J.biosoc.Sci, (2007) **39**, 819–841, © 2007 Cambridge University Press
doi:10.1017/S0021932007002106 First published online 31 May 2007

INDIAN SYSTEM OF MEDICINE AND WOMEN'S HEALTH: A CLIENTS' PERSPECTIVE

PAPIYA GUHA MAZUMDAR* AND KAMLA GUPTA†

**International Institute for Population Sciences, Mumbai, India and*
†Department of Migration and Urban Studies, International Institute for Population Sciences, Mumbai, India

Summary. India has a strong base of ancient indigenous systems of medicine and its national health policies and programmes have consistently promoted the integration of Indian Systems of Medicine (ISM) into the country's official health system. Realizing the safety and efficacy of ISM drugs, the Department of Indian Systems of Medicine and Homoeopathy (ISM&H) has suggested their use for certain women's health problems and during pregnancy. Although the Government of India has attempted to integrate ISM through the country's contemporary health programme of Reproductive and Child Health (RCH), utilization dynamics from the clients' perspective is little understood. This study shows that, at least in urban areas, for the majority of women's health problems biomedicine is regarded as the first choice, failure of which leads clients to seek treatment from ISM as a final resort. Nevertheless, women showed a preference for ISM treatment for certain specific health problems, strongly backed by a belief in their efficacy. Of the predictors that positively influenced women's choice of ISM treatment, 'strong evidenced-based results' was found to be the most important. Women's preference for ISM is dependent on the availability of competent providers.

Introduction

The worldwide contribution of traditional medicine (TM) to public health has been recognized since the 1970s (WHO, 1978). Integration of TM into a country's official health care system is thought to be one of the most effective means of ensuring service outreach. The WHO formulated its first guidelines on TM in 2002, as a part of a global strategy to assist countries develop their own national policies and to enable safe and efficacious use of traditional medicines.

India, with its ancient civilization, has a strong knowledge base of traditional indigenous medicine and healing, comprising both folk and formal systems. The

formal Indian Systems of Medicine (ISM) are often termed 'AYUSH' – an acronym based on Ayurveda, Yoga, Unani, Siddha and Homoeopathy, the five major indigenous medical systems in the country. The systems are holistic in nature, and contribute widely to the promotion of health. Long before the allopathic revolution in India, the formal practitioners of ISM are believed to have efficiently tackled the health needs of the population, except infectious diseases, which were better managed by the late entrant.

In India, at the beginning of the twentieth century there was a resurgence of nationalistic instinct towards revival of ISM in the country. Educational institutions were set up, and research councils at the central level and politically prominent figures were involved. After independence, through various national health and population policies (i.e. the National Health Policy (NHP) 1983, 2002 and the National Population Policy (NPP) 2000), India maintained a consistent focus of mainstreaming ISM, particularly because of its diversity, modest cost and comparatively low level of technological input requirement (NHP-1983, NHP-2002). Several steps were taken to help implementation and increase health provider manpower in the country's most disadvantaged areas. In 1999, the Central Council of Health and Family Welfare (CCHFW) recommended that at least one ISM physician be made available at every Primary Health Centre (PHC: targeted to cover a rural population of 30,000).

The National Population Policy (NPP-2000) suggested that institutionally trained indigenous practitioners, after receiving appropriate training and orientation, be incorporated into the Reproductive and Child Health (RCH) programmes. This diversification of providers was targeted mainly to address 'the unmet needs for basic reproductive and child health services and infrastructure'.

A separate department of Indian Systems of Medicine and Homoeopathy (ISM&H) was set in 1995 under the Ministry of Health and Family Welfare, mainly to deal with various educational, service provision and quality of product issues. This promoted incorporation of ISM education into the country's biomedical undergraduate course curriculum, establishment of a traditional knowledge digital library (TKDL) on medical plants and ancient texts, undertaking focused clinical research of ISM in modern hospitals for therapeutic claims and medical tourism in the country (Ministry of Health and Family Welfare, 2002 b). At present India has a huge infrastructure of teaching and ISM health service institutions, run by both public and private concerns.

Utilization of indigenous systems of medicine in India: A literature review

The above discussion shows that ISM in India has gained serious momentum in recent years, but there is still a need to understand the utilization dynamics of ISM in the country (Singh *et al*., 2005). The survey done by the National Sample Survey Organisation (NSSO) in 1986–87 on 'Morbidity and Utilization of Medical Services', indicated almost universal application of allopathic medicines (National Sample Survey Organisation, 1986–87). Another survey done by the National Council of Applied Economic Research (NCAER) during the early 1990s with a proportionally larger urban sample showed that only about 8% of illness episodes in households were treated by ISM. Nevertheless, it indicated higher use in small and inaccessible villages

(NCAER, 1992). The National Family Health Survey (NFHS-II) conducted during 1998–99 (IIPS, 2000), also recorded only 8% of reproductive illnesses treated by private vaid/hakim/homeopath/traditional healers. For the first time in India, realizing the need for systematic data on utilization of ISM, the Department of AYUSH undertook a study on utilization of ISM in the country in 35 districts across nineteen states during 2002–03. The objective was to provide an all-India estimate of utilization of different ISM and to realize the reasons for preference and the cost of such treatments. The results indicate that, among 33,666 households surveyed from urban and rural areas, on average one person per household had sought some treatment during the reference period of the previous three months. One-third of these households stated preferring ISM for *normal ailments*, and only 18% for *serious ailments,* with prominent regional differences. As for actual utilization, about 14% (95% confidence interval) of the sick persons used ISM, and the reported reasons were: no side-effects (31%), considered inexpensive (30%), considered effective (25%) and doctor easily available (11%). The reasons for not using ISM medicines were reported as: slow progress (28%), practitioners not available (27%), not having faith (12%), medicines not available (5%) and others (28%). About 38% of the total households visited traditional healers, and the purposes were reported as: bone setting, dog bite, snake bite, scorpion bite, jaundice, sciatica and measles. The household preference for ISM proportionally increased with income and literacy level, more particularly for common ailments (Singh *et al.*, 2005).

Micro-level studies on folk medicines and ISM have shown that utilization of traditional services is often led by cultural conceptions of health and illness and previous experiences of such services (Kakar, 1983). The rural share of the population, which constitutes almost 70% of the country's total population, have been found to be frequent users of indigenous systems, especially Ayurveda (Gogtay *et al.*, 2002) – more particularly in the absence of local biomedical clinics or when clinics in urban areas are perceived to be expensive and require multiple trips (D'Souza, 1993). Earlier studies conducted in urban areas indicated that ISM was preferred across various economic and educational population groups. Nevertheless, a majority of the patients have shifted from allopathic treatment to these alternative systems of therapy (Izhar, 1989). By and large, it has been observed that traditional healers are used more for treatment of 'chronic incapacitating dysfunctions' (Gould, 1965; Kakar, 1983). Studies that have focused on unnecessary health damage by traditional as well as allopathic providers concluded that unqualified allopaths often create more health hazards than their traditional counterparts (Asraf *et al.*, 1982). Overall, in contemporary India qualified ISM practitioners are believed to provide quality health care, since they are close to the community, both in geographical and cultural ethos terms (Planning Commission, 2000).

