

References

1. Kendall, M., and Hadl, J.: The medical malpractice insurance market. In Report of the Secretary's Commission on Medical Malpractice. DHEW Publication No. 73-80, U.S. Government Printing Office, Washington, D.C., 1973, pp. 494-561.
2. *Rike v. Honsinger*, 49 NE 760 (1898).
3. *Tanner v. Sanders*, 247 Ky. 90, 92, 56 SW 2d 718, 719, (1933).
4. *Harris v. Exon*, 161 Kans. 582, 583, 170 Pac 827, 829 (1946).
5. *Adkinu v. Ropp*, 14 NE 2d 727 (1938).
6. *Morse v. Moretti*, 403 F. (2d) 564 (App. D.C. 1968).
7. Holder, A. R.: Medical malpractice law. John Wiley & Sons, Inc., New York, 1975, ch. 2, p. 57.
8. Gifis, S. H.: Law dictionary. Barrons Educational Series Inc., Woodbury, N.Y., 1975, p. 30.
9. *Marchiewski v. Cosella*, 106 A 2d 466 (Conn. 1954).
10. *Moore v. Woff* (1961, Mo. App.), 345 SW 2d 239.
11. *Pederson v. Dumorchel*, 431 Pac 978, Wash (1967).
12. Howard, W. W., and Parks, A. L.: The dentist and the law. Ed 3. C. V. Mosby Co., St. Louis, 1973, p. 202.
13. Schwartz, D. H.: Societal responsibility for malpractice. *Milbank Mem Fund Q* 54: 469-487, fall, 1976.
14. U.S. Department of Health, Education, and Welfare: Report of the Secretary's Commission on Medical Malpractice. DHEW Publication No. (OS) 73-80, U.S. Government Printing Office, Washington, D.C., 1973.
15. Westat, Inc.: Study of medical malpractice claims closed in 1970. DHEW Publication No. (OS) 73-149. U.S. Government Printing Office, Washington, D.C., 1973, app. D, p. D-1.
16. U.S. Department of Health, Education, and Welfare: Eighth revision, international classification of diseases, adapted. Publication No. PHS 1693. U.S. Government Printing Office, Washington, D.C., 1968, p. 254.
17. Council on Dental Care programs: Code on dental procedures and nomenclature. *J Am Dent Assoc* 92: 647-652, March 1976.
18. U.S. Bureau of the Census: The supply of health manpower, 1970—profiles and projections. DHEW Publication No. (HRA) 75-38. U.S. Government Printing Office, Washington, D.C., 1974, p. 78.

Nigerians' Use of Native and Western Medicine for the Same Illness

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SYNOPSIS

The impact of dual systems of health care on those who use them is not well understood. A study was undertaken in Nigeria to study this impact. A questionnaire about use of dual health care systems was prepared and tested and then administered to a study sample. This sample included representatives of the Hausa, Ibo, and Yoruba tribes, urban and rural residents, and Christians, Muslims, and traditional worshippers.

Among 680 respondents, more of the Muslims than the other religious groups had used both Western and native medical care systems for the same illness, and the relationship between such dual use and religious preference was found to be significant. Also, almost three-fourths of the respondents who had used both native and Western medicine for the same illness had done so more than once. Among respondents who had used both for the same illness many times, there were almost twice as many males as females. Among the Ibos, 81.9 percent had used both systems more than once, compared with 77.2 percent of the Yorubas and 62.2 percent of the Hausas.

The existence of pluralistic medicine is fairly common in both developing and developed countries. However, switching back and forth from native to Western medicine makes determinations of the relative efficacy of cures difficult. Also, simultaneous use of drugs from both native and Western health care providers has the potential of harming or even killing the patient.

NATIVE MEDICINE CAN BE DEFINED as a system of medicine that is traditional, nonconventional, or non-Western. Dunn, for example, has emphasized

that Malaysian Chinese medicine today, although firmly rooted in tradition, is a modern, innovative, changing system (1). Each health care system, as

well as the interrelationship of traditional and Western systems, reflects the contemporary milieu in which it functions.

Researchers interested in health and illness from a cross-cultural perspective are aware that the great majority of people in various parts of the world have non-Western healers available. Different explanations have been offered for the success and failure of such practitioners. The consensus of opinion, however, seems to be that both the patient and the healer share similar beliefs (2). The success or failure of healing is, therefore, attributed to the shared cognitive world in which both the patient and the healer live and function. Dobkin has indicated that not only do both healer and patient share similar beliefs about disease etiology, but they also define illness within similar rubrics, even though the healer and the patient may not participate equally in healing rituals or equally comprehend healing doctrines (3). Native healers, in addition, are in a position to make the most of the psychological and cultural treatment of illness.

