

Sequence of Fertility Treatments among Childless Couples in Ranga Reddy District, Andhra Pradesh, India

*In the new Reproductive and Child Health
Programme, there is no mention of strengthening existing
infertility services or increasing them*

By Sayeed Unisa*

Despite its well-established links to other aspects of reproductive ill-health, such as sexually transmitted infections (STIs) and unsafe abortion (Berer, 1999), infertility is the most neglected component in the reproductive health programmes of many developing countries.

* Reader, International Institute for Population Sciences, Mumbai, India.

In the case of India also, no special government interventions or programmes exist to treat infertile couples, and Indian researchers have generally neglected the subject of infertility. Studies on the type of treatment sought by infertile women are sporadic. Evidence of a mainly anecdotal nature suggests that couples go to traditional healers or religious places for treatment (Kakar, 1983; Jejeebhoy, 1994; Sundby and Sonkos, 1998). In recent years, however, substantial developments in reproductive technologies have occurred. The number of private hospital specialists in these techniques has increased tremendously and these specialists have popularized their services by extensive advertising. Under these new circumstances, infertile couples may be going for allopathic treatment as their first choice, rather than to traditional or religious healers as in the past. However, there is a dearth of information about the role of modern private health services in fertility treatments and about the costs of treatment.

The aim of this article is to document the treatment-seeking behaviour and associated expenditures of childless couples in one district of Andhra Pradesh, and thereby identify major problems and possible remedies. Andhra Pradesh is an appropriate locale for this study because the reported rates of childlessness in this state are among the highest in the country and thus insights into the problem are particularly relevant for programmes (Pathak and Unisa, 1993).

Material and methods

The data analysed come from a four-year community-based research project in the Ranga Reddy district of Andhra Pradesh. To obtain a sample of childless women, villages were first selected by stratified random sampling: all villages in the district were grouped into three strata, in ascending order of women's literacy, and 10 villages were selected randomly from each stratum. A total of 8,713 households belonging to the 30 villages were screened and 9,298 ever-married women of reproductive age were briefly interviewed. Of those 9,298 women, 12 per cent were found to be childless. This study focused on a subset of childless women with the following characteristics: they were aged 20-49 years, currently married for at least three years and had never had a live birth. A total of 339 women with these characteristics were identified.

Types of treatment available were identified from key informants by free listing in the first phase of data collection. A list of 13 of the types of fertility treatment methods most frequently used by childless couples was extracted from the free listing. All primary health centres and sub-centres in and around

the selected villages were visited and the best-known private doctors and hospitals mentioned by key informants were also visited. Doctors and auxiliary nurse-midwives were also interviewed during this phase of data collection.

The second phase of data collection involved face-to-face interviews with childless women, using specially trained female interviewers. Only one woman and two households refused to be interviewed and another four women were partially interviewed, giving a final sample size of 332. Detailed information was elicited by interviewers on household characteristics, marriage and pregnancy history, treatment-seeking behaviour, the consequences of childlessness, social participation, decision-making about treatment, and general and mental health.

Clinical examination was performed on all 332 women and 101 husbands by a female gynaecologist for the women and a male doctor for the men. The causes of infertility were recorded from pathological and clinical reports for those couples who had complete case history records. After data collection, the doctors gave the respondents information about the reproductive system, the fertile period and common reasons for infertility. Help was offered to these couples to try to overcome any minor reproductive health problems that might affect fertility. They were also referred to hospitals where fertility treatment was available.

The third and final phase of data collection involved qualitative methods: 60 detailed case studies of childless women from 10 villages were obtained. Cases selected from the survey included examples of women who had adopted a child, those whose husband had taken a second wife, those who had not sought any fertility treatment, those who had gone to many holy places, or those who had received many allopathic treatments. These in-depth interviews were conducted to gather explanatory information on all relevant aspects of the present study.

Results

Profile of childless women

Table 1 compares the samples from Ranga Reddy district with the 1992 National Family Health Survey (NFHS, 1993) for rural Andhra Pradesh, in terms of demographic characteristics. The distributions by current age and age at marriage are similar in both surveys for all married women aged 20-49 years. However, the Ranga Reddy sample contains a higher proportion of women who married in the last five years than does the state sample.