Objective of study

Although the Department of AYUSH has made various attempts to integrate ISM into RCH services, there is a clear dearth of understanding of how ISM is being applied for women's health in contemporary India. The present study aims to make some contribution to this from the clients' perspective. An understanding of women's

attitude towards ISM treatment for their own health (i.e. their knowledge, preference, contextual use, satisfaction and future intentions), especially in a situation where mainstream allopathy is widely available, is expected to show some interesting insights into preferences for Indian medicine.

Methods

Study area

Mumbai metropolitan, a prime urban location, was purposively selected for this study to ensure a choice of ISM treatments in the presence of allopathic health service provision. For the primary survey, a slum community located in the south-eastern part of Mumbai was chosen. The community had nearly 400,000 inhabitants, largely comprising an in-migrated population hailing from the northern states of India. As far as the health infrastructure is concerned, the community possessed an Urban Health Centre (UHC) run by the Mumbai Municipal Corporation, and a huge base of privately practising providers registered under different streams of Indian Medicine.

The primary survey was conducted in five residential plots of the selected community. The plots were chosen from an area map depicting information on private health care providers, i.e. location of practice and type of medical degree. The plot selection was purposive in a sense that only those plots were chosen where at least three ISM practitioners were engaged in medical practice.

Apart from the community survey, the study also involved a patient exit survey in ISM health institutions. For this purpose, two ISM hospitals (one Ayurveda and another Unani) were chosen out of nine located in Mumbai during 2003, as per convenience.

Sample size and sampling procedure

From the five selected plots, a total of 400 households were surveyed with at least one female member of reproductive age. The household survey covered a total of 701 women. Of these, 32% were found to have ever suffered any health problem during the past one year reference period. A majority of women were treated by allopathic medicines, while only a meagre 37 received ISM medications (either exclusively or in combination with allopathic medicines). Twenty-five of these 37 women were interviewed in-depth on their ISM therapeutic behaviour.

For the institutional survey, two outpatient departments, viz Gynaecology & Obstetrics and the Department of Medicine, were chosen from each of the two selected ISM institutions for the patient exit survey. Since the majority of female patients were found to be seeking consultation from these two particular outpatient departments, the criterion served its selection purpose. In each institution, a period of 20 days (working 5–6 hours a day) were spent in data collection. In total, 231 female exit patients were interviewed by attempting to cover all the patients on a particular survey date, except the day when more than eight eligible patients turned out.

Data collection techniques

Both qualitative and quantitative techniques were employed to collect data. Apart from these, a direct observation method was used wherever necessary to understand women's preference for indigenous treatment.

Tools of analysis

For quantitative data analysis, data were entered in the SPSS 11·0 database package. Bivariate as well as multivariate analysis techniques were applied to analyse the data. The qualitative information gathered through *free listing* and *pile sorting* was analysed using the ANTHROPAC package. The technique of content analysis was used to analyse in-depth interviews of women ISM users.

Results

Demographic and socioeconomic background of respondents

Female respondents from the community and the institutions were comparable according to demographic characteristics; a majority were in the age group 30–39 years, with a mean age of 34 years. A larger proportion (85%) were currently married with more than one child. Over 60% of these women reported their natal home to be located in a rural area.

As for socioeconomic status, women interviewed from the community and institutions showed diversity. Women clients of indigenous institutions were found to be better educated than the community women. To elaborate, while only 10% from the former group were found to be illiterate, the latter group consisted of almost 22% who were either illiterate or literate but without formal schooling. More than half of these clients from institutions had completed higher secondary grade, whereas among community women only a small proportion (11%) showed a similar qualification.

Women institution clients had a better economic status. While only one-fifth of these clients reported an average household income of Rs 5000 or less, 70% of the women from the community had this income ceiling.

Decision-making power on self-health matters

Community women were found to be less empowered when asked about their decision-making power on self-health matters. Only 8% reported making their own decision, while 43% made the decision jointly with others, and for 48% the decision was reported as being taken by 'others in the family'. On the other hand, a larger proportion of the women seeking treatment from indigenous institutions reported that the present decision was taken jointly by them with other family members; only one-fifth of them reported the present treatment decision being made by 'others'. A higher proportion (15%) made their own decision about seeking the present ISM treatment.

Table 1. Severity ratings of women's illnesses

Type of illness	Local terminology (in Hindi)	Average rank
1. Infertility	*Banjhpan*	1·00
2. Uterus problem	*Bachchadani ki pareshani*	1·32
3. Loss of blood	*Khun ki kami*	1·38
4. Body pain	*Badan mein dard*	1·46
5. Lower abdominal pain	*Otipoti dukhna*	1·54
6. Excessive bleeding	*Zada khun jana*	1·63
7. Headache	*Sar dard*	1·67
8. Burning urination	*Pishab ki jalan*	1·69
9. Painful menstruation	*Pet dard*	1·70
10. White discharge	*Paani jana, Mawad girna*	1·75
11. Backache	*Kambar dard*	1·83
12. No menstruation	*MC nahin ana*	1·89
13. Delayed menstruation	*MC der se ana*	1·96
14. Loss of appetite	*Bhukh ki kami*	2·16
15. Weakness	*Kamjori*	2·17
16. Dizziness	*Chakkar ana*	2·20
17. Chest pain	*Sine mein dard*	2·70
18. Irritation	*Chirchirapan*	2·90

Ratings: 1·00 to <2·00 were most severe; 2·00 to <3·00, intermediate; 3·00 and above, least severe.

Women's perception about ISM: an understanding from the community

When women in the community were asked to list women's common health problems, 20 women reported a total of 50 unique problems. 'White discharge' was listed by a majority, closely followed by body pain, weakness, infertility, back pain and headache. Some health problems, such as stomach ache and some menstrual complaints (i.e. short menstruation and continuous bleeding, no menstruation), were mentioned by a few women, but their ranking in the severity hierarchy (as shown by the pile-sorting result obtained through ANTHROPAC) confirmed that these are viewed as crucial. From the list of 50 women's health problems, the first eighteen (mentioned by at least five women) were selected for their 'severity ranking'. This gave an understanding about the perceived severity that women attached to each of these ailments. For this severity ranking, another fifteen women were selected to distribute the eighteen complaints into three subsets (i.e. 1, most severe; 2, intermediate; and 3, least severe). The researchers immediately noted severity piles after each woman had completed sorting. Women were also asked to rationalize their piling, as in Ross's study in rural Bangladesh (Ross *et al*., 2002).

