RURAL HEALTH CARE: MALAYSIAN PHYSICIANS' OPINIONS ABOUT TRADITIONAL MALAY MEDICINE AND HOSPITAL ASSISTANTS — A PILOT STUDY

H.K. HEGGENHOUGEN

INTRODUCTION

INCREASED attention to traditional Chinese medicine and the 1977 World Health Organisation resolution calling on all member governments to integrate traditional medicine into their official health care systems wherever possible, has created world wide interest. This is also evident in Malaysia (Heggenhougen, 1979).

Although traditional healers throughout the world (local folk healers as well as practitioners of regional medical systems, such as Avurveda) practice in urban areas (Press, 1969; 1978; Ruiz & Langrod, 1977; Dunn, 1976; Harwood, 1971) most of them work in rural settings. The Director General of the World Health Organisation's directive "Health for all by the year 2000," emphasizes primary health care in rural areas (Mahler, 1971), alternative approaches in health care delivery, including greater reliance on auxiliary health workers (WHO Chronicle, 1976: Djukanovic & Mach; 1975; Mahler, 1974) and increased use of, or cooperation with, traditional healers and their medicine (Mahler, 1977; Singer, 1977; WHO Chronicle, 1977; Ademnwazun, 1976; WHO, 1975). Such renewed emphasis implies changes within the health care systems now operating in most countries.

H.K. Heggenhougen

University of California International for Medical Research Institute for Medical Research Kuala Lumpur 02-14 Malaysia

This work was supported in part by grant AI-10051 (UC ICMR) from National Institute of Allergy and Infectious Diseases, National Institutes of Health, U.S. Public Health Service.

Cosmopolitan medical systems in western countries have long been accused of an overreliance on highly sophisticated technology, an over-adherance to a strictly scientific bio-medical model an unjustifiable growth of specialization and physician maldistribution with an urban concentration of practitioners. It is further lamented that General and Family Practice have been accorded inferior status and that inadequate attention is paid to rural health care. Such accusation, and others, including the rising cost of services, have often been justified despite the somewhat sensational nature of some--notably those by Illich (Engel, 1977; Czoniczer, 1977; Illich, 1975; Navarro, 1975; Powels, 1973; Dubos, 1959).

It is no secret that the official health care systems in third world countries all too often mirror the cosmopolitan systems of industrialized nations (Morley, 1973; Bryant, 1969; King, 1966) and where such systems are seen in need of change in the West, a strict adherance to these "western" models is more inappropriate in "developing" countries (Bicknell & Walsh, 1977; Doyal & Pennell, 1976; Navarro, 1974) especially as the majority of the population of such countries is rural.

The futility, inappropriateness and phenomenal cost of having a physician in every village has been pointed out by many (Benyoussef & Christian, 1977; Heggenhougen, 1977; Newell, 1975; Omran, 1974; Fendall, 1972) and there are few who would now advocate such a goal. Yet cosmopolitan physicians are, of course, key personnel in rural as well as urban health care. What is increasingly being pointed out, however, is that physicians might most appropriately work in coordination with other health personnel in providing curative services to rural areas. Thus an increased reliance on a team approach, with

cooperation between different levels of cosmopolitan medical personnel, is advocated. In addition to providing direct services themselves, physicians would then function more as teachers, managers and as the final, rather than the initial, health care resource, than they do now.

Reliance on resources already available in rural areas is also advocated and thus, where appropriate, it is suggested that traditional healers be considered to the point of incorporation into the official health care system (Declaration of Alma-Ata, 1978). Of course, any move in this direction is complex and fraught with inumerable problems and, if at all, should be undertaken with great care. But whether or not cooperation or contact is to take place the current wide-spread practice of traditional medicine cannot be denied and it is once again receiving public, and professional, recognition. An examination of the reasons for the persistence of traditional medicine, even in areas where cosmopolitan medicine is readily available, will not only throw light on these traditional practices, but can provide a perspective from which to critique the official health system and has been mentioned elsewhere (Heggenhougen, in press C).

Physicians play a dominant role in most health care systems and changes in the systems depend on their opinions and attitudes. We therefore surveyed physicians in Malaysia regarding appropriate rural health care and traditional Malay medicine. Special attention was drawn to traditional Malay medicine since the rural population is largely Malay (with an estimated 80% of all Malays being rural), whereas most (though not all) traditional Chinese and Indian health practitioners operate in larger cities and towns. Because Hospital Assistants (HAs), auxiliary cosmopolitan health care workers, can be considered currently to constitute the backbone of the rural government curative health care service (Heggenhougen, 1978), this study also focused on them but no special linkage, or comparison, between HAs or traditional practitioners is implied.