In a pluralistic health care arena, patients choose from the various treatment modalities available for treating illness and combating disease. In developing nations where the Western system of health care has only recently been added to the native system, the question of choice becomes extremely significant, and Nigeria is no exception. People have to choose from at least two distinct health care providers, each with defined medical knowledge and practices in health-related problems.

The impact of multiple systems of health care remains a little understood area. Plurality of health care enables a person to switch from one type of practitioner to another in search of the best, cheapest, or most accessible means of care. The continued existence of medical pluralism shows that no system holds a monopoly on healing. People's confidence in the efficacy of various healing practices is often due to the particular ways in which they perceive the etiologies of sicknesses rather than to the physical consequences of medical interventions.

Healing is anchored in particular social and cultural contexts. Each society has its own beliefs about illness, the choice of treatment alternatives, sick roles, and the health-care-related institutions that are organized as a health care system. Healing is viewed differently across cultures, in different sectors of health care, and by practitioners and patients. From the perspective of the health care system and its clinical functions, healing is the sum of the activities

of the entire system of health care; prevention is excluded.

In most developing nations, the introduction of Western medicine into a community reduces the exclusive dependence on native medicine. Various studies have indicated that people in developing nations seek out Western practitioners for those health problems in which manageable illness components dominate over unmanageable components. (4).

One cannot conclude that traditional practices persist only because people believe they are efficacious, since such practices persist in spite of undesirable outcomes. Undesirable outcomes are usually explained by suggesting that special circumstances surround the health problem.

In healing, it has been argued that the structure of the health process itself is as important as any pharmacological medication (5-7). Treatment provided by a native medical system may be effective not only because of the efficacy of the medications used but because of the character of the treatment itself. The method of treatment, therefore, becomes the most active ingredient in healing.

Some believe that if a person uses Western medicine, he or she cannot also believe in and use native medicine. However, many people can and do so, in many parts of the world, including the United States (8, 9). The success of practitioners of native medicine in filling certain needs of their clients suggests that there are inadequacies in the Western health care system. Patients realize that both native and Western systems of health care have imperfections and, as a result, will switch from one system to another. Calculations of the relative effectiveness of curers in both systems is complicated when people use native medicine and then turn to Western medicine and vice versa. When both health care systems are used, the amount of time and money spent in seeking health care can be excessive.

Because the use of both health care systems by the same person is common, a study was designed to determine the extent of its occurrence in Nigeria and the characteristics of the persons engaging in such dual use.

Study Sample and Methods

In the study, 680 respondents from the Hausa, Ibo, and Yoruba tribes, which constitute 75 percent of Nigeria's approximately 100 million population, were surveyed. According to Sheatsley, the optimum sample for most surveys is between 200 and 2,000 persons (10). Samples of less than 200 are consid-

ered useful only in exploratory research; samples of more than 2,000 generally produce only small increments in precision, and the greater cost of surveying large samples must be considered when resources are limited.

The study sample consisted of relatively equal numbers of males and females 21 years or older. About one-third of the 680 people in the sample came from each of three tribes. Residents of the Maiduguri area represented the Hausa tribe, residents of the Anambara area the Ibos tribe, and residents of the Abeokuta area the Yoruba tribe. People from Abeokuta represent the Egba Yoruba well, but do not necessarily represent the people of other Yoruba kingdoms. Although residents of the city of Maiduguri are primarily members of the Kanuri tribe, there were sufficient Hausas living in the city to provide an adequate sample for the study.

The cities and rural areas in the 19 Nigerian States were identified. Approximately equal numbers of the study sample lived in urban and rural areas. About 63 percent of those surveyed were Christians, 20 percent Muslims, and 15 percent traditional worshippers. Table 1 summarizes the demographic characteristics of the study sample. Almost half (48.4 percent) of the respondents had only a primary education or less, 44 percent had a secondary education, and 7.5 percent had a college education. Almost three-fourths were in the low-income group, earning 200 Nigerian Naira (U.S. \$300) or less a month. Of the remaining respondents, less than 10 percent were in the high-income group, that is, earning more than 400 Nigerian Naira (U.S. \$600) a month. More than three-fourths were or had been married.

More than half (52.8 percent) of those surveyed were between 35 and 49 years of age; less than one-tenth were more than 49. Table 1 shows that 37 percent of the study sample were civil servants; the rest were farmers, traders, hospital employees, native doctors, housewives, and so forth.