As shown in Table 1, 'infertility' was considered by women to be the most severe health problem. Women's rational for this was that it was perceived to cause maximum harm. The perceived harm or threat, however, was considered to be not only to physical health, but also to psychological or social health. It is interesting to

note that infertility's 'most severe' average ranking reflects women's explicit concern about social health over physical and mental discomfort. Earlier studies in India have already documented the social stigma attached to infertile women (Unisa, 1999). Following the concept of the 'explanatory model' (Kleinman, 1980) it is assumed that the perceived aetiology of a health problem exerts considerable influence over actual treatment-seeking behaviour. Table 2 shows that, in the case of infertility, women perceived the causes to be weakness or problem of the uterus, and also male 'shortcomings'.

The average severity rank procedure was used to explore further the link between women's perceived severity, aetiology of the disease and intended medical behaviour. It provided an opportunity to assess preference for ISM according to perceived severity of a disease. Women's preference of treatment type, based on average severity ranks, showed interesting results (Table 2). For infertility – the most severe health problem – women preferred seeking help from lady community private allopathic practitioners. Seeking help from private allopathic providers for infertility conforms with an earlier community-based study on childlessness in rural Andhra Pradesh, where among 332 childless women, a majority (73%) first sought help from private allopathic doctors. The author, however, stated that 'contrary to common belief, rural Indian people opt first for Unani or traditional method for infertility' (Unisa, 1999). From the present study as well, an explicit preference for private allopathic providers is observed for health problems perceived as most severe.

As shown in Table 2 (column 3), besides simple home remedies, women in general showed greater preference for allopathic doctors (specifically lady doctors) using allopathic medicines received across the counter. Orthodox indigenous medication (e.g. Ayurvedic or Unani) was preferred for persistent headache or backache, loss of blood, painful menstruation and for certain uterus problems. This preference for indigenous therapy was also observed for chronic ailments of moderate severity. On the other hand, home remedies, self-medication or medication from chemists were often mentioned in the case of ailments perceived to be rather natural.

A combination of home remedies and allopathic medicines was mentioned as being used for chest pain, loss of blood and weakness. These ethnographic research tools help to gain a broad idea about women's morbidity and their preferred healing choices.

Women's knowledge and attitude towards ISM: an understanding from the community

In the household survey, a majority of the 400 women could name several different streams of indigenous medicine besides allopathy (mostly called 'English medicine') without probing. Three-quarters of these women named Ayurveda, followed by homoeopathy (69%), and 23% named Unani, while only one woman mentioned hearing about Siddha. Multivariate logistics regression to understand background predictors of knowledge of ISM among women indicated better knowledge among older Hindu women (aged over 40 years) from relatively lower economic backgrounds and who apparently lacked decision-making power on health care for themselves. Lack of access to mainstream allopathy would probably have contributed to the greater knowledge of ISM options among this group.

Table 2. The linkage between perceived aetiology of women's health problem and probable health behaviour

Severity rank	Disease type	Perceived aetiology	Health attitude/practice
1	Infertility	When women or men are unable to reproduce (impotency) Lack in husband too Weakness Uterus problem	Lady doctor (community) Allopathic doctor
2	Uterus problem	Frequent births Intake of excessive and various medicines Excessive bleeding	Allopathic doctors Ayurvedic medicines, though it is time taking
3	Loss of blood	Due to excessive consumption of meat, without any vegetables or fruit supplementation Improper food intake Tension Loss of appetite When blood turns into water due to excessive suppressed tension Obesity, which causes more fat but less blood	Having balanced diet Allopathic doctor Eating beetroot, carrots If severe, Hakimi/Unani medicine.
4	Body pain	After delivery, weakness Working in cold water after delivery immediately within 1½ months Eating cold foods after delivery Excessive work Weakness During menstrual cycle Cough/cold/fever Weight gain Excessive white discharge If not treated leads to back pain and white discharge	Self-medication, painkillers from chemists Don't do anything Oil massage, if not alright then allopathic doctor
5	Lower abdominal pain (non-menstrual)	White discharge Due to uterus problem	Allopathic doctor Family doctor
6	Excessive/heavy bleeding	Uterus problem Having excessive blood Excessive work Weakness Tiredness	Allopathic doctor Don't go anywhere Specialist (*Bhari*) lady doctor
7	Headache	*Pitt* (Bile) Migraine Tension/irritation Tiredness Exposure to sunlight	Ayurvedic medicine, if severe Self-medication from chemists

https://doi.org/10.1017/S0021932007002106 Published online by Cambridge University Press

Table 2. *Continued*

Severity rank	Disease type	Perceived aetiology	Health attitude/practice
8	Burning urination	Body heat Hot weather Obstructed urine flow From drunkard husband	Home remedy Consume lots of water
9	Painful menstruation	Hidden cause (*andurini bimari*) If menstrual flow is not proper Weakness Normal to have such Fat around uterus and swelling in uterus	Self-medication from chemists Painkillers Family doctor (male), but feel embarrassed Don't do anything Ayurvedic medicine
10	White discharge	Caused by weakness and leads to weakness After delivery, weakness, tiredness Caused by bad air Might occur after marriage Body heat Knee gets weak Always before and after menstruation Excessive sexual intercourse Tension	Does not cure with medicine Allopathic medicine Peer consultation for 15–20 days at the beginning, if not go to visit allopathic doctor Laxative and milk consumed in the morning Lady allopathic doctor
11	Backache	White discharge Weakness After and during delivery Before menstruation Excessive physical work Excessive work or excessive rests	Oil massage, hot compress, if not relieved visit community doctor Applying *Moove* (pain-relieving balm), rest, if severe visit allopathic doctor Don't do anything If severe Ayurvedic medicine
12	No period/scanty bleeding	Loss of blood Hidden cause When '*balls*' (ovum) is not created Don't know Weakness Normal	Lady doctor in community Allopathic doctor if emergency arises Don't do anything Family doctor Doctors can't do much
13	Delayed menstruation	Tension Hidden cause (*andurini bimari*) Loss of blood Weakness If taken some strong medicine	Seek treatment if persists Unmarried girls often do not seek treatment Allopathic lady doctor Don't do anything

https://doi.org/10.1017/S0021932007002106 Published online by Cambridge University Press

