour) have been social, cultural, economic and political. In anthropology and medical anthropology in particular, the major factors associated with illness behaviour have been aetiological beliefs (ethnomedical beliefs) and world views (using explanatory models of illness).

Most of the research on ethnomedical systems has focused on issues of classificatory characteristics of medical phenomena, the meaning of illness and how ethnomedical knowledge influences illness behaviour (Rubel and Hass, 1990; Wellin, 1978; Fabrega, 1977; Good, 1987; Fabrega and Manning, 1979). This approach aims to understand how a group or a society's system of medicine functions, and attempts to delineate different systems of medicine. This view of disease holds that notions of disease causation, dynamics and treatment are always elements of the individual culture (Fabrega and Manning, 1979). Within this approach, medical belief systems are viewed as sets of premises and ideas that enable people to organise their perceptions and experiences of medical events and organise their interventions for affecting and controlling these events (Young, 1983:1205). The ethnomedical approach focuses on understanding how illness is constructed within a specific cultural milieu.

There is a general consensus among ethnomedicologists that illness aetiologies define diagnostic procedures and therapeutic choices (Foster and Anderson, 1978; Scrimshaw and Hurtado,1988; Rubel and Hass,1990). Many anthropological studies have tended to emphasise the importance of ethnoclassifications and illness behaviour (Janzen, 1978; Yoder, 1982; 1981; Sargent, 1982). From these studies, it has been observed that illness thought to be due to super-natural agents is treated with traditional medicine.

This approach places particular emphasis on the "meaning contexts of illness" that is, health, disease and illness are interpreted in light of the many ways these terms are perceived by patients, families, practitioners and communities. According to Good, in the ethnomedical approach, episodes of

sickness are interpreted in terms of Explanatory Models (EMs) that are used by practitioners in all health care systems (Good,1987). Thus, Kleinman's Explanatory Models of illness, function as guides for action in that they orient therapeutic choice and illness management (Kleinman,1980).

More recent studies in anthropology have criticised this approach (Morsy, 1980; 1981; Onoge, 1975 and Gallagher, 1989). It is argued that ethnomedical accounts only provide superficial descriptions of beliefs and practices from a relativistic perspective which stresses their functional utility while ignoring the basis of their existence and perpetuation (Morsy, 1980). Onoge has termed the failure of ethnomedical studies to locate beliefs and meaning systems within the existing social structures - "socioculturism" (Onoge, 1975). Similarly, Morsy has pointed out the need for ethnomedical studies to recognise the dialectical relationship between the beliefs people hold and the social conditions under which they live (Morsy, 1981; 1990). Other studies have emphasised that verbalised categories, explanatory models and other knowledge may not be predictive of consequent behaviour (Rubel and Hass, 1990). Thus, any discussion on illness behaviour of necessity needs to take into account other factors rather than beliefs alone.

In medical sociology and medical geography, studies on illness behaviour have focused on enabling and predisposing factors. These are factors that facilitate the use of particular health services such as geographical accessibility, quality of health care and cost. Also individual characteristics such as socioeconomic status, occupation and education. The assumption in this model is that utilisation of health resources is a function of both personal attributes and organisational structures (Anderson 1968). This model has been basically used in studies conducted in Western societies, particularly in the United States (Suchman, 1965; Rosenstock, 1966; Wan and Soifer,1974; Mechanic and Aiken, 1989). However, more recent sociological studies have used this conceptual framework with varying outcomes in developing countries (Subedi, 1989; Fosu, 1989; Rauyajin,1991).

In this model, utilisation of health services is viewed as a result of predisposing factors such as age, sex, family size and composition, education and social class. It is held that people with some of these dispositions are

more likely to use health services even though the characteristics are not directly responsible for their use of health services. The argument is that although individuals may be predisposed to use health care resources some means or enabling factors must be available to them if they are to utilise these resources (Rauyajin, 1991). Thus, enabling factors such as geographical accessibility, communication between healers and patients, quality of care and cost are necessary for health-seeking behaviour to occur.

While in the ethnomedical approach, the underutilisation of medical resources has been attributed to aetiological beliefs of peoples in non-Western societies, studies using the sociomedical approach, and those informed by the political economy approach show structural factors to be more important (Young and Garro, 1982; Young, 1981; Morsy, 1980; Schulpen et al. 1980; Gesler, 1979).

Drawing from the above theoretical perspectives, this paper discusses the factors which influence household illness behaviour in the event of malaria and visceral leishmaniasis (also known as kala-azar)[1]. This is important because it is a well known fact that for effective disease control measures to be implemented, there is need to understand peoples perceptions of illness, patterns of treatment, illness behaviour and the manner in which decisions on efficaciousness of treatments are made (Oaks, et al. 1991).

In order to adequately discuss illness behaviour for these two diseases, a brief discussion of each disease is necessary.

1.1 Malaria

Malaria is one of the most widespread infectious diseases in the world. Approximately 2.6 billion people are at "risk" of malaria world-wide. Of these, 500 million are in Africa. The disease results in 100 million clinical cases and about one million fatalities per year (Nevill, 1990).

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[1] The term kala-azar is used in this study to refer to this disease because although it is a Hindi word meaning "black fever", many people in Marigat use this term in reference to the disease.

Malaria is an infectious disease caused by protozoal parasites of the genus **Plasmodium**. The four **Plasmodium** strains responsible for malaria in humans are: **Plasmodium falciparum, Plasmodium vivax, Plasmodium ovale and Plasmodium malariae.** Transmission occurs when sexual parasite forms are ingested by female mosquitoes of the genus **Anopheles.** The incubation period of malaria (the time between the infection and the first appearance of clinical signs) is shortest for **P.falciparum** (12 days) and longest for **P.malariae** (average 28 days). Clinical symptoms generally develop within eight to thirty days of inoculation of infective parasites.

The symptoms of **P.falciparum** include: headache, malaise, nausea, vomiting and generalised joint pains. Also present may be sequential chills, fever and sweating. These attacks coincide with parasite multiplication in red blood cells. As the parasite population in the blood increases, the symptoms intensify. On physical examination, the liver and spleen may be enlarged and tender. Some extreme consequences of this disease are gastro-intestinal complications, cerebral malaria, renal failure and severe anaemia (World Health Organization [WHO], 1984). It is this form of malaria that is endemic in Baringo.

Prompt diagnosis and early treatment are essential in the event of malaria and delay in chemotherapy serves to increase mortality and morbidity. The only proof (diagnosis) of infection is finding malaria parasites in peripheral blood. However, since this procedure is expensive and/or often unavailable in most developing countries, clinical diagnosis and presumptive treatment is used. Chemoprophylaxis has been used to provide the best protection against malaria. Chloroquine, the most common drug of choice in the treatment of malaria, is widely used although parasite resistance has been observed (Litsios, 1993). Control of the mosquito vector with chemical insecticides and larvicides, larviparous fish and biological control agents and through environmental measures aimed at eliminating mosquitoes, are the most commonly used methods. Unfortunately, these methods have not been very successful in the control of the disease over the last four decades (Miller and Warrel, 1990; Litsios, 1993).

1.2 Visceral Leishmaniasis (Kala-azar)

Leishmaniasis are infections caused by protozoan parasites of the genus
Leishmania. This disease is probably the least known, most misunderstood and
least studied of the major parasitic diseases (Walton, 1988:1). In 1979, the
World Health Organisation estimated that there were about 400,000 new cases of
the disease every year. However, Walton estimates that there may be as many as
1.5 to 2 million cases. Leishmanial infections are caused by intracellular
protozoan parasites transmitted by over 50 species of female sandflies of the
genera **Phlebotomus** (for old world forms of the disease) and **Lutzomyia** (for new
world forms). The leishmaniasis affect human beings in three different forms:
Mucocutaneous leishmaniasis affects the mucous membranes, cutaneous
leishmaniasis which mainly affects the skin, and visceral leishmaniasis which
affects the liver and spleen.