The Hausas in the study sample were from the Bida rural area and the Maiduguri urban area, in Borno State; the Ibos were from the Ugbo rural area and the Enugu urban area, in Anambara State; and the Yorubas were from the Afebo rural area and the Abeotuta urban area, in Ogun State.

The major difficulty in interviewing respondents was accessibility. Nigeria's poor roads made transportation to the areas of the study sample, especially the rural areas, difficult. Since road maps were not easily available, the interviewers had to depend on getting directions from people who either had lived or had been in the areas targeted for the research.

A questionnaire for the planned survey was carefully constructed. Every effort was made to assure that the possible answers to the multiple-choice questions were exhaustive and mutually exclusive. Consideration was given to, but not limited to, the following factors: the clarity, length, unidimensionality, and specificity of the questions; whether the questions were socially embarrassing; and the questionnaire's readability.

Table 1. Demographic characteristics of the 680 respondents

<i>Demographic characteristics</i>	<i>Number</i>	<i>Percent</i>
Tribe:		
Hausa	226	33.3
Ibo	228	33.4
Yoruba	226	33.3
Sex:		
Male	341	50.1
Female	339	49.9
Religion:		
Christian	428	62.9
Muslim	137	20.2
Traditional worship	102	15.0
Others	13	1.9
Residence:		
Urban	332	48.8
Rural	348	51.2
Education:		
None or only primary	329	48.4
Secondary	300	44.1
College	51	7.5
Income per month in Nigerian Naira:¹		
200	501	73.6
200 to 400	112	16.5
More than 400	67	9.9
Marital status:		
Single	149	22.9
Married	488	71.8
Divorced	9	1.3
Widow or widower	29	4.3
Separated	5	0.7
Age:		
21-34 years	359	52.8
35-49 years	260	38.2
More than 49 years	61	9.0
Occupation:		
Civil servant:		
Not teacher	173	25.4
Teacher	90	13.2
Not civil servant:		
Hospital-related work	58	8.5
Housewives	123	18.1
Native doctors	22	3.2
Farmers	84	12.4
Traders	82	12.1
Others	48	7.1

¹ 1 Nigerian Naira = \$1.50 U.S.

Before its administration, the questionnaire was sent to U.S. and Nigerian sociologists, biometricians, and health care professionals and to Nigerian students for a critique and suggestions for improvement. In addition, it was pretested on a group of seven Nigerians (four men and three women), which included two health care professionals, two civil servants, a businessman, an illiterate housewife, and a youth corps volunteer from each of the tribes that was to be studied. After this group had critiqued the questionnaire, final revisions were made.

The survey instrument assessed demographic information, as well as attitudes, opinions, and behaviors. Multiple-choice questions were used because they require a minimum amount of the respondent's time (11). This type of questionnaire also facilitates data analysis. The questions were randomly located in the questionnaire except for those that could logically be grouped together. The instructions for the questionnaire were subjected to the Raygor test and found to be at a sixth-grade reading level (12).

A survey was used in the study because it offered the advantage of a wide scope and the opportunity to study large populations. The selection and study of large population samples make it possible to discover the relative incidence, distribution, and interrelations of sociological and psychological variables. A survey, because it can focus on people's beliefs, opinions, attitudes, motivations, and behavior, was well suited to our study (13).

The questionnaire was self-administered by all the survey participants who could read and write English. If they could not, the questionnaire was read to them in their native language. A disadvantage of the questionnaire method, especially when the instrument is administered by personal interview, is that a respondent may give what is perceived as a socially desirable response because a truthful response would be socially embarrassing. To minimize this tendency, respondents were informed before each interview of the confidentiality and anonymity of the study. Every effort was made to ensure that the respondents understood that no information that they gave would be used against them.

Results and Discussion

In addition to questions to elicit demographic characteristics, respondents were asked if they had ever used both Western and native medicine for the same illness. About half, that is, 312 or 45.9 percent, had used both types of medicine to care for the same illness; 368, or 54.1 percent, had not. Of the

312 who had used both types, 28.2 percent had done so for the same illness only once. However, the majority, once having used both systems during the course of a single health problem, tended to repeat the dual use rather frequently.

Those who used both Western and native medicine for the same illness were predominantly males, Muslims, Hausas, civil servants, urban residents, 21–34 years of age, of high income (that is, with 400 or more Nigerian Naira a month—1 Naira = \$1.50 U.S.), and had a secondary but not a college education. The chi square test, with 0.05 as the level of significance, was used to determine if a significant relationship existed between a demographic variable and the use of both systems of health care for the same illness.

