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PREFACE

The International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) is an autonomous, international, philanthropic and non-profit centre for reasearch, education and training as well as clinical service. The Centre is derived from the Cholera Research Laboratory (CRL). The activities of the institution are to undertake and promote study, research and dissemination of knowledge in diarrhoeal diseases and directly related subjects of nutrition and fertility with a view to develop improved methods of health care and for the prevention and control of diarrhoeal diseases and improvement of public health programmes with special relevance to developing countries. ICDDR,B issues two types of papers: scientific reports and working papers which demonstrate the type of research activity currently in progress at ICDDR,B. The views expressed in these papers are those of authors and do not necessarily represent views of International Centre for Diarrhoeal Disease Research, Bangladesh. They should not be quoted without the permission of the authors.

ABSTRACT

In August-September 1978, a survey of all non-government health practitioners residing in a rural area of Bangladesh was conducted. The population of the study area was 263,000. The data on this study population is considered unique because, longitudinal demographic surveillance was undertaken for 15 years by the International Centre for Diarrhoeal Disease Research, Bangladesh. The aim of the survey was to elucidate the type, pattern, distribution, characteristics of non-government practitioners in a rural area.

In the area 1,292 non-government practitioners were identified, practitioner density was 4.7 per 1,000 population. Allopathic and homeopathic practitioners constituted 14.9 and 3.3 percent, respectively, of the total. Very few of these two categories were officially registered (1.8 percent of total). Kobiraj, totka (an indigenous healer), and other categories comprised 15.3, 60.5, and 6.0 percent, respectively. Allopaths and homeopaths were younger, better educated, and male-dominated in comparison to kobiraj, totka, and other practitioners, who tended to be older, less educated, and more often women most of whom learned their skills by apprenticeship.

The geographic distribution of allopaths and homeopaths were thinner than the kobiraj, totka, and other groups. Most practitioners reported unrestricted, fulltime availability to clients in homes and offices. Although most non-allopathic practitioners denied the use of allopathic drugs, indepth interviews suggested that this response was biased due to fear of regulatory violations. Allopaths and homeopaths averaged 18 patients daily, while kobiraj, totkas, and others averaged less than 10 patients daily.

When practitioners and clients were asked about specialization, a disease-specific utilization pattern emerged. For some diseases, all types of practitioners were employed; but for some, specific practitioner types were utilized. In general, there appeared to be good correspondence between the reported specialization of practitioners and the reported utilization pattern of clients. An attempt was also made to estimate the financial resources involved in non-government health systems. Reported income by practitioners was one tenth of the income estimated by client reports of cost and frequency of consultations.

The paper draws the conclusion that, despite high costs, the non-government system is utilized extensively because of availability, social access, and social perceptions of illness causation. Although information was not obtained on the biomedical effectiveness of native pharmacopoeias, perceived effectiveness was sufficiently high to attract patients in spite of high costs. Finally, the prospect of integrating non-governmental traditional medical systems into state-sanctioned medical bureaucracy is discussed with a view toward rationalizing health services in Bangladesh.

INTRODUCTION

In Bangladesh, as in many other less developed countries, the recent experience of the People's Republic of China in the delivery of basic health services to poor rural populations holds enormous appeal. China now has over 1 million "barefoot doctors" integrated into a health care system that provides simple, effective health services rural communities at affordable costs (1). The China "model" appears to possess several distinct features: (a) socialist ideology stressing distributive equity; (b) practicability by focusing on common illnesses, simple low-cost technologies; briefly and informally trained workers; and (c) sociocultural specificity by legitimizing and integrating traditional systems of medicine into state sanctioned medical bureaucracies.

Unfortunately, none of these three basic features characterize the Bangladesh health system. Although government health policies and programmes have been recently intensified, national efforts to deal with the health situation have encountered major obstacles (2,3). Among these are inadequate planning, bureaucratic rigidity, resource constraints, and insufficient, inappropriate, and maldistributed health manpower. Energy and resources have been disproportionately invested in urban-based, high technology health centres staffed by highly-paid professional. Recent initiatives in the development of rural thana health complexes, union-level sub-centres, integration of field staff, stremlining administrative procedures, and the training of large numbers of medical assistants, "village doctors" (palli chikitshok), and village health workers; all represent initiatives to remedy some of the deficiencies (4). Knowledge gaps on health care delivery has been a constraint to more effective health planning. One of these is the lack of systematic information on traditional medical systems and practitioners, which constitute the main form of health care available in the rural areas. A common perception of health care in Bangladesh has been "modern" allopathic health workers, facilities, and institutions operating as alien enclaves in an amorphous structure of indigenous folk healers. Attitudes toward traditional practitioners range from romantic notions of culturally-specific spiritual healers to charges of outright charlatanism, with practitioners exploiting deprived, ignorant populations.