The onset of kala-azar is gradual after contact with an infected
sandfly. Its incubation period varies from 10 days to over a year (WHO, 1990).
The breeding and resting sites of sandflies are diverse and widespread. They
include: termite hills, tree trunks, and rodent burrows among others. The
symptoms of kala-azar are, recurrent fever, malaise, weight loss, wasting,
enlargement of the liver and spleen, anaemia and in some cases diarrhoea.
kala-azar is not only a debilitating disease but mortality has been shown to
be over 90% in untreated cases (Southgate, 1981). If not treated kala-azar
could lead to an average number of 100-200 days of disability per case per
year (Walsh, 1984). In addition, kala-azar is a threat to survival and the
development of children in sparsely populated-underdeveloped areas where it
occurs (UNICEF, 1989a, 1989b; Kaendi, 1986).

In Kenya, the first cases of the disease were documented in the 1940s
(Cole, Cosgrove and Robinson 1942; Anderson, 1943). It is believed to have
been introduced to the country from the neighbouring countries of Ethiopia and
Sudan during the Second World War. The above authors reported that African
soldiers had become infected while camping North of Lake Rudolf (Now Lake
Turkana). Heisch (1954) noted that since 1941, kala-azar cases were being
reported in three localities of Saricho on the Uaso Nyiro river, in the Rift

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Valley; Ngomeni between Kitui and the Tana River and Machakos district. Kala-azar has continued to show rapid spread in Kenya since the 1940s (Mutinga et al., 1989). The geographical distribution of the disease shows that it is prevalent in economically marginal semi-arid areas. These areas are characterised by hot and dry climate with rainfall, vegetation and temperatures varying from year to year. The five major foci for the disease in Kenya are: Kitui, Meru, Machakos, Baringo and West Pokot districts.

This study investigated both malaria and kala-azar as they tend to exist in similar geographical areas of the country. These two diseases present similar symptoms and depending on the stage of illness the diseases may be confused with one another (Wyler et al. 1990). As Southgate has correctly pointed out: "Kala-azar infection gives rise to a slowly progressive disease which resembles a long-drawn-out episode of malaria" (Southgate, 1981). There have also been suggestions that the treatment of malaria or kala-azar may, while achieving their aim, complicate a superimposed infection or cause a recrudescence of a latent one (Cox, 1987). In a preliminary survey conducted in Baringo in 1989, we found that some of the people we interviewed tended to "confuse" the two diseases. Indeed, kala-azar was perceived by some as an advanced stage of malaria. However, it should be pointed out that while the respondents thought of kala-azar to be advanced stage of malaria, the two diseases are still recognised as being different through their different names and aetiologies. Given this backdrop, we simultaneously studied both diseases with the aim of identifying how households manage the treatment of these rather "similar" diseases.

1.3 Study Setting

Marigat division was the area of study. Marigat is one of seven divisions in Baringo district, the others being: Kabarnet, Kabartonjo, Nginyang, Eldama Ravine, Mogotio and Tenges. There are four locations in Marigat division where this research was carried out. These locations are: Loboi, Mukutani, Marigat and Njemps. These locations are in turn sub-divided into sub-locations and villages. There are 86 villages in the division and the population in 1989 was estimated to be between 20,000-35,000, with

approximately 3,609 households.

Marigat is one of the marginal dry semi-arid parts of Baringo district. In terms of social services, such as schools, health facilities and roads the division had by 1988, 3 secondary schools out of 37 in the district (Republic of Kenya, 1989b). The division is served by one health centre, five dispensaries and one catholic run clinic. The district hospital, which is a referral unit, is located 40 kilometres from Marigat. Like most semi-arid regions, unfavourable climatic conditions complicate the lives of the people of Marigat.

Marigat was chosen as the area of study because of the coexistence of malaria and kala-azar in the division. This gave us an opportunity to study both diseases simultaneously with the aim of understanding illness behaviour of people in an endemic area. Equally important was the fact that Marigat has an irrigation scheme with a high incidence of malaria and kala-azar.

2.0 RESEARCH DESIGN

In collecting information on household illness behaviour, qualitative ethnographic and quantitative methods were used. The advantages of combining these methods in medical anthropology have been noted by Scrimshaw and Hurtado (1987); Pelto and Pelto, (1990) and Bernard, (1980). Figure 1 gives a summary of the research design used in this study.

Figure 1:   Summary of Research Design

Research Method	Sample Size	Types of Data Collected
Screening Survey	N=699	- Illness experience - If household had a case of malaria or kala-azar during the time of interview or in the past
Structured questionnaire (interview schedule)	N-608	Predisposing, enabling and belief factors and illness behaviour patterns for malaria and kala-azar
Ethnographic interviews (unstructured interviews, conversations e.t.c.)	N=32	- In-depth interviews - Individual and household experience with malaria and kala-azar
Observations	In all households	Observation were made in all households visited but more specifically in the 32 households and in health facilities. Observed were: - Household illness behaviour and interactions at health facilities. - Ambience e.t.c

2.1   Sampling

Since this study focused on households that have had malaria and/or Kala-azar and the management of these illnesses, the household was the unit of analysis. The use of the household was important because studies on illness behaviour show the household to be the key decision-making unit (Pelto and Pelto 1990; Arcury, 1984; Abasiekong, 1981; Litman, 1974). Given the problems related to obtaining satisfactory sampling frames in many rural areas, a multi-stage cluster-stratified procedure was used to select the study population (Peil, 1982; Babbie, 1992; Bailey, 1987). A total of 608 households were interviewed. In order to allow for randomness and to cover a large geographical area, the division was stratified into the existing four locations. In each location, a list of the sub-locations was made (there were four sub-locations in each location with the exception of Mukutani, where there are 3) and 2 sub-locations randomly selected in each making a total of 8 sub-locations. In the eight sub-locations, a list of all villages was drawn

and consequently a random sample of two villages (in each sub-location) was drawn, thus a total of 16 villages.

To select the study population in each of the 16 villages, households were randomly visited using the screening questionnaire, upto 38 households per village were visited to find out if anybody had suffered from malaria and/or kala-azar. The total number of households interviewed using a structured questionnaire was 608 (that is, 38 households per village in 16 villages). These six hundred and eight included households with **either** or **both** diseases. The study used an unlimited recall period for both diseases. Although the problems related to data based on recall periods have been noted (Vosti, 1990; Kroeger, 1985), the unlimited recall period approach was preferred because it is not culturally restrictive. The use of this method was based on findings elsewhere (Nchinda, 1977) which show that people tend to remember major illness episodes which necessitate the use of health resources irrespective of the time period while minor ones are unlikely to be reported.

Internal to the 608 households, a purposive sub-sample of 32 households with at least one member (during the research period) suffering from malaria/kala-azar or both diseases were selected. This amounted to 2 households per village. This allowed for in-depth ethnographic interviews and also enabled us to observe the behaviour of household members when relating to the sick individuals. Ideally, this sub-sample should have been used as a basis to gather background information for developing comprehensive interview schedules. However, this had been done through the preliminary survey carried out in 1989. This sub-sample (of 32 households) allowed for indepth ethnographic work to understand the complexities involved in illness behaviour.

2.2   Data Collection

The data collected were based on interviews with heads of households, some of the sick individuals and on observations. The data were collected by the principal investigator assisted by four research assistants who were fluent in Tugen and Ilchamus languages.

2.2.1 Screening Questionnaire

A screening questionnaire, the aim of which was to identify households that had malaria and/or of kala-azar, was used. This questionnaire was brief and consisted only five questions. It comprised an introduction to the study and asked the respondents/informants if anybody in their household had suffered from one or both of these diseases. Since the aim of the study was to interview households that had experienced either of the diseases, if no household reported malaria or kala-azar illness, we thanked the respondent and moved to the next randomly selected household.

