HOSPITAL ASSISTANTS IN MALAYSIAN RURAL HEALTH CARE*

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INTRODUCTION

THE GROWING realization that health care in rural areas throughout the world is inadequate suggests that nonphysician health workers may be best suited to alleviate the problem (Bryant, 1969; Djukanovif and Mach, 1975; Drayton, 1973; Fendall, 1972; Heggenhougen, 1977; I.T.D.C., 1971; Rosinski and Spencer, 1965; Smith, 1973; WHO, 1968). In the United States physician's assistants and nurse practitioners, in China peasant and worker doctors ('barefoot' doctors), and medical assistants elsewhere increasingly perform many tasks of physicians. One of the best documented of these experiences is that of the "feldsher" in the Soviet Union where this intermediate medical profession has existed for over 250 years (Storey, 1972).

Not all such health workers function in identical ways or have the same training and background, but most provide health care to people in remote areas and so make cosmopolitan medicine available to many persons in developing and developed countries. They demonstrate that health care need not always depend on physicians (I.T.D.C., 1971).

In Malaysia, Hospital Assistants (HAs) work alone in rural health centres or work directly with physicians in general and district hospitals; they are, therefore, both physician substitutes and physician assistants. They are also assigned to work in a number of special program, e.g. Filariasis, Yaws, Leprosy etc. In 1978, the Malaysian Ministry of Health employed 1,620 HAs in Peninsula Malaysia.

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The 1976 Hospital Assistant Registration Act describes the duties of rural health workers as nursing, laboratory work, dispensing, examining, diagnosing, and treating simple ailments in patients, and performing minor surgical procedures like dressing and sutures, incision and drainage, removal of foreign bodies, avulsion of nail, excision of cyst, intravenous infusion or injection (Malaysian Ministry of Health, 1976).

Before World War II, HAs were known as "dressers" (some who excelled in work and in examination were given the opportunity of study to qualify as medical officers). In the 1940s, the dressers (by then officially known as HAs) were trained with nurses and awarded SRN certificates. In 1957, after Independence, the Malaysian government recognized the nursing orientation did not equip HAs for clinical duties and eventually initiated a new training program in 1965. In 1970, a School of Hospital Assistants was opened in Seremban, Negeri Sembilan. Entrance requirements were 11 years of general education, speaking knowledge of Bahasa Malaysia, and being less than 24 years of age. All HAs are male (Tham, 1976).

In the rural areas, HAs are the backbone of the curative service component of Malaysian primary health care. Some, however, see HAs as only a stopgap; their usefulness is expected to cease when enough physicians are trained to serve in rural areas.

In 1976, the director of the Division of Training and Manpower in the Malaysian Ministry of Health addressed physicians on their commitment to use paramedics and auxiliaries. Full commitment can optimize their use, promote understanding and avoid a clash of interest. The credibility of paramedics and auxiliaries, their acceptance and image depend on recognization by the medical profession. A shadow of a doubt will adversely affect their position and role in the community (Abdul Khalid, 1977).

If HAs provide inadequate, inferior service to that of Physicians, there would be good reason to think of them as a stopgap. However, their use as paramedic personnel does not mean practicing inferior medicine. Within their qualification they can provide equal, at times even better curative primary care than physicians. They can treat simple complaints and can refer complicated problems to physicians. In developing countries, physicians are scarce and rural health centres must be staffed by paramedics. But this is no disadvantage because health care paramedics are more economical and generally more in touch with the local inhabitants than the doctors; they are more content to remain in the rural areas (King, 1966).

An observer in Latin America states that comprehensive rural health services cannot be practised by doctors alone. If the community is to be provided with simplified medicine under good supervision and a back-up system, which can cure the majority of rural diseases, there are strong economic reasons for abandoning once and for all abortive attempts to resolve the doctor distribution dilemma (Long, 1972).

There are, of course, health care problems that require sophisticated skills. But curative primary health care in most cases does not require sophistication. Common diseases can easily be diagnosed and treated by someone with less training than physician. This is particularly true of the diseases associated with high mortality in developing countries. Physicians should not be "front line" workers but rather man the central facilities and treat patients referred to them for problems too serious and complicated for the skills of the HAs. Physicians should be teachers and supervisors of paramedic health personnel.