Table 1. Demographic characteristics of all currently married women and of childless women aged 20-49 years in rural Andhra Pradesh and Ranga Reddy district

Characteristics	Childless women in Ranga Reddy (percentage)	Childless women in Andhra Pradesh ^a (percentage)	All women in Ranga Reddy (percentage)	All women in Andhra Pradesh ^a (percentage)
Age (in years)				
20-24	41.3	57.1	19.0	26.2
25-29	33.4	16.6	23.3	23.3
30-34	12.7	3.7	17.9	17.0
35+	12.7	22.7	39.8	33.4
Age at marriage (in years)				
Below 15	51.8	38.7	41.0	49.4
15-19	42.8	55.2	50.4	46.7
20-24	5.1	4.5	7.4	3.4
25+	0.6	1.2	1.2	0.1
Duration of marriage (in years)				
Below 5	25.0	30.1	10.1	6.2
5-9	35.2	34.4	17.6	20.1
10-14	19.9	7.4	19.7	22.9
15+	19.9	28.2	52.6	50.8
Number	332	163	8,285	2,404

^a According to data from the 1992/93 National Family Health Survey.

The demographic characteristics of the sample of the 332 childless women are broadly similar to those of childless women in the NFHS sample. Interestingly, about 75 per cent of the childless women in both samples were aged less than 30 years, and about 60 per cent had been married for less than 10 years. Several factors may have contributed to this unexpectedly youthful profile: successful treatment of infertility leading to low levels of infertility among women aged 30 or more; a greater probability of divorce, separation or desertion among infertile than fertile women; and adoption of children by older infertile women who are then declared as "own children". All these factors are likely to have contributed to the relatively small number of older infertile women in the Ranga Reddy screening survey.

Of these 332 childless women, 10 per cent had adopted a child by the time of the study. In 39 cases, representing 11.7 per cent of the sample, the husband had already taken a second wife. The majority of childless women (70 per cent) had never been pregnant; the remainder had experienced miscarriages or stillbirths.

Table 2. Comparison of socio-economic characteristics of currently married childless women aged 20-49 years in the Ranga Reddy district with those of currently married women in rural Andhra Pradesh

Characteristics	Ranga Reddy (percentage)	Rural Andhra Pradesh ^a (percentage)
Caste		
Scheduled caste/tribe	36.1	23.3
Others	63.9	76.7
Religion		
Hindu	93.1	92.0
Muslim/Christian	6.9	8
Type of family		
Nuclear	66.0	N.A.
Joint	34.0	N.A.
Literacy		
Illiterate	68.4	79.3
Literate	31.6	20.7
Standard of living		
Low	64.2	25.4
Medium	19.9	39.0
High	16.0	35.6
Occupation		
Agricultural labourer/cultivator	48.5	48.8
Business/home-based work	17.8	10.6
Service	0.9	5.2
Housewife	32.8	35.1
Married previously		
Once	98.2	97.5
More than once	1.8	2.5
Husband related before marriage		
Yes	35.8	38.4
No	64.2	61.6
Number	332	2,404

Note: N.A. = not available.

^a According to data from the 1992/93 National Family Health Survey.

Are childless women different in terms of socio-economic characteristics from other women? The Ranga Reddy screening survey did not collect such data. However, when childless women in Ranga Reddy are compared with currently married rural women from the Andhra Pradesh segment of the 1992 NFHS (table 2) no appreciable differences are apparent in religion, woman's occupation and number of marriages or consanguinity. However, childless women are more likely than other women to be from a scheduled caste/tribe, to be illiterate and to have low economic status. Economic status is based on household infrastructure and ownership, with appropriate weighting for value (Sulabha and others, 1999).

Regarding the institution of marriage, in this sample single marriages were the norm, with few of the women reporting more than one marriage. Cross-cousin marriages and marriages between other close blood relatives are common in the south of India. In the present sample, as well as the NFHS data, a substantial number of women were married to their close relatives (36 per cent and 38 per cent respectively).

