

Koje Island Illness and Health Care Patterns

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ABSTRACT

To determine the health care needs and practices of the area covered by the Koje-Do Community Health and Development Project, a questionnaire survey was conducted by trained public health nurses to 971 randomly selected members of 160 families from the 8 villages of the area.

The self-reported illness prevalence rate, the self-reported diagnosis of illness, treatment, sources of treatment and reasons for failure to obtain treatment were discussed by the epidemiological, socioeconomical factors such as age, sex, occupation, education and family size.

Some significant findings are:

1. The parents of girls less than 6 years old reported only about half of the rate illness (32%) that the parents of boys the same age reported (56%). About twice as many women (7.4%) reported vague symptoms as men (3.2%).
2. The age group 0-5 years old had an illness prevalence of 44%, those 6-34 years old reported 28% ill and those 35 years old and older reported 49% ill during the preceeding months. The most striking effect of age upon the diagnosis reported in the high rate of respiratory and ENT illnesses in 0-5 year old age group. Age significantly reduced the rates of treatment for those incapacitated by their illnesses in the 6-10 and 50-plus year old age groups.
3. If the head of household was literate the family members are more likely to receive treatment, and less likely to use herb doctors.
4. Occupation and age adjusted family size did not affect significantly the illness prevalence, diagnosis of the illness and treatment.
5. Thirty-six percent (36%) of the subjects reported an illness during the preceeding month and 12% of them were incapacitated by the illness.
6. Fifty-eight percent (58%) of those ill and 73% incapacitated by illness received treatment.
7. Forty-four percent (44%) of the treatment was obtained from local drug outlets, 21% from the mainland, 15% from local physician and 10% from herb doctors.
8. Forty-eight percent (48%) of those failing to receive treatment did so because the illness was not serious enough, 46% because treatment was too expensive, 3% because treatment was not effective, 1% because treatment was not easily available and 2% for other reason.

INTRODUCTION

The Koje Do Community Health Project, Ha Chung-Myun, Koje-Gun, Kyung Sang Nam-Do, is sponsored by the World Council of Church's Christian Medical Commission (Geneva) and the United Presbyterian Church U.S.A. (New York) in cooperation with the Department of Preventive Medicine and Public Health of Yonsei University College of Medicine and Seoul National University School of Public Health in an attempt to develop an economically feasible comprehensive health care system for rural Korea.

While the Project is still in the developmental stage it is necessary to determine the health care needs and practices of the service area. At this time there was also a special need to identify which of eight especially remote villages, in adjacent Myuns, most needed mobile satellite clinics.

SURVEY METHOD

One hundred sixty families with 971 members randomly selected, with 20 households in each of 8 villages, from Chang Mok-Myun, Youn Cho-Myun and Chang Sung Po-Myun. The selected 160 households were visited by the public health nurses of the project with the carefully designed questionnaires. The survey was conducted during November 1970.

RESULTS

Self Reported Illness Prevalence

Question: "Has this person been ill during the last week?" "Has this person been ill during the last month?" The answers to these two questions were combined for analysis and

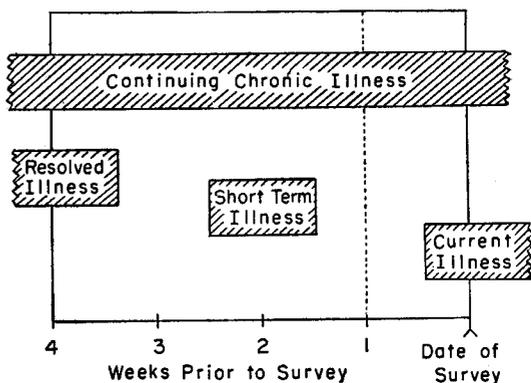
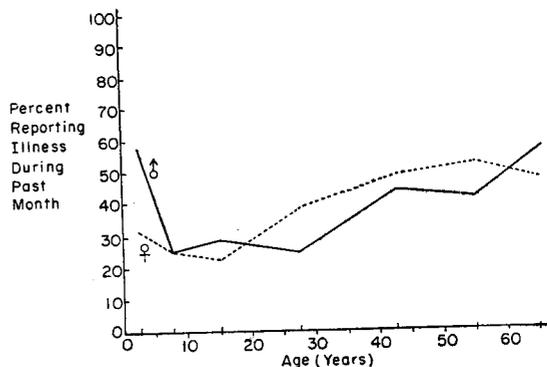


Diagram 1. Temporal pattern of illnesses reported, showing period covered by survey

the illness data presented in this paper refers to those who responded yes to either of these two questions. Diagram 1 depicts the temporal patterns of illnesses reported in this paper. The villagers are used to thinking in terms of the 28 day lunar month.