METHODS

426 questionnaires and cover letters were mailed to every fourth physician on the 1976 Malaysian government list of physicians in public and private practice (Malaysia, 1976), together with a stamped, addressed envelope. The questionnaires were confidential and no names were requested. Only 98 (23%) physicians responded; another 17 letters were returned unopened because the physicians had moved or had left the country. The low return rate prevents the results from being considered representative of the opinions of all Malaysian physicians (as the sample might be skewed and those responding might constitute a self-selected group most favorably disposed to traditional medicine). Yet, as a pilot study, the results are indicative and emphasize the need for a more thorough survey, to include random personal interviews.

RESULTS

Demographic Data

Of the 98 respondents, 81 were men and 17 women; 10 (10%) were Malay, 31 (32%) Indian, 43 (44%) Chinese and 14 (14%) "others." Of all physicians in Malaysia in 1976, 5% were Malay, 40% Indians, 48% Chinese and 7% others (Majlis Perubatan Malaysia, 1977).

Forty-eight respondents were general practitioners, five were surgeons, eight were in ob-gyn, eight in public health/community medicine, and seven in internal medicine. The remaining 22 physicians named nine other specialities. Table 1 indicates the number (and percentage) of responses from physicians in each state as well as the percentages of all physicians living in those states. Table 2 indicates the locations where respondents received their medical education.

Forty-seven respondents saw up to 50 patients a day, 21 saw 50 to 75 patients, ten saw 75 to 100, and six saw more than 100 patients daily. Five respondents saw no patients and three indicated no set number (6 did not respond to the question). At the time of the survey, 26 physicians worked in a rural area and 70 worked in an urban area (2 did not respond to the question). Forty of the (70) urban respondents stated that they had previously worked in rural areas and 24 had not (with 8 not responding).

Traditional Medicine

Seventy-four physicians responded affirmatively to the question, "Do you feel that it sometimes might be of value for a patient to see a

TABLE 1
Percentages of Respondents, and all Physicians in Malaysia, by state

States	Respondant		All Physicians	
	N	%	N	%
Selangor/Kuala Lumpur	45	46.0	1051	38.1
Pulau Pinang	12	12.3	280	10.2
Melaka	1	1	107	3.9
Perak	15	15.3	323	11.7
Negeri Sembilan	. 4	4.1	121	4.4
Pahang	2	2.0	103	3.7
Johore	9	9.2	262	9.5
Kelantan	2	2.0	84	3.0
Trengganu	1	1.0	52	1.9
Kedah	3	3.1	103	3.7
Perlis	2	2.0	25	0.9
Sarawak ⁺	1	1.0	142	5.2
Sabah	-	-	104	3.8
No Response Total	1 98	1.0 100	2,757	100

^{*}Includes physicians in public service and in private practice in 1976 (Mailis Perubatan Malaysia, 1977).

traditional Malay practitioner such as a bomoh/dukun?" Eight of these simply said "yes," 27 said "possibly, in some cases" and 39 felt that it sometimes might be of value for them to see a traditional practitioner "if they also see a physician or go to a health clinic." Thirteen physicians felt that it was of "absolutely no" value and nine that it was of "no" value for patients to see traditional Malay practitioners.

All but 16 respondents had similar reactions to Indian Ayurvedic and traditional Chinese medicine as those given above regarding traditional Malay folk practitioners (bomohs). A few noted that traditional Indian and Chinese practitioners received more formal and standardized medical training than Malay bomohs and that acupuncture was of "real benefit".

TABLE 2

Location of Medical Education of Respondents.

Location	Respondents			
Location	N	%		
Singapore	34	35		
India Singapore	34	35		
India	25	26		
Malaysia	13	13		
Australia	6	6		
Ireland	5	5		
England	2	2		
Hong Kong	2	2		
Pakistan	2	2		
Indonesia	2	2		
Burma	1	1		
Sri Lanka	1	1		
China	1	1		
Bangladesh	1	1		
No Answer	3	3		
Total	98	100		

TABLE 3

Correlation of location of medical education with respondents' reaction to traditional Malay medicine.

Location of medical education	Physicians' response to whether traditional Malay medicine has value				
	Yes		No		
	N	%	N	%	
Singapore	23	31	10	45	
India	17	23	6	27	
Malaysia	11	15	2	9	
Australia	5	7	1	5	
Ireland	4	5	_	_	
Others	14	19	3	14	
Total	74*	100	22*	100	

^{*}Two did not respond.