Probability of treatment-seeking

Seventy-three per cent of childless couples had sought treatment or advice outside the home regarding their infertility problem. Age and marital duration have a positive relationship with seeking at least one treatment. Whereas only 59 per cent of the women who had been married for three to five years had sought treatment, 76 per cent of the women married more than 10 years had done so. Education and standard of living have a positive effect on treatment-seeking. Only 69 per cent of illiterate women compared with 82 per cent of literate women had sought treatment, and as standards of living rose so did the propensity to seek treatment for their infertility, from 65 per cent among women with a low standard of living, to 84 per cent among those with the highest standard of living (table 3). Treatment-seeking among scheduled caste and tribal women was low compared with other groups. An important reason cited for not seeking treatment was its high cost. Another prominent reason was lack of nearby health services and of information about the diagnostic and treatment procedures offered for infertility. Other women gave the following reasons for not seeking treatment:

“It is God’s will; whenever He gives me, we will have children”.
(Illiterate woman, aged 23 years)

“I feel everybody will laugh at me if I consult a doctor for my childlessness”.
(28-year-old high-school-educated husband of a childless woman)

“I feel that I am not able to conceive because of Devta (God) on me. I will become pregnant only when He goes off”. (Note: In the villages, when a woman suffers an attack of hysteria people say that the God or Goddess visited her.)
(Illiterate woman, aged 25 years)

“My husband told me that everybody is getting babies without going for any treatment. Why do I only need treatment?”
(Literate woman, aged 21 years)

Table 3. Percentage of persons in Ranga Reddy district seeking any treatment and type of initial treatment, by socio-demographic characteristics

Socio-demographic characteristics	Allopathic	Religious	Any method ^a
Religion^b			
Hindu	53.4	17.8	73.5
Muslim/Christian	56.5	4.3	65.2
Caste^c			
Scheduled caste/tribe	43.3	22.5	66.7
Others	59.4	13.6	76.4
Literacy^c			
Literate	70.6	8.8	82.3
Illiterate	46.1	20.4	68.7
Standard of living^c			
Low	40.1	21.2	65.2
Medium	57.6	16.6	75.0
High	72.1	8.8	83.8
Number of pregnancies			
0	50.6	16.3	69.9
1	60.0	14.5	76.4
2+	63.0	23.1	86.8
All	53.6	16.9	72.9

^a Total includes ayurvedic, homeopathy and *unani* and traditional methods.

^b Chi-square is not calculated, as cell frequencies are less than 5.

^c Differences in choice of initial treatment are statistically significant at the 95 per cent confidence level.

Choice of initial treatment

Despite the spread of allopathic medicine in India, indigenous systems of medicine remain popular. These indigenous forms of treatment, called the Indian System of Medicine, include ayurvedic, homeopathy and *unani* (collectively known as AHU). In the ayurvedic system, treatment is based on drugs, diet, exercise and general life-style. In homeopathic treatment, the primary emphasis is on increasing the strength of the body's defence mechanisms through a holistic and individualized approach. In the *unani* system of medicine, treatment is carried out mainly with drugs made from herbs and animal and mineral sources, which are supposed to have specific characteristics (hot, cold moist, dry, etc.) to different degrees. These systems of medicine are formally taught at university level, parallel to a bachelor's degree in allopathic medicine. However, many untrained persons also practise them.

Traditional healers who use methods developed by their forefathers also offer remedies. They are untrained persons, sometime relatives of childless couples, or *dais* (midwives), or roadside sellers of a variety of a medicines and herbs. Finally, religious or spiritual treatments are often undertaken by childless couples in India. They consist mostly of *puja* (prayers), sacrifice of animals, bathing in temple wells, visiting temples regularly for three to four months, and hanging a cradle at the temple.

Women were asked, first without probing and then with probing, the number, styles and chronological order of the treatments they had taken. Later, the methods they described were grouped into four categories: (a) allopathic, (b) AHU, (c) traditional and (d) religious. Allopathic treatment included treatment sought from the public sector as well as the private sector. Contrary to the belief that people opt for AHU or traditional methods for their infertility problems, the majority (73 per cent) of the 242 women who went for any treatment opted for allopathic treatment as their first choice. The vast majority (90 per cent) of women going for allopathic treatment chose a private practitioner or private hospital. Religious methods were the first choice of 56 women, and seven women underwent traditional methods of treatment. Only one woman reported AHU as her first choice of treatment.

The data were analysed to detect links between socio-demographic characteristics of childless women and choice of initial treatment (table 3). Caste and type of treatment were found to be significantly associated. Scheduled caste or tribal women were more likely to opt for religious treatment than were other women. Literacy and standard of living also had marked effects on choice of treatment. Literate women were much more likely than illiterates to opt for allopathic treatment as the first choice. With increasing standard of living, the proportion of women opting initially for allopathic treatment also rose. This may be explained by the ability of the women with higher standards of living to spend more on treatment, compared with women from poor households.