The self reported illness prevalence during the last month for the entire survey group of 971 individuals was (354/971) 36%. This is twice as high as the monthly prevalence rate of 19% reported from other island areas by Lee (1970); however, it is lower than the 42% reported from Hachung-Myun, Koje-Do, by Im(1969).

Sex: There was no significant difference in



Graph 1. Illness prevalence during last month reported by age & sex

the reported illness rates between men (36%) and women (37%); however, as Graph I discloses there was a significant difference (Chi square, less than .01 probability) in the rate of illness reported for 0-5 year old children between males (56%) and females (32%).

Age: Table 1 shows the significant (Chi square, less than .001 probability) influence of age upon the reported illness prevalence. The highest illness prevalence is reported in those 35 years old or older (49%), while the lowest rate (28%) is reported by those 6 through 34 years old. Children, under 6 years old, report an illness rate of 44% during the last month.

Table 1. Percent reporting illness within the last month, by age

Age (years)	No. of people	Percent ill (%)	Simplification of illness rates by 3 groups for age adjusting
0-5	112	44	.44
6-10	129	25	.28
11-19	237	26	
20-34	174	32	
35-49	132	47	
50-59	72	47	.49
60+	115	52	
Total	971	36	

Occupation: There was no significant difference in illness rates reported by groups divided according to the occupation of the head of the household. The farming population (496 people) had a rate of 38%, the fishing population (292 people) had a rate of 36%, and the population with other occupations (183 people) had a rate of 33%.

Education: Table 2 disclosed that there is no significant difference in reported illness rates among groups divided according to the education level of either the head of the household or his wife.

Table 2. Percent reporting illness within the last month by education level of head of household and wife of head of household

Education level	Head of household		Wife of head of household	
	No. of people	Percent ill (%)	No. of people	Percent ill (%)
No head of Household or wife	7	29	8	36
Illiterate	310	41	532	37
Primary school	283	33	320	36
Middle school	203	36	51	31
High school	91	37	8	50
College	11	36	0	—
Unknown	66	35	52	37

Family size: Although, there was an apparent difference in illness rates by family size, this was actually due to the difference in age distribution for different family size as the age adjusted expected rates in Table 3 disclose. Inspection of Table 14 for family size by age distribution confirmed that the smaller families had an increased proportion of high risk age group individuals, those over 49 years old

Table 3. Percent reporting illness within the last month by family size with age adjustment

Number of people per family	No. of people	Percent reporting illness (%)	Percent expected ill with age adjustment (%)
1-4	147	41	41
5-6	283	37	37
7-8	315	35	36
9-12	226	35	35

Self Reported Diagnosis of Illness

The subjects who reported an illness during the preceding month were read and shown a list of general diagnosis and asked which illness they had.

Age, sex: The self reported diagnoses are

Table 4. Percent reporting diagnosis for entire group, by age and by sex

Self reported diagnosis	Rank	Total	Percent reporting diagnosis								Sex	
			Age							60+	Male	Female
			0-5	6-10	11-19	20-34	35-49	50-59				
Respiratory & ENT	1	10.0	17	11	10	9	6	10	10	11.6	8.4	
G-I & Parasitic	2	6.0	6	5	8	2	10	4	8	5.9	6.0	
Headache, Malaise, etc., without fever	3	5.4	1	2	2	8	10	11	8	3.2	7.4	
Orthopedic & Injuries	4	4.3	1	0	0	6	9	10	9	3.6	5.0	
Neurological & Sensory	5	4.0	0	2	+	3	8	7	14	3.4	4.6	
Dermatological	6	3.2	9	5	4	2	0	3	0	4.0	2.4	
Other not listed	7	2.6	2	2	1	1	4	6	5	3.0	2.2	
Cardio-vascular	8	1.9	3	0	0	2	4	4	4	1.5	2.2	
Diarrhea, Dysentery	8	1.9	7	1	1	1	1	0	3	2.7	1.0	
Typhoid, etc												
Tuberculosis	10	.6	1	0	+	0	1	1	2	.8	.4	
Fever of unknown origin	11	.3	0	0	+	1	0	0	1	.4	.2	
Gynecological & V.D.	11	.3	0	0	0	1	1	0	0	0	.6	
Pregnancy	0											
Urological & Renal	0											
No. of people		971	112	129	237	174	132	72	115	473	498	