⁺ Questionnaires were not mailed to Sabah and Sarawak but one respondent who had previously practices in West Malaysia had moved to Sarawak.

Table III correlates the location of the respondents' medical education with their attitudes on the value of traditional Malay medicine.

Forty-four physicians (45%) had witnessed bomohs treat patients. Eleven felt that a bomoh could do nothing more for a patient than could a physician; eleven others stated that bomohs offered clearer explanations to their patients and gave them hope (albeit, "false" hope, sometimes) and ten felt that because bomohs were familiar with their patients' backgrounds they could provide greater moral support.

Twenty-nine physicians stated that bomohs were particularly valuable in treating psychiatric and psychosomatic problems. Another ten noted that bomohs treated cases of "black magic," evil spirits and hysteria, problems normally not treated by physicians.

Physicians were asked the question, "Which of the following statements most clearly reflect your own thinking regarding traditional Malay practitioners?" Their answers point to the serious differences in attitude among formally trained cosmopolitan physicians. (Because some physicians checked more than one statement, the numbers in parenthese signify responses, not respondents).

- 1) Traditional Malay practitioners are of definite value in dealing with psychosomatic illnesses. (63)
- 2) Some are quacks, others might be able to do some good. (59)
- 3) Some traditional Malay practitioners might be able to provide curative relief from minor physical illnesses. (45)
- 4) All traditional Malay practitioners are quacks. (22)
- 5) Only uneducated and superstitious people go to the traditional Malay practitioners. (19)
- 6) Traditional Malay practitioners will die out within a short time. (13)
- 7) Many bomohs are effective for a wide variety of complaints. (9)
- 8) A member of my family has gone to a bomoh. (7)

- 9) All traditional Malay practitioners should be outlawed in Malaysia. (6)
- 10) Only those specializing in broken or bruised bones are of value. (5)
- 11) Bomohs only deal in "black magic."

Fifty-six physicians (57%) felt that consideration should be given to closer contact between bomohs and physicians. Reasons given for establishing contact included: 1) to promote good and discourage bad practices of bomohs; 2) to have more control over bomohs and to require them to take a government qualifying exam before beginning to practice; 3) to study bomohs in order to point out their strengths; and, 4) to initiate a referral system between legitimate bomohs and physicians. Physicians who did not want contact (38; 4 did not answer) pointed out that bomohs were unscientific and had no uniform course of study, and that contact with bomohs would be a retrogressive step.

Sixty-six physicians supported contact between the traditional Malay and cosmopolitan "systems" when limited to psychological problems only, 25 did not (and 7 did not answer the question). Forty-eight physicians said they would possibly "consider suggesting a patient see a bomoh in certain cases if their own treatment proved ineffective." However, 31 respondents said "no" and 16 stated that they would definitely not recommend a bomoh under any circumstances (3 did not respond). Seventeen physicians stated they had already suggested that some of their patients see a bomoh.

Ethnic differences among physicians influenced whether they valued traditional Malay medicine: nine (90%) Malay physicians, 25 (80%) Indians, 28 (65%) Chinese and 11 (79%) "others" stated they felt there was something of value in traditional Malay medicine. Sex seemed also a factor since only one (6%) of the 17 women physicians felt the bomohs were definitely of no value whereas 21 (26%) of the 81 men felt that way.

The numbers were too small to accurately interpret the reaction of physicians in different specialties to bomohs, though none of the surgeons and only a small percentage of gynecologists/obstetricians who responded valued tradi-

tional Malay medicine. A higher than average percentage of physicians in internal medicine. cardiology, community medicine, maternal and child health, pediatrics and general practise answered affirmatively. Eighty-nine percent of the physicians from both Selangor (including Kuala Lumpur) and Johore indicated a relatively positive attitude to traditional Malay medicine whereas only 75% of those from Penang and 57% of those from Perak were similarly inclined. Physicians who found some value in traditional Malay medicine tended to be younger than those who did not; 53% of the positive group were less than 40 years old whereas 44% of the negative group were as young. (Four of the ten Malays were 40 years old or older, thus the younger age of the positive group was not skewed by a higher percentage of young Malays in favour of bomohs).

Seventy-seven percent of physicians now practicing in a rural area and 75% of those working in urban areas found something of value in traditional Malay medicine. More significantly, 80% of those who had worked in a rural area previously felt traditional Malay medicine was of some value whereas 66% of those who had never worked in a rural area felt so. Sixty-eight percent of those who found some value in traditional Malay medicine supported closer contact between cosmopolitan and traditional medicine; however, 32% of those who did *not* value traditional medicine also supported greater contact between the two "systems."

