

## The problems of a social survey in epidemiology: an experience from a Zambian rural community

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### Summary

A socio-economic study of 1097 people was carried out between November and December 1979. Demographic data and other health characteristics were obtained by census of the entire study population. Interviews covered disease awareness, perceived morbidity, health-care utilization, knowledge, attitudes and practices; all adults aged 15 years and above were interviewed 2 weeks before physical examinations were made. Age and literacy level were found to have no effect on the people's health-seeking behaviour in Kabinga. The results of this social survey failed to reveal the real practices of the community's use of both ethno-medicine and biomedicine.

### Résumé

Une étude socio-économique faite sur 1097 personnes a été exécutée entre novembre et décembre 1979. Les données démographiques et d'autres paramètres de santé ont été obtenus par le recensement de toute la population étudiée. Les entretiens ont couvert la perception des maladies, la connaissance de la morbidité, l'utilisation des soins de santé, les attitudes et les pratiques. Tous les adultes âgés de 15 ans et plus ont été convoqués deux semaines avant de faire l'examen physique. L'âge et le niveau d'éducation ne semblent pas avoir d'effet sur le comportement de la santé à Kabinga. Les résultats de cette enquête sociale n'ont pas pu révéler les pratiques réelles de la communauté dans l'usage de l'ethnomédecine comme de la biomédecine.

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### Introduction

Illness and health-seeking behaviour in developing countries have been widely studied by various authors [1-3]. In all cases the form has always been utilization of health services in conjunction with perception of illness. While beliefs and values of health-care use are often widely publicized in developed countries, authors in developing areas tend to concentrate on the non-use of modern health-care facilities, as opposed to the underlying factors of the would-be users.

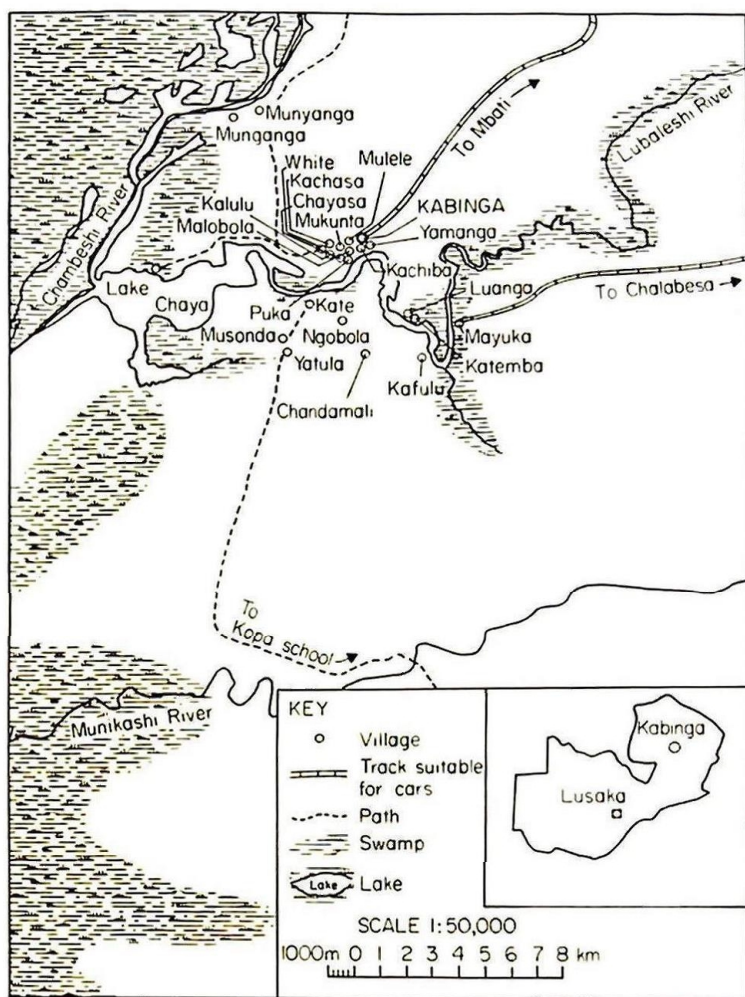
Epidemiological studies in developing countries generally use survey methods of data collection; however, when collecting large amounts of data, other methods, such as anthropological and sociological approaches tend to be ignored. The advantage of a social survey lies in its accuracy of the demographic data obtained; it is easy to confirm the sex, education level, occupation and age estimation of the respondents.

The purpose of the social survey in Kabinga was to try and explore the community's use of both biomedical and ethno-medical health services, and its relative knowledge of disease vectors. This paper describes and documents some of the problems that arose during an epidemiological survey in Kabinga. It highlights what precautions researchers would need to take for future health studies.