In theory -- though not always in practice, especially where HAs have an overload of patients -- there is less distance between professional and patient and thus better understanding and ease of communication between them. The HA may have more time to be concerned with the patients' feelings as well as with their complaints. For these same reasons many patients still prefer to go to the traditional practitioners. There is now a trend to bring traditional practitioners into auxiliary health care in a number of countries (Dunlop, 1975; Harrison and Dunlop, 1974-75; Jilek, 1971; Neumann *et al*, 1974; Ruiz and Langrod, 1976; Takulia and Parker, 1977; W.H.O., 1975). In Malaysia, the village midwife (*bidan*) who is recompensed by the Ministry of Health is such an example.

METHODS

With the cooperation of the National Union of Hospital Assistances, West Malaysia (NUHA), 483 copies of a 34-item questionnaire with room for open-ended responses were distributed to HAs working in 11 West Malaysian states. About one fourth to one third of all HAs in each state received the questionnaire together with a stamped, self-addressed envelope.

The questionnaire requested data on demographic background, training, continued education, patient load, referral rate and system, relationship with nurses, upward mobility, rural health care in general, most commonly treated complaints, and opinions regarding traditional Malay medicine.

The intent of the questionnaire was not to evaluate the work of the HAs but to assess their feelings and opinions about their aims and work and to accumulate information about their self-concept and their effectiveness for rural health care development.

RESULTS

Demographic Data

The overall response rate was 57.1% (N=276) from one mailing; 75% of HAs responded from Perak, 71% from Kedah/Perlis, and somewhat less from the other states with a low of 45% from one state. One hundred and fifty-seven (57%) of respondents were under 30 years; 69% were married. Malays (N=129) represented 46.7%, Chinese (N=83) 30%, Indians (N=60) 21.7%, and 1.4% (N=4) other ethnic groups. A disproportionately large number of Malay HAs were under 30 years; 77% compared to 40% Chinese and 41% Indians.

Over 90% of the respondents received their training in five institutions (School of Nursing, Penang, 29%; School of Hospital Assistants, Seremban, 25%; School of Nursing, Kuala Lumpur, 18%; School of Nursing, Johore Bahru,

12%, and Preliminary Training School, Johore Baru, 8%).

One hundred and eighty-two (68.4%) had become HAs since 1970, 57 (21.4%) since 1960, and 23 (8.6%) since 1950; only 4 persons (1.5%) were HAs since 1940.

Most HAs indicated that they primarily provide out-patient health care (63%) either in a hospital or in a rural clinic. Over 40% indicated they worked in a rural clinic or mobile clinic. The HAs mentioned a variety of functions, including administration, operating room, TB and eye clinics, orthopedics, and renal technology in addition to curative primary health care. Three HAs were teacher of HAs. Before becoming HAs 46% had been teachers, 21% clerks, 9% had been employed in farming/gardening, and the remaining 24% in a variety of skilled and semiskilled occupations or had not been previously employed.

Most HAs thought they had been adequately trained for their current position, but 89.2% felt the training could have been more complete in certain areas. No significant differences were noted when correlating the responses with place of training. The training received at any one school was not felt to be particularly better or worse than that at another.

An overwhelming majority of HAs (99.3%) wanted to participate in continuing education programs; 88.3% "very much," 11% "yes, possible" (Table I).

Table I

Subjects desired as part of a continuing education program.

Ten most frequently mentioned subjects for desired further training	Respondents first choice	second choice	N
Medicine	1	2	99
General surgery	4	1	58
Public health	2	3	46
Administration (incl. Med. Records)	3	5	41
Ob-Gyn	5	4	29
Orthopedics	9	6	20
Pharmacy	-	7	15
Health education	-	8	15
Diagnosis	7	-	13

Twenty-five additional subjects were mentioned including emergency treatment (N=12), family planning (N=12), and human relations (N=10).

Relation With Nurses

The majority of HAs (75%) felt they had a good or excellent relationship with nurses. Only 5% felt their relationship with the nursing staff could be greatly improved. Those who indicated an excellent relationship with nurses were in the upper age group; 55% of those indicating an excellent relationship were over 30 years whereas only 43% of all respondents were over 30 years.

Many who felt that the nurse/HA teamwork was poor attributed this to poor administration rather than to inherent coworker conflict. Some felt conflict came from the ambiguity about "who was in charge" and some thought the problem stemmed from nurses feeling themselves to be equal or superior to HAs. Seven percent specifically indicated they did not get cooperation from nurses. (One HA seemed to have found the solution to the problem. He indicated that the HA/nurse relationship was fine "since the nurse is my wife.")

Patient Load and Referrals

Over half the HAs (54%) who treat patients see between 25 to 50, 26% see over 75 patients, and 9% see more than 100 patients each day. HAs working in hospital in-patient and speciality clinics said they saw 25 or fewer patients each day.