Table 2. *Continued*

Severity rank	Disease type	Perceived aetiology	Health attitude/practice
14	Loss of appetite	Cough congestion Tension, family problems A symptom of other health problems Not doing physical work Usage of '*Kali manjan*' (black tooth cleaner) Can't say	Cough syrup Allopathic doctor Tonic for boosting appetite Cook something tasty at home and consume
15	Weakness	White discharge Lack of proper diet or blood Excessive menstrual bleeding When thin women give birth too many times Can't say why, even after proper diet Worries/tension Poverty, poor diet, no fruit Low blood pressure Frequent menstrual bleeding Right after heavy food intake Excessive sexual intercourse Untimely food consumption Low quality of food Loss of appetite	Allopathic doctor Wait for some time, if severe, allopathic doctor Have to visit allopathic doctor, because no strength Can lead to many diseases, so visit doctor Don't visit doctor, maintain proper diet Self-medication for strength, diet Having something nutritious on top of regular diet
16	Dizziness	Weakness During menstruation Heavy menstrual flow Loss of blood	Allopathic medicines Consume lemon
17	Chest pain	Gas Acidity Tension Heart problem	*Pundin hara* (anti-gas medicine) If severe, visit allopathic doctor
18	Irritation	Because of severe pain Loss of blood Tension/ worries for family	Don't go to doctor, wait for it be cured on its own

A majority of these women perceived non-English (ISM) medicines as 'slow in effect' and therefore disadvantageous. Since 'English medicines' (allopathic) provide effective and fast relief, they were widely preferred. In general, community dwellers lacked knowledge about ISM and overall did not have any preference for any particular therapy. The women stated that people in general underwent treatment suggested by their doctors. Women also expressed doubt that even enhanced

https://doi.org/10.1017/S0021932007002106 Published online by Cambridge University Press

knowledge about ISM would ensure higher usage, since these treatments only provide gradual relief. However, indigenous treatments were only reported to be preferred over allopathy for a few specific diseases. For example, Ayurvedic treatment was mentioned for jaundice, piles and joint pain. Even the non-orthodox indigenous spiritual healing called *Jharphuk* was mentioned to be preferred over allopathy for certain ailments, i.e. persistent jaundice, measles or persistent fever. Women spoke of two or three in-community spiritual healers (*Jhar-phuk wale*) who were visited extensively for jaundice by the dwellers. It is possible that those women with a greater preference for ISM treatment for various diseases had childhood experience of ISM treatment. By and large, those women who acknowledged using ISM did not have any treatment side-effects.

Actual use of ISM for women's health: an understanding from the community

The reference period of one year was considered adequate to minimize recall lapse of ISM utilization. Of the 400 women interviewed in the household survey, 222 were found to have ever suffered during the recall period. According to the International Classification of Disease-10 (WHO, 2003) a majority (41%) suffered from group 'R' diseases (i.e. abdominal pain, burning sensation, gas, swelling in body, weakness, white discharge and jaundice), followed by diseases of the musculo-skeletal system (Group M; 27%), i.e. back pain, joint pain or pain in other body parts, and then by the diseases of the genito-urinary system (Group N; 22%), i.e. menstrual irregularities, cyst in breast/uterus, painful intercourse, uterus prolapse and abdominal stones. About 82% of these women reportedly sought treatment for their health condition, and with the exception of only eight, they sought help from health providers. Overall, households of larger size, better exposure to mass media, and longer duration of sufferings, reported a lesser proportion of women with no treatment. The eight women who did not seek providers' help used self-medication. Self-medication has been reported worldwide by many researchers (Abosede, 1984; Krishnaswamy *et al*., 1985; Kloos, 1987; Greenhalgh, 1987; Coppo *et al*., 1992). A longitudinal study conducted in Kenya indicated gender differentials in self-medication, with more females using self-medication than adult males (Oranga & Nordberg, 1995). Here, the group of eight women found to be self-medicating used across-the-counter medicines from chemists or took simple home remedies. Resting during menstrual pain was also mentioned as a remedy.

Among the women who sought treatment from health providers, a majority were treated by allopathic medicines. Almost all (90%) of the women's health complaints were found to be concentrated in three groups (M, N and R), and examination of the types of therapeutic regimens used across groups showed that more than 70% of each category of ailments/symptoms were treated exclusively by allopathic treatments (Table 3). While around 15–20% were given exclusive ISM treatment, only a negligible proportion were treated by a combination of allopathy and ISM. Duration of suffering – considered a proxy indicator for disease chronicity of women's health problems – showed that, of the 175 women seeking treatment from doctors (irrespective of suffering duration), a majority (76%) were treated exclusively by allopathic medicines (Table 4). Only 21% ($n=37$) were given indigenous medication

Table 3. Type of treatment sought by symptom severity

ICD code	No. women seeking no treatment/no visit to doctor	Percentage of women (*n* in parentheses) seeking treatments					Total prevalence
		Exclusive allopathy	Exclusive ISM	Combination	Other	Total	
M	26	71·6 (53)	20·3 (15)	6·8 (5)	1·4 (1)	74	100
N	18	76·6 (49)	15·6 (10)	1·6 (1)	6·3 (4)	64	82
R	26	75·4 (95)	15·1 (19)	7·1 (9)	2·4 (3)	126	152

Table 4. Type of treatment sought by duration of suffering

Treatment type	Percentage of women (*n* in parentheses)			Total
	≥6 months	7–12 months	>12 months	
Exclusive allopathy	33·1 (44)	7·5 (10)	59·1 (79)	76·0 (133)
Exclusive non-allopathy	22·2 (6)	22·2 (6)	55·6 (15)	15·4 (27)
Combination	30·0 (3)	50·0 (5)	20·0 (2)	5·7 (10)
Others	60·0 (3)	20·0 (1)	20·0 (1)	2·9 (5)
Total no. women	56	22	97	175

either exclusively (15%) or in combination with allopathy. However, 60% of those treated exclusively by ISM stated that they had suffered for over 12 months. Of all 27 women who had been treated by exclusive ISM, 23 stated having another one household member with similar characteristics.

As mentioned earlier, all 25 female users of indigenous treatment from the community were interviewed. Of these, seven reportedly used ISM treatment for menstrual irregularities, six for back pain or other joint pain, four for white discharge, another four for constipation/blood in stool/piles, three for weakness and one woman had medication for cold and cough. While some of them reportedly had ISM treatment for the primary ailment, some used it for symptoms developed as side-effects of an earlier treatment. The respondents were found to have a median suffering duration of five years. However, a few stated undergoing ISM treatment for a disease that they experienced for the first time in their life. Hence, overall this group specified the use of ISM for chronic morbidities.