2.2.2 Structured Questionnaire

In addition to the screening questionnaire, the study relied more on structured questionnaires which were administered to 608 households. The aim of this questionnaire was to gauge information on issues related to malaria and Kala-azar. The information gathered from the 608 households was based on: self-diagnosis, recall and proxy-reporting on sick household members by heads of households. The major issues raised in this interview schedule included: household demographic characteristics, aetiological beliefs on the two diseases, enabling and predisposing factors in relation to illness behaviour.

2.2.3 Unstructured Interview Schedule

Other data collection techniques used were: unstructured interview schedules with a selected sub-sample of 32 households. These ethnographic interviews discussed issues relating to illness in the household, decision-making on health care for sick persons, types of home treatments used (if any) and the interaction of household members with sick individuals. Whenever possible, conversations were held with the sick individuals. The unstructured interviews proved to be very useful as no illness episode is experienced in a similar way either by the sick individual or household members. Also, the nuances that were missed in the structured interview schedule were minimised since there was more spontaneity and people were more willing to ask questions and in discussing their predicament.

2.2.4 Observations

Observations were made during the research period. Of particular
interest were: household characteristics, experiences in health facilities,
distances from households to health facilities and modes of transportation. In
the 32 cases, observations were made on the sick persons (during our visits)
especially on their interaction with other household members, what activities
if any, they were involved in during the illness episodes and general aspects
of illness experience. This form of data collection allowed us to observe
salient behaviour patterns in relation to sick individuals and unlike the
interview schedules, it allowed for flexibility as this procedure was non-
obtrusive.

3.0   RESULTS

3.1   Socio-demographic Characteristics

The research was carried out between January and October 1992 in
Marigat. Of the 608 households interviewed, thirty two of these were revisited
for in-depth ethnographic interviews. Interviewed were heads of households
although other adult members were also interviewed whenever the head of
household was not available. Since this is a patrilineal society, the husband
was considered the "head of the household". In the absence of the husband,
wives were interviewed and since demographic information on them and their
households was collected, they were treated as heads of households for the
purposes of analysis.

The inclusion of other members of the household as respondents was based
on our definition of the household which included other household members-
especially unmarried sons and daughters. This definition was based on the
assumption that since illness is experienced in the nexus of the household,
most adult members were likely to be knowledgeable on most of the major
illnesses suffered within this context. Of all the respondents, 40 per cent
were male while 60 percent were female (Table 1). Of the 608 households in our
study sample, 51 percent of those interviewed considered themselves heads of
household while 49 percent did not. Of the 49 percent, 40 percent were
wives, 5 percent daughters, 3.8 percent sons and 0.2 percent other relatives.

The average number of household members was 6 persons per household.
This was because the extended family, although it plays an important role in
health and social matters, it is nevertheless not included in the definition
of a *kapich* or *enkang* (household) by the Tugen and Ilchamus. Most of the
information on illness episodes and their management was through proxy
reporting by the respondents except in the 32 cases, and in instances where
the respondent was sick.

Table 1:   Socio-demographic Characteristics Of Study Population
(Households)

Demographics	Households	
	N	%
Sex of Respondent		
Male	243	40.0
Female	365	60.0
Age of Respondents (years)		
18-35	313	52.0
36-45	201	33.4
46+	88	14.5
Formal education		
None (no education)	345	56.7
1-8 years	226	37.2
Over 8 years	37	6.8
Marital status		
Married	484	79.6
Un-married	58	9.5
Other	55	9.0
Households Reporting Illness		
Malaria	463	76.2
Kala-azar	383	63.0

The informants were aged between 18 and 65 years with the mean age being 35 years. The age structure shows that there were very few young or old "heads of households" while less than 5 percent were over 55 years. Although average educational levels in Kenya have increased substantially over the last several decades, a majority of those interviewed (57 per cent), did not have any formal education as portrayed by table 1 above. There were however age differences and the younger the respondent, the more schooling (formal education) they had. Similarly, there was a close relationship between gender and education with a majority of those with no education being female. However, younger females and males tended to be more advantaged in terms of education than their older counterparts.

3.2   Socio-Economic Status of Households

The following indicators were used as a measure of household socio-economic status: education, occupation (that is what the respondent does to earn a living), ownership of property such as a radio, bicycle, livestock (cattle, goats and sheep), housing condition (for example material used for walls and roofing) and area of farmed land. Many of these indicators have been found to be appropriate in measuring social and economic status of rural communities (Cortinovis et al. 1993).

3.2.1 Occupation and Income

Since many of those interviewed did not have a salaried employment, they were asked what they did to earn a living (occupation). Thirty seven percent were subsistence farmers who earned their living from selling farm produce. Fifty five percent said they reared and sometimes sold livestock for an income and were not in a position to calculate their monthly income as it varied depending on their sales. Five percent were casual labourers (with an unsteady income as their payments depended on the availability of work). Twenty eight percent of the households had at least a household member who was employed. These included: 65 percent of the husbands, 24 percent of sons, 7 percent brothers and 3 percent wives. Twenty six percent of the households

were assisted financially by employed members of the family who earned
approximately 600 Kenya Shillings per month.

Education was closely related to other socio-economic factors such as,
occupation and income. Of the farmers engaged in crop farming, 60 percent had
no education while among those with over eight years of education only 2
percent were farmers. Sixty five percent of those without education sold
livestock while only 32 percent of those with between one and eight years of
education sold livestock. Thus, the higher the level of education, the less
likely the respondents were to be involved in farm and livestock activities
with the majority having salaried employment.

3.2.2 Housing Conditions

The importance of housing on health has been noted in several studies
(Mutinga et al. 1992; Castro and Mokate, 1988). Housing is not only an
indication of social status but can also lead to exposure to disease vectors.
Sixty four percent of the households in this study had houses whose walls of
the main living structure were made of "adobe" while 29 percent they were
made of sticks. These types of housing could be considered "poor quality" in
that they leave gaps which allow for the free movement of mosquitoes and
sandflies during the day and at night. The "adobe" walls also act as good
resting sites for these vectors. Eighty seven percent of the roofs were
thatched with grass while 13 percent had used iron sheets. In 95 percent of
the households, the floor was earth. This type of floor was common in houses
constructed of sticks or "adobe". The quality of housing was closely related
to education, salaried employment and partly to occupation in that those with
an education, salaried employment and whose occupation had monetary income had
slightly better quality housing.

3.2.3 Land and Livestock Ownership

Ninety six percent of the households estimated the land they were living
on to be between .45 and 2.25 hectares. Unlike many parts of the country, land
has yet to be adjudicated in Marigat and not surprisingly a large proportion

(65%) of the households indicated the land they were living on to be
"communal". Most of the land is used for livestock-rearing with little
subsistence farming. Marigat being a semi-arid area offers better opportunity
for livestock rearing than crop farming. The ownership of large numbers of
livestock was important in gauging household socio-economic status. For
example, many of the large stock owners indicated that they were able to sell
and sometimes buy more livestock. Observations showed that their households
had better "living standards".

3.2.4 Property Ownership

Household ownership of property other than livestock was also noted
during the study. Fifty four percent of the households owned a radio while 41
percent owned a bicycle. The ownership of these items was used at one level as
a proxy measure for "wealth". When household ownership of a radio was cross
tabulated with education, 72 percent of those with over 8 years of education
owned a radio. There was a significant relationship between education and
ownership of a radio (P:.001).

From the above brief discussion it can be argued that, the people of
Marigat are farmers who also keep and sell livestock and generally have low
levels of education and income. However, those households whose head has
formal education tend to be advantaged in several aspects: they have better
housing, income and own property. It is within this background that illness
behaviour takes place in Marigat.

4.0   HOUSEHOLD ILLNESS BEHAVIOUR(HEALTH-SEEKING BEHAVIOUR) FOR KALA-AZAR
4.1   Patterns of Resort to Therapy

The process of seeking health care in the event of kala-azar is very
complex. What seems to be a hierarchical pattern, on closer observation shows
that various health systems are used alternatively or simultaneously and
sometimes successfully. When asked for their first source of care in the
treatment of kala-azar, 54 percent of the households indicated the use of
public health facilities, while 37 percent had used *duka*, private or mission
health facilities. The remaining 9 percent had used medicinal plants (Table

2). Due to persistence of the illness, 60 percent had used private facilities as their second source of care, while 53 percent had used it as a third alternative. Similarly, the number of households using medicinal plants increased for second and third choices of care suggesting a reliance on indigenous medications when Western biomedicine was perceived to have failed in the treatment of the disease.