Hospital Assistants

As the bomohs constitute the major traditional health care resource in rural Malaysia, so the Hospital Assistants (HAs) provide the bulk of the curative cosmopolitan health care services in government rural clinics. HAs are paramedics who represent an alternative to physician centered primary health care (Heggenhougen, 1978) and they may be seen as both physician substitutes and physician's assistants (as many also work directly with physicians in general and district hospitals).

It has been stated that the existence of HAs should be viewed as a stop-gap measure and that the role should be extinguished when enough physicians have been trained to fill their positions;

the following opinions of physician respondents tend to support this view-point, but seem to be contradicted by the fact that many of these same respondents show a reluctance to practice in rural areas. This unfavorable view of HAs is not universally shared by policy makers who do not necessarily feel it appropriate to have a physician in every village, or even if they do, this does not therefore negate the value of the HA. But HAs are concerned that the permanency of their role is questioned and many exhibit anxiety about their future; this could be a reason why the majority of HAs desire to become physicians.

As was the case for physician respondents, mentioned above, another study (Heggenhougen, 1978) has indicated that HAs also think that traditional Malay medicine is of some value and only 10% of the HAs opposed the establishment of more formal contact between cosmopolitan practitioners and traditional healers.

Fifty-six physicians (57%) felt that HAs should eventually be replaced by physicians but 42% saw the HA as a lasting profession (one physician was uncertain). Physicians supporting HAs stated: "Physicians will never be able to give and do what HAs can in rural clinics;" "a majority of cases seen in rural clinics do not need a physician;" "physicians are better utilized elsewhere;" "physicians won't go to rural areas," and "physicians in rural areas will not be cost effective." Other physicians responded "All patients should have access to a physician;" "standards of patient care should be higher," and HAs should be replaced so that "more scientific treatment" can be provided.

Thirty-seven physicians felt HAs were competent to deal with at least 85% of the cases presented to them. Another 44 qualified their support and thought the percentage of cases was lower; 14 stated that they did not think HAs could handle 85% of their cases. Some physicians stated that HAs trained most recently were not as competent as those trained earlier and that HAs should attend refresher courses (incidentally, 99% of all HAs surveyed in the study mentioned above want to participate in continued education courses). One physician suggested that better backup and referral services between the different levels of cosmopolitan health workers should be available.

Sixty-six physicians indicated that they would work in a rural area (26 already do so): of these, 27 definitely wanted to do so, 24 wanted to do so for only a few years, and 15 considered working in a rural area only a "possibility". Twenty-five physicians said they did not want to work in a rural area (7 did not respond). The respondents made it clear that rural practice was a hardship.

Fifty percent of the Malays, 40% of the Indians, 36% of the Chinese and 46% of the "other" respondents saw the HA as a permanent profession. Because the numbers were small it was impossible to analyse responses based on the physicians' specialties except to note that only 33% of the general practitioners saw the HA as a lasting profession whereas most specialists supported a permanent role for the HA.

DISCUSSION

The results of this pilot study do not represent all Malaysian physicians. Nevertheless, a surprisingly high percentage of respondents felt traditional Malay medicine might be of some value: a majority of those who valued "bomoh medicine" and a third of those who did not, supported establishing contact between cosmopolitan and traditional Malay "systems." Thus, a wider survey of all physicians is warranted to verify the findings of this pilot study.

Although it appears strange that physicians who see no value in traditional Malay medicine favor contact with bomohs, it reflects the medical pluralism that flourishes in Malaysia (Chen, 1975; Chen, in press; Heggenhougen, in press A). People in rural and urban areas use multiple health care resources--including bomohs (Heggenhougen, in press B).

Physicians concerned about public health are interested in the other treatment modalities used by their patients and whether these are beneficial, harmful or of no apparent consequence (Center for Disease Control, 1977). Physicians who confirm contact with bomohs support the Jelliffes: "There is an urgent used for scientific consideration of the value and advantages, the hazards and limitations of different traditional health systems on a world-wide basis" (Jelliffe and Jelliffe, 1977).

Evaluation of traditional Malay medicine is difficult. The recently established Malaysian Association of Traditional Malay Medicine is as yet not formally registered. The Association of Traditional Malay Medicine Sellers (PUBRA, 1977) is still young and not yet able to provide an accurate description of its members and their products. There is no standardization of training because each healer has learned from his father, studied with a guru (teacher), "learned through dreams" or established himself as a healer because of a supernatural encounter. And there are those, without "healing knowledge," who call themselves bomohs to earn money.