The aim of this paper is to elucidate the pattern, distribution, and practice of non-government practitioners in a rural area of Bangladesh. An attempt is made to enumerate health practitioners of all schools. Their types of practice, client perception of their usefulness, and cost structure are analyzed. Such information, it is hoped would contribute to improved health planning in Bangladesh.

METHODS AND FIELD PROCEDURES

The rural health practitioners examined in this study were all residents of Matlab thana, Comilla district, Bangladesh. Since 1963, the International Centre for Diarrhoeal Disease Research, Bangladesh (formerly Cholera Research Laboratory) has provided selected health services and operated a demographic surveillance covering 228 villages with a population of 263,000 people according to the 1974 census. A rural diarrhoeal treatment unit staffed primarily by paraprofessionals are supported by a network of speedboats to transport patients to and from the treatment centre. Annually about 15,000 patients are treated here. The surveillance system consists of regular cross-sectional censuses and longitudinal registration of vital events: births, deaths, migrations, marital unions and dissolutions. Field procedures* for the collection of the demographic data involve four tiers of workers: 290 female village workers (dais) check on vital events; 16 male field assistants double-check their work monthly and record vital events on standard forms; 4 male senior field assistants recheck the surveillance thrice annually; and supervisory staff. Details of these field procedures have been reported in several previous publications (5,6).

Three data sources ensured that all health practitioners residing in the study area were identified. First, during 1974 census occupational data on all residents of the study population were obtained (7). Second, female village workers in June-July 1978 canvassed all households enquiring whether any household members provided health services of any form to non-family members. Practitioners were identified both by their own or family, as well as from enquiries addressed to all households: "Whom do you visit when you are ill?" Third, in August-September 1978, 16 male matriculate (high school) field assistants double-checked the lists compiled by the female village workers.

All identified health practitioners filled a pre-tested survey questionnaire in August-September 1978 with the help of 16 male field assistants. Each questionnaire, requiring about 20 minutes to complete, collected the following information: individual identification, personal characteristics, type and nature of health practice, speciality areas, economics of practice, and desire for further training. The survey recorded the responses of practitioner without efforts to determine their validity independently. The school of medicine was determined by the practitioners themselves and their clients residing in the study area. Practitioners employed by the government health system were excluded from the survey. Altogether 1,292 non-government practitioners participated in the survey; the non-response rate was zero.

After coding, data processing, editing, and tabulation of the 1978 survey data, discrepancies and knowledge lacunae were noted. An effort was made therefore to bridge this gap in November 1979 by interviewing a systematic sample of 250 households in the study population. This client survey obtained information on client estimates of medical costs and disease-specific utilization patterns of specific schools of practitioners. Unstructured interviews were also conducted with seven practitioners, with regard to their school of practice.

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* The field procedures described here were in operation during this study. Modifications of the procedures were instituted in October 1978.

RESULTS

Altogether 1,292 rural health practitioners, (excluding those employed by the government health system,) were identified in the survey. Also excluded from this survey were about 1,500 traditional midwives (dais) who are the subject of another parallel field study (8). Since the estimated population of the Matlab demographic surveillance system in mid-1978 was 273,000, the density of non-government health practitioners were approximately 4.7 per 1,000 people.

Table 1 shows these 1,292 practitioners according to system of practice. Very few practitioners (1.8 percent) were "registered" with their respective licencing authorities; and were either allopathic or homeopathic practitioners only. Allopathic practitioners, who base their diagnosis and treatment on modern (western) scientific concepts, constituted 14.9 percent of all practitioners. Only 3.3 percent of practitioners were homeopaths, following a school of medicine originally developed in Europe and based upon concepts of health and disease whereby cure is achieved by applying minute amounts of specific antedotes against hypothesized causes of illness. Kobiraj practitioners, who constituted 15.3 percent of practitioners, apply the traditional ayurvedic concepts and treated with herbs, minerals, and diet restrictions*. Little is known about totka practitioners who constituted the overwhelming bulk (60.5 percent). Many totkas provide services for only one or two types of illnesses. Indepth interviews suggest that totka medicine combined a mixture of ayurvedic, yunani, and shamanistic schools, without a single uniform concept of health and disease. Supernatural and mystical causation and cure of disease is common among totkas. The remaining practitioners (6.0 percent) included all other forms, including yunani, fakirs, other religious practitioners, and unclassified systems. Many of these "other" practitioners follow the yunani system based upon (Greek) Aristotelian science elaborated in Islamic centres of learning and brought to South Asia with the spread of Islamic civilization. Some practitioners use medicines from several different systems, but they are classified according to their own perception of category of practice.