Pregnancy history and type of treatment sought show no significant interrelationship. A question on post-abortion care was asked of women who had had spontaneous abortions. Some women had gone to a hospital for “cleaning” after the miscarriage. Others had gone to a local healer, and many women had not consulted any doctor after their miscarriage, which without care and treatment may have led to infertility among such women (Okonofua, 1994).

The first choice of treatment is affected by prevailing belief systems as indicated by the following quotations:

“When I did not have baby after three years of my marriage, my parents-in-law started behaving badly. My brother who is working in the military suggested I consult an allopathic doctor immediately as there is no other treatment which can cure the infertility”.

(Primary school-educated woman, aged 22 years)

“I went to temple of Goddess Mahakali (Hindu goddess) at Bontapally because some people have conceived after going to this temple”. **(Illiterate woman, aged 25 years)**

Sequence of treatment among women who initially sought allopathic treatment

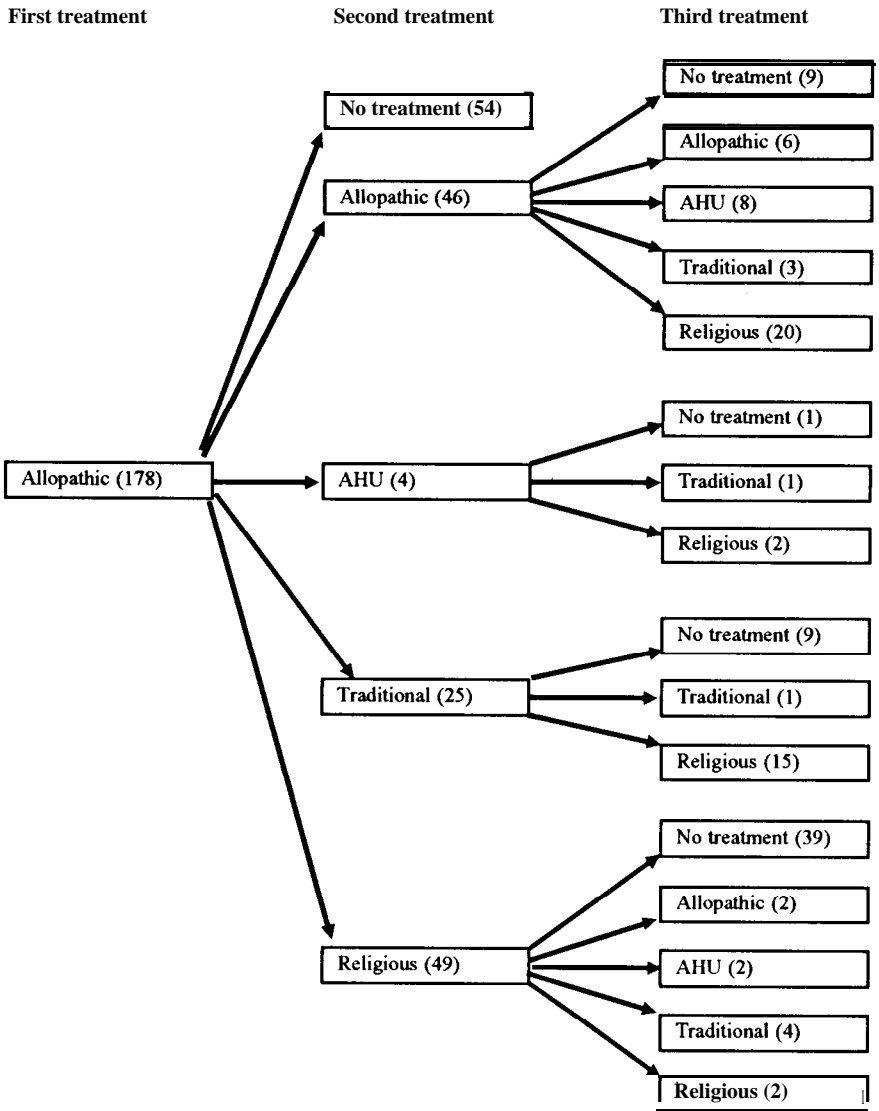
The sequence of fertility-seeking methods adopted by the 178 women who had opted for allopathic treatment as their first choice is shown in [figure 1](#). Among these couples, nearly one third had gone to see a specialist in the city of Hyderabad, travelling a distance of 20-120 km in some cases. After the first treatment, 30 per cent of these women did not go for any subsequent treatment. The main reason for stopping after the first treatment was the prohibitive cost and number of visits needed for treatment (Unisa, 1999). In addition, some couples who had received a thorough diagnosis had been informed about the actual cause of their infertility. If it was the wife’s problem, some husbands were planning to take a second wife. If it was the husband’s problem, wives were nevertheless disinclined to consider divorce or separation (Unisa, 2000).