displayed for the entire group by age and by sex in Table 4. Although, the diagnostic categories are not exactly equivalent, the relative ranks of these diagnoses roughly agree with those of Lee (1970), Kim (1970) and Im (1969). Theoretically about 1% of the population should have reported tuberculosis and about 3% should have reported pregnancy.

Occupation, education, family size: Analysis of unpublished tables prepared for self reported diagnosis by occupation of head of household, education of the head of the household, education of the wife of head of household, and the family size failed to show any significant association of these factors and the diagnosis reported.

Number of self reported illness per person: Thirty-three percent (33%) of the subjects reported only one diagnosis within the last month,

while 3.5% reported more than one diagnosis. 3% of the men and 4% of the women reported more than one diagnosis. Only 2% of those less than 50 years old reported more than one diagnosis, but 9% of those 50 years old or older reported two or more diagnoses.

Because some individuals reported more than one diagnosis, tables presenting data by diagnosis will occasionally count one subject more than once; therefore containing more diagnoses than subjects.

Severity of Illness

The subjects were asked if the illness reported for the last month was severe enough to cause incapacitation, that is to prevent normal work, school or play activities. Twelve percent of the population or exactly one third of these

Table 5. Percent incapacitated and percent treated by diagnosis among those reporting illness during the past month

Diagnosis	People with diagnosis	Percent incapacitated	Percent treated
		%	%
Respiratory & ENT	97	28	63
G-I & Parasitic	58	43	59
Headache, Malaise, etc., without fever	52	44	56
Orthopedic & Injuries	42	36	43
Neurological & Sensory	39	28	62
Dermatological	31	3	50
Other not listed	25	36	40
Cardio-vascular	18	61	78
Diarrhea, Dysentery, Typhoid, etc.	18	39	50
Tuberculosis	6	17	67
Fever of unknown origin	3	100	100
Gynecological & V.D.	3	33	100

with any illness reported incapacitation by illness during the preceding month.

Sex, age: The incapacitation rates for males and females were equal. Graph 2 shows the significant differences (Chi Square, less than .001 probability) in population incapacitation rates by age. However, the differences in the incapacitation percents among those ill by age is not statistically significant.



Graph 2. Percent of those ill and of those incapacitated during preceding month

Occupation, education: Incapacitation rates were not significantly different when analyzed by the occupation of the head of the household,

of the education levels of the head of the household or his wife.

Family size: The differences in incapacitation rates according to family size are due to the differences in age distribution by family size, as seen in Table 14. Families with 1-4 members reported 18% incapacitated, those with 5-6 members reported 11% incapacitated, and those with either 7-8 or 9-12 members each reported 13% incapacitated.

Diagnosis: The percent of people in each self reported diagnostic category who were incapacitated by their illness is reported in Table 5.

TREATMENT

The subjects with illness during the last month were asked if they had received treatment for thier illness. 58% of those ill during the last month reported they had received treatment, while 73% of those with incapacitating illnesses had been treated and 50% of those with a non-incapacitating illness had been treated. Lee (1970) found 58% and Kim (1970) found 54% of their subjects obtained treatment, while in Ha Chung-Myun, Koje Do, in Febr-

Table 6. Percent treated by education of head of household and of wife of head of household

Education	Percent treated			
	Head of household		Wife of head of household	
	Incapacitated	Not incapacitated	Incapacitated	Not incapacitated
Illiterate	64	43	70	44
Primary school	69	47	82	60
Higher school	93	56		

Table 7. Percent of those ill, but not incapacitated, receiving treatment by family size

Family size	1-4 People	5-6 People	7-8 People	9-12 People
Percent treated	36%	58%	48%	35%
People at risk	147	283	315	226

uary 1969, Im (1969) found 88% of those ill were treated.