Table 2 presents data on the age, sex, and educational pattern of practitioners. Most allopathic and homeopathic practitioners were middle-aged, under 49 years of age. Kobiraj, totka, and other practitioners were older the majority over 50. Similar differentials were noted with sex. Virtually all allopathic and homeopathic practitioners were men in contrast half and three-quarter of the kobiraj and totka practitioners respectively, were women. Four-fifths of allopaths and half of the homeopaths were matriculates (high school graduates). Very few kobirajes were matriculate; about half however have attended some school. At the extreme are totkas, two-thirds of whom never attended school.

Table 3 examines the training of health practitioners. Most registered allopaths and homeopaths attended formal schools for 3 years or more. Non-registered practitioners of these two systems of medicine rarely attended

*Many of the kobiraj practitioners are actually totkas but claim kobiraj status.

TABLE 1

REGISTERED AND NON-REGISTERED PRACTITIONERS BY SYSTEM OF MEDICINE

Type of Practitioner	No. Practitioner			Percent	Density per 1,000 Population
	Registered	Non-Registered	All		
Allopathic	16	176	192	14.9	0.7
Homeopathic	7	36	43	3.3	0.2
Kobiraj	-	198	198	15.3	0.7
Totka	-	782	782	60.5	2.9
Others	-	77	77	6.0	0.3
All	23	1,269	1,292	100.0	4.7

TABLE 2

SELECTED CHARACTERISTICS OF PRACTITIONER BY SYSTEM

Characteristics	Type of Practitioner									
	Allopath		Homeopath		Kobiraj		Totka		Others	
	No.	%	No.	%	No.	%	No.	%	No.	%
Age (years)										
< 30	40	20.8	7	16.3	5	2.5	22	2.8	9	11.7
30-49	101	52.6	17	39.5	66	33.3	233	29.8	26	33.8
50+	51	26.6	19	44.2	127	64.1	527	67.4	42	54.5
Sex										
Male	188	97.9	43	100.0	109	55.0	299	38.2	65	84.4
Female	4	2.1	0	0	89	45.0	483	61.8	12	15.6
Education										
None	7	3.6	4	9.3	105	53.0	523	66.9	24	31.2
1 - 9 years	32	16.7	15	34.9	84	42.4	226	28.9	34	44.2
10+	153	79.7	24	55.8	9	4.5	23	2.9	19	24.7

TABLE 3

TRAINING OF PRACTITIONERS

	Allopath		Homeopath				
Place Training	Registered	Non-Registered	Registered	Non-Registered	Kobiraj	Totka	Others
All	16	176	7	36	198	782	77
Formal school	11	15	3	1	0	0	0
Apprenticeship	1	78	1	13	96	265	10
Books	0	2	0	3	3	7	6
Others	4	76	3	14	97	491	55
No response	0	5	0	5	2	19	6
Professional School (years)							
All	11	15	3	1	0	0	0
< 2		1					
3-4	3	2	2	1			
5+	8	9					
DK		3	1				
Apprenticeship/Experience (years)							
All	5	154	4	27	193	756	65
< 2		1			3	62	4
1-2	1	13	1	6	112	492	22
3-4	1	67	1	12	49	98	19
5+	3	73	2	9	29	104	20
DK							

professional schools but appeared to have spent substantial time in apprenticeship or practical training. About half of the kobirajes and one-third of the totkas learned their skills through apprenticeship ranging from 1 to 4 years. The training of many practitioners among the kobiraj, totkas, and other categories was classified as "other" forms. Transfer of knowledge and skills from an older to a younger member of a family is certainly one mode of training.

The size of the area served by practitioners is shown in Table 4. About one-third of allopaths covered a union or larger area; nearly half covered 6 or more villages. In contrast, nearly half of the homeopaths covered 5 or less villages. The geographic coverage is reduced further with kobiraj practitioners, two-thirds of whom serviced 5 or fewer villages. Among totkas nearly four-fifth serviced 5 or less villages. Thus, although totka density is substantially higher, their geographic area of coverage is correspondingly lower. Conversely, with lower density of practitioners, allopaths and homeopaths provided services to larger geographic areas.