Table 2 shows that the relationship between the respondent's sex and use of the two health care systems was statistically significant ($P < 0.05$). Although 47.5 percent of the men used both native and Western medicine, only 39.5 percent of the women did.

The relationship between dual use and religious preference was also found to be significant ($P < 0.01$). More of the Muslims than of the other religious groups used both systems of medicine for the same illness—59.1 percent, compared with 42.5 percent of Christians and 26.5 percent of traditional worshippers (people who did not belong to conventional religious groups but honored and offered sacrifices to their ancestors for protection).

There was no significant relationship between the respondent's occupation and use of both systems. A greater proportion of civil servants (46.8 percent) than those with other occupations (41.5 percent) used both systems for the same illness.

Among the three tribal groups surveyed, 55.8 percent of the Hausas, 43.8 percent of the Yorubas, and 31.1 percent of the Ibos had used both systems of health care during the course of the same illness. The relationship between being a member of one of these tribes and use of both care systems was significant ($P < 0.01$). Although 47.6 percent of the urban residents had used both systems for the same illness, only 39.7 percent of the rural residents had done so.

There was no significant relationship between the respondent's level of education and use of both systems. Nor was there a significant relationship between the respondent's income level and use of both systems. Respondents, regardless of income level or age, used Western and native medicines for the same illness in a similar way. The practice of using health

care providers in both health care systems cuts across occupations, educational levels, income levels, and age groups.

As indicated earlier, 71.8 percent of the respondents who had used both native and Western medicine for the same illness had done so more than once. This repeated dual use is a cause for concern because the more frequently a person uses both native and Western medicine for the same illness, the greater the chance that he or she will experience undesirable and harmful drug interactions. Native doctors use various treatment modalities in caring for their patients, and some herbs used in their remedies can have pharmacological effects. Drugs provided a patient by both native and Western health care providers may, if used simultaneously, have synergistic or antagonistic effects. The use of drugs from both sources could thus result in harm to the patient or even death.

Further analysis was done to identify any relationship that might exist between the demographic variables of the respondents and the frequency with

which they used both native and Western medicine for the same illness. The respondent's sex and tribal origin were found to be significantly related to the frequency of use of both Western and native medicine for the same illness. More than three-fourths (76.7 percent) of the men used both systems for the same illness more than once, compared with 65.7 percent of the women (table 3).

Of the Ibos who had used both systems, 81.9 percent had done so more than once, compared with 77.2 percent of the Yorubas and 62.2 percent of the Hausas who had used both systems. This result is interesting in that although more of the Hausas than the Ibos had engaged in dual usage, they had done so less frequently than the Ibos.

The relationship of the demographic variables of religion, occupation, residence, education, income, and age to the use of both types of health care for the same illness was not significant. Thus, although the respondents had different income levels, religious preferences, ages, occupations, and residences, there was no significant relationship between these factors

Table 2. Respondents' use of both native and Western health care for the same illness by sex, religion, occupation, tribe, residence, education, income, and age

Demographic characteristics	Did not use both systems		Used both systems		Chi square values ²	P values
	Number	Percent	Number	Percent		
Sex:						
Male	179	52.5	162	47.5	4.03, 1 df	< 0.05
Female	205	60.5	134	39.5		
Religion: ¹						
Christian	246	57.5	182	52.5	45.81, 2 df	< .01
Muslim	56	40.9	81	59.1		
Traditional worship	75	73.5	27	26.5		
Occupation:						
Civil servant	140	53.2	123	46.8	1.62, 1 df	< .21
Not civil servant	244	58.5	173	41.5		
Tribe:						
Hausa	100	44.2	126	55.8	27.97, 2 df	< .01
Ibo	157	68.9	71	31.1		
Yoruba	127	56.2	99	43.8		
Residence:						
Urban	174	52.4	158	47.6	4.35, 1 df	< .05
Rural	210	60.3	138	39.7		
Education:						
None or only primary	191	58.1	138	41.9	1, 2 df	< .61
Secondary	163	54.3	137	45.7		
College	30	58.8	21	41.2		
Income:						
Low	287	57.3	214	42.7	2.31, 2 df	< .32
Middle	65	48.0	47	42.0		
High	32	47.8	35	52.2		
Age:						
21-34 years	193	53.8	166	46.2	2.27, 2 df	< .32
35-49 years	155	59.6	105	40.4		
More than 49 years	36	59.0	25	41.0		

¹ 13 respondents (less than 2 percent) belonged to other religious denominations.