Women's ISM treatment behaviour: understanding from the institutions

As mentioned above, 231 women clients were interviewed from the two selected ISM institutions. At the time of the survey 25 patients were found to be visiting the institute for the first time, while the rest were on return visits. A majority (58%) of these patients were reportedly suffering from gynaecological complaints, while the

https://doi.org/10.1017/S0021932007002106 Published online by Cambridge University Press

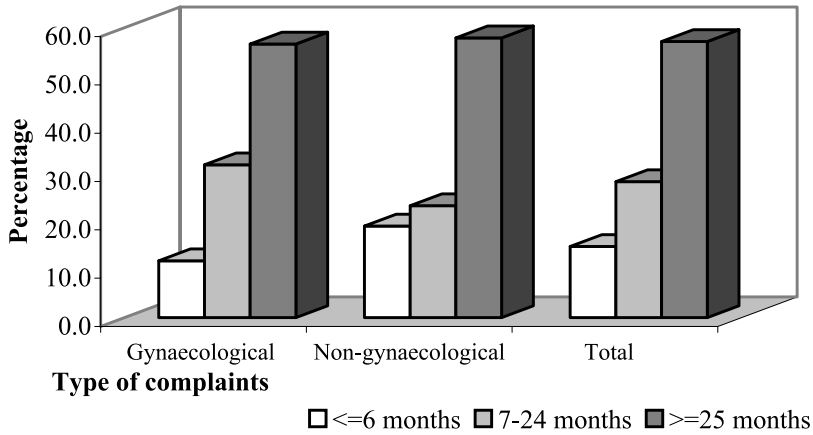

Fig. 1. Percentage distribution of exit patients by reported duration of suffering.

others were undergoing treatment for non-gynaecological somatic disorders. The larger proportion (60%) stated having a single symptom; respondents reporting multiple symptoms were significantly greater in the case of women with non-gynaecological disorders by almost 28 percentage points than those with gynaecological complaints. From this it might be inferred that the patients with gynaecological morbidities were probably undergoing ISM treatment for more distinctly identified complaints than their counterparts.

One-fifth of those women with gynaecological symptoms were seeking the present treatment for backache and uterus problem, followed by various menstrual disorders (16%) and pregnancy-related problems (15%). Non-gynaecological somatic complaints included a considerable proportion with musculo-skeletal signs, i.e. pain in different parts of body. Other somatic complaints included allergy or skin problems, coughs and colds, kidney problems, tumours, headache, stomach ache and ulcers. Interestingly, a greatest number of women were undergoing treatment for infertility.

At the time of the survey, the duration of suffering as stated by women ranged between less than 6 months to over 2 years. Considering a 6-month duration as the cut-off point for chronic disease, a majority (58%) were identified as suffering from chronic ailments. The phenomenon remained unchanged for both gynaecological and non-gynaecological morbidities (Fig. 1).

Apart from recording the actual duration of suffering, we were interested in knowing how the women perceived their length of suffering before resorting to the present ISM treatment. This was backed by a notion that people choose to undergo ISM treatment for a long duration 'chronic incapacitating dysfunction' (Gould, 1965). The respondents were asked to state how they perceived the duration of suffering at the start of the present ISM treatment. The subjective responses were categorized into four groups, i.e. 'since a very long time' (*bauhot dino se*), 'quite long time' (*kafi dino se*), 'recently' (*hal hi mein*) and other than these three. The result shows that, before resorting to the present ISM treatment, a majority (65%) of those suffering for over 6 months perceived their disease duration continuing 'since a very long time', hence the present choice of ISM.

https://doi.org/10.1017/S0021932007002106 Published online by Cambridge University Press

Usage of home remedies or self-medication as an initial treatment

An attempt was made to understand the entire dynamics of treatment-seeking behaviour of the exit patients, starting with treatment delay after onset of symptoms, initial recourse opted through functional adjustment or home remedial methods and their final shift towards formal health care (including both allopathy and ISM). Women suffering from gynaecological disorders did not seek immediate treatment and this particular behaviour was significantly higher among the younger women aged less than 30 years (χ^2 13·5, a=0·000). Nevertheless, nearly one-third of women (31%) stated using home remedies or self-medication as their first treatment recourse; a large proportion were suffering from non-gynaecological complaints with multiple symptoms, i.e. backache, and other musculo-skeletal pain. Home remedies for backache and other pains varied widely, and included consuming eatables with 'hot-properties' (i.e. ginger juice with honey and milk), using massage oils or other ointments, and applying a hot water compression locally to the affected part. Even a functional adjustment made by taking 'bed rest' was viewed as choosing another home remedy, as with women from the community. Overall, slightly less than half of these women (46%) reported having some knowledge of home remedies for their present ailments. Home remedies or self-medication were, however, found to have only a marginal in the second spell of treatment onwards, as women switched to formal providers after trials of self-medication and self-coping strategies.

Utilization of ISM as a primary therapeutic recourse

Of the total 231 'exit patients', only 47 reported not receiving any treatment for their ailments prior to the present ISM therapy. Another two stated seeking ISM care as their initial recourse from other sources, hence overall there were 49 women (one-fifth of total) who utilized ISM as their primary therapeutic recourse. A majority of them (84%) reported suffering from gynaecological complaints.

A few predictors, however, were found to have significant differentials in selecting ISM treatment as the initial recourse (Table 5). Compared with Hindu women, those who belonged to other religious groups (except Muslims) were less likely to utilize ISM treatment as the first therapy. The odds of using indigenous treatment as the first recourse were considerably higher among women educated beyond secondary level, compared with illiterate women. ISM treatment was chosen more as a first recourse when the decision was taken jointly with others in the household compared with women who reported taking a decision by themselves. Women who had 'faith' in ISM treatment were more likely to choose indigenous treatment as the initial remedy. Duration of suffering at first treatment point did not have any effect on choosing ISM treatments. So, it cannot be said that it is only for chronic morbidities that women choose ISM treatment. In other words, the chronic status of a disease was not found to have a significant effect on use of ISM. Overall, it can be said that female patients with higher education, suffering from gynaecological symptoms and with a suffering duration of less than 6 months resorted to ISM treatment more in the first instance. In these cases, the decision was made jointly with others. This indicates a preference for ISM treatment for gynaecological morbidities, especially among those who know about such therapeutic options. The mean duration of initial treatment was, however,

Table 5. Predictors of ISM being selected as first treatment recourse

Women's characteristics	Exp (*B*)
Age	
15–29 (Ref.)	
30–39	0·30
40–49	0·32
Religion	
Hindu (Ref.)	
Muslim	0·60
Other	0·05*
Caste	
General (Ref.)	
OBC/SC/ST	0·66
Work status	
Working (Ref.)	
Non-working	0·89
Education	
Illiterate/no formal schooling (Ref.)	
Up to secondary	20·04
Above secondary and other	25·79*
Standard of living	
Low (Ref.)	
Medium	1·11
High	0·56
Number of symptoms at time of survey	
Single (Ref.)	
Multiple	1·81
Type of present complaint	
Gyaenecological (ref.)	
Other somatic	2·56
Duration of suffering for present treatment	
<6 months (Ref.)	
≥6 months	2·62
Decision-maker for present treatment	
Self (ref.)	
Jointly with others	6·12*
Others	1·68
Reasons for choosing	
Prior experience (self/other)	2·05*
Had faith	11·16***
Perceived inexpensive	0·32
Other factors	2·91*
Constant	0·02***