About half of the allopaths and homeopaths devoted fulltime to their work (Table 5). The overwhelming proportion of the other practitioners were part-time health workers, presumably undertaking other income-generating tasks. Nearly all practitioners reported unrestricted availability to clients upon request, both in their offices and in the clients homes. Interestingly very few non-allopaths claimed the use of allopathic drugs. Indepth interviews however noted that the actual use of allopathic drugs by traditional practitioners was common; denial to the study's question was prompted by fear of violations of regulations. The use of injections however was uncommon, except among allopaths and homeopaths. About half of the allopaths and homeopaths owned medicine shops in contrast to very few among other practitioners. A similar distribution pattern was noted with the sale of drugs.

Figure 1 depicts the distribution pattern of practitioners according to reported number of patients seen daily. Because allopaths and homeopaths shared a common pattern and kobirajes and totkas also shared a similar pattern, the four types of practitioners have been combined into two groups. Allopaths and homeopaths saw an average of 18 patients daily with the majority ranging from 10 to 30 daily. In contrast, most kobirajes and totkas saw fewer than 10 patients daily. The frequency of patient visit by "other" practitioners was somewhere between these two groups.

Because of the interest of the ICDDR,B in the diarrhoeal diseases, practitioners were asked whether they treated diarrhoea (any form) and, if so, what were the modes of treatment (Table 6). Most allopaths and homeopaths treated diarrhoea, but only about one-third of the other practitioners did so. Surprisingly, even among allopaths, only three-fourth mentioned use of antibiotics and 15.6 percent intravenous fluid for treatment of diarrhoea. Oral therapy, which had been used at the ICDDR,B treatment unit for a decade, was rarely mentioned by any practitioner. Very few of the other types of practitioners mentioned fluid therapy (intravenous or oral) or antibiotics.

TABLE 4

NUMBER AND DISTRIBUTION OF PRACTITIONERS ACCORDING TO SIZE OF AREA SERVED

Size of Area Served	Allopath	Homeopath	Kobiraj	Totka	Others
< 5 villages	46 (23.9)*	21 (48.9)	126 (63.7)	617 (78.9)	36 (46.8)
6+ villages	81 (42.2)	12 (27.9)	17 (8.6)	99 (12.6)	13 (16.9)
Union	37 (19.3)	4 (9.3)	6 (3.0)	13 (1.7)	2 (2.6)
Thana	20 (10.4)	4 (9.3)	46 (23.2)	43 (5.5)	17 (22.1)
Unknown	8 (4.2)	2 (4.6)	3 (1.5)	10 (1.3)	9 (11.7)
All	192 (100.0)	43 (100.0)	198 (100.0)	782 (100.0)	77 (100.1)

* Number (percent).

TABLE 5

SELECTED CHARACTERISTICS OF PRACTICE ACCORDING TO TYPE OF PRACTITIONER

Practice	Percent				
	Allopath	Homeopath	Kobiraj	Totka	Others
Fulltime	51.6	46.5	10.1	4.1	18.2
Use Allopathic Drugs	94.3	30.2	4.5	1.5	13.0
"Push" Injections	93.2	44.1	3.0	1.7	13.0
Own Medicine Shop	45.8	46.5	6.1	1.4	2.6
Sell Medicines	95.0	79.1	22.2	11.5	24.7

