

Developing a methodology to monitor health care utilization by less well-to-do rural mothers at a township level in Myanmar

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The study aims to develop and field test a culturally relevant rapid assessment methodology, for use by township level health services managers in Myanmar to monitor health care utilization by less well-to-do rural mothers in a township. Micro-area approach was used and area targeting was first made choosing the least developed Rural Health Center area in a township. Culturally relevant household targeting criteria to target less well-to-do families and locally relevant maternal health care indicators were incorporated in developing a data collection tool. A rapid cluster survey, using probability proportional to size sampling procedure, was conducted using the monitor tool. Mothers of 450 infants born alive during prior two years of the time of survey were sampled from 50 clusters. Based on findings of the rapid survey, a discussion is made as regards practical applicability of the methodology at a township level in Myanmar.

INTRODUCTION

Health for all (HFA) in the 21st century aims to promote the highest attainable levels of human health as a fundamental human right, necessitating global health policy to be driven by equity, human rights and gender sensitivity [1]. Promoting equity aims to create equal opportunities for health and to decrease differentials in health status (reducing the social gaps in health and health care). Disparities between class, gender, race, geographical location and age in health care access have been highlighted [2].

In developing countries as well as in prosperous countries, routine methods of reporting, analyzing and presenting data obscure the gaps between different social groups in geographical areas. The policy implications of health disparities were thus rarely made clear enough in ways useful for busy decision-makers [2]. It is also important to create a new management system that would generate useful information for planning, implemen-

tation and evaluation of district health services.

Maternal care has been one of essential health provisions from before Alma Alta declaration till now and will continue to be so in the future. Monitoring and improving health and health care, at least essential health provisions, of socially less advantaged people is a key strategy in minimizing the disparities in health and health care of a community.

The aim of the study is to develop a culturally relevant rapid assessment methodology, for use by township level health services managers in Myanmar, to monitor health care utilization of less well-to-do mothers in a township. By using the method, it is expected to generate information to improve micro- planning, and thus of health development, in a township. It is also expected that the use of the method itself will promote conscientization of community members on health equity as their fundamental right.

MATERIALS AND METHODS

Study phases

The study methodology drew on methodological components of a doctoral thesis [3]. The study consisted of two phases, Phase I and Phase II. In Phase I, a qualitative ethnographic study was performed to understand the cultural context of rural communities in relation to maternal and child health care. In the same phase, a validation study, using qualitative as well as quantitative methods, was done to validate culturally/locally relevant variables (housing, land ownership and occupation) to identify different socio-economic groups in the rural community chosen. In Phase II, a cross sectional survey, after developing a data collection tool, incorporating maternal health care indicators, for use by local health services managers, was conducted employing quantitative rapid survey principles.

This paper is confined only to the findings that emanated from the quantitative rapid survey.

Study area

Taikkyi Township in Yangon Division was chosen purposely as the study township to test the methodology. Among different Rural Health Center (RHC) areas within the township, Sann-Ywa RHC area, considered economically least developed area within the township, was chosen after discussions were made with local authorities of the township - Taikkyi Township Peace and Development Council, Health Department, Fisheries Department, Immigration and Manpower Department, and Agriculture and Irrigation Department.

Reference and study population

The reference population was socio-economically less advantaged mothers of

rural area of the township chosen; the study population was economically less advantaged mothers in the selected area who gave births during past 2 years.

Sampling

Sampling population was defined as mothers having at least one child under 2 years of age and whose household fell into socio-economically less advantaged group in the selected rural area.

Sample size

A sample size of 450 was taken. The calculation was made using the following formula taking into consideration that the total population size of any RHC area in rural Myanmar is higher than 1 0,000 [4, 5]

$$n = (z^2 pq)/d^2$$

where:

n = the desired sample size (when population is greater than 10,000);

z = the standard normal deviate, usually set at 1.96 (or more simply at 2.0), which corresponds to the 95 per cent confidence level;

p = the proportion in the target population estimated to have a particular characteristic. If there is no reasonable estimate, then 50 percent (.50) is used;

q = $1.0 - p$;

d = degree of accuracy desired, set at 0.05

In this study, the conservative value of 0.50 was taken as the proportion of rural poor people covered with government antenatal care services.

The 'z' statistics is 1.96. Accuracy level is put at 0.05 level.

The sample size was then calculated as:

$$n = \frac{\{(1.96^2)(0.50)(0.50)\}}{(0.05^2)} \\ = 384$$

Non-response rate is set at 15 %: so,

Required sample size adjusted for non-response rate $= (1/1-0.15) \times 384 = 451 \approx 450$

Sampling method

Study population of interest was identified as follows:

- systematic selection of 50 villages ("clusters") from the RHC area made using Probability Proportional to Size;
- random selection of three starting points ("households") within three different sections of each cluster; and
- within each section 3 households meeting the criteria set for study population were selected and interview performed using a structured questionnaire.

Selection began in the starting household and then continued to the next households until 3 eligible households were obtained in each section. This gave a total of 9 households for each cluster. Finally a total sample of 450 was achieved

Data collection

Five data collectors interviewed 450 mothers in 10 days, using pretested structured questionnaire.

Data entry and analysis

All data collected were entered into a portable computer using EPIINFO version 6.04. Validity and consistency checks were made before performing analytical procedures.

Duration

The quantitative study took three and half weeks: one week for preparation, one and half week for data collection, and one week

for data analysis and report writing.