Three fourths of the respondents now (or previously) working in rural areas stated they needed to refer less than 5% of their patients to a hospital or to someone more skilled than themselves (Table II).

Table II

Percentage of respondents' patients which are referred

% Patients referred	# Respondents	
%	N	%
1	68	29
2-5	106	45
5-10	45	19
10-25	13	6
25 or more	4	2

Forty-five percent stated they or someone working with them followed-up on referred patients; 37% said this was "sometimes done;" 11% said this was "not usual," and 6% said it "was not done at all." Lack of a telephone, or of proper channels of communication linking the levels of the health system, shortage of staff and pressure of work were most often quoted as restricting follow-up.

Only 27% of HAs felt the present referral system, or the inter-relationship of the various segments of the health system, was good and did not need improvement; 73% called for improvements like telephones and transportation or a more clearly defined referral and feed-back system. One HA complained that "referral letters are never replied to by medical officers at the hospital."

Fifty percent felt "team work could be improved," "duplication must be prevented," that "there is a division between the various segments of a health centre" and the "the health centre is not thought of as one unit." The HAs called for an increased dialogue between various staff members to iron out differences so that "suggestions will not always be interpreted as being complaints."

Medical School and Relationship with Physicians

HAs would like to become physicians; 69 (25%) had unsuccessfully attempted to enter medical school. Two thirds (N=174) said they eventually wanted to enter medical school. They desired to "obtain a better career and to improve their knowledge." Some felt that as physicians they would be able to "do better service." Many felt their work as HA was "good preparation for becoming a physician." Some complained that any further study was difficult because "other occupations have study plans as part of work, but HAs would have to resign to carry out further study."

Two thirds (N=170) of the HAs who were not working with a physician wanted to work with one and one third (N=85) wanted to work with another HA if they could choose between the two. The reasons for wanting to work with a physician were that he or she was "better qualified" or that working with a physician would "improve the [HA's] knowledge." They mention that physicians had authority to treat all cases whereas HAs were "prohibited from prescribing certain drugs." Of those who rather wanted to work with another HA, most commented that "we would understand each other better" and "there would be a much better cooperative working relationship than with physicians." Thirty-five percent (N=30) of those preferring to work with another HA said it was "a waste of training and manpower to have a physician working in a rural clinic" because "in such a setting a HA could do just as good a job as a physician."

Of those wanting to work with another HA rather than with a physician, Malays and Chinese were overrepresented, Indians underrepresented; 33% of all respondents wished to work with another HA; but only 20% of the Indians had such a desire compared to 36% Malay and 38% Chinese.

Of the HAs (N=68) who said they referred only 1% of their patients, 42% indicated that they wanted to work with another HA rather than with a physician. Of the HAs who referred a higher percentage of their patients, only 32% preferred to work with another HA rather than with a physician. Thirty-seven percent of those who felt the current referral system ("the interrelationship of the various segments of the health system") needed improvement wanted to work with another HA; only 17% of those who felt the current system functioned well had such a preference.

Rural Health Care

Of 19 aspects mentioned, HAs most frequently returned to six major concerns in their responses to the open-ended question, "If you had to praise one thing about the rural health care system, what would you praise?" (Table III).

Table III

Aspects of rural health care which H.A.s found praiseworthy.

Aspects praised	Respondents N	%
1. Health center easily available to villagers	86	38
2. Good rural health care system-good combination of staff available	43	19
3. Infant, maternal and childcare, and midwifery services	31	14
4. The poor can get free care	11	5
5. The rural immunization program	9	4
6. Capabilities of HA in rural areas	9	4
Thirteen other items were mentioned	40	16
Total respondents	229	100

An even larger number of aspects was mentioned to the open-ended question, "If you had to criticize something about the present Malaysian rural health care system, what would you want to see improved?" (Table IV).

Table IV

Aspects of rural health care which HAs felt needed improvement.

Aspects calling for improvement	Respondents N	%
1. Facilities, supplies, transportation and staffing	57	27
2. Health clinics are understaffed	21	10
3. Environmental sanitation	15	7
4. Condition for staff	13	6
5. Health education of population/rural motivation	10	5
6. Use of obsolete drugs/HAs restricted in drug prescription	10	5
7. Improve administration	10	5
8. HAs should have (female) assistant and other staff	9	4
9. Review the system — make it work	7	3
Thirty-three other items were mentioned	58	28
Total respondents	210	100

All but four HAs felt they could treat all the patients whom they did not refer (i.e. those with cuts, upper respiratory tract infection, skin infection, worms, etc.) as capably as could a physician. Seven commented simple cases would actually be better treated by HAs than by physicians. One fourth of those who commented further (N=169) specifically stated that HAs' performance compared favorably with that of physicians in treatment of the majority of patients. They urged that restrictions on their authority to use antibiotics should be removed because such restriction limits their treatment capabilities. A number of HAs called for a female assistant because of their heavy workload and because examinations of female patients were at times awkward and, from overriding modesty, incomplete.