Dependent variable utilizing orthodox ISM as initial recourse: 0=No, 1=Yes.
Ref., reference category.
*p<0·05; **p<0·01, ***p<0·001.
OBC, other backward caste; SC, scheduled caste; ST, scheduled tribe.

https://doi.org/10.1017/S0021932007002106 Published online by Cambridge University Press

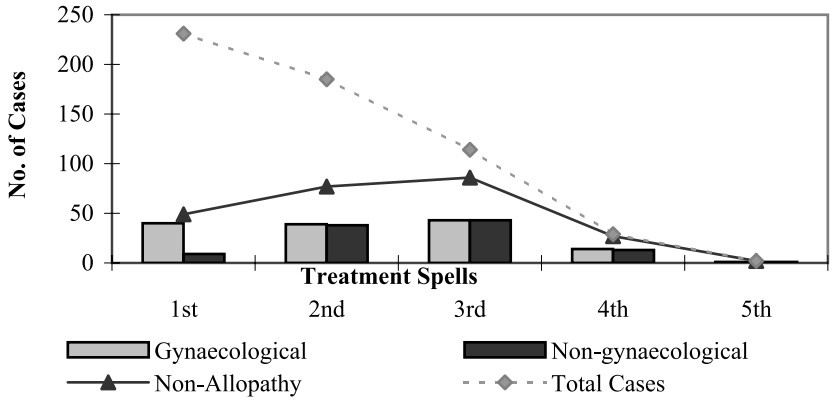

Fig. 2. Non-allopathic treatment at different treatment spells, by type of morbidity.

found to vary widely depending on the type of therapy used. Interestingly, for ISM treatment the mean duration was found to be 12·97 months, the highest among all other kinds.

When all the five treatment spells were taken into consideration, a quarter of the total 231 'exit patients' were found to have used ISM treatment prior to allopathy (Fig. 2). An attempt was made to understand the therapeutic behaviour of the women who showed a deviation from the usual trend. A few dispositions were considered important in this regard, such as type of treatment preferred by natal and spousal family members in general, and especially for women's morbidities, type of medical training if any family member was found to be professionally trained in medicine, knowledge of home remedies, knowledge of someone with a similar ailment, type of treatment received and cure status of that person.

One-fifth (21%) of women affirmed knowing someone with a similar ailment; a majority sought treatment from the same health institutes and were stated to be 'almost/completely cured' at the time of the survey. Half of the women who used ISM treatment before allopathy registered a 'high' earlier exposure to ISM, according to the index of 'earlier non-allopathic experience' (consisted of four components, i.e. usual stream of treatment used in natal family, usual stream of treatment preferred in spousal family, knowledge of home remedy and knowledge of someone who was treated with ISM for a similar disease). This group can be considered as more experienced in indigenous therapeutic options.

The predictors that showed significant differentials in utilizing indigenous therapies prior to allopathy were: women's age, type of morbidity and 'earlier experience to ISM' (Table 6). To elaborate further, older women over 30 years of age were less likely to use indigenous treatment before opting for mainstream allopathy compared with women below age 30. Women suffering with non-gynaecological complaints showed less likelihood of seeking ISM prior to allopathy than women with gynaecological complaints. Finally, women who had some earlier experience of ISM treatment were more likely to choose ISM before allopathic services. The findings indicate that young educated women probably make a conscious decision about ISM treatment. Overall, earlier exposure to ISM makes women more disposed to prefer

Table 6. Impact of various characteristics on usage of ISM treatment before allopathy

Women's characteristic	Exp (*B*)
Age	
15–29 (Ref.)	
30–39	0·38*
40–49	0·19**
Religion	
Hindu (Ref.)	
Muslim	0·88
Other	0·33
Caste	
General (Ref.)	
OBC/SC/ST	1·42
Work status	
Working (Ref.)	
Non-working	1·15
Education	
Illiterate/no formal schooling (Ref.)	
Up to secondary	1·18
Above secondary and other	2·10
Standard of living	
Low (Ref.)	
Medium	1·36
High	0·88
Number of symptoms at time of survey	
Single (Ref.)	
Multiple	0·55
Type of present complaint	
Gynaecological (Ref.)	
Other somatic	0·40*
Index of earlier non-allopathic (ISM) experience	
Low/no (Ref.)	
Medium	2·68*
High	11·10***
Waiting time before 1st treatment	
<6 months	
≥6 months	1·02
Constant	0·173***

Dependent variable utilizing orthodox ISM as initial recourse: 0=No; 1=Yes.
Ref., reference category.
*p<0·05, **p<0·01, ***p<0·001.

such medication to mainstream allopathy. Women probably started seeking treatment to avoid complications emerging from allopathic treatment for a few of the distinct gynaecological complaints. This clearly shows a preference for these indigenous treatments for gynaecological morbidities.

https://doi.org/10.1017/S0021932007002106 Published online by Cambridge University Press

Perceived efficacy and affordability of ISM treatment

Since indigenous treatment is often considered suitable for chronic and less severe ailments, it is important to know the severity status of these women at the beginning of their present treatment. Using the initial 'index of severity' (consisted of five elements: subjective duration of ailment, subjective intensity, rating of intensity, subjective tolerance and rating of tolerance), a majority (68%) registered 'high severity' at the beginning of their present ISM treatment. Women gave fifteen different reasons for choosing their present treatment; the most common (82%) being that ISM does not have any 'side-effects'. Other important reasons put forward were 'faith in ISM' (71%) and 'suggested by others' (31%). After the mean duration of 12·56 months of the present treatment, 89% of women were suffering with low severity at the time of the survey, measured by the 'index of present severity'. A majority of the women (80%) had received some treatment before the present ISM spell, and the larger proportion reported that the earlier health expenditure incurred on similar ailments was 'expensive but affordable'. For the present treatment, women were found to be spending on average Rs 65·50 per visit (Rs 46=$US 1) inclusive of medicine, transportation and other costs, and the majority (47%) regarded it as 'inexpensive', followed by those who perceived it to be 'less expensive than earlier allopathic treatment' (44%).

Satisfaction with present ISM treatment

An attempt was made to understand the existing differential in various predictors in respect to the satisfaction received from the present treatment. Overall, among the follow-up users, slightly less than half (48%) showed high satisfaction with the present treatment measured by the 'index of present satisfaction' (consisted of six components: perceived improvement, perception about cure, existing plan to shift to different doctor, existing plan to shift to different stream of medicine, advocacy of present treatment and advocacy of present institution). A few of the predictors showed differentials regarding women's lower and higher satisfaction with the present treatment. The women who had at least one earlier treatment were more likely to be highly satisfied with the present treatment compared with those who did not receive any prior treatment. The women with prior experience of allopathic treatment for the same morbidity showed higher odds of better satisfaction with the present ISM treatment. It can be inferred that those women who had undergone allopathic treatment prior to the present ISM therapy were probably in a better position to feel the difference.