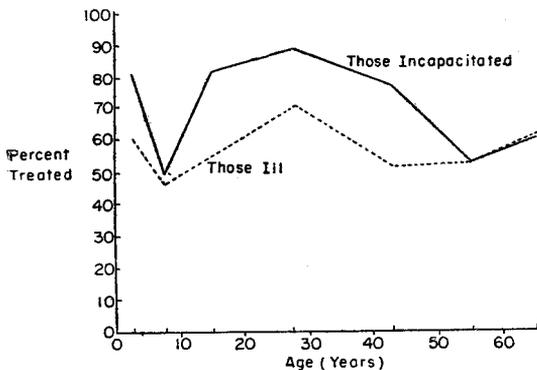
Sex, age: There was no significant difference in the treatment rates between ill males(60%) and females(56%), but there was a significant difference(Chi Square, less than .01 probability) in the treatment rates of those incapacitated. 86% of the incapacitated males were treated but only 61% of the incapacitated females were treated. Graph 3 displays the association of the percent of those ill and incapacitated who report they were treated by age. The difference in percent of those ill treated by age is not statistically significant, but there is a significant difference (Chi Square, less

than .05 probability) for the percent of those incapacitated treated by age. The 6-10 and 50-59 year old age groups reported the smallest percentages receiving treatment.

Occupation: There is no significant difference by occupation for the percent treated of those ill or incapacitated.

Education: The education level of the head of the household influenced the percent treated significantly (Chi Square, less than .05 probability) for those incapacitated only, not for those ill. Conversely the education level of the wife of the head of the household influenced the percent treated significantly (Chi Square, less than .05 probability) for those ill but not incapacitated. This data is presented in Table 6.

Family size: The percent of those incapacitated treated by family size is not significantly different. However, for those ill, but not incapacitated, there is a significant association (Chi Square, less than .05 probability) of family size and percent receiving treatment, with about 2/3 of those in families of 1-4 people receiving treatment, while only about 1/3 of those in families with 9-12 people receive treatment. Table 7 contains the relevant information.



Graph 3. Percent of those ill and incapacitated treated by age

Table 8. Source of treatment by age and by sex

Source of treatment	Percent treated						
		By Age				By Sex	
		Total	0-19	20-49	50+	Male	Female
	%	%	%	%	%	%	%
Drug outlets:							
Drug store(Pharmacist)	40		53	37	42	43	46
Drug seller	4	44					
Indigenous practioners:							
Herb doctor(Chinese Med.)	10		5	15	9	10	10
Sorceress	0	10					
Local Western Med. Practitioners:							
Local Licensed Physicians;							
Jahng Mok	5						
Ha Chung	0						
Medical doctors;			11	11	24	12	17
Koje Do Commun. Health Center	4	14.5					
Jahng Seong Po (Severance Hosp.)	0.5						
Gun Health Center	5						
Mainland sources:							
Chin Hae	0						
Ma San	5		18	31	13	22	20
Choong Moo	2	21					
Pusan	14						
Other sources	10	10	13	6	13	13	7
No. of people		205	79	71	55	105	100

Diagnosis: The percent treated according to their diagnosis was presented in Table 5.

Source of Treatment

Those who had received treatment were given a list of local sources of treatment to choose among as to which one they had used. Table 8 discloses that 44% received treatment from Drug Outlets, while 21% went to the mainland for medical treatment, 15% received locally available western type medical treatment and 10% were treated by a herb-doctor. These findings are in agreement with Lee (1970); but in February 1969 in Ha Chung-Myun,

Koje Do, Im(1969) found 46% of the respondents stated they used a Western type clinic or hospital for their last illness and 64% of these respondents indicated they preferred the Local Licensed Physician at Ha Chung for treatment.

Age: The source of treatment by age distribution was significantly different (Chi Square, less than .02 probability); primarily because the 20-49 year old age group received more treatment from the mainland (31%) and from Herb-Doctor (15%). Another reason for the significant difference by age is because 24% of the 50 year old age group received treatment from local western type medical practitioners.