Sixty percent of respondents stated the most serious health problems in rural Malaysia were "health education," "malnutrition," "environmental sanitation" and "worms/parasites." Table V lists the problems, in order and frequency of mention to the open-ended question: "What is the most serious health problem in Rural Malaysia?" as perceived by HAs (Table V).

Table V

HAs' response to the question: "What is the most serious health problem in rural Malaysia?"

Most serious problem	Respondents N	%
1. Health education	44	18
2. Malnutrition	39	16
3. Environmental sanitation	33	14
4. Worms/parasites	28	12
5. Poverty — poor nutrition	11	8
6. Outdated cultural beliefs	11	5
7. Infectious diseases	10	4
8. Delay in seeking clinic help	9	4
9. Lack of personal hygiene	9	4
10. Anemia	8	3
Twenty other items mentioned	41	15
Total respondents	243	100

We should note that "malnutrition" (2), "poverty — poor nutrition" (5) and "anemia" (10) taken together account for almost one fourth (24%) of all responses.

When the HAs were asked to list the five most frequent complaints they treated, the complaints listed by frequency of mention in Table VI were indicated.

Traditional Medicine

When asked why some villagers would not come to the clinic even if they were quite ill, the HAs frequently said the "villagers believe in traditional medicine and utilized native practitioners." Villagers were either unfamiliar with or, for various reasons, had "little faith in modern medicine." HAs also thought people did not come to the government clinic for fear of being referred to a hospital. Villagers' reluctance to come to the clinics was put in these terms: "If villagers expect they might die, they want to die at home, and not in a hospital"; "villagers want to see a doctor rather than a half-cooked physician" (HA);

Table VI

Complaints most frequently treated by HAs by frequency of mention

Complaint	Frequency of mention Total	
	#	%
1. Upper respiratory tract infection	185	18.4
2. Skin infection	135	13.4
3. Worms	134	13.3
4. Gastritis	80	8
5. Cuts	73	7.3
6. Cold/coughs	66	6.5
7. Headache/fever	64	6.3
8. Anemia/malnutrition	50	5
9. Rheumatism/aches and pains	36	3.6
10. Diarrhea	33	3.3
Forty other complaints mentioned	159	15.8
Total	1006	100

"villagers have no confidence in HA or in health clinic — there is a need for clinic staff to be more consumer oriented"; "the medicines in the health centre are considered worthless since they are free of charge"; "the service at the clinic is not particularly friendly"; "Bomohs (traditional Malay healer) will treat villagers at the patients' own convenience and in a relaxed atmosphere and this is not possible in the health centre".

Only 17% of respondents commented there was no value in going to a traditional Malay practitioner as well as to a clinic. Over 60%, however, specifically stated such dual use was of value, especially for psychosomatic complaints. The remaining responses favored dual use but with qualifications.

More than one fourth (N=69) (26%) of HAs felt it would be of value to their patients if there were a closer relationship (contact) between clinic (hospital) staff and traditional Malay practitioners. Sixty-four percent (N=174) felt such contact could be of benefit in some cases and only 10% (N=26) stated such increased contact would be of no benefit.

HAs working in Selangor and Penang outnumbered those in other states in stating there was no value in a closer contact between traditional and cosmopolitan health care systems. Overall only 10% felt there was no value in such contact, but in Selangor 16.3% and in Penang 17.6% felt this way.

The age of HAs could not be correlated with the reaction to traditional medicine, but HAs over 30 were more definite in their feelings, one way or another, than those in their twenties. Ethnicity, however, was significantly correlated to the reaction of whether or not there ought to be closer contact between traditional and cosmopolitan health care practitioners.