Figure 1

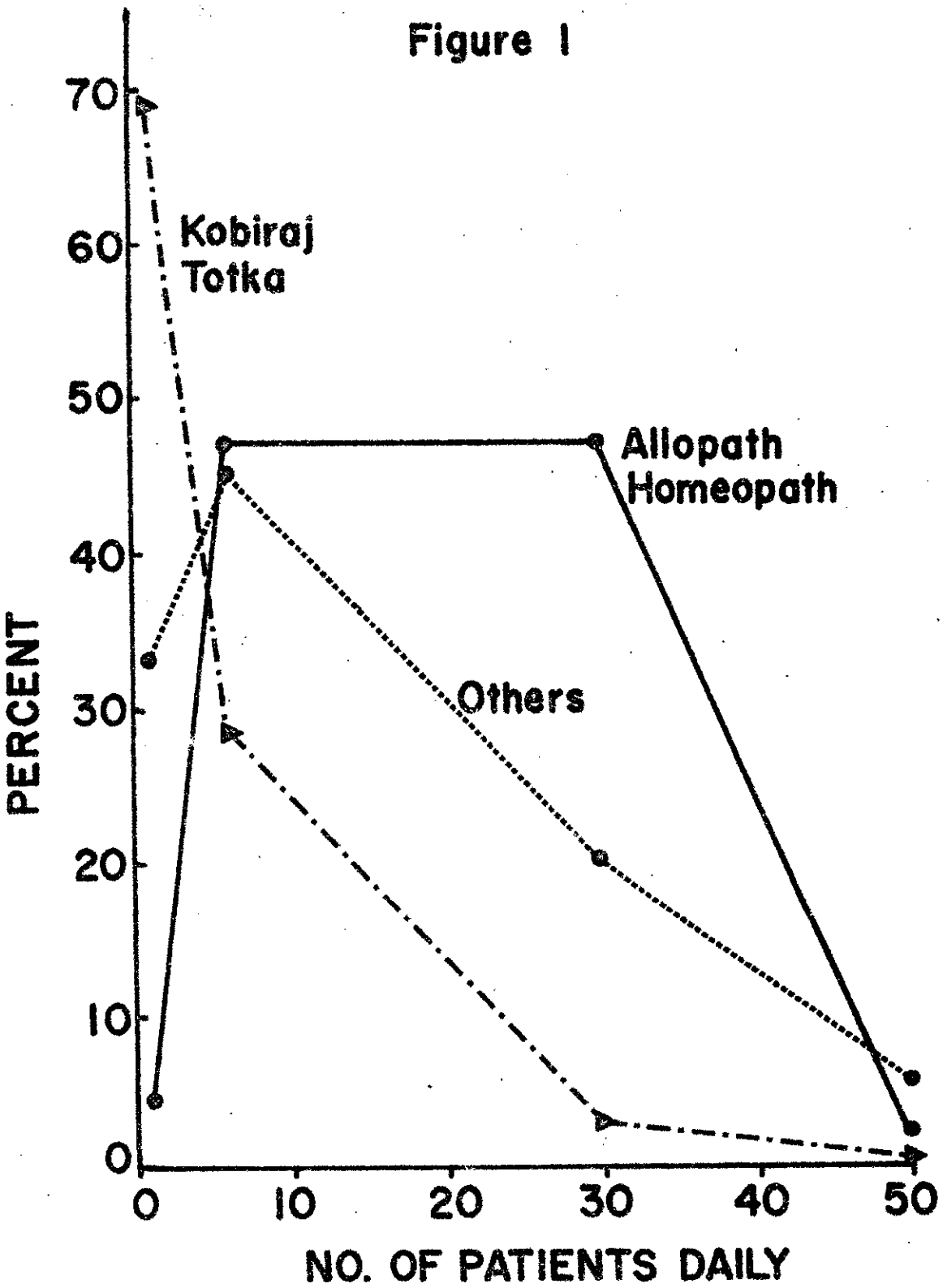
70
60
50
40
30
20
10
0
PERCENT
Kobiraj
Totka
Allopath
Homeopath
Others
0
10
20
30
40
50
NO. OF PATIENTS DAILY

TABLE 6

DIARRHOEAL TREATMENT METHODS ACCORDING TO TYPE OF PRACTITIONER

	Percent				
	Allopath	Homeopath	Kobiraj	Totka	Others
Diarrhoea Treatment	80.2	81.4	41.4	30.9	28.6
Intravenous Fluid	15.6	0	0	0.8	4.5
Oral Fluid	0.6	0	0	0	0
Antibiotics	77.3	8.6	1.2	2.1	4.5
Herbal	0	0	26.8	6.2	4.5
Homeopathic	0	88.6	2.4	2.1	4.5
Others	18.2	0	73.2	86.8	77.3

What are the patterns of specialization and client utilization of the various practitioners for specific health problems? A qualitative examination of the topic was attempted by asking practitioners which diseases they care for in particular, and conversely, by asking clients to whom do they go for certain specific illnesses. An interesting distribution pattern emerges when these responses are compared (Table 7). If more than 10 percent of practitioners specified treatment of a disease or more than 10 percent of clients mentioned a practitioner type for the same illness, a "+" sign is recorded. Some problems, such as diarrhoea, fevers, and rheumatism, are claimed by all forms of practitioners; others, respiratory infections and parasitic diseases only by allopaths and homeopaths; and jaundice, fractures, snake bites, headaches are claimed by kobiraj, totka, and other traditional practitioners. Client responses broadly matched those of the practitioners, but the allopathic system was consistently preferred, except for jaundice, fractures, snake bites, and headaches, where the traditional systems were preferred. An interesting aspect of this distribution is the fact that available allopathic treatment are not terribly successful for some conditions treated by traditional healers (e.g. snake bite). Also, effective allopathic techniques have yet to be made available in rural areas for other problems (e.g. orthopedics); and in these cases, non-alopathic cures are employed. Another factor, not analyzed, is the cost of services related to specific practitioners and specific illnesses. It seems possible that client selection of practitioners is influenced by availability, cost, and the effectiveness of technology employed by specific schools of medicine.