Table 9. Influence of education of head of household upon source of treatment

Education of head of household	No. of people	Percent receiving treatment at:				
		Drug outlets	Indigenous practioners	Local western type medicine	Mainland sources	Other sources
Illiterate	65	42	19	16	16	8
Educated	125	47	5	13	23	12

table 10. Source of Treatment by diagnosis of illness

Diagnosis	People with diagnosis	percent Receiving treatment at				
		Drug outlets	Indigenous practioners	Local western type medicine	Mainland sources	Other sources
	No.	%	%	%	%	%
Respiratory & ENT	61	54	2	18	16	10
G-I & Parasitic	34	71	9	3	12	6
Headache, Malaise, etc., without fever	39	31	8	8	15	33
Orthopedic & Injuries	18	39	6	11	17	28
Neurological & Sensory	22	36	18	23	18	14
Dermatological	15	40	0	20	33	7
Other not listed	9	33	33	0	11	22
Cardio-vascular	14	29	21	14	29	7
Diarrhea, Dysentery, Typhoid, etc.	9	22	11	33	33	0
Tuberculosis	4	0	0	75	25	0
Fever of unknown origin	3	0	66	33	0	0
Gynecological & V.D.	3	33	0	0	66	0

Table 11. Source of treatment by severity of illness

Severity of illness	No. of people	Percent receiving treatment at:				
		Drug outlets	Indigenous practioners	Local western type medicine	Mainland sources	Other sources
Incapacitated	86	42	17	13	22	6
Not incapacitated	118	46	4	16	20	13

Sex, occupation, family size: There was no significant difference in source of treatment between males and females, nor by occupation of the head of the household or family size.

Education: The education of the head of the household significantly (Chi Square, less than .01 probability) influenced the source of treatment, chiefly because those from the educated group received treatment from Herb-Doctor only 1/4 as often as the illiterate group. Table

9 discloses the relevant information. The education of the head of the household did not influence the source of treatment.

Diagnosis: The percent of people with various diagnosis receiving treatment at various places is disclosed in Table 10.

Severity: There is a significant difference (Chi Square, less than .02 probability) between the source of treatment chosen by those incapacitated and those not incapacitated by

Table 12. Reasons for not obtaining treatment for entire group by age and sex

Reason for not obtaining treatment	Percent of entire group	Percent by age		Percent by sex	
		0-34	35+	Male	Female
	%	%	%	%	%
Illness not serious enough	48	65	38	68	40
Treatment not easily available	1	1	1	3	0
Treatment too expensive	45	31	54	33	56
Treatment not effective	3	1	4	3	2
Other reasons	2	1	3	3	1
No. of people	149	75	74	67	82

Table 13. Association of diagnosis and reasons for failing to obtain treatment

Diagnosis	People with diagnosis (No.)	Percent of those III not receiving treatment				
		Illness not serious enough	Treatment not easily available	Treatment too expensive	Treatment not effective	Other reasons
		%	%	%	%	%
Respiratory & ENT	36	61	0	36	0	3
G-I & Parasitic	24	29	0	63	4	4
Headache, Malaise, etc., without fever	23	35	0	65	0	0
Orthopedic & Injuries	24	42	0	50	4	4
Neurological & Sensory	15	47	0	40	6	6
Dermatological	16	56	0	44	0	0
Other not listed	15	40	7	47	7	0
Cardio-vascular	4	75	0	25	0	0
Diarrhea, Dysentery, Typhoid, etc.	9	66	11	22	0	0
Tuberculosis	2	50	0	50	0	0

their illness in the last month. Table 11 shows that this is primarily because the incapacitated used Herb Medicine 4 times more frequently than those not incapacitated.

Reasons for Failure to Obtain Treatment

Those who reported they hadnot received treatment, despite illness duringthe past month, were asked to choose an answer from a list of possible reasons for not receiving treatment. The survey groupwas almost equally divided between two reasons for not receiving treatment; 48% said the illness was not serious

enough and 46% said that treatment was too expensive. The availability of treatment was not considered a serious deterrent, as shown in Table 12.

Both Lee and Kim found an even higher proportion of their subjects cited financial reasons as the chief deterrent to obtaining treatment, 61% and 82% respectively.

Age, sex: There is a significant difference (Chi Square, less than .01 probability) disclosed in Table 12 for the reason treatment was not obtained between the 0-34 year old age group and the over 34 year old age group.

Only 38% of those less than 35 years old failed to obtain treatment because of expense, but 54% of those 35 years old or older stated expense was the reason they had not obtained treatment. Similarly, Table 12 shows a significant difference (Chi Square, less than .01 probability) between the sexes' reasons for not obtaining medical care. Only 33% of the untreated males, but 56% of the untreated females failed to get treated because of financial reasons.