² df = degrees of freedom.

Table 3. Frequency of respondents' use of both native and Western health care for the same illness by sex, religion, occupation, tribe, residence, and education

Demographic characteristics	Once		A few times		Many times		Chi square values ¹	P values
	Number	Percent	Number	Percent	Number	Percent		
Sex:								
Male	40	23.3	101	58.7	31	18.0	6.31, 2 df	< 0.05
Female	48	34.3	77	55.0	15	10.7		
Religion:								
Christian	44	23.4	115	61.2	29	15.4	9.41, 4 df	< .06
Muslim	36	40.0	41	45.6	13	14.4		
Traditional worship	6	21.4	18	64.3	4	14.3		
Occupation:								
Civil servant	39	30.2	71	55.0	19	14.7	0.47, 2 df	< .79
Not civil servant	49	26.8	107	58.5	27	14.8		
Tribe:								
Hausa	51	37.8	58	43.0	26	19.2	19.82, 4 df	< .01
Ibo	13	18.1	50	69.4	9	12.5		
Yoruba	24	22.8	70	66.7	11	10.5		
Residence:								
Urban	44	26.8	95	57.9	25	15.2	0.33, 2 df	< .85
Rural	44	29.7	83	56.1	21	14.2		
Education:								
None or only primary ...	43	30.5	78	55.3	20	14.2	2.12, 4 df	< .72
Secondary	37	25.0	87	58.8	24	16.2		
College	8	34.8	13	56.5	2	8.7		

¹ df = degrees of freedom.

and the frequency with which both types of health care were used for the same illness.

Conclusion

The use of both Western and native medicine by the same person, and even for the same illness, was found to be common in Nigeria, just as it is in many other parts of the world. When both Western and native health care systems are available, people may switch back and forth from one type of practitioner to another or use both types simultaneously. Such dual use complicates the task of determining the efficacy of the treatment prescribed by either practitioner. Moreover, simultaneous use of medicine prescribed by a native practitioner and medicine prescribed by a Western practitioner could result in harmful drug interactions and adversely affect the user's health. Therefore, the study of dual or multiple use of health care systems represents an important area for continuous research.

References

- Dunn, F. L.: Medical care in Chinese communities of Peninsular Malaysia. *In* *Medicine in Chinese cultures—comparative studies on health care in Chinese and other societies*, edited by A. Kleinman, P. Kunstadter, E. Alexander, and J. L. Gale. Department of Health, Education, and Welfare Publication No. (NIH) 75-653. Washington, D.C., 1975, pp. 297-326.

- Enrewald, J.: *Psychotherapy: myth or method?* Academic Press, New York, 1958.
- Dobkin DeRios, M.: Socio-economic characteristics of an Amazon urban healer's clientele. *Soc Sci Med* 15 (pt. B, *Medical Anthropology*): 51-63, January 1981.
- Gould, H. A.: The implications of technological change for folk and scientific medicine. *Am Anthropologist* 59: 507-520, June 1957.
- Fernaudez, J. W.: Persuasions and performances of the beast in everybody and the metaphors of everyday. *Daedalus* 101: 39-60 (1972).
- Kleinman, A. M.: Medicine's symbolic reality. *Inquiry* 16: 206 (1973).
- Moreman, D. E.: Anthropology of symbolic healing. *Curr Anthropology* 20: 59-80 (1979).
- Wolff, R. J.: Modern medicine and traditional culture confrontation on the Malay Peninsula. *Human Org* 24: 339-345 (1965).
- Singer, P., editor: *Traditional healing: new science or new colonialism.. Essays in critique of medical anthropology.* Conch Magazine, Ltd. (Publishers), Buffalo, N.Y., 1977.
- Sheatsley, P. B.: Survey design. *In* *Handbook of marketing research*, edited by R. Ferber. McGraw-Hill, Inc., New York, 1974, pp. 2-66 to 2-89.
- Manasse, H. R., and Randall, L. L.: Research methods. *Am J Hosp Pharm* 37: 694-700, May 1980.
- Raygor, A. L.: The Raygor Readability Estimate: a quick and easy way to determine difficulty. Paper presented to the National Reading Conference, Atlanta, Ga., Dec. 2, 1976.
- Dean, J. P., Elchhorn, R. L., and Dean, L. R.: *The survey: an introduction to social research.* Appleton-Century-Crofts, New York, 1967, 2d ed., p. 247.