Figure 2 examines data obtained from practitioners on the cost of health services. Allopaths averaged the highest, and totkas the lowest income. In the descending order were the allopath, homeopath, others, kobirajes, and totkas. About half of the allopaths claimed incomes of over Tk. 500 monthly, while the overwhelming proportion of totkas claimed monthly incomes of under Tk. 100.

To examine the validity of these reported income levels, clients were also asked about the cost of their last illness episode, depending upon the type of practitioner visited. Client reports of cost varied markedly from those obtained from practitioners. These data are shown in Table 8. The average consultation fee was Tk. 10.8 for allopaths, Tk. 5 for homeopaths and kobirajes and Tk. 1 for totkas. When these rates are computed with the average number of patients seen by various practitioners, a very crude estimate of daily and monthly income emerged. According to these estimates, the average monthly incomes (from consulation fees alone) are as follows: allopaths Tk. 4,832; homeopaths Tk. 2,065; kobirajes Tk. 525; totkas Tk. 70; and others Tk. 6.00. These income levels are about ten-times more than those reported by the practitioners themselves.

Two other aspects of medical costs relate to nature of illness and medicinal costs. Consultation fees, according to clients varied widely, depending upon the type of illness treated. Fees were higher for catastrophic acute illness, such as fractures; lower fees were claimed for minor complaints such as worms. Medicinal costs consistently exceeded consultancy fees, and also varied according to the type of practitioner and the nature of the illness.

TABLE 7

DISEASE SPECIALIZATION AMONG PRACTITIONERS AND USE OF VARIOUS PRACTITIONERS FOR SPECIFIC DISEASES

	Practitioners*					Clients				
	A	H	K	T	O	A	H	K	T	O
Diarrhoea	+	+	+	+	+	+	+			
Fever	+	+	+	+	+	+	+			
Rheumatism	+	+	+	+	+	+		+	+	
Respiratory Inf.	+	+				+	+			
Worms	+	+				+				
Jaundice			+	+					+	
Fractures			+	+		+		+	+	
Snake bite			+	+					+	
Headache			+	+	+				+	

* A = allopath; H = homeopath; K = kobiraj; T = totka; O = Others.

"+" indicates more than 10% of practitioners specified disease as their speciality or more than 10% of clients indicated that they visit the specific type of practitioners for various diseases.