RESULTS

During two years prior to the survey, 450 infants were born alive to the study mothers currently residing in Sann-Ywa RHC area. Of these live births, 12 were dead and 438 were still alive. The mothers of the 450 infants ranged in age from 17 years to 46 years with the median age of 28 years. The majority of the respondents were the mothers themselves (91.6%), other respondents included a relative (6.2%), the father (2.0%) and an unrelated person (0.2%).

The sex and age of death of the 12 live births who had died during 2 years prior to the time of interview are indicated in Table 1.

Table 1. Age at death and sex of 12 dead children born during the prior two years, sampled in Sann-Ywa RHC survey area, Taik-kyi township, June, 1999.

Sex	Age at death in years		
	<1	1-2	Total
	No. (%)	No. (%)	No. (%)
Male	7 (88%)	1 (12%)	8 (100%)
Female	3 (75%)	1 (25%)	4 (100%)
Total	10 (83.3%)	2 (16.7%)	12 (100%)

The 10 deaths during the first year of life among 450 births represent an infant mortality rate of 22 deaths per 1,000 live births. One needs to note that this rate is based on a sample rather than on a total count of deaths and births. A correction factor was therefore applied in the calculations so as to estimate age-specific mortality risk [6]. The survey's estimate of the corrected cumulative risk of death at the end of the first year of life is 43 infant

deaths per 1,000 live births for the Sann-Ywa RHC area of Taikkyi Township.

Antenatal care providers

Types of persons who provided antenatal care to the mothers of 450 births are shown in Table 2.

Table 2. Persons who provided antenatal care to the mothers of 450 births sampled in Sann-Ywa RHC area, Taikkyi Township, June, 1999.

Type of antenatal care provider	Number of pregnant mothers	Per cent of 450 births
Contacted nobody	118	26.2%
Untrained Traditional Birth Attendant (TBA)	73	16.2%
Trained TBA	32	7.1%
Auxiliary Midwife	41	9.1%
Midwife or Lady Health Visitor	210	46.7%
Hospital Staff or Medical Officer	9	2.0%
Others	11	2.4%

In the survey area, pregnant mothers might contact more than one antenatal care provider. The "others" category included quacks or other persons who were not trained for antenatal care. Table 2 shows that only 47% of pregnant mothers contacted local health center staff, i.e., five midwives working at different villages (sub-centers) in the jurisdiction of Sann-Ywa RHC. Since certain essential antenatal care services like blood pressure measurement and provision of iron tablets are the services that the local health center staff (midwives) are supposed to provide, it can be assumed that only about half of the pregnant mothers were likely to receive these essential services.

Antenatal care received

Out of 210 pregnant mothers who contacted the midwives, 140 (67%) did so at or before 5 months of pregnancy. Out of 210 pregnant

mothers who contacted the midwives, 121 (58%) did so three times or more.

Table 3 shows the services the mothers received during antenatal visits to midwives.

Table 3. Services received by those mothers who contacted local midwives, Sann-Ywa RHC area, Taikkyi Township, June, 1999.

Services received	No (%) (Total=210 mothers)	95% Confidence interval
Abdomen examined	168 (80%)	75% - 85%
Blood pressure measured	122 (58%)	51% - 65%
Iron tablets received	65 (31%)	27% - 35%

Attendant at birth

Table 4 shows the person who mainly attended the 450 births during two years prior to the survey.

Table 4. Main person who attended the 450 births, Sann-Ywa RHC area, Taikkyi Township.

Types of birth attendants	Number (%)
<i>Trained</i>	172 (38.2%)
- Trained Traditional Birth Attendant	65 (14.4%)
- Auxiliary Midwife	41 (9.1%)
- Midwife or Lady Health Visitor	51 (11.3%)
- Hospital Staff or Physician	15 (3.3%)
<i>Untrained</i>	276 (61.3%)
- Untrained Traditional Birth Attendant	267 (59.3%)
- Relative, friend or other untrained person	7 (1.6%)
- Unattended	2 (0.4%)

The Table 4 shows that only about 38% of the deliveries were attended by trained birth attendants.

DISCUSSION

In this study, an attempt was made to develop a monitor tool for health care

utilization by less well-to-do rural mothers in a township in Myanmar.

The monitor tool and its data collection method (i.e., the rapid survey) encompassed the three dimensions of REM frame work advocated by WHO [7]. Firstly, they dealt with issues reflecting health problems (antenatal care components and delivery attendance) rather than overall health care concerns. Secondly, information sources were identified from community. Thirdly, method used to obtain the information was household interviews.

The survey provided information to stimulate local decision-makers for taking action to improve health and health care utilization of less well-to-do rural mothers in their area. The methodology was simple, quick and scientific. This methodology can be used on a moderate-sized sample of respondents in a period of time less than one month with a small assessment team. Further information on other related aspects like health care utilization for children can be obtained by adding some concise set of questions to the questionnaire without incurring much expenses and manpower.

However, the study has some limitations because the following has not been tested yet:

- whether local managers (State/Division or Township level) could use the methodology regularly as a monitor tool by themselves without researchers' (outsiders') involvement; and
- the extent and ways of stimulation that the findings of this kind of study make to local health authorities, higher level health administrators and local people to take on follow-up actions that improve the health utilization status by of less well-to-do rural mothers.

These are considerations for future operational research.

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