Although only 3% of Malays felt it would not be beneficial to have a closer contact (compared to 18% and 15% of Chinese and Indians, respectively), one fourth of both Chinese and Indians felt that such contact definitely was of value whereas only 19% of the Malays felt so. Seventy-eight percent of the Malays, 57% of the Chinese and 61% of the Indians felt that contact might be of value. To a question whether traditional Malay practitioners could effectively help patients in ways which could not be performed by HAs or physicians, 31 HAs (12%) stated this was true. A majority (N=189) (74%) felt this to be true in some cases and 14% (N-35) stated in no way could a bomoh effectively heal a patient as an HA or a physician can. Comments to this questions mentioned bomohs were particularly useful for patients with psychosomatic or psychological problems like hysteria and for deactivating charms, and that some bomohs were excellent in setting fractures. Some HAs believed bomohs could treat drug addicts; a few felt the bomoh would be suitable for influencing villagers to go to the clinic.

General Comments

Most HAs commented freely on many topics. These comments are codified by frequency of mention in Table VII.

HAs were very concerned with the restriction to prescribe drugs. Many felt they would be more effective in treating patients if most of the restrictions were removed (Table VIII).

DISCUSSION

The relatively positive response rate indicates that the results may be taken as fairly representa-

Table VII

Most frequent general comments

	Respondents N	%
1. Dissatisfaction with conditions and pay (there is a lack of staff and equipment causing inadequate attention to patient and resulting in lack of confidence)	38	13
2. HAs are not recognized by the government or "VIPs"	27	9
3. Training should be improved (more clinical work; up-grading to college level like U.S. Physicians Assistants; a diploma should be provided; inservice training, etc.)	23	8
4. In a number of instances bomohs can do a great deal (some HAs presenting evidence of effectiveness of traditional Malay medicine)	21	8
5. HAs should be accorded higher status and have assistants	16	6
6. Seminars should be offered HAs (continuing education)	16	6
7. HA work experience should be stepping stone to becoming a physician (more possibilities for promotion depending on exams and experience)	14	5
8. There is need for more health education of the public	11	4
9. HAs should be allowed to use a wider variety of drugs	9	3
10. There should be a union of bomohs and other Malay practitioners (this would improve surveillance and standardization)	9	3
11. Bomohs will not die off, thus it would be to patients' benefit to establish cooperative relationship	7	2
Thirty-nine other items mentioned	100	33

Table VIII

Work assignment of HAs calling for lifting drug prescription restriction

HAs calling for lifting prescription restriction by self-described work assignment	Respondents N	%	All respondents in work category %
Rural health care	18	44	34
Hospital out-patient and emergency	8	20	20
HA	7	17	3
Mobile clinic	2		4
Eye clinic	2		
TB clinic	1		
Medical records	1		
Student	1		
Work directly with physician	1		
No answer	1		
Total	41		

tive opinions and feelings of HAs in general. All but a few questionnaires had extensive comments. Obviously, a great deal of time and care had been taken in completing the forms. A number of respondents expressed their gratitude that an interest seemed to be taken in them and their situation.

From the responses we can infer that most HAs are confident about their capability to treat most complaints presented to them. However, they also convey a sense of frustration as revealed in frequent comments throughout the questionnaire, even though there was no direct question on their sense of job satisfaction. HAs frankly acknowledged dissatisfaction with general working conditions, inadequacy of communication with the present health care system, and with what they felt to be inadequate opportunity for upward mobility.

Training and Continuing Education

The appropriate level of training of paramedics has been discussed in most countries where such personnel are deployed and convincing arguments have been given both for making the training as sophisticated and as rudimentary as possible. One

reason for training HAs is to provide health care for areas that are unable to acquire the services of a physician or where a physician's skills would not be properly used because of the uncomplicated nature of the majority of complaints and the limited support technology. For this reason, training HAs to be "almost physicians" might be self-defeating. HAs would be as dissatisfied and unchallenged as would be physicians by the "simple cases" they would treat and they would want to leave rural areas for a more sophisticated setting. Whatever the level of training job-satisfaction is an important concern because it affects job-performance. It would seem that giving HAs a renewed assurance that they are indeed recognized and that there are means for upward mobility and promotion, which, some HAs now feel, are inadequate, would give them an improved sense of job satisfaction.

Whether the training should be increased to equal four years of university credit (as a few HAs have suggested) can not be argued here. When faced with a work situation it is natural to wish that one's training had included many things it did not, no matter how excellent the program. Ten subject areas were most frequently mentioned in which HAs desired continued education. These subjects could amend current HA training, as could an increased emphasis on "clinical work/training" or incorporation of on-the-job training for credit on the order of some of the Physician Assistants and Nurst Practitioner programs in the United States especially for HAs training for curative service in rural clinics. Many HAs suggested that newly trained HAs should not be sent directly to a rural health centre but should gain experience through work with a physician in a hospital setting for a few years.