Occupation, education: Analysis of the data of reasons in failing to get treatment by occupation of the head of the household, education of the head of the household and education of the wife of the head of the household found there was no significant association of these factors with the reasons for failing to get treatment.

Family size: There was significant difference (Chi Square, less than .05 probability) in the reasons reported for failing to get treatment between small families with 1-6 members, 36% because of expenses; and large families with 7-12 members, 51% because of expenses.

Diagnosis: The percent giving various reasons for failing to obtain treatment for different diagnosis is presented in Table 13.

DISCUSSION

The presented results were an association of various illness and health care practice factors with various demographic, social and economic factors. However, if we are going to alter illness and health care patterns we must assume they are the dependent variables and look for their association with the independent variables of demographic, social and economic factors. Therefore, our discussion will focus on differences in illness and health care patterns produced by the various demographic,

social and economic variables.

Sex: Graph 1 shows that the parents of girls less than 6 years old reported only about $\frac{1}{2}$ the rate of illness (32%) that the parents of boys the same age reported (56%). Is this a real difference or is it the results of parents being more attentive to their young sons?

In Table 4, about twice as many women (7.4%) reported vague symptoms (headache, malaise, etc., without fever) as men (3.2%). There was no significant difference between the number of diagnoses reported, nor in the severity of the illness.

Although, men and women reported almost equal treatment rates for all illnesses, there was a significant difference in the percent of men (86%) and women (61%) who received treatment when the illness was incapacitating. This indicates that not only are men more apt to receive treatment for severe illnesses, but also that women are more apt to receive treatment for minor illnesses.

There was no difference between the sexes in the source of treatment. But there was a significant difference in the reasons for failing to get treatment.

Only 33% of the untreated males, but 56% of the untreated females failed to get treatment of financial reason. As shown in Table 12 the men predominantly failed to get treatment because the illness was not serious enough.

Age: As expected, the illness prevalence curve by age is U shaped. Table 1 shows that the age group 0-5 years old had a prevalence of 44%, those 6-34 years old reported 28% ill and those 35 years old and older reported 49% ill during the preceding month.

The most striking effect of age upon the diagnoses reported in Table 4 in the high rate of respiratory and ENT illnesses (17%) in the 0-5 year old age group and the high rates of vague symptoms (headache, malaise, etc., with-

out fever), orthopedic and injury diagnosis, and neurological and sensory symptoms reported by those 35 years old or older, with each of the three categories having a prevalence of about 10% in that age group. Similarly only 2% of those less than 50 years old reported more than one diagnosis, but 9% of those 50 years old or older reported more than one diagnosis.

Surprisingly, the effect of age upon the severity of the illnesses reported was not statistically significant.

Graph 3 shows that age significantly reduced the rates of treatment for those incapacitated by their illnesses in the 6-10 and 50-plus year old age groups. Thus children, less than 6 years old in whom illnesses may be more often life threatening, and mobile economically important teenagers and young-to-middle-aged adults have the highest rates of treatment from the mainland (31%) than other age groups (about 15%), probably because of their higher mobility.

But they also receive more treatment from Herb doctors, as shown in Table 8.

Those less than 35 years old who failed to receive treatment did so primarily because they did not consider the illness serious enough (65%); however, those over 34 years old who did not get treatment, predominantly attributed it to financial reasons (54%) in Table 12.

Occupation: Three occupation categories were defined for the study. Respondents were then classified according to the occupation of the head of their household: 51% were in farming households, 30% were in fishing households, and 19% were in other occupation households. In HaChung-Myun, Im reported 74% farmers, 8% fishermen and 18% other occupations.

The self reported illness rates, diagnoses, number of illnesses, severity of the illnesses, severity of the illnesses, treatment rates, sou-

rces of treatment, and reasons for failing to get treatment were not effected by the occupation of the head of the household. This is probably because in such remote villages there is little variation in living patterns despite differing occupations.

Education: The education of the head of the household or his wife did not affect the illness prevalence reported, the type of illnesses, nor the severity of the illnesses.

If the head of the household had gone to school beyond primary school, then, as Table 6 shows, 93% of the family members who had an incapacitating illness received treatment; however, if he had not gone to school beyond primary school then less than 70% of those incapacitated had been treated.