### Subjects and methods

#### *Study area and population*

The Kabinga area is found in the Northern Province of Zambia at 10°N and 30°E; the average altitude is over 1000 m above sea-level (Fig. 1). There are two distinct seasons: the wet



Data were collected using a household composition and a sociological questionnaire, the WHO standardized forms were administered to



each household in the eleven villages. The household composition forms provided basic demographic data (age and sex) of the respondents. Those who had come from other areas at the time of interviews, and provided that they were going to remain in the area for more than 1 month, were also included and coded as visitors to the households.

The sociological questionnaire form was administered to all adults aged 15 years and over living in the villages during the period of the study. The form provided information on the respondent's occupation, ethnic group, religious affiliation, marital status, educational background, sources of income, literacy, nutrition, economic status, disease awareness and health-care utilization. All female informants answered questions about their young children (aged below 5 years).

The interviewers were members of staff from the Tropical Diseases Research Centre (TDRC). Prior to the survey, all interviewers underwent an intensive training and a mock interview.

The baseline study described in this paper was designed to collect data to be used by scientists in other health-related studies carried out by the Tropical Diseases Research Centre, Ndola. In this case, the study was made to investigate action taken by respondents when suffering from malaria.

## Results

There were 218 respondents who answered the questions, of which the majority were women. Most of the men were out in the fishing camps and could not be reached by the interviewers.

Due to difficulties in obtaining the exact ages of participants, their ages were estimated using a local calendar of events. The mean age for females was 35.2 years, and that of the males 37.5 years. Age and sex distribution for respondents is shown in Table 1.

Of 218 respondents, four did not know what to do when infected with malaria. The use of African medicine was not accepted by most of the respondents, and there was a great contrast between the use of modern as opposed to traditional health services (Table 2).

There was no relationship between literacy level and the utilization of health services among the Kabinga adult population. For both

illiterate\* and literate adults, only 0.9% indicated that they used African medicine in case of malaria attack. The chi-square value for association between literacy and illiteracy level was not significant ( $P > 0.05$ ) (Table 3).

During the last sickness episode, 62% of the Kabinga adults either went to the clinic or hospital for treatment (Table 4). For both sexes, 29.2% did nothing about their illness, only 2.4% of the females sought traditional medicine. One female (0.5%) could not remember what she did last time she was sick. There was no association between the consultation/use of African medicine and visits to clinic/hospital ( $P > 0.05$ ).

The preference for modern medicines was confirmed by answers respondents gave when asked to state the last time they went to the hospital or clinic (Table 5).

It is evident from the study that 81% of the Kabinga adult population had sought treatment, at either clinic or hospital, at least once during the last 8 months. All except 14 of them remembered having used the clinic/hospital facilities at one time.

Responses of the 216 participants who had responded to the question demonstrated that there was a significant correlation between the non-use of indigenous medicine recently and utilization of clinic/hospital (Table 5).

## Discussion

While results from a social survey have shown that the majority of the Kabinga people often

Table 1. Distribution of population by age and sex

Age group (years)	Male	Female	Total	Percentage
0	15	21	36	3.3
1-4	87	75	162	14.8
5-9	97	99	196	17.9
10-14	96	86	182	16.6
15-19	54	57	111	10.1
20-39	99	115	254	19.5
40-59	58	73	131	11.9
60+	39	26	65	5.9
Total	545	552	1097	100.0

\*Illiteracy in this study means being unable to read and write the local language.

Table 2. Comparison of actions taken by participants when attacked by malaria

	<i>n</i>	%	Cumulative percentage
Do nothing	5	2.3	2.3
Use African medicine	2	0.9	3.2
Go to clinic/hospital for medicine	205	94.0	97.2
Buy chloroquine or other medicine	2	0.9	98.2
Do not know	4	1.8	100.0

Table 3. Action taken to treat malaria, by literacy

	Literate		Illiterate	
	<i>n</i>	%	<i>n</i>	%
Do nothing	3	2.8	2	1.8
Use African medicine	1	0.9	1	0.9
Go to clinic/hospital for medicine	101	92.7	104	95.4
Buy chloroquine or other medicine	0	0.0	2	1.8
Do not know	4	3.6	0	0.0

Table 4. Action taken last time respondents were sick, by sex

	Male		Female	
	<i>n</i>	%	<i>n</i>	%
Did nothing	16	7.5	46	21.7
Used African medicine	0	0.0	5	2.4
Went to a traditional doctor	5	2.4	6	2.8
Went to clinic/hospital	62	29.2	70	33.0
Used African medicine and went to a traditional doctor	1	0.5	0	0.0
Cannot remember	0	0.0	1	0.5

use the rural health centre or hospital when sick, the results are highly questionable. In the Kabinga area, there is a low level of accessibility/availability of clinics and hospitals, and it is very likely that those living in the area would make use of traditional health-care deliveries as these are always available to them.