Table 2:   Patterns of Resort to Therapy in the event of Kala-azar

Type of Resource	First source		Second Source		Third Source	
	N	%	N	%	N	%
Government health centre/dispensary	196	53.8	41	23.6	17	22.4
Mission/private	136	37.4	104	59.8	40	52.6
Medicinal plants	32	8.8	29	16.6	19	25.0
Total	364	100.0	174	100.0	76	100.0

The increasing use of indigenous medications in the treatment of kala-azar, suggests a "top - bottom pattern" that is, moving from the "best equipped" Western based health facilities to reliance on indigenous medicinal plants. As can be seen from Table 2, while the number of households using public health facilities declined, those using medicinal plants and private institutions as a second and third alternative increased. The observations made on the reliance on culture- specific indigenous treatment as "last resort" is interesting as the reverse trend has been reported in studies elsewhere where home remedies and herbal medications are used as the first line of treatment (Subedi, 1989).

Several factors may explain this high reliance on medicinal plants. The unavailability of medications for treating kala-azar in the health centres and dispensaries may have made households resort to indigenous forms of treatments which although they do not effect cure, they are said to offer reprieve to the sick. The use of these forms of treatments, in our view, is an expression of a desperate need for efficient and effective ways to treating

the disease. In the treatment of kala-azar, the medicinal plant mostly used was *ngwadere* (*Ajuga remota Benth.*). Observations suggest that, in many of the households with kala-azar, this form of treatment had been used at some point during the illness episode.

Although it was not widely reported, some respondents acknowledged purchasing *duka* medications for the treatment of kala-azar. The medications mostly used were chloroquine and analgesics. Unfortunately, the use of aspirin-based medications can complicate kala-azar (Anonymous, 1993; Chunge et al., 1990). Ethnographic interviews revealed that, once the household "diagnosed" the disease as kala-azar, there was less likelihood of using *duka* medications. Thus, the use of these medications may be as a result of the "confusion" presented by the initial symptoms of kala-azar and malaria.

Data from this study shows that, in the management of kala-azar, households use different forms of therapies which involves moving back and forth between different health resources. As the following case shows, the management of kala-azar can be complex and costly to the household. One mother explained about the management of her daughter's illness:

> When Jane's illness started in April we thought it was *esse* (malaria), so we bought some *malaraquine* and aspirin tablets from the *duka* and gave her. After six days, Jane became very sick with stomach ache and was unable to walk. We gave her *ngwandere* (*Ajuga remota*) and *mogwo* but there was no improvement in her condition. In mid-May we took her to the mission clinic in Marigat where she was given some medication. Upon taking the medicine Jane become very ill and had to abandon the prescription all together. By the end of May, Jane was taken to a private hospital in Eldema Ravine by her elder brother and was given a prescription to go and buy medicine from Nakuru (some 150 kilometres away from her home). A few days later, Jane and her brother made the journey to buy the medicine which she took upto July. Although the medications offered reprieve, they did not cure the disease. Since July, Jane has been taking *ngwandere* again. I estimate the whole treatment to have cost approximately Ksh. 2100 (US$ 30)[2]...... Although we would like to take Jane to the hospital, we have no money as most of our meagre income is going to the education of our son who is in high school....

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[2] The exchange rate used in this study is US$ 1 to Kenya Shillings (Ksh.) 70 in 1993.

This household's experience with illness shows the complexity of the dynamics behind seeking health care and the use of different therapies in the event of kala-azar. The use of multiple sources of care does not necessarily mean choosing between different health care systems, but also, choice within the same system. In search for effective cure, Jane's family had utilised different health care alternatives. This illness behaviour is consistent with observations by Heggenhougen (1980) that, in severe and prolonged ailments, individuals tend to seek alternative health services when the options previously used fail.

The majority (98%) of the households reporting kala-azar had sought some form of health care. No therapy was sought in 2 percent of the cases. The major reason why no treatment had been utilised was that the illness was not severe. Other reasons advanced for not using therapy included: improvement of the illness and reluctance on the part of the sick person to go to a health facility. There was a total consensus among the respondents that kala-azar is a fatal disease, especially when not treated.

4.2   Determinants of Illness Behaviour for Kala-azar

Various factors have been identified as influencing illness behaviour. In relation to kala-azar, the following factors emerged as the major determinants of household illness behaviour: accessibility, efficacy of care, cost, income, severity of illness, referral by medical personnel (enabling factors) and predisposing factors such as education and occupation. These factors and their relevance to illness behaviour are discussed in the following sections.

4.2.1 Aetiology and Illness Behaviour

The ethnomedical approach in anthropology largely focuses on peoples' cultural beliefs on illness and disease cosmologies. Findings from this study show that the majority of the respondents (83 percent) did not associate the disease with the known biological vector. Only 17 percent associated the disease with a "fly from termite hills" (interpreted to mean the sandfly). But none of the respondents attributed the disease to "super-natural causes".

Interestingly, aetiological beliefs did not seem to be directly related to illness behaviour as many of the households used public health facilities as their first major source of care irrespective of aetiological beliefs. This behaviour is consistent with observations made elsewhere that people may choose therapeutic modalities from one healing tradition while using aetiological schemes from a different tradition (Ngowkey, 1984).

4.2.2 Accessibility and Illness Behaviour for Kala-azar

Of the households with kala-azar, 282 (being 74 percent) considered existing public health care resources to be accessible to their households, while 26 percent did not. Chi-square analysis showed that, utilisation of health resources was closely related to perceived accessibility (p<.05). The more accessible health facilities were perceived, the more households utilised them in the treatment of kala-azar.

4.2.3 Perceived Efficacy of Treatment and Illness Behaviour for Kala-azar

Although accessibility was a major determinant in the initial use of health facilities, efficacy of treatment influenced not only decisions on the health resources to be utilised but continued utilisation was based on perceptions of efficacy. Past experience with health care resources had a bearing on perceptions of efficacy. For example, the use of public health resources for initial care was very high (Table 2). However, when the illness persisted, many households abandoned their use and searched elsewhere for therapy.

Private health facilities were considered the most efficacious in the treatment of kala-azar. The main reason for identifying these facilities as being efficacious was that they had "effectively cured the disease". In addition, the efficacy of private health resources was associated with the availability and quality of medications. Among the respondents who answered the question on efficacy, many explained that their utilisation of private health resources was influenced by the existence of "effective" medications. Clearly, perceived efficacy explains the patterns of utilisation which emerged earlier (Table 2) where for a second and third source of care, households were

more inclined to use private facilities. There was less likelihood of
households utilising public facilities more than once (Table 3).

Table 3:   Multiple Utilisation of the same Resource in the Treatment of
             Kala-azar *

Number of Times Utilised	Type of Resources					
	Private		Public		Indigenous	
	N	%	N	%	N	%
Once	161	73.8	191	84.5	80	100.0
Twice	52	23.9	27	12.0	-	-
Three >	5	2.3	8	3.5	-	-
Total	218	100.0	226	100.0	80	100.0

*   *Does not show the order in which the resources were utilised*

       While not many households used any one health resource more than once,
ethnographic interviews, revealed that such decisions in regard to private
health facilities were constrained by financial resources than perceived
efficacy of the services offered in these facilities.

4.2.4 Cost of Health Care and Illness Behaviour for Kala-azar

       The use of multiple forms of therapies necessitates financial costs both
for the purchase of services, medications and transport. Of the 238 households
with kala-azar and who had paid for treatment, 181 (76 percent) had paid over
Ksh.203 (US$ 3). There was a significant relationship between illness in the
household and treatment costs (P<.01) suggesting that a large number of
households with kala-azar were having to pay for health care. The
unavailability of medications in government health facilities may in part
explain this additional cost due to the reliance on private health care and
medicinal plants.