Articles and books have been written on traditional Malay medicine (Skeat, 1900; Ridley, 1906; Gimlette, 1915; Burkill and Haniff, 1930; Gimlette and Burkill, 1930; Wolff, 1965; Chen, 1970 A and B, 1973, 1975; Colson, 1971; McKay, 1971; Mohd Taib Osman, 1972, 1976; Foteh et al., 1976) but there is no standard description of current practices (and practitioners). The "Documentation of traditional Malay and Orang Asli medicine" being conducted by the Muzium Negara (National Museum) will help to provide such an overview.

Malaysia has very few psychiatrists and psychologists and 67% of the respondents stated that there should be some contact between cosmopolitan practitioners and bomohs in dealing with patients suffering from mental problems. Thus, the area of mental health might be a logical starting point for such contact. Kinzie, Teoh and Tan (1974) have stated: "undoubtedly, the single largest group of caretakers for mild mental illness are the native or traditional healers." Because psychiatry is a relatively new specialty in Malaysia, these investigators cautioned against immediate cooperation but maintained that "native healers, although probably the largest source of community therapists, represent a real challenge for utilization as collaborators in mental health care." They imply, however, that the challenge is worth taking. Most respondents in this pilot sudy agreed. Other studies have also recommended consideration of involving bomohs in mental health programs (Chen, 1970B; Hartog, 1973; Hartog and Resner, 1972) and other native healers in such programs elsewhere. (For an overview see Torrey, 1972, which includes a bibliography of over 350 entries.)

Mental health care includes the treatment of drug addiction, and a few physicians responded that bomohs might be able to treat drug addicts. A number of bomohs have been treating heroin addicts for several years and the Malaysian National Drug Dependence Research Centre is currently conducting a follow-up study of 400 patients of five of these "drug bomohs" (Heggenhougen and Navaratnam, in press A and B).

Seventeen physicians had suggested to at least one of their patients to see a bomoh for an ailment which did not respond to their treatment. Some physicians who did and others who did not see any inherent value in bomoh medicine considered suggesting that a patient see a bomoh under certain circumstances in the future. This attitude may indicate some physicians' recognition that the "placebo effect", especially in patients suffering from a psychosomatic ailment who believe in the power of the bomoh, may aide cure. Therefore seeing a bomoh may prove beneficial.

Fewer physicians who wanted HAs gradually replaced by physicians found value in bomoh medicine than did physicians who saw the HA as a lasting profession. Perhaps those physicians who realize that all health care does not have to depend on themselves are open to a variety of approaches and combinations of health care services, which may involve a greater reliance on auxiliary personnel or finding value in certain traditional practices. But this correlation should not be interpreted to mean that physicians thereby equate, or compare, cosmopolitan paramedics with traditional folk healers.

Further studies should investigate why only 33% of the general practitioners but 54% of all other physicians viewed the HA as a permanent profession. Is it because HAs working with specialists are more truly assistants while HAs providing primary curative health care services in rural clinics are more like physician substitutes? This attitude may result from competition or it may reflect that general practitioners have greater contact with HAs and are therefore more able to evaluate their capabilities. Only 32% of physicians now working in rural areas and 56% of those with prior experience in rural medicine but now working in urban areas saw the HA as a lasting profession (and only 18% of those who

had never worked in a rural area saw the HAs as a lasting profession). Why this difference? Presumably both groups of physicians have an accurate impression of the quality of health care services provided by HAs in rural clinics.

One does not need to repeat in detail the points made elsewhere that physicians might be unable to function to the full extent of their capabilities in rural clinics and that an exclusive reliance on physicians for curative medicine at the village level would amount to misappropriation of resources (Taylor, et al., 1976). Further, physicians' aversion to rural practice is a world wide phenomena. On the other hand, the capabilities of auxiliary health care personnel in providing curative health services in rural areas have been praised and found most appropriate throughout the world in "developing" and "developed" countries alike (Elliott, 1979; Djukanovic and Mach. 1975; Newell, 1975). Yet, paradoxically, the feeling persists that the "best", and most appropriate, cosmopolitan health care, no matter what the ailment, or the situation, is that provided by a physician. If this (false!?) attitude truly permeates to the villages, where it already has a firm foothold, frustrations will manifold as few would be able to obtain the services of a physician and many would be derisive about the (perfectly sound) services of most auxiliaries.