Discussion

It is evident that the majority of women in this study sought ISM treatment after allopathic recourse. This could be viewed as the use of ISM once allopathic treatment had failed to give relief. At least in urban areas, where allopathy has a strong base, ISM is considered a subsequent therapeutic choice. In the community, three major pathways of ISM treatment-seeking behaviour were observed. The first was when the women themselves did not visit an ISM practitioner, but someone else brought

indigenous medications to them. Often these people (mainly husbands) were very well aware about women's health problems. The second group of women were those who visited ISM practitioners by choice. Finally, the rest of the women were given ISM medication by their family physicians, in the community.

In the first case, women were found to have been suffering over a long period, showing a chronic state of morbidity. These women reportedly visited many doctors (including their family physicians) and quitted a particular therapeutic spell after receiving temporary relief. Some of them had also visited ISM practitioners during the treatment process. Finally, in the last year someone brought in ISM therapies. These carriers were either users of ISM treatments or they had a genuine interest in them. The women, however, displayed a casual therapeutic behaviour when they received ISM through this particular pathway. They stated discontinuing medication after some time, either after receiving temporary relief or when they were not receiving any relief. Overall, the *knowledge of ISM among others* related to these female users was found to be the most important determinant of use of ISM through this pathway.

The second group of ISM users made this therapeutic decision by conscious choice, showing a preference for this recourse. Some of these women chose ISM treatment as they had heard of it from other patients who received relief from similar treatments. Sometimes women's decisions were largely guided by these other users. The second reason why women visited an ISM practitioner was that their biomedical providers were not available. Some women sought treatment from ISM providers, as they perceived that such practitioners do not require physical examination of their clients. In reality it was found that, more than the female patients, their husbands often showed greater reservations about their wives being clinically examined by male doctors. Hence ISM providers were sometimes chosen to avoid such a clinical check-up. However, a few women from this group showed a preference for ISM treatment because they had been exposed to such treatments during their childhood. Overall, this second group of ISM users visited providers from outside the community or even out of Mumbai and received treatments from well-identified ISM providers. Hence, *women's earlier exposure to ISM treatment* was found to be the most important determinant in this particular pathway.

The rest of the women, as stated, were given ISM medications by their family physicians. Since a majority of these private community providers were trained in ISM, they dispensed such treatment according to necessity. Often these providers prescribed indigenous medication when allopathic treatment was found to be ineffective, or if the clients did not receive relief or if the disease recurred. However, when they felt it was necessary, some of these providers even dispensed ISM as the first therapeutic recourse. These family physicians often sought client's consent before prescribing ISM, as it was probably considered somewhat unusual. *The role of family physician*s constituted the major determinant of ISM utilization in this particular pathway.

Women from institutions could be categorized among the second group of ISM users discussed above, revealing a prior knowledge of ISM, either of their own or among 'significant others' (Good, 1987) in the proximity who guided their decision. The evidence that women themselves were visiting ISM institutions reflected their

willingness to undergo such treatment. Many of these women, as portrayed earlier, had undergone allopathic treatment before coming to the present institution. The majority stated that they had lost faith in allopathy after long durations of treatment, when either no relief or only temporary relief was received. Some of them, however, avoided allopathic treatment to bypass certain surgeries. A few were found to believe treatment through ISM to be less expensive, even when they were not sure how long the treatment would take to provide a cure. On the other hand, some of these clients clearly expressed regret over spending a considerable amount of money on allopathic treatment for only temporary relief. A few of these respondents, who showed faith in ISM, had earlier experience with a similar therapy. Faith in ISM was demonstrated by statements such as, 'ISM is better than allopathy for certain complaints like, musculo-skeletal disorders'; 'ISM purifies blood'; 'treatment through ISM will take time but would completely cure the disease' and 'ISM would not leave any chance of recurrence'. As reported, the faith was stronger when women clients were familiar with some evidence-based results for similar complaints. The clients who used ISM before allopathic recourse showed better prior experience, i.e. use of ISM in their natal family, or has witnessed the use in their spousal family.

An overwhelming proportion was reported to have been recommended by other clients of these institutions, even by strangers like co-passengers in local trains. Some showed a strong belief in the present institutions' services (though not in ISM *per se*) that had led them to travel from outside Mumbai for the sole purpose of seeking treatment from this particular institution. Many of the clients residing within Mumbai chose the present institution for simple reasons, such as it being near to their house or working hours were convenient for them.

It was found that women residing in urban areas showed a wide knowledge of home remedies for their complaints. Many of them stated that their natal home was in rural areas. Besides dietary or functional adjustments, some reported knowing remedies based on herbal products. Common use of home remedies as an initial recourse after the onset of symptoms confirmed women's belief in these therapeutic procedures.

Overall, ISM therapeutic behaviour was interesting to observe in the case of infertility. While women from the community showed an explicit preference for allopathy, a majority of the clients seeking treatment from institutions were suffering from infertility. Many stated knowing someone who became able to conceive after successful ISM therapeutic intervention from the present institution. Thus, although women preferred to undergo allopathic treatment for infertility, which has wide social implications, failure of this might lead them to seek ISM as a final resort. This behaviour might be viewed with a serious note, since even at a very high perceived severity level, women chose to prefer ISM with a belief that this could provide a cure. One possible area where the promotion of ISM could be successfully ventured must surely be the treatment of infertility. Clients expressed a preference for ISM for other gynaecological morbidities too, choosing ISM as initial recourse before allopathy. This is probably because ISM is perceived as 'not having side-effects', and therefore probably being safer.

By and large, young, educated clients showed a higher chance of using ISM as primary recourse. The finding concurs with the recent ISM utilization study by the Department of AYUSH, where use of ISM was found to be positively related with

education level. This can be interpreted as growing awareness of ISM among the young, educated population of the country. The study was unable to prove the common perception that ISM treatment is generally sought for chronic, incapacitating health problems. It was, however, found that the majority of women seeking ISM treatment had recurrent complaints over a longer period of time. Even from the subjective responses on duration of suffering before resorting to the present treatment, it was found that, irrespective of the actual duration, clients perceived having suffered 'since a long time'. An interesting finding of the study was that the duration of the initial spell of treatment was longer in the case of ISM, as compared when allopathic recourse. An argument in this regard might invoke interest: allopathic treatment is sought based on an expectation of receiving quick relief; on the other hand ISM clients are often disposed to the idea that the treatment will take a long time but will provide a complete cure. Consequently, after receiving no or only temporary relief from initial allopathic treatment, clients switch to the next spell of therapeutic recourse. On the other hand, perception of the ISM therapeutic process influenced the clients' consistent use of ISM for a longer period of time. Many of these clients showed faith in its satisfactory progress and efficacy. Interestingly, those who, after a short period of ISM treatment, felt aggravated discomfort, believed that this was part of the process, where symptoms are first increased before a complete cure is achieved. Some supposed that, more than the medicines, dietary and other restrictions during ISM treatment helped to reduce suffering. This satisfied faction of clients said that they would recommend others with similar complaints to go for treatment at the same institutions.

