Health Diary Study on Illness in Rural Northeast Thailand

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Received for publication October 2, 1995

Summary: A health diary was used for measurement of illnesses in the northeast rural area of Thailand during the month of November, 1992. Target population were villagers residing in 12 villages which were randomly selected from 2 districts in Khon Kaen province. Three hundred forty-five households (1690 subjects) were selected for the study from all households in those 12 villages. The sample represented 22.2% of all households. Each respondent was instructed how to record illness which may occur among family members during the observation period. Demonstration of recording was performed as well to ensure uniform reporting. Frequency of ill persons among the 1690 members of the selected 345 households was 299 persons (17.7%) in 333 episodes. The ratio of males to females for the reported illnesses was 1:1.18. The most common illnesses were common cold, fever, and abdominal pain, which occurred in 78, 59, and 47 episodes, respectively, followed by headache, and cough. According to the WHO international classification of diseases, diseases of the respiratory system were prevalent (26.1% of total episodes). Types of illness among age groups 0-1 years and 2-5 years were common cold followed by fever. The others two age groups; 16-45, 46-65 years were ill with abdominal pain as the first rank followed by common cold. Fever and common cold were the most frequent illness in age group 6-15 years and the elderly respectively.

Key words: health diary — illness episodes — rural northeast Thailand — diseases of respiratory system — cause of morbidity

Introduction

Humans typically suffer not merely from diseases but also from the experience of illness. Illness represents a threat to the order and meanings by which people make sense of their lives and organize the routines of their everyday existence (Freund and McGuire, 1991). Illness or morbidity is one of the indicators for a broad picture of health status

and most important in planning health services. What is wanted is the incidence of illnesses, which is a rough measure for health, without having to define it in physiological terms (Kleinbaum et al. 1982; Mootz, 1986). The health diary has been used in health research to provide data on symptoms or morbidity episodes and utilization of services (Alpert et al. 1969; Roughman and Haggerty, 1972; Locker, 1981) and has been found to have draw-

backs as data collection device (Anderson et al. 1988).

Thailand is basically an agricultural country. About 77% of the population reside in rural farming villages (UNICEF, 1992). Economic growth in Thailand has rapidly transformed an agrarian society to an increasingly industrialized one, but rural poverty and landlessness still exist. Even though improvement in health status has been achieved, the inter-related conditions of poverty, illiteracy, and disease still persist in the rural area (TCGE, 1992).

In Thailand, there have been rare studies using diary as a research tool for measurement of illness. The present study aimed at investigating frequency of illnesses occurring among the villagers in rural areas of the northeast of Thailand during a period of observation of one month.

Subjects and Methods

Subjects were households in which the headman's wife was aged between 15-49 years and there was at least one child of age under 7 years. The reason for selecting households that had at least one child was to measure the morbidity in as wide a range of ages as possible, since grand parents, parents and one or two grand children usually stay together in the same house according to the typical extended family Thai custom.

The population studied comprised

1690 villagers of 345 households which were randomly selected by multi-stage sampling technic from 12 villages and 4 sub-districts, in 2 districts labeled as "A" and "B" in Khon Kaen province¹, northeast of Thailand (Fig. 1). This number of households represented 22.2% of the total number of households in those 12 villages.

Household-member name lists were obtained from each health center² in each sub-district.

Fig. 1. The map shows the two districts, indicated as A and B, in the northeast of Thailand, which were the object of the study.

¹ Thailand is composed of 4 regions; north, northeast, central and south. A province is the biggest administrative area, one province is subdivided into 'districts', each district is subdivided into 'sub-districts', each sub-district is composed of about 8-12 villages. In a total of 72 provinces, there are 784 districts, 7,003 sub-districts, and 63,100 villages, each village has about 40-150 households. Infrastructures are well accessible at provincial and some district level (Ministry of Public Health, 1991).

TABLE 1.
Percentage of ill person and episodes by age group

Age (year)	No. of ill persons		Ill persons % (number)	Episode % (number)	Episode /ill person
	male	female			
0-1	16	14	10.03 (30)	11.11 (37)	1.23
2-5	15	13	9.70 (29)	9.01 (30)	1.03
6-15	30	22	17.73 (53)	19.22 (64)	1.21
16-45	55	66	40.80 (122)	39.04 (130)	1.07
46-65	13	41	18.06 (54)	17.42 (58)	1.07
66-90	8	6	3.68 (11)	4.20 (14)	1.27
Total	137	162	100.00 (299)	100.00 (333)	1.12

The research instrument was a health diary, which consisted of a book, each page of which was used for one day record. Each respondent was given the health diary and was requested to record symptoms of illnesses of each household member that would occur during the period 1-30 November, 1992. The health diary recording was demonstrated by the investigators one day before starting collecting data and one week after that, in order to ensure uniform understanding of health diary record. The definition of illnesses used in the present study is the subjectively perceived illness by the respondents or "a disturbance in body process or experience that has become problematic for the individual" (Freund and McGuire, 1991). The respondents

were also instructed to record diseases that were diagnosed by medical doctors or health center personnel.

Results

Frequency of illnesses

Of 345 sampled households, 34.8% had at least one episode of a member being ill, which amounts to 333 episodes involving 299 persons (17.7% of the sampled population) (Table 1). A ratio of male to female for the reported illnesses was 1:1.18.