       Of those who had spent over Ksh. 203 on treatment, 33 per cent had paid
for medicinal plants, suggesting that despite the use of indigenous resources,
households do pay for these types of treatments as well. Given the perceived

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fatality of kala-azar, it would appear that households are willing to pay for any form of treatment as long as the care is deemed better than the one previously used. Cost was one of the major deterrents to the use of "effective care". In addition to the factors mentioned above, other determinants of household illness behaviour included: referral by medical personnel (20 percent) and severity of illness (29 percent). The use of health resources based on referral by medical personnel was very common in the management of kala-azar because most of those who sought care at dispensaries and the health centre (public) suspecting kala-azar, were referred to the district hospital or private facilities since the dispensaries do not have the necessary medications.

4.2.5 Socio-Demographic Factors and Illness Behaviour

Some of the predisposing factors such as occupation, education, income and property ownership had a bearing on household illness behaviour for kala-azar. A higher proportion of those engaged in crop farming (88 percent) indicated the use of public health resources, compared to 70 percent of those involved in rearing and selling livestock. Those involved in the sale of livestock (large stock owners) seemed more inclined and able to use private institutions (23 percent as opposed to 3 percent of the crop farmers). Education also had an influence on illness behaviour. Those with more than 8 years of schooling (39 percent) utilised private health resources compared to 31 percent of those without an education. However, since many of the households (even those without an education) had utilised private health resources, the observed relationship was not very significant. Ownership of property also influenced illness behaviour in that, those who owned property tended to utilise private health resources more often.

In the search for cure, households with kala-azar tended to utilise many of the health resources available to them. Clearly, the problem was not one of awareness of the appropriate form of treatment, rather, the inability to purchase the treatment. We observed that, private health resources had been utilised in many cases of severe illness or extended morbidity. Unfortunately,

utilisation of these facilities had been discontinued due to lack of financial resources in many households.

Although enabling and predisposing factors influence household illness behaviour in relation to kala-azar, age, gender and marital status of the head of household were not significantly related to illness behaviour. Although more females, younger persons and married respondents reported seeking health care, there was no significant relationship between these Individual characteristics and household illness behaviour.

5.0 HOUSEHOLD ILLNESS BEHAVIOUR FOR MALARIA

5.1 Malaria and the Search for Therapy

The health-seeking process has been noted to be a sequential process involving several stages (Cleary, et al. 1982). These stages, according to Cleary occur concurrently and are complex and difficult to disentangle. In Marigat, once malaria had been "diagnosed" (through symptom identification), various health resources were utilised in the treatment of the disease. The majority of households with malaria (96%) reported having utilised some form of care during the period of illness. Only four percent indicated that no treatment had been sought. The reasons why no treatment was sought included: the fact that the illness was not severe, the health facility was too far away from the household, the person was too ill to walk to the health facility and the fact that there was nobody in the household to take the sick individual to the health facility. Observations in some of the households who reported that "no treatment" was sought, revealed the use of medicinal plants, thus suggesting possible under-reporting in the use of this form of treatment.

Initial care for malaria was sought in public health facilities (Table 4). However, despite the large number of households using these facilities, there was a steady decline among those who utilised them as a second and third source of care, while the utilisation of private and medicinal plants increased, except for medicinal plants which declined as a third alternative (Table 4).

Table 4:   Patterns of Health Resource Utilisation In The
            Treatment of Malaria

Type of Resource	First Source		Second Source		Third Source	
	N	%	N	%	N	%
Heath Centre/Dispensary	325	73.5	61	31.8	8	12.7
Mission/Private	65	14.7	78	40.6	36	57.1
Duka medication	21	4.8	20	10.4	10	15.9
Medicinal Plants	31	7.0	33	17.2	9	14.3
Total	442	100.0	192	100.0	63	100.0

The "free" medical care provided in public health facilities (during the
time of this study) may account for the high utilisation of these facilities
especially among poor rural households. Similar observations have been made by
Mwabu and Mwangi (1986). While households seem to have confidence in the
efficacy of medications and treatment at the public facilities, when used over
a period of time without effecting cure, many seemed to abandon them for other
alternative forms of treatment (Table 4). Observations made in households
suggest that the use of medicinal plants may be more widespread than was
reported by the respondents.

Many of the households tended to utilise the different forms of therapy
only once (Table 5). Thus, while there was multiple use of therapies, if one
form of treatment failed, other forms appear to have been preferred.

Table 5: Multiple Use of Health Resources in The Treatment of Malaria[*]

Resource Utilised (Number of Times)	Number of Households Reporting Utilisation	
	N	%
PUBLIC HC		
Once	306	87.4
Twice	44	12.6
Three Times >	0	0.0
Total	350	100.0
PRIVATE		
Once	130	84.4
Twice	23	15.0
Three Times >	1	0.6
Total	154	100.0
MEDICINAL PLANTS		
Once	71	98.6
Twice	1	1.4
Three Times >	0	0.0
Total	72	100.0
DUKA		
Once	49	98.0
Twice	1	2.0
Three Times >	0	0.0
Total	50	100.0

*   *This table does not indicate the order in which these resources were utilised.*

The findings from this study are important in that other studies on malaria have noted a trend which shows self-medication (basically anti-malarial drugs) and home remedies being predominant, with health centres being used only in severe complex cases of the disease (Fungladda and Sormani, 1986; Ettling, 1989; Lipowsky et.al. 1992; Jayawardene, 1993).

These studies show a pattern of malaria treatment in which self-diagnosis, self-medication with home remedies and/or anti-malaria drugs are used for initial care with health facilities being used only after the failure

of these treatments. However, the reverse was true in this study. Households in Marigat tended to use first the "free" government (public) sponsored health facilities, only turning to other sources after these fail to effect cure (Table 4).

5.2   Determinants Of Illness Behaviour For Malaria

Many reasons have been advanced for households' and individuals illness behaviour (Lasker, 1987; Gesler, 1979; Stock; 1983). As was the case with kala-azar, enabling factors were important in households' decision on where to seek care in the event of malaria.

5.2.1 Aetiological Beliefs and Illness Behaviour

Beliefs on multiple causality of malaria are not uncommon (Danguilan, 1993; Ongore et al. 1989; Rauyajin, 1991; Ruebush et.al, 1992; Agyepong, 1992). In this study, 59 percent of the respondents implicated the mosquito as the cause of malaria. Twenty two percent believed the disease to be caused by eating wild vegetables and fresh milk, while 11 percent implicated "rain" and drinking dirty water. A study in Gambia reports aetiological beliefs which are very similar to findings in this study (Aikins et.al, 1992).

Unlike in the case of kala-azar. there was consistency between aetiology and health care utilisation with the majority of those using the health centre or dispensary, implicating the mosquito as the causative vector for malaria . However, despite the use of public health facilities, the observed relationship between aetiological beliefs and illness behaviour was not significant. This may partly be because those who implicated the mosquito also mentioned other causative agents. Additionally, a large percentage of those who implicated other causative agents and not the mosquito, also utilised public health facilities. Thus, as argued later in this study. other factors such as the correct identification of disease (symptoms), accessibility and severity of illness, may be more important in explaining illness behaviour than aetiology.

5.2.2 Accessibility of Health Facilities And Household Illness Behaviour

Accessibility of health facilities was an important determinant of illness behaviour among households with malaria. Of the households with the disease, 74 percent defined the existing health facilities as accessible to their households. The public health resources were considered most accessible by many of the households reporting malaria. This may partly explain why many households utilised these facilities as a first source of care (Table 4).