Figure 2

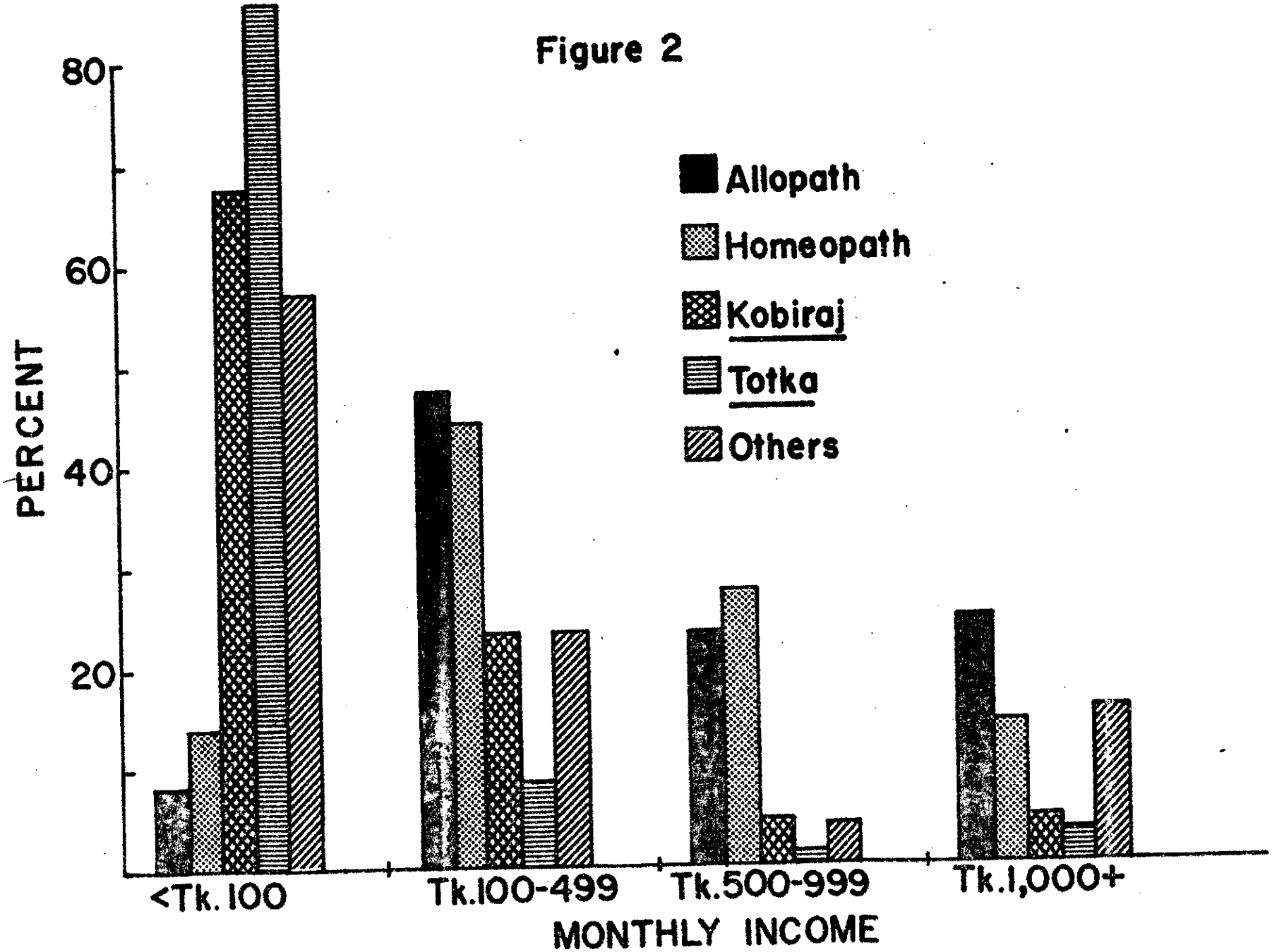
80
60
40
20
PERCENT
Allopath
Homeopath
Kobiraj
Totka
Others
<Tk. 100
Tk.100-499
Tk.500-999
Tk.1,000+
MONTHLY INCOME

TABLE 8

ESTIMATION OF INCOME OF PRACTITIONERS IN BANGLADESH TAKA*

	Type of Practitioner				
	Allopath	Homeopath	Kobiraj	Totka	Others
Average Consultation Fee[a]	10.8	5.1	5.0	1.0	2.5
Average No. Patient Daily[b]	17.9	16.2	4.2	2.8	9.6
Estimated Daily Income	193.3	82.6	21.0	2.8	24.0
Estimated Monthly Income[c]	4,832	2,065	525	70	600

* U.S. $ 1 = Bangladesh Taka 15.

a Data obtained from patients.

b Data obtained from practitioners.

c Assumes 25 working days monthly.

The important implication of these variabilities is the fact that acute health crisis in a family may be associated with severe economic stress, a phenomenon not adequately reflected by average costs.

All respondents were asked about their willingness to undertake informal allopathic training. Most allopaths (77.6 percent) and homeopaths (74.4 percent) responded affirmatively. Few kobirajes (32.8 percent), totkas (18.7 percent), and other practitioners (24.7 percent) expressed positive interest. Interestingly, very few practitioners expressed any preference for training from government, allopathic medical schools, or the ICDDR,B. It thus remains unclear from whom training would be welcomed.

DISCUSSION

Study like this possess some limitations. First is the size of geographic coverage. One rural area in the deltaic heartland of Bangladesh may not be necessarily representative of other regions in Bangladesh. Extrapolation of these findings therefore should be done with cautions. Second is the validity of responses on the part of practitioners. Although certain aspects of the data are probably accurate (e.g. number and distribution of practitioners), other types of information may not be so. Underreporting of income and denial of the use of allopathic drugs by non-allopathic practitioners are two such examples. Third is the incapacity of the survey to generate indepth understanding on the nature of practice among certain practitioners. A major vacuum, for example, exists with regard to totkas, who constituted, by far, the major bulk of practitioners surveyed. Finally, the survey obtained very little information on patient perceptions of health, disease, and therapy. Traditional systems of medicine not only relate to technologies, but theories of disease causation, prevention, and cure have been probably imbedded into sociocultural patterns of health-related behaviour. Understanding of these concepts would presumably improve policies and programs aimed at changing health-related behaviour, including the utilization of health services.