The most common illnesses reported by the respondents were common cold, fever, and abdominal pain which occurred in 78, 59, and 47 episodes, respectively,

² Health center is the peripheral unit for health care delivery in the rural areas which is available to the public in nearly all sub-districts. Each health center is normally staffed by an auxiliary midwife and a junior sanitarian or technical nurse. They are responsible for major preventive and promotive health services such as prenatal care, delivery and postnatal care, child immunization and nutrition, family planning and water supply and sanitation. Health centers also provide limited treatment of emergencies or minor illnesses and refer patients to district or community hospitals (Ministry of Public Health, 1991).

followed by headache, and cough (Table 2).

Based on international classification of diseases (WHO, 1977), 51.7% (172 episodes) of the episodes were conditions such as fever, abdominal pain, headache, cough etc., 26.1% (87 episodes) were diseases of the respiratory system, in which

common cold was the most frequent, followed by tonsillitis*, asthma* and pneumonia*. Accidents, toothache, and Diabetes mellitus*, accounted for 9, 7, and 5 persons, respectively. Interestingly, Dengue fever* which is classified as an infectious disease transmitted by mos-

TABLE 2.
Frequency distribution of illness episodes by age group

ICD-9 classification/ Illness	Age group (years)						Total
	0-1	2-5	6-15	16-45	46-65	66+	
VIII: common cold	20	12	14	20	9	3	78
others	-	2	6	1	-	-	9
XVI: fever	10	11	23	7	6	2	59
abdominal pain	-	-	1	32	11	3	47
headache	-	1	3	15	6	1	26
cough	6	1	4	8	3	-	22
others	1	1	3	9	2	2	18
IX : stomachache	-	-	6	3	-	-	9
others	-	-	-	11	4	1	16
XIII: knee, back, pain	-	-	-	7	4	1	12
XVII: accidents	-	-	1	2	6	-	9
I : Dengue fever	-	2	1	3	3	-	9
VI : ear pain	-	-	1	3	1	-	5
III : Diabetes mellitus	-	-	-	5	-	-	5
VII : hypertension	-	-	-	-	3	1	4
X : urinary stone	-	-	-	4	-	-	4
XII : allergic dermatitis	-	-	-	1	-	-	1
Total	37	30	63	131	58	14	333

Notes:

VIII: Diseases of respiratory systems; others include tonsillitis, asthma and pneumonia

XVI: Symptoms, signs and ill-defined conditions; others include vomiting, breathlessness, sleeplessness, fainting spell, weakness and loss of appetite.

IX : Diseases of digestive system; others include toothache and constipation

XIII: Diseases of the musculoskeletal system and connective tissue

XVII: Injury and poisoning; include vehicle accident, accident at work and dog bite

I : Infectious and parasitic diseases; include Thai haemorrhagic Dengue fever, chicken pox and diarrhoea

VI : Diseases of the nervous system and sense organ; include bloodshot eye and epilepsy

III : Endocrine, nutritional and metabolic diseases and immunity disorders

VII : Diseases of the circulatory system; include haemorrhoid

X : Diseases of the genitourinary system; include bloody urine

XII : Diseases of the skin and subcutaneous tissue

* diagnosed by health professionals.

quito (ICD-9, WHO, 1977) occurred in 3 persons in age groups 2-5, 16-45, and 46-65 years (Table 2).

Illness episodes by age and sex

The illness episodes per ill person were on average 1.1 among all age groups. The highest frequency of illness episodes per ill person was 1.2 times and occurred in three age groups; under two years of age, age between 6-15 years and age over 65 years (Table 1).

Concerning the types of illnesses among various age groups, common cold was the most frequent illness occurring in the age groups 0-1, and 2-5 years (20 and 12 episodes, respectively) followed by fever. For the age group 6-15 years, fever ranked first followed by common cold (23 and 14 episodes, respectively). Abdominal pain and common cold were the types of illness commonly occurring in age groups 16-45, 46-65 years, and in the elderly (Table 2).

Discussion

The most commonly experienced illness of the villagers residing in the two districts of Khon Kaen province during the month of November, 1992, according to our study performed by using health diary approach, was the respiratory system illness. This finding is similar to the findings of previous investigations conducted during the one year period from July 1984 - June 1985 (Suphanchaimat et al. 1988) and during the rainy season from May till July 1988 in northeast Thailand (Grand et al. 1993). A similar

finding was obtained in a study in the north of Thailand conducted with a focused ethnographic approach (Upayokin et al. 1991) as well as in the study by Suttapreyasri et al. (1990) who found perinatal disorders and respiratory diseases as the major diseases of the patients studied from four regions of the country. Thus, a major cause of morbidity among the Thai population in rural areas is diseases of the respiratory system.

Of particular interest is that the number of episodes per ill person was high among three age groups; under two years old, 6-15 years old, and over 65 years old, similarly to a previous report by Suphanchaimat et al. (1988).

In relation to gender, the present study revealed a high ratio of illness experience in females in the age group 16-65 years presumably because women report more episodes of illness and more contacts with physicians (Freund and McGuire, 1991). However, boys aged 6-15 years, not girls, had a greater frequency of illnesses, a finding similar to that reported in previous studies (Valadian et al. 1961; Gove, 1984).

The present study also found that the number of illness episodes was 0.2 time per month per person. This figure indicates a very low number of illness episode compared to a previous study in two villages of northeast Thailand by Preedasawasdi et al. (1987) and a previous study in Taiwan, which showed 1.27, and 0.57 episodes per month per person, respectively (Kleinman, 1980).

The authors suggest that a further study is needed for investigating illness behavior in those villages, and for col-

lecting good quality epidemiologic data to defined high-risk population.

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