5.2.3 Perceived Efficacy and Illness Behaviour for Malaria

When asked from their experiences the forms of treatments considered efficacious for malaria, 56 percent indicated public health facilities. To be more specific, these were the district hospital, the health centre and dispensaries. As a result, many of them had utilised these same facilities in the treatment of the disease. The major reason behind this perceived efficacy was that these sources had effected cure. Another possible reason might be that, since most households had utilised the Marigat health centre where laboratory tests are performed and treatment begun only in cases of positive results, the prescribed treatment may have been more disease specific. It was also noted during the research period that most of the public health facilities tended to have adequate stocks of chloroquine both in tablet form and syrup for children. There were also adequate stocks of analgesics.

5.2.4 Cost of Treatment and Illness Behaviour for Malaria

Given that many of the households had utilised public health facilities for the treatment of malaria, the costs of care were minimal as services offered at these health facilities (during the time of this study) were "free". Over 81 percent indicated that they had paid less than Ksh. 100 (US$ 2.9), many of them had paid much less than Ksh. 100. Similarly, since many of the sick persons had walked to these facilities, the cost of transportation was also low. Thus, it would appear that the low costs involved in the use of public health resources was an important factor in household illness behaviour.

Although user fees had not been introduced at public health facilities when this study was carried out, households currently seeking health care at the health centre have to pay for laboratory tests and for medications received. It would be interesting to find out the effects of user fees on utilisation as studies elsewhere have reported a decline of outpatient consultations for malaria with the introduction of user fees (Waddington and Enyimayew, 1989).

5.2.5 Demographic Factors and Illness Behaviour for Malaria

The differences in occupation and access to money were clearly depicted in where households sought care for malaria. To be sure, many of the households utilised public health resources however, a higher number of large stock owners (who reared and sold livestock) consulted private health resources, that is, 23 percent of large stock owners reportedly utilised private care compared to 13 percent of the farmers.

Among those without any education, 79 percent utilised public health resources while 69 percent of those with some education used the same facilities. There was a higher use of private institutions among the educated (25 percent) as opposed to 18 percent of those who did not have an education. This may partly be explained by the fact that the consultation of private clinics entails payment for services and medications which many of those with no education or income may be unable to pay. The more educated persons may also prefer private care where the services offered may be of higher quality, less waiting time and more cordial.

6.0   DISCUSSION
6.1   Aetiological Beliefs and Illness Behaviour

To be sure, beliefs on disease aetiologies in many developing countries differ from those of Western biomedicine. Data from this study shows that for both malaria and kala-azar, there was no clear association of these diseases with known biological vectors. Even in the case of Malaria, where a majority of the respondents implicated the mosquito, other causative agents were mentioned. However, as analyses from previous sections show, aetiological

beliefs did not influence illness behaviour for malaria and kala-azar. While
the ethnomedical approach to illness assumes that aetiological beliefs are
consistent with illness behaviour (Janzen, 1978; Yoder, 1981, 1982; Ngokwey,
1984, 1988), data from this study does not support this widely held
assumption. The findings show that irrespective of their aetiological beliefs,
many of the households reporting malaria and kala-azar tended to utilise more
Western based health facilities than others (Table 2 and 4). Even for those
using medicinal plants, this seemed to be influenced more by beliefs on the
efficacy of these medications or their availability, than on aetiology. The
households using *ngwadere* in the treatment of kala-azar seemed to use it out
of necessity as they could not afford the appropriate form of treatment and
not because of their aetiological beliefs. Similar findings have been reported
in Guinea (Glik et al. 1989).

In this study, symptom identification was more important in determining
therapy options than aetiological beliefs. Indeed, for both diseases,
household choice of treatment was for the symptomatic relief of malaria and
kala-azar. Our observations suggest that earlier experience with illness and
knowledge about the symptoms of malaria or kala-azar influenced illness
behaviour. The correct identification of disease symptoms was important in
delineating health care options as the following case shows. In explaining the
course of treatment for her illness one young woman had this to say:

> .....When the disease started we thought it was malaria..I had
> headache, fever and felt weak... I bought some *malaraquine* from
> the *duka*...but did not get better. I went to the catholic clinic
> and was given some *aspirin* and *malaraquine*.....

However, the course of illness management seemed to change when the
persistence of the symptoms led to the disease being "diagnosed" as kala-azar.
She continued:

> ....after several months of not feeling well my sister (who she
> was living with) thought the disease was kala-azar..So she bought
> some *ngwadere* which I have been taking since....

This change in treatment based on symptom definition far from being
unique, was very common in the treatment of kala-azar. In many households,
once the signs (symptoms) led to the disease being "diagnosed" the treatment

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embarked upon (whether Indigenous or Western) was specific for this disease. The situation was complex in the treatment of kala-azar whose early symptoms were frequently confused with malaria. This similarity in symptomatology led to "inappropriate" (from the perspective of the respondents) treatment for the disease. But the situation seemed to be remedied by a redefinition of the symptoms.

The findings that aetiological beliefs were not directly related to illness behaviour for malaria and kala-azar does not mean that the ethnomedical approach is not relevant to the study of disease and illness. Rather, it calls into question the overemphasis in this approach of cultural and belief factors to the neglect of social and structural factors in health care. Other studies in anthropology which have combined the ethnomedical and structural factors in studying decision-making and illness behaviour, have shown how structural factors are important in the use of health resources (Young and Garro, 1982; Young, 1981; Neibel, 1991). Thus, the predominance of studies in anthropology indicating that world views and nosologies are the major determinants of illness behaviour (Janzen, 1987; Yoder, 1981, 1982) need to be critically examined.

6.2 Multiple Therapeutic Use in the Treatment of Malaria and Kala-azar

Multiple use of therapies emerged in the treatment of Malaria and Kala-azar. In an attempt to cope with these two diseases, households consulted a wide range of health resources. The decision to use more than one health provider (health resource) seems to have been largely due to the failure of an earlier treatment to effect cure, and the perception that the resource used as an alternative may be able to cure the disease. In the treatment of kala-azar, for example, the inadequacy (unavailability of medications) of public health facilities and the costs of treatment, seems to have left households in Marigat with no alternative but to use medicinal plants.

The majority of the households indicated the use of public health facilities as their first source of care. However, the numbers using them as a second and third alternative steadily declined while the use of private, *duka* and medicinal plants, increased. Observations suggest that the use of

medicinal plants may have been more widespread than the respondents admitted. Under-reporting in the use of indigenous medications has been noted in other parts of Kenya (Schulpen, et al. 1980; Snow et al. 1992). However, this apparent under-reporting does not mean that the use of public health facilities was not wide spread. It is more likely that these two health resources were utilised simultaneously or sequentially during a single illness episode.

The use of various therapies during a single illness episode is widely reported in the anthropological literature (Nyamwaya, 1982; 1987; Fiereman, 1975; Chen, 1975; Durkin-Longley, 1984; Fosu, 1981). In the treatment of malaria and kala-azar, the utilisation of different therapeutic alternatives appeared to be complementary rather than contradictory. The complementarity of these was also extended to the sale of medicinal plants and *duka* medications. We observed in some instances that the sale of medicinal plants was juxtaposed with that of *duka* medications. This means consumers have the option of purchasing different types of treatments within the same setting. As such, if one form of care fails, households can pragmatically turn to the other source or use them simultaneously. Though the respondents did not obviously point out this complementarity, their use of different therapies concurrently or alternatively, suggests that there was no perceived conflict. The complementarity between the different medical systems has been attributed to their relative efficacy in combining the weakness in one medical system with areas of strength in another (Ngwokey, 1984).

6.3 Structural Factors and Illness Behaviour

Unlike the focus on belief systems in medical anthropology, sociomedical theories of illness have emphasised individual patient characteristics and health system factors. This section discusses the relevance of health system factors (structural factors) in household illness behaviour.

6.3.1 Accessibility and Use of Health Facilities: An Emic Perspective

Thomas and Penchansky (1984) have divided access factors into four categories: availability, affordability, accessibility and accommodation.