Of course, as pointed out above and elsewhere (Heggenhougen, in press B and C), villagers will still persist in the use of traditional practitioners, if for no other reason than that cosmopolitan medicine is felt to be an incomplete healing process which is often foreign to the world view of villagers (Jones, 1976; Mohd. Taib Osman, 1972).

However, changes may be expected. The new president of the Malaysian Medical Association (MMA) has publically comitted himself to the priority of rural health care (Kaur, 1979), and deliberations are being made on how rural practice can be made more attractive to physicians. The idea of a team approach is, apparently, prominent in these discussions. Meetings have been held between the National Union of Hospital Assistants (NUHA) and the MMA on hos HAs and physicians can better work together to actualize such a team approach to rural health care (which is not to say that cooperation and

referrals do not already exist between HAs and physicians and between the various levels of the government rural health care service). It will be exciting to watch the outcome of these deliberations.

The subject of traditional Malay folk medicine is a separate matter and has only incidentally figured in the discussions of a rejuvenated team approach to rural health care: it is doubtful that cooperation with folk healers will be realized in the near future. But changes in prevailing attitudes have rapidly altered within the last few years (enough to make future predictions difficult) and it has been shown that cosmopolitan practitioners as well as villagers find value in certain traditional folk-healer practices. The degree to which cosmopolitan practitioners value such practices should not be overemphasized. however, as, in any case, most physicians and HAs do not want, nor are they particularly equipped (except for cases of fractures), to deal with drug addicts, cases of mental health or psychosomatic problems (or charms and spirit possession), for which they indicate folk practitioners might be most effective.

The issues of the appropriate roles and inter-relationships of HAs and traditional Malay folk practitioners within an overall health care system are complex, yet pertinent to the future of rural health care in Malaysia warranting further study and consideration.

SUMMARY

A pilot study was conducted based on a questionnaire sent to Malaysian physicians surveying their opinions on 1) the value of traditional Malay medicine and 2) the role of auxiliary cosmopolitan health care practitioners-- Hospital Assistants (HA), in rural health care. The 98 responses (23%) can not be held representative of all Malaysian physicians, but emphasize the need for a more thorough survey.

Three-fourths of the responding physicians found it of potential value to have their patients see a traditional Malay healer (bomoh) in certain circumstances and a majority supported closer contact between traditional Malay and cosmopolitan medical systems, particularly in the area of mental health care.

The majority of physician respondants did not see the role of the HA as permanent and stated that HAs should gradually be replaced by physicians. More general practitioners and physicians now practicing in rural areas held this opinion than physicians in other specialties.

The issues of the appropriate roles and interrelationships of HAs and tradtional Malay folkhealers within an overall health care system are complex, yet pertinent to the future of rural health care in Malaysia and warrant further study and consideration.

ACKNOWLEDGEMENTS

I wish to thank Ms. N. Puvaneswari for her assistance with this study, as well as the physicians who responded to my questionnaire. I am grateful to Ms. Margaret Lim for her preparation of the manuscript. I greatly appreciate the support of Dr. George F. de Witt, Director, Institute for Medical Research, Kuala Lumpur, and thank him for the permission to publish this article.

REFERENCES

Ademuwagun, Z.A., 1976, "The challenge of the coexistence of orthodox and traditional medicine in Nigeria," East African Medical Journal, 53(1): 21-32.

Aho, W.R. and Minott, K., 1977, "Creole and Doctor medicine: folk beliefs, practices, and orientation to modern medicine in a rural and an industrial suburban setting in Trinidad and Tobago, the West Indies," Soc. Sci. & Med. 11: 349-55.

Benyoussef, A. and Christian, B., 1977, "Health Care in Developing Countries," Soci. Sci. & Med. 11: 399-408.

Bicknell, J.W. and Walsh, D.C., "Caveat Emptor: Exporting the U.S. medical model," Soc. Sci. & Med., 11: 285-88.

Bryant, J., 1969, Health and the Developing World. Cornell Univ. Press, Ithaca.

Burkill, I.H. and Haniff, 1930, "Malaya village medicine," The Gardens' Bulletin Straits Settlements, 6: 165-317.

Center for Disease Control CDC), 1977, "Poisoning associated with herbal teas-Arizona, Washington," Morbidity and Mortality Weekly Report, 26(32): 257-59.

Chen, P.C.Y., 1970A, "Indigenous concepts of causation and methods of prevention of childhoos diseases in a rural Malay community," J. Trop. Med., 33-42.

Chen, P.C.Y., 1970B, "Indigenous Malay psychotherapy," Trop & Geog. Med., 22: 409-15.