Conclusion

Although women from the community showed a high level of knowledge of ISM, the indigenous streams were rarely used as first therapeutic choice. The anticipation of quick relief from allopathic treatment was the major reason behind such an initial choice. However, within this group, preference for ISM was somewhat associated with women's educational attainments and type of disease. Prior exposure to ISM treatment, either for their own health problems or for familiar ones, increased the chance of employing ISM before allopathy. Failure of allopathic treatment pushed many to seek ISM as a final resort. It was generally perceived that ISM was much slower in providing relief or a cure, but clients believed that it would ultimately stop symptom recurrence and completely cure the disease. ISM treatment was perceived as less expensive than allopathy and sometimes less hazardous, and without the need for a clinical examination or surgical procedure. For certain gynaecological disorders women were found to have knowledge of effective ISM treatment, which could become an effective base for future promotion of ISM. Knowledge and incidence of demonstrated cure from ISM treatment among 'significant others' was observed as having a wide influence on women's decision to seek ISM care. The role of ISM institutions could be viewed with due importance, since this component acted as an important base in clients' ISM decision-making dynamics.

At this point, it is perhaps difficult to predict whether India ever will achieve a meaningful integration of allopathy and ISM under the single umbrella of the official

health system. But promotion of ISM through competent practitioners, for well-identified areas of women's health, could be very successful. This study shows that, in terms of ISM treatment behaviour, what matters to women is evidence-based results. In an era when allopathy is universally regarded as the first choice, providers of ISM need to provide effective cures if it is to be sustained.

Acknowledgments

The authors acknowledge the fieldwork support provided by the Parkes Foundation Small Grant Fellowship, Department of Biological Anthropology, Cambridge, UK, during the year 2004. This grant extensively facilitated the work of data collection, without which this study would not have been possible. Receipt of the grant greatly encouraged the researchers to accomplish the task with utmost motivation. Also, the authors are deeply indebted to an anonymous reviewer for his important comments on an earlier version of this paper.

References

Abosede, O. A. (1984) Self-medication: an important aspect of primary health care. *Social Science and Medicine* **19**(7), 699–703.

Ashraf, A., Chowdhury, S. & Streefland, P. (1982) Health, disease and health care in rural Bangladesh. *Social Science and Medicine* **16**(23), 2041–2054.

Coppo, P., Pisani, I. & Keita, A. (1992) Perceived morbidity and health behavior in a Dogon community. *Social Science and Medicine* **34**(11), 1227–1235.

D'Souza, M. (1993) Health and indigenous development. *Health for the Millions* **1**(3), 6–7.

Gogtay, N. J., Bhatt, H. A., Dalvi, S. S. & Kshirsagar, N. A. (2002) The use and safety of non-allopathic Indian medicines. *Drug Safety* **25**(14), 1005–1019.

Good, C. M. (1987) *Ethnomedical Systems in Africa.* The Guilford Press, New York.

Gould, H. A. (1965) Modern medicine and folk cognition in rural India. *Human Organization* **24**, 201–208.

Greenhalgh, T. (1987) Drug prescription and self-medication in India: An exploratory survey. *Social Science and Medicine* **25**(3), 307–318.

International Institute for Population Sciences & ORC Macro (2000) *National Family Health Survey (NFHS-2), India, 1998–99*. IIPS, Mumbai.

Izhar, N. (1989) The Unani traditional medical system in India: A case study in health behaviour. *Geographer Medica* **19**, 163–185.

Kakar, D. N. (1983) Traditional healers in North India: A study. *Nursing Journal of India* **74**(3), 61–63.

Kleinman, A. (1980) *Patients and Healers in the Context of Culture*. University of California Press, Berkeley, CA.

Kloos, H. (1987) Illness and health behavior in Addis Ababa and rural central Ethiopia. *Social Science and Medicine* **25**(9), 1003–1019.

Krishnaswamy, K., Kumar, B. D. & Radhaiah, G. (1985) A drug survey – precepts and practices. *European Journal of Clinical Pharmacology* **29**, 363–370.

Ministry of Health and Family Welfare (1983) *National Health Policy – 1983.* MOHFW, New Delhi.

Ministry of Health and Family Welfare (2000) *National Population Policy 2000.* Department of Family Welfare, Government of India, New Delhi.

Ministry of Health and Family Welfare (2002a) *National Health Policy – 2002*. MOHFW, New Delhi.

Ministry of Health and Family Welfare (2002b) *National Policy on Indian Systems of Medicine & Homoeopathy – 2002*. Department of ISM&H, MOHFW, New Delhi.

National Council of Applied Economic Research (1992) *Household Survey of Medical Care*. New Delhi.

National Sample Survey Organisation (1986–87) *Morbidity and Utilization of Medical Services (42nd Round)*. NSSO, New Delhi.

Oranga & Nordberg, E. (1995) A longitudinal health interview survey in rural Kenya: Potentials and limitations for local planning. *East-African Medical Journal* **72**, 241–247.

Planning Commission (2000) *Ninth Five Year Plan 1997–2002. Vol. 1 Development Goals and Strategy and Policies*. Government of India, New Delhi.

Ross, J. L., Sandra, L. L., Pelto, P. J. & Lazeena, M. (2002) Exploring explanatory models of women's reproductive health in rural Bangladesh. *Culture, Health and Sexuality* **4**(2), 173–190.

Singh, P., Yadav, R. J. & Pandey, A. (2005) Utilization of indigenous systems of medicines and homoeopathy in India. *Indian Journal of Medical Research* **122**, 137–142.

Unisa, S. (1999) Childlessness in Andhra Pradesh, India: Treatment seeking and consequences. *Reproductive Health Matters* **7**(13), 54–64.

WHO & UNICEF (1978) *Operational Aspect of Primary Health Care*. Report of the International Conference on Primary Health Care, Alma-Ata, USSR, 6–12th September, jointly sponsored by the WHO and UNICEF, WHO, Geneva.

WHO (2002) *WHO Traditional Medicine Strategy 2002–2005*. Geneva.

WHO (2003) *International Statistical Classification of Diseases and Related Health Problem*. 10th Revision, WHO, Geneva.