Despite these limitations, to the best of the authors' knowledge, this is the first and only systematic survey of non-government health practitioners in a rural area of Bangladesh. Substantial literatue on indigenous systems of medicine, of course, is available for many other regions of South Asia (9,10). With regard to most features, the non-government health practitioners in Bangladesh are similar to those of India (11-13). The government supported allopathic-"western" system of medicine has only marginally intruded on an unorganized, informal system of rural health care. The number and types of non-government practitioners are extensive; the medical technologies offered vary from allopathic drugs to shamanistic practices; there is considerable overlap of practices between various schools; and the economics of the system appears to be self-financing, dependent upon the financial capabilities of individual patients.

The three central issues for Bangladesh, of course, are: Why are traditional practitioners used when government is providing essentially free allopathic services. How effective are traditional practitioners and pharmacopoeias in meeting real or perceived health needs? And, should informal, traditional systems of medicine be integrated (or upgraded) into a state-sanctioned medical care organization?

The answers to these questions are not easy. Certainly, large numbers of non-government practitioners are being utilized in the study. In terms of major factors presumed to affect health care utilization - acceptability, cost, and access - these non-government systems may be highly competitive against government's free allopathic services. Acceptability appears to be equally adequate between allopathic and other schools of medicine. Indeed, the wide use of allopathic drugs by practitioners of other schools of medicine suggest that allopathic pharmacopoeia are considered highly desirable for at least some medical problems. The price of health care charged by the non-government practitioners also apparently does not discourage utilization. One obvious explanation is that government services in reality may not be free either - in terms of hidden charges or social cost. The most important factor favouring these informal systems is probably access. Totkas, for example, are essentially available at the village level; whereas government village workers have yet to be trained and deployed. A more important factor may be "social access". Traditional practitioners are mature in age, themselves limited in formal education (as their clients), and often female. In a country where purdah restricts female mobility and when mothers and children constitute three-quarters of the population and an even larger proportion of major health problems, female health practitioners obviously may enhance "social access" substantially.

That non-government practitioners are meeting a perceived health need is confirmed by their utilization on a fee-for-service basis. Whether the health technologies employed by these various practitioners are effective depends upon the criteria by which "effectiveness" are assessed. It has been suggested, for example, that biomedical screening programmes be established to assess the efficacy of native pharmacopoeias in Bangladesh. It seems doubtful to the authors that such an approach would be cost-effective, except in specific cases, where allopathic drugs are either prohibitively expensive or unavailable and practical experience has gained the impression of the usefulness of a specific native remedy. It should however, be noted that many health problems cure themselves through the host defenses of the human body. Furthermore, there may be instances where existing allopathic drugs are ineffectual or impractical against specific health problems (e.g. snakebite).

Should the traditional systems of medicine be integrated into a state-sanctioned medical care organization? At present, the answer appears to be no. In terms of patient perception, there may already exist substantial syncretism and social integration of various systems of medicine: government and non-government, allopathic and other practitioners. Thus, a patient may not perceive any contradiction in simultaneously consulting a totka for diarrhoea and a speedboat ambulance ride to the ICDDR,B allopathic treatment facility in Matlab.

His aim may be to get the best of both. In terms of a social system, the various systems of health care are very disparate. The rural non-government health care in Bangladesh appears to be informal and unstructured, with unclear occupational roles and relationships. Practitioners operate predominantly in a capitalistic mode; individual consumer selection and demand, fee-for-service, and price in relation to supply and demand. Given the existing problems of rationalizing government's own allopathic health workers (family planning versus health, for example), it should come as no surprise that the integration of traditional systems might only lead to further confusion. Only with social change that results in coherent national political and social policies could Bangladesh begin to examine seriously the "China health care model."

Irrespective of models, certain aspects of the non-government health system would appear to be central ingredients of any rational evolution of Bangladesh rural health care system. First, the number and distribution of non-government practitioners are extensive. Their improvement would contribute to improved service availability. Second, patient perceptions of health and disease which derive in part from traditional medical systems, should be taken into account. Allopathy alone, would probably not only fail to meet all perceived health needs, but might also encounter behavioural resistance as regards acceptability and effectiveness. Finally is the recognition of the magnitude of financial resources currently being expended in the non-government health system. The system is self-financing and the resources spent in the non-government health sector may exceed the government expenses several-fold. When improving rural health care in a resource-poor country one undoubtedly should consider the use and effectiveness of these non-government health resources.

LEGEND FOR FIGURES

Figure 1: Number of patients daily according to type of practitioners.

Figure 2: Reported Monthly income (Bangladesh Taka)of practitioners according to type of practitioners.

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