Since an overwhelming number of HAs wants to participate in continuing education programs, and to increase their skills as well as to promote job-satisfaction, it might be advantageous to inform the HAs again of such existing programs and to consider developing cthers. If the programs are initiated, the HAs, who satisfactorily complete such courses, should, of course, be recognized and rewarded, possibly through salary increments.

HAs drew attention to general surgery and Ob-Gyn. Their high interest in general surgery may mean that they would like to increase their knowledge of minor surgical procedures. "Cuts" was the fifth most common complaint that HAs treated. Obviously, a course in general first aid surgery would enable them to deal with emergency cases. Possibly, the interest reflects a similar tendency in physicians to be drawn to the specialties and the fact that surgery has a higher status than general practice. The trend can be noted in the United States where increasingly Physicians Assistants at a number of schools are becoming Surgical Assistants rather than remaining generalists. The trend, in Malaysia understandable and regretable, obviously reflects the status orientation of a westernized society. Increased recognition of HAs who provide general curative services in the rural areas could possibly reverse the trend.

A number of HAs apparently felt inadequate to deal with patients' gynecological problem. "Ob-Gyn" was fifth in the list of desired training. Such problems are usually presented to a nurse and referred to a physician if the nurse can not handle it, but HAs are also confronted with gynecological problems. Quite a few HAs asked for female assistant nurses to help in the examination and treatment of women patients particularly for gynecological problems. It is doubtful that examination and treatment for gynecological problems will be accepted from male HAs in rural areas. Therefore, increased training of HAs in Ob-Gyn may not be productive whereas maintaining the competence of nurses in this area would. In the rural clinics, the area of Ob-Gyn would be a logical starting point for the establishment of a closer cooperative relationship between HAs and women nurses in providing curative services, should such a relationship be desired.

Relationship with Nurses — Administration

Although only one fourth of HAs felt their relationship with nurses was less than good, the HA/nurse relationship, it would seem, needs serious attention and has strong implication for general administrative policy. Whether it is a question of an HA having higher status than a nurse or who should be in charge of whom at a health centre, it is obvious from the results that a clearer definition of the roles than has thus far been given is required. This is particularly important for the younger HAs; older HAs were

found to have a disporportionately better relationship with nurses than the younger ones. Obviously, an experienced nurse would know more about certains tasks than a newly graduated HA (as, in certain aspects, an experienced nurse might similarly be superior to a newly graduated physician). But, allowing for the uniqueness of each situation, it is important that the various members in a health system are fully aware of their respective responsibilities and authority.

Many HAs feel that the rural clinic is too segmented and does not function as a unit as is the intent. Whatever the distinct and separate tasks of various clinic personnel are, there is bound to be some interrelationship and the idea of clearly emphasizing who's in charge warrants consideration. Many HAs indicated they prefer to work with a physician rather than with another HA because it is obvious to all personnel that the physician is in charge of the clinic. Without the presence of a physician, however, it is apparently unclear in a number of instances, just who is in charge — situation that leads to confusion and calls for rectification.

Referrals and System Interrelationship

From HAs' responses and comments it is clear that the referral system could function better than it now does even though the majority (74%) of HAs need to refer less than 5% of their patients. Seventy three percent of the HAs felt improvement was needed. Basically, this is a matter of incomplete, or lack of, communication between the various segments of the health care system and may therefore be seen as a problem of follow-up rather than referral. Like physicians who see a great many patients, 35% of the HAs stated they saw more than 75 people a day. Such patient load limits the time available for follow-up and adequate intersystem communication.

An obvious solution to the problem might be additional staff (assistants to help with record keeping and intersystem communication) but a number of factors, primarily economic, prohibit the hiring of extra staff. Another possible improvement, however, might be a review — a revision — of the record keeping system; for example, establishing of an automatic mailing procedure of carbon copies of admission, simple diagnostic and discharge forms to the HA who referred the patient (and/or to the HA in the clinic nearest the home of the patient). Some follow-up is now carried out by nurses, Jururawat Dea (midwife-and-nurse) and midwives, it is not part of the role of the HA, but the results indicate HAs would appreciate more feed-back regarding such follow-up.

In many instances the referral and intersystem communication procedures may look fine in theory but fall short in practice. Increasing the dialogue between various staff (as HAs suggest) may help to resolve felt problems. The current implementation of a two-tier rural health system may reduce these problems.