The relationship between the use of African medicine (Table 6) and the distance to the rural

centre or hospital deserves serious consideration. The nearest hospital to Kabinga cluster is 90 km away. Few people would be prepared to sacrifice their fishing and cultivation time merely to take their sick ones to the hospital with malaria. Even when the situation demands that the family takes the sick to the hospital or rural health centre, the problems of transport usually override the need for treatment. On the



Table 5. Last time respondents went to the hospital or clinic, by sex

Period	Male		Female	
	<i>n</i>	%	<i>n</i>	%
<1 week ago	1	8.6	26	12.0
1 week ago	15	6.9	27	12.4
2-3 weeks ago	7	3.2	13	6.0
4-6 weeks ago	11	5.0	18	8.3
7-12 weeks ago	12	5.5	13	6.0
13-31 weeks ago	7	3.2	8	3.7
>32 weeks ago	11	5.0	16	7.4
Never	0	0.0	0	0.0
Cannot remember	3	1.4	11	5.0

other hand, rural health centres may go for weeks without drugs, especially during the wet season when roads become impassable and bridges are washed away. It is at this time of the year when such diseases as malaria and diarrhoea are most common. Under such circumstances, most people will resort to traditional healing which is always within easy reach, in fact, while the team was in the area, several people were seen using traditional medicine to treat snake bites and diarrhoea (Chief Kabinga, personal communication).

It is doubtful whether 92.7% of the Kabinga adults had actually gone to the clinic or hospital once they were infected with malaria. A study in other communities [5] has shown that people may continue working while having malaria parasites in their blood. In an area with an apparent high level of illiteracy, even the 55.6% who indicated that they never used African

medicine should be regarded with suspicion. Like many other rural communities, illness in Kabinga is seen as a personal manifestation of individual misfortune [6], hence the use of African medicine and consultations with African doctors are always appreciated.

In most cases, traditional healing methods are often associated with disease ignorance and primitivity. It is likely that the Kabinga adults could have remained suspicious of the interviewing team, which was asking questions on some aspects of the people's healing system. The interviewers were often associated with the World Health Organization (WHO) and Ndola Central Hospital. In addition, they were young Zambians with school certificates of education, who always moved with the senior chief's messengers. It is not surprising, therefore, that respondents could not disclose vital information which related to the use of traditional medicine.

Since privacy is not common in Zambian communities, interviewers had to administer questionnaires in the presence of other members of the family, an assortment of cousins, aunts, uncles, nephews, nieces, as well as other groups of various members of the community. It is clear that the presence of third parties could have biased the data, especially where the third party happened to be a person with status. It is also evident that in many Zambian communities, an individual's opinions are often expressed by the family, kin or clan especially for matters regarding illness.

The traditional curative system is emphasized by many Zambian communities. Cases of pregnancy are often the concern of traditional medicine rather than that of Western-oriented medicine; it is surprising that the Kabinga women had no knowledge of traditional medicine which could be used to help or prevent conception, except for those [11%] who indicated that they knew the medicine, though never used it.

As the census included even those that were absent at the time of interviews, of the 521 adults counted, only 218 were interviewed. The majority were women, therefore the information given to interviewers was probably biased because women in rural areas depend very much on their husbands or male relatives for decisions. Researchers could usefully have included in-depth studies to improve the quality of such data.

Table 6. Last time respondents used traditional medicine

Period	<i>n</i>	%
<1 week ago	7	3.2
1 week ago	3	1.4
2-3 weeks ago	4	1.9
4-6 weeks ago	7	3.2
7-12 weeks ago	2	0.9
13-31 weeks ago	5	2.3
>32 weeks ago	26	12.0
Never	120	55.6
Cannot remember	42	19.4

### Summary

In conclusion, in Zambia, and Africa generally, traditional medicine plays an important role in the everyday life of the people; it is a very important means by which people cope with illness, even in urban areas where modern medical facilities are available. The results of the Kabinga study indicated that, unless researchers appreciate the indigenous concept of health and illness, and understand their values and beliefs, preventive medicine may be very difficult to implement. On the other hand, in order to obtain more reliable data from respondents, other anthropologically oriented research methods should be used to supplement the social survey, which in this instance undoubtedly failed to reveal the full extent of the underlying epidemiological problems in the Kabinga community.

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