Chen, P.C.Y., 1973, "Indigenous Malay surgery," *Trop. & Geog. Med.*, 25: 95-99:

- Chen, P.C.Y., 1975, "Medical Systems in Malaysia: Cultural Bases and Differential Use," Soc. Sci. & Med., 9: 17-80.
- Chen, P.C.Y., in press, "Traditional and modern medicine in Malaysia," Comparative Medicine East and West, (pp.40).
- Colson, A.C., 1971, "The differential use of medical resources in developing countries," *J. Health Soc. Behav.* 12: 226-37
- Czoniczer, G., 1977, "Medical Technology: Intruder between physician and patient," *The Humanist*, pp 31-34.
- Djukanovic, V. and Mach, E.P., 1975, "Alternative approaches to meeting basic health needs in developing countries," A joint UNICEF/WHO study, W.H.O., Geneva.
- "Declaration of Alma-Ata-International Conference on Primary Health Care, Alma-Ata," 1978, Contact, 47: 11-13.
- Dubos, R., 1959, Mirage of Health, Harper and Row, N.Y.
- Dunn, F.L., 1976, "Traditional Asian medicine and cosmopolitan medicine as adaptive systems," in Leslie, C. (ed.) Asian Medical Systems, Univ. Calif. Press, Berkeley, pp 133-58.
- Elliott, K., (ed.), 1979, Auxiliaries in Primary Health Care, Intermediate Technology Publications Ltd., London.
- Engel, G.L., 1977, "The need for a new medical model: A challenge for biomedicine," *Science*, 199: 129-36.
- Fendall, N.R.E., 1972, Auxiliaries in Health Care. The John Hopkins Press, Baltimore.
- Foteh, A.M., Ramlah, M.I., Chum, P. and Mahfuzah, M.N., 1976, "An exploratory research on the traditional Malay methods of post-natal care, contraceptive and abortion," Family Planning Assoc., Penang, Malaysia, pp. 18.
- Gaviria, M. and Wintrob, R.M., 1976, "Supernatural influence in psychopathology--Puerto Rican Folk Beliefs about mental illness," *Can. Psychiatr. Assoc. J.*, 21(6): 361-69.
- Gimlette, J.D., 1915 (1975), Malay poisons and charm cures, Oxford University Press, Kuala Lumpur.
- Gimlette, J.D. and Burkill, I.H. (eds.), 1930, "The Gardens" Bulletin Straits Settlements, 7: 323-474.
- Gimlette, J.D. and Thomson, H.W., 1939 (1971), A dictionary of Malayan medicine, Oxford University Press, Kuala Lumpur.
- Hartog, J., 1973, "The intervention system for mental and social deviants in Malaysia," Soc. Sci. & Med. 6: 211-20.
- Hartog, J. and Resner, G., 1972, "Malay folk treatment concepts and practices with special reference to mental disorders," *Ethnomedizin* 1(3/4): 353-72.
- Harwood, A., 1971, "The hot-cold theory of disease," *JAMA*, 216(7): 1153-58.
- Heggenhougen, H.K., in press A, "Bomoh, Doctors and Sinsehs Medical Pluralism in Malaysia," Soc. Sci. & Med.
- Heggenhougen, H.K., in press B, "The utilization of traditional medicine -- a Malaysian example," Soc. Sci. & Med.
- Heggenhougen, H.K., in press C, "Why does traditional "