Medical School and Relation with Physicians

One fourth of the HA respondents had already attempted to enter medical school and 66% want to do so. The competition for medical schools being what it is the realization of such aspirations is most unlikely but it raises a number of questions:

1. Does it mean HAs feel that their role, their work, is not appropriately recognized?
2. Are HAs frustrated in their current position? Do they have no opportunity for upward mobility or improvement? Is theirs a stop-gap profession?
3. Is the status consideration linked to the feeling that the best health care — no matter what the ailment — can only be provided by a physician?
4. Does this imply overall dissatisfaction with their current work and role?

The results of the survey could support any of the above possibilities. Many other questions could be raised, all requiring consideration of definition of role, of promotion, of appropriate recognition (job satisfaction) and of possibilities for contact with university faculties of medicine.

One could relate the high number of HAs desirous of becoming physicians to the desire of two thirds of HAs to work with a physician rather than with another HA if they could choose. Making such a relationship is particularly tempting because three fourths of all HAs claimed they needed to refer less than 5% of their patients, and all but four HAs felt they could treat the re-

maining cases just as well as could physicians. However, the correlation cannot be substantiated because there were no significant differences in the reactions of HAs wanting and those not wanting to go to medical school in relation to their desire to work either with a physician or with another HA.

Perhaps most of us would naturally want to work with someone more highly trained than ourselves to increase and improve our knowledge even though we are confident about our ability and work. We should remember that all but two HAs wanted to participate in continued education programs. Obviously, the discussion of the HA/physician roles and interrelationship warrants further consideration.

Drug and Prescriptions

A large number of HAs expressed dissatisfaction with the current policy allowing only physicians to prescibe certain drugs. Many felt that their ability to treat many cases successfully was not limited by any lack of knowledge or skill but by the prohibition to prescribe certain antibiotics.

Certainly, great care should be taken to prevent unmonitored drug use and to guard against uncalled for use of antibiotics which might produce short term cures but have long term detrimental effects. Almost one third of the HAs, who felt they could treat the great majority of cases presented to them, unsolicitly commented that the restriction on drug prescription should be reviewed (many specifically said so in their concluding general comments). Would lifting the restrictions mean improved treatment of patients without enlarging the danger (that exists now for prescriptions by physicians) or misuse? Whether or not the restrictions are to be lifted it may be profitable to amend and up-date drugs kept at the clinics. The issue raised by these responses calls for attention and review.

Some argue that it is primarily HAs working with physicians who tend to request that the restriction to prescribe drugs placed on them be lifted; the implication being such restrictions do not apply to HA's working (in "solo practice") in rural areas. The results seem to contradict this implication. HAs who indicated their work to be in "rural health care" constituted 34% of all respondents. But "rural health care" HAs calling for lifting drug restrictions constitute 44% of this particular subgroup.

If we assume HAs who indicated their work to be in a "mobile clinic" or who simply claimed to be "HA", also do not work directly with a physician then the combined subgroup constitutes 66% of all HAs calling for lifting the restrictions (HAs in the three work categories constitute only 41% of all HA respondents). Obviously, HAs who work alone in rural areas most strongly felt lifting the restrictions would increase their ability to treat patients more successfully (see Table VIII).

There is no significant difference in responses from the various states; a similar percentage of HAs in each state expressed a desire for lifting the restrictions.

Rural Health Care-Problems and Praise

HAs thought the "easy availability of health centres to villagers" to be the best aspect of the rural health care system. The Malaysian health care system is indeed one of the best in the region; most villages are within a three mile radius of a clinic. A recent Ministry of Health "Survey of Underserved Rural Areas"—which considered 9,581 villages in 46 health districts throughout Peninsular Malaysia — found only 24% of villages containing 12% of the rural population were underserved, that is, outside the three mile radius of a health facility (Malaysian Society of Health, 1978). The per capita expenditure for health in Malaysia is greater than that of Japan (1970 census), and is currently six times as high as that of the Philippines and seven times as high as that of Thailand (Micozzi, 1977).

When asked to comment on what they thought was the most serious health problem in rural Malaysia, "malnutrition" surprisingly constituted the second most frequently mentioned problem. When joined with the problems of "poverty" and "anemia" this combination of problems heads the list. Compared to other countries in the region, the standard of living for rural Malaysians is relatively high. But if the official poverty line is an income of M$300 per month for a family of 5-6 people, close to half the rural population would have to be counted as poor (Mohd. Nor, 1977) — which is not to say that they are, therefore, malnourished.