Other definitions of the concept have also been offered (Mensch, 1993,
Puentes-Markides, 1993). The people of Marigat, at one level, defined
accessibility by distance (physical accessibility). Although most of the
households lived about 8 kilometres from a health facility, as many as 71
percent considered these health facilities accessible. Why, one may ask, would
a distance of about 16 kilometres [km] (round trip) be considered accessible?.
Observations suggest that emic definitions of distance may account for this
finding. Among the Tugen for example, distance is divided into three
categories: *yu!* a distance of approximately 15 km.(one way), *malo!!* a distance
of about 30 km (one way) and *emon!!* any distance beyond this. Conversations
with some of the respondents revealed that in many households, the distance to
the health facilities was categorised as *yu!*.

This observation on the definition of distance and accessibility was
further supported by the finding that 61 percent of the households, considered
the health facilities to be accessible because they were "near my home".
Similarly. 10 percent attributed their accessibility to being "within a
walking distance". Of the 29 percent who considered the health facilities to
be "far", unavailability of transport and actual distance were cited as the
major problem.

Ethnographic data show that accessibility was not only defined in terms
of distance. but also the mode of transportation was also important. Many of
the households indicated that they walked to health facilities (87 %) and this
may explain why the closer the health facility is, the more accessible it is
considered to be. For those who lived *malo* from health facilities, the
unavailability of motorised transport meant that the health facilities were
inaccessible. The use of time consuming modes of transportation such as
bicycles and walking appeared to influence household illness behaviour. And
whenever illness was not considered severe. households tended to delay seeking
any type of care which would involve going to distant health facilities. Study
results show that the existing Western based health facilities are acceptable
to the people of Marigat however, their utilisation is constrained by their
inaccessibility and/or unavailability of motorised transportation.

As pointed out earlier, many of the households with malaria and kala-azar used public health resources as their first source of care because they were accessible. However, if the illness was not cured, accessibility seemed to be less important as a determinant for second or third choice of therapy and other factors such as perceived efficacy and quality of the care available were more important. Closely related to accessibility was the concept of convenience. The use of public health resources was also influenced by their convenience ("near my home"). In addition, many of the households who had used *duka* medications for initial treatment of illness, explained that they had used them because they were conveniently located. Similar findings have been reported in other studies (Igun, 1987; Snow et al. 1992).

6.3.2 Efficacy, Quality of Care and Illness Behaviour

Quality of care has been defined in terms of what happens when the patient gets to the health facility (Mensch, 1993). In addition to quality, satisfaction with services offered in health facilities has been noted to be important in influencing utilisation (Kroeger, et al. 1988: Mensch,1993; Cleary, et al. 1982). In Marigat, quality of care was an important factor in households use of health facilities. While many households depended on public health facilities as their major source of care, the unavailability of drugs (poor quality) hindered the continued use of these services especially in the treatment of kala-azar. The patterns emerging in the search for cure for both diseases were clearly a search for effective therapy. The use of multiple therapies was largely determined by the failure of an earlier treatment to effect cure.

6.3.3 Health Facility Characteristics and Utilisation

Health service characteristics, such as communication between patients and providers, privacy and conditions under which consultations are held have been observed to influence utilisation patterns (Foster,1991; Kroeger, et al. 1988). Certain clinical procedures which patients have to undergo have also been identified as important (Scrimshaw. 1972; Bruce, 1987). Our observations at the Marigat health centre and dispensaries showed certain practices which

may discourage patients from using these resources. For example, in the Marigat health centre, persons going to the clinic suspecting malaria have to undergo a blood test. However, observations and discussions with some of the respondents suggest that they consider the procedures used to be cumbersome and may discourage utilisation. In addition, in all the clinics, consultations were held in a room in which the door was always left open or ajar and as such does not offer privacy to the patients. Also, some of the health facilities had no curtains and one could see as the consultations progressed. There was very little privacy especially when injections were given. We also observed that there was little conversation during medical visits and most of the patients were passive recipients of information in consultations which lasted about three minutes. There was a problem with the language used during consultations as most of the medical staff could not speak the indigenous languages and conversations were held in Kiswahili. Unfortunately, most of the people using these facilities were not fluent in Kiswahili and could not sustain any meaningful conversation in the language, let alone understand medical instructions. Conversations with some of the patients after consultations suggest that some of them did not understand the instructions on how to use the prescribed medications. Generally, however, there was a reluctance on the part of the patients we spoke with to complain about the services received for fear of the repercussions their complaints may have and many of them indicated satisfaction with the medical consultations. What is not clear from this study is the effect of these clinic environments and medical encounters on subsequent utilisation.

6.4   Demographic Factors and Illness Behaviour

Studies on predisposing factors have focused on individual patient demographic factors (Wan and Soifer, 1974; Marcus and Seeman, 1981; Marcus and Siegel, 1982; Wolinsky, 1978). However, in this study, head of household characteristics were used as a proxy for illness behaviour of sick household members. Thus, while head of household characteristics were expected to influence illness behaviour, it was expected that a model using household demographic factors would have different outcomes from those based on

individual initiated behaviour. As shown elsewhere in this study, head of household characteristics such as occupation, income (salaried employment), ownership of property and education were important in influencing household illness behaviour.

For both Malaria and Kala-azar, households with an income from the sale of livestock or employment (of head of household) were more inclined to utilise private health facilities. Although the use of private health resources may seem like a mute point, it could be a "matter of life and death" especially in severe cases of illness where failure to get appropriate treatment could be fatal. Thus, the flexibility in illness behaviour afforded some households due to their financial status is very important. In addition, the ability for households/patients to pay for health care has been shown to be related to utilisation (Wang'ombe and Mwabu, 1993; Neibel, 1991; Young, 1981; Dutton, 1986; Okafor, 1983). In Mexico for example, Young has pointed out that, among the poorest people, health alternatives involving substantial costs were used only after other available means had failed (Young, 1981). In Marigat, farmers (who had low incomes) largely indicated the use of public health facilities. The free services offered in these facilities during the time of research may account for this finding. However, it is important to point out that whenever such care did not effect cure (as was true in most cases of kala-azar), households (irrespective of their financial status) were more inclined to utilise private facilities or to rely on indigenous medications.

Similarly, education had an influence on illness behaviour for both illnesses. In the case of kala-azar, for example, households whose head did not have an education (62 percent) tended to use indigenous forms of treatment compared to (38 percent) of those who had an education. Formal education entails the inculcation of values which may be congruent with the use of Western based health facilities. In addition, education was related to salaried employment and income in this study. Those with an education were in a better position to pay for health care if the need arose. The importance of education in relation to illness behaviour has been noted in other studies (Subedi, 1989; Chernichovsky and Meesook, 1986; World Bank, 1993).

Social, financial (cost of care) and household dynamics also influenced the decisions made on illness management. For example, many households (especially those with individuals suffering from Kala-azar) made trade-offs when deciding the form of care to utilise since treatment entails enormous expenses. In some cases, parents indicated they would rather use their meagre resources towards the education of their children than on sick ones. As one parent put it: "It is better to educate those in school- *si konam bich* - (they can help us in the future)". So in the event of *mami rupia* (scarce financial resources), households engage in illness behaviours which seem justifiable though regrettable. This finding is consistent with observations that economically well-off families even in rural areas, are better able to cope with illness (Zaidi, 1988; Subedi, 1989).

Data and observations from this study suggest a synergism between poverty and illness behaviour. In many of the poor households, logistical and financial problems delayed the process of seeking appropriate care as the case of Mrs James (not her real name) demonstrates:

> Mrs James believed that her two year old daughter had kala-azar. She had taken the child to the health centre and had been advised to take her to the district hospital for laboratory tests. She however had not made the journey as she had no money and no one to leave her other small children with since her husband had absconded leaving her with five small children. The decision of taking the sick child to hospital would have required her to make arrangements for the other children to be taken care of. Since this was not possible, Mrs. James had resorted to using home remedies in treating the sick child. Mrs James was also afraid of going to the district hospital for fear that her daughter would be hospitalised (which meant she would also have to stay in hospital) leaving her other children with nobody to take care of them.