- medicine persist?" Bulletin, Pub. Health Society, Malaysia.
- Heggenhougen, H.K., 1979, "Meeting of Malaysian Traditional Healers," Med. Anthro. Newsletter, August, 1979.
- Heggenhougen, H.K., 1978, "Hospital Assistants in Malaysian Rural Health Care," Med. J. Malaysia, 33(2): 165-17
- Heggenhougen, H.K., 1976, Health Care for the 'Edge of the World.' Ph.D. Dissertation for the New School for Social Research, New York.
- Heggenhougen, H.K. and Navaratnam, V., in press A, "Initial Documentation of Traditional Malay treatment of Drug Addicts in Malaysia," *Siri monograph*, University Sains Malaysia, Penang.
- Heggenhougen, H.K. and Navaratnam, V., in press B, "Traditional Therapies in Drug Dependence Management," UNESCO Career.
- Illich, I., 1975, Medical Nemesis. Calder and Boyars, London.
- Jelliffe, D.B. and Jelliffe, E.F., 197 "The cultural cul-de-sac of western medicine (towards a curvilinear compromise?)" Transactions of the Royal Society of Tropical Medicine and Hygiene, 71(4): 331-34.
- Jones, W.T., 1976, "World View and Asian Medical Systems: Some Suggestions for Further Study," in C. Leslie (ed.), Asian Medical Systems, Univ. Calif. Press, Berkeley.
- King, M. (ed.), 1966, Medical Care in Developing Countries. Oxford Univ. Press, London.
- Kinzie, J.D., Teoh, J.I. and Tan, E.S., 1974, "Community psychiatry in Malaysia," Am. J. Psychiatry, 131(5): 573-7.
- Kaur, H., 1979, "Prison-term docs' Rural postings should be made more rewarding: New MMA chief," The Malay Mail, April 10, 1979, p 1.
- McKay, D.A., 1971, "Food, illness, and folk medicine: insights from Ulu Trengganu, West Malaysia," Ecology for
- McKay, D.A., 1971, "Food, illness, and folk medicine: insights from Ulu Trengganu, West Malaysia," *Ecology of Food and Nutrition*, 1: 6-727.
- Mahler, H., 1974, "Health and the family," Keynote address to the Intl Health Conference of the National (US) council for International Health, pp. 11.
- Mahler, H., 1976, "A social revolution in public health," who chronicle, 30: 465-80.
- Mahler, H., 1977, "The staff of Aesculapius," World Health. P:3.
- Mahler, H., 1978, "Promotion of primary health care in member countries of WHO," Public Health Reports, 93(2): 10-713.
- Majlis Perubatan Malaysia, 1977, "Pengmal Perubatan yang telah mengambil perakuan-perakuan amalan tahunan bagi tahun 1976," p. 1.
- Malaysia, 1976, Warta Kerajaan Persekutuan--"Senarai Pengamal-pengamal perubatan yang dikeluarkan dengan perakuan-perakuan amalan tahunan bagi tahun 1976, disiarkan mengikut seksyen 21" Jil 20, No. 27. Tambahan No. 1: 4407-4487.
- Mohd. Taib Osman, 1976, "The bomoh and the practice of Malay medicine," South East Asian Review, 1(1): 16-26.

- Mohd. Taib Osman, 1972, "Patterns of supernatural premises underlying the institution of the bomoh in Malay culture," Bijdragen tot de Taal-, Land-en Volkekunde, 128: 219-234.
- Morley, D.C., 1973, Pediatric priorities in the developing world: Butterworth & Co., London.
- Navarro, V., 1975, "The industrialization of fetishism or the fetishism of industrialization: A critique of Ivan Illich," Soc. Sci. & Med. 9(7):
- Navarro, V., 1974, "The underdevelopment of health or the health of underdevelopment," *Politics & Society*, 4(2): 26-793.
- Newell, K.W., (ed.), 1975, Health by the People. World Health Organization, Geneva.
- Omran, A.R., (ed.), 1974, Community medicine in developing countries, Springer, New York.
- Parker, A., Newell, K.W., Torfs, M. and Israel, E., 1977, "Appropriate tools for health care-developing a technology for primary health care and rural development," WHO Chronicle 31: 131-37
- Press, I., 1978, "Urban folk medicine: a functional overview," Am. Anthro. 80(1): 71-84.
- Press, I., 1979, "Urban Illness: physicians, curers and dual

- use in Bogota," J. Health & Soc. Behavior, 10: 209-18.
- Powels, J., 1973, "On the Limitations of Modern Medicine," Sci. Med. & Man, 1: 1-30.
- PUBRA (Persatuan Peniaga--Peniaga Ubat Ubat Bumiputra Malaysia), 1977, "Undang-Undang dan Perlembagaan," pp. 12. Simpang Empat, Perlis.
- Ridley, H.N., 1906, "Malay drugs," Agricultural Bulletin of the Straits and the Federated Malay States, 5
- Ruiz, P. and Langrod, J., 1976, "The role of folk healers in community mental health services," Comm. Mental Health J. 12(4): 392-98.
- Ruiz, P. and Langrod, J., 1977, "The ancient art of folk healing: African influence in New York City community Mental Health Center," in P. Singer (ed.) Traditional Healing, Conch Mag, Ltd., New York.
- Singer, P. (e.d), 1977, Traditional Healing, Conch Mag. Ltd., New York.
- Skeat, W.W., 1900, Malay Magic, Macmillan & Co., Ltd. Taylor, C.E., et al., 1976, Doctors for the Villages, London.
- Torrey, E.F., 1972, The Mind Game Witchdoors and Psychiatrists, Bantam Books, N.Y.