As treated by HAs patients who suffered from acute anemia or malnutrition constituted only 5%. But the seriousness of other ailments may be increased by the underlying presence of malnutrition (Behar, 1974; Keusch, 1975). Thus the importance of malnutrition should not be underestimated.

The complaints most frequently treated by HAs confirm they are those for which a physician would be overqualified. The nature (and the frequency) of these complaints justifies a care system that has access to physician support and supervision, and methods for referral but argues for the continued use and permanent establishment of auxiliary health care. In other words, the services the rural population receives from conscientious and well trained HAs is more than adequate and does not constitute "second class" medicine.

Traditional Medicine

The HAs confirmed that villagers still rely on traditional practitioners, either instead of cosmopolitan treatment or in addition to it. However, a disproportionately higher percentage of HAs in Selangor and Penang felt villagers do not come to the clinic because they rely on "native practitioners." This is not necessarily a reflection of reality but, Selangor and Penang being more urban than the other states, HAs there may not be as aware of the situation in most rural areas and of the variety of factors inhibiting use of government clinics. Many reasons inhibit such use not the least is the fear of being referred to a hospital, which is still perceived by many (as in most countries) as a place where people go to die, or where they are treated without human warmth and given over to powers beyond their control in a world they do not understand.

HAs are aware that villagers make extensive use of traditional practitioners; in fact a majority felt it might be of value to patients to seek help from traditional practitioners as well as from the clinic, especially for psychosomatic complaints. Consequently, most HAs (90%) felt patients would benefit if clinic personnel and traditional practitioners had closer contact. It is a remarkably favorable response to traditional Malay medicine.

However, the response should not be interpreted to mean HAs feel *bomohs* are better qualified practitioners or that they can treat most complaints. Only for certain complaints HAs feel that a *bomoh's* treatment might be a viable alternative, and for certain other complaints dual treatment (emphasizing different aspects of a complaint or approaching it from different perspectives) might obtain better results than treatment by one or the other health care system.

A substantial number of HAs realize villagers use traditional practitioners for other reasons than to assuage "superstitions." The likely inherent value of traditional Malay medicine and its persistent use (even where cosmopolitan medicine is available and used as well) are valid reasons for further exploration of the benefits and pitfalls of possible cooperation.

CONCLUSION

This survey of HAs working throughout Peninsular Malaysia provides a profile of these workers and explores certain issues of rural health care. HAs are confident about the work they do and feel they can treat patients with simple complaints (which constitute over 95% of their case load) just as well as can physicians. Their responses to the questionnaire raised issues discussed which may here be best presented as recommendations for the consideration of those who plan and oversee rural health care and the training, work and role of HAs.

Recommendations

HAs' uncertainty about their future would be clarified by an official statement about their role and the future of the profession in Malaysia and perhaps also by a review of the role of the physician and of the HA/physician relationship. It may be worthwhile increasing HA training to empasize clinical experience and to reexamine the advisibility of placing recently trained HAs in charge of a rural health centre. A broader scope of continuing education of HAs would probably include such courses as medicine, simple surgery, and health administration/medical records.

A redefinition of the role of HAs opposite nurses would help increase the effectiveness of rural health centres. Perhaps a review of the procedures by which HAs refer patients to hospitals, the intrasystem communication, and medical record keeping would be beneficial. An examination of why 66% of HAs want to enter medical school may open additional channels for upward mobility and for recognition of those who excel in their work. A review of restrictions on

drug prescriptions by HAs and a comparison of such restrictions in other countries where paramedics provide curative health care would remove the widespread dissatisfaction among HAs.

The sensitive issue of patients' seeking traditional as well as cosmopolitan medical care deserves examination of the feasibility of closer contact between the two health care systems.

SUMMARY

Paramedic health care personnel represent an alternative to physician-centered primary health care. A survey of Hospital Assistants (HAs) in Malaysia assesses their experiences and opinions of rural health care and discusses their role. HAs show a confident self-concept and feel they can treat patients for simple complaints as well as can a physician. HAs refer only 5% of their patients to physicians. HAs show some frustration with their work situation, their role concept, and uncertainty about their future.

The majority would like to participate in continuing education programs, and feel the HA training programs, the referral system, and intrasystem communication need improvement. Two thirds would like to enter medical school and want to work directly with a physician rather than with an HA if they could choose.

The HAs call for improvement in rural health care facilities, supplies, transportation and staffing, feel malnutrition and poverty constitute the most serious health problems, are happy that the health centers are easily available to villagers, and think closer contact between traditional Malay healers and cosmopolitan medicine will benefit their patients.

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