Thus, in addition to inadequate financial resources, restrictions on maternal mobility due to other young children in the household also affects illness behaviour. Since the treatment of kala-azar is beyond the financial reach of many households with the disease, many resort to what could be termed as "undesirable" forms of treatments such as the use of medicinal plants. The availability of cheap and effective medications would obviously address this need.

Cultural factors and perceptions about property and its use in relation to illness can also influence household illness behaviour. Studies elsewhere have reported the sale of livestock or borrowing money to pay health care bills to be important in illness behaviour (Abel-Smith, 1993; Jayawardene, 1993: Forsberg, 1993). Given that the economy in Marigat is based on livestock rearing and selling, we asked some of the small stock owners (especially those who had household member/s suffering from kala-azar) if they would consider selling some of their livestock to purchase medications. Many of them were hesitant. One old man told us:

> "...we do not sell our goats to get money for treatment unless the person is so sick they have to be 'carried'" - meaning the person is in critical condition and cannot walk on their own.

This observation was supported by the finding that only 6 percent of the households indicated the sale of livestock for medical purposes. This suggests that even when selling of livestock for treatment purposes could be an option, many households may not consider it a priority thus, leading to delays in sick household members seeking care.

In addition to the factors discussed above, households decisions on where to seek care were also influenced by perceptions about the illness especially in relation to severity, referral by medical personnel, search for better care and the health resource utilised being "the only place available". Households were willing to make greater efforts in searching for care especially in cases of severe illness.

6.5 Decision-Making and Illness Behaviour

The dynamics behind decision-making on where to seek health care has been the subject of many studies (Abasiekong, 1981; Mwenesi, 1993; Paine et al. 1989). In many patrilineal societies, these decisions have been observed to be the prerogative of male heads of households. The existence of extended families and social networks also influence how such decisions are made (Mwenesi, 1993). According to Mwenesi, consultation of a significant other especially with the husband, is important in decision making among mothers in the Miji Kenda and Luo communities as it is culturally expected of them.

In 42 percent of the households in Marigat, the wife had initiated and influenced the decision on where care should be sought, while in 41 percent the decision had been made by the husband. Ethnographic interviews revealed that while women had the responsibility of taking care of sick persons, the decisions on health care were largely made by men. However, when women deemed Western based health care necessary, they used subtle ways to put pressure on their husbands intimating the need for such care. As some of the women explained, by using such subtle ways, they did not appear to be usurping the 'powers" of men and by doing so, avoided unnecessary conflicts yet at the same time achieving their aims. Women however seemed to have a free hand in the use of home remedies. Observations on the use of Western based health care suggest that women seek care at the household level while men seek care as individuals.

Social networks and families play an important role in the management of illness in African societies (Janzen, 1978, Yoder, 1982, 1982). However, the management of malaria and kala-azar illness seemed to be limited to the *kapich* or *enkang* (household). In the event of extended morbidity from malaria and kala-azar, neighbours and the extended family seemed to play an important role in influencing health care decisions. In the households with malaria and kala-azar, 48 percent indicated their decision on where to seek care having been influenced by a neighbour. The role of neighbours and other non-immediate household members in illness behaviour seemed to be limited to offering advice on possible sources of care. When asked why a neighbour had influenced their decision on health care, 12 percent said this was because the neighbour knew where "appropriate" care could be obtained. Other persons who influenced household decisions included family members (12 percent), and medical staff (10 percent).

7.0   CONCLUSIONS

Clearly, a myriad of factors influence illness behaviour. However in this study, accessibility, cost, perceived efficacy of care, quality, severity of illness, referral by medical personnel, the search for better therapy and symptom identification were the key factors influencing households' decisions

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on the type of health care to use. Equally important were education,
occupation, and income of the head of household. The constrains to seeking
care can be traced to the structural organisation of the health care system
and to some extent to the households especially the finding that, financial
barriers inhibited the purchase of appropriate medications in the treatment of
kala-azar. These findings suggest that, since structural and household factors
were important in influencing household illness behaviour, health policy
should address these factors as they are important in getting households to
utilise health resources.

7.1   Improvement in Health Care Delivery

In addressing the broader issue of availability of medications,
equitable redistribution of health resources is imperative. In Kenya, the free
market ideology permeates and influences the delivery of health care (Roemer,
1985). Those with the financial capability and especially those living in
urban areas, have access to better health facilities while the services
offered in rural areas are poorly developed. In addition, seeking health care
in areas like Marigat (when using the public health facilities) involves a
referral system which many rural households may be unable to cope with. In
order to encourage utilisation it is important to "take health to the people"
by improving the existing health facilities. In this connection, it is
important that the Ministry of Health identify ways of ensuring the community
is provided with the requisite medications for the treatment of kala-azar at
an affordable price. Although the cost of treating a kala-azar patient is very
high (estimated cost of treatment per adult with *pentostam* is Ksh. 19,172.60
approx. US$ 273.89), to continue ignoring the problem of kala-azar because it
affects "few isolated populations" is no longer tenable.

Kenya like many other developing countries facing numerous economic problems, has recently introduced user-fees in public health facilities. Given that findings from this study show cost to be an important factor in households' decisions on illness behaviour, government policy needs to address the possible effects of user-fees on communities suffering from malaria and kala-azar (among other diseases) and how such fees may affect household illness management. Although the government has reiterated its intention to safeguard the genuinely poor and disadvantaged members of society so that they can continue to benefit from "free" health services (Republic of Kenya, 1989a), there is possibility that households may self select and avoid using health facilities if they have to go through a process of having to prove that they are indigent. Based on data from this study, subsidised medical care for rural populations such as the people of Marigat is desirable, not only in dispensaries, but also in health centres. The government should identify ways of raising revenue in order to improve the services offered at these facilities and offer them to the people at a cost they can afford.

7.2   Poverty Alleviation

Since data from this study shows that the poor are more susceptible to malaria and kala-azar, and face more difficulties in accessing health resources, improving the communitys' health will have to be part of broader efforts towards improving peoples' welfare. This means that, in order to effect sustainable control measures for these infectious diseases, an understanding of the social, economic and political context within which these diseases abound is pertinent. To be sure, poverty alleviation is a long term objective which means funds have to be available. However, experience elsewhere has shown that, approaches which attempt to control diseases while improving peoples living conditions are likely to be more effective (Rajagopalan, et al. 1986). Improving peoples social conditions as a way of controlling disease is important because it empowers people and gives them control over their lives.

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7.3   Policy on the Indigenous Medical system

While acknowledging the existence of the so called "traditional medicine", the Kenya Government has stopped short of encouraging its development. It is however known that many people in urban and rural areas rely on this system for their basic care (Good, 1987; Kimani, 1931). Unfortunately, many people still believe it is illegal and observations from this study showed people who had used medicinal plants in the treatment of malaria and Kala-azar did not immediately indicate its use preferring to mention health centres or *duka* medications. Since no phytochemical tests have been conducted on the medicinal plants being used in the treatment of malaria and Kala-azar. It would be premature for this study to suggest that households should continue using them. However, to ignore the fact that many households depend on them as a source of care, is to do injustice to this community. Health planners should examine the strengths of this system and promote them so that it can benefit the people already relying on it. Government policy towards this health system should be one of openness and recognition. This will allow for the development of this sector and could ultimately compliment the Western based health care system which, at present, does not address the health care needs of many Kenyans.

Since Kenya has various research institutes which study "traditional medicine", we recommend that the medicinal plants being used in the treatment of malaria and Kala-azar be evaluated. Though there has existed a mistrust between indigenous herbalists and the research institutes, the herbalists in Marigat were very interested in sharing their knowledge on the plants used in the treatment of these two diseases. However, to engender trust, the herbalists should be fully involved in research activities to avoid alienation or fear that the medicinal plants submitted for tests, will be used by the scientists to benefit themselves, with little or no acknowledgment for the herbalists as is commonly the case.

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