If the wife of the head of the household was literate, the family members were more likely to receive treatment for minor illnesses, as shown in Table 6. Too few wives had received education beyond primary school to analyze the effect of higher education.

Table 9 discloses a four time greater reported use of Herb doctors by members of families with illiterate heads of households (19%) than by members of families with literate heads of the wife did not influence the source of treatment. Nor did the education of either the head of the household or his wife affect the reasons for not obtaining treatment.

Family size: Members of families of different sizes reported different illness rates, with those from small families having the highest rate, as shown in Table 3, however, these differences were due to an unequal age distribution of family members by family size, as shown in Table 14, with smaller families having a higher proportion of high risk individuals.

The size of the family did not affect the type of diagnoses reported, the number of illnesses per person, of the source of treatment.

Table 14. Family size by age distribution of members

Size of family Age of members	Percent of family members				
	1-4	5-6	7-8	9-12	Total
	%	%	%	%	%
0-5 years	11	14	10	10	12
6-10 "	7	13	16	14	13
11-19 "	17	22	26	28	24
20-34 "	25	20	15	16	18
35-49 "	9	12	17	15	14
50-59 "	11	10	6	5	7
60+ "	20	9	10	12	12
Total	100	100	100	100	100
Number of people	151	282	313	225	971

The effect of family size upon the severity of the illness is again due to the unequal age distribution of members between larger and smaller families. Treatment for incapacitation illnesses was not affected by family size; however, as shown in Table 7, family size does significantly affect the rate of treatment of less severe illnesses. Members of small families (1-4 members) are about twice as liable (63%) to receive treatment for minor illness as are members (35%) of large families (9-12 members). This is logically supported

by the finding that only 36% of the members of smaller families (1-6 members) failed to receive treatment because of expenses, but 51% of the members of larger families (7-12 members) failed to receive treatment for financial reasons. This may reflect the great scarcity of funds for treating illnesses in larger families.

Village Illness Characteristics

As the primary reason the survey was conducted was to identify the most appropriate sites for locating satellite mobile clinics, the eight villages health characteristics were analyzed.

Illness distribution: Initial analysis showed a marked difference in the reported illness rates between the villages with a range from 29% to 47%. However, inspection of the age distribution of the subjects within the villages suggested that the health differences were due to the different ages of the villages' sample populations. This was confirmed when no statistical difference between the observed and the age adjusted expected rates was found. Table 15 shows the rates of illnesses for the villages by rank order of illness rates.

Table 15. Village illness rates, treatment rates, incapacitation rates, treatment of incapacitation rates by rank orders

Rank	Illness	Treatment of ill		Incapacit.		Treatment of incapacita.		Composite R.O. all 4		Composite. R.O. Incapac. only		
Order	Village	%	Village	%	Village	%	Village	%	Village	score	Village	score
1	Seomok	47	Nongso	48	E-mok	18	Nongso	58	Seomok	8	*E-mok	4
2	E-mok	45	Hwangpo	49	Seomok	16	Seomok	60	E-mok	10	*Seomok	4
3	Nongso	41	Seomok	52	Hannae	15	E-mok	65	Nongso	11	Nongso	7
4	Hannae	33	E-mok	57	Ayang	12	*Ayang	77	Ayang	20.5	Ayang	8.5
5	*Ayang	31	Yunsu	62	Seoku	11	*Seoku	77	Hannae	22	Seoku	9.5
6	*Hwangpo	31	Ayang	65	Nongso	9	Yunsu	78	Hwangpo	22.5	Hannae	11
7	*Yunsu	31	Hannae	73	*Hwangpo	8	Hwangpo	82	Yunsu	24.5	*Hwangpo	14
8	Seoku	29	Seoku	75	*Yunsu	8	Hannae	94	Seoku	25.5	*Yunsu	14

* Indicates tie for rank

R.D.:Rank order

Severity, treatment: The villages' rates of incapacitation because of illness during the past month and rates of treatment for those incapacitated over the past month are also shown in Table 15 by their respective rank orders.

Selection of villages for mobile clinics: By using the composite rank order of the villages according to illness rates, incapacitation rates, treatment rates and treatment of incapacitation rates it is possible to assign priorities to the villages in order of optimal institution of mobile clinics. Table 15 shows Seomok, E-mok, Nongso and Ayang should have mobile clinics first.

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