For second treatments, there was a shift in choice, from allopathic to religious, although a significant number of women opted for traditional methods as their second choice. Most couples who preferred religious and traditional methods could not afford the high cost of allopathic treatment for a second time, and did not feel they were getting the desired results from their expenditure. Couples who chose allopathic treatment for a second time mainly comprised those who had not received complete or satisfactory diagnostic reports from the first course of treatment, as the following case illustrates:

“First I went to the nearby hospital, there the doctor told me to go to Gandhi Hospital. When I went to Gandhi Hospital, they told me to come back the next day for D&C (dilatation and curettage)”.

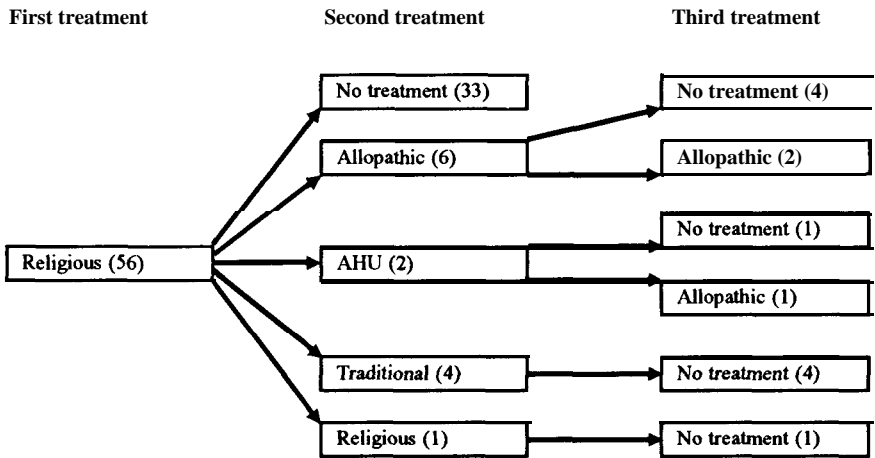
(Illiterate woman aged 21 years)

Figure 1. Sequence of treatments and number of women in Ranga Reddy district who made allopathic treatment their first choice



Note: AHU = ayurvedic, homeopathy and unani

Figure 2. Sequence of treatments and number of women in Ranga Reddy district who made religious treatment their first choice



Note: AHU = ayurvedic, homeopathy and *unani*

A small proportion of couples had gone for a second allopathic consultation to get a second opinion. Among the 46 women who had opted for an allopathic consultation as their second treatment, only a few women opted again for allopathy as their third choice (13 per cent). The largest group (43 per cent) chose religious methods for the third treatment, and some chose AHU (17 per cent).

The majority of the 49 women who had adopted religious methods as their second recourse after an initial allopathic consultation did not attempt any further treatment. Of the 25 women who had opted for a traditional method for the second course of treatment, the majority (60 per cent) opted again for religious methods for the third treatment, 4 per cent tried traditional methods, and about 36 per cent discontinued any further treatment.

Sequence of treatment among women who initially sought religious treatment

Fifty-six women first tried religious or spiritual remedies for the problem (figure 2). Two thirds did not go for any further treatment; these women

Table 4. Probability of persons in Ranga Reddy district seeking treatment, by type and sequence

Treatment name and sequence	Probability
One treatment	
Allopathic	0.536
Religious	0.159
Traditional	0.021
AHU	0.003
Two treatments	
Allopathic-religious	0.147
Allopathic-allopathic	0.138
Allopathic-traditional	0.075
Allopathic-AHU	0.012
Religious-allopathic	0.018
Religious-traditional	0.012
All other sequences ^a	0.032
Three treatments	
Allopathic-allopathic-religious	0.060
Allopathic-traditional-religious	0.045
Allopathic-allopathic-AHU	0.024
All other sequences ^a	0.076

Note: AHU = ayurvedic, homeopathy and *unani*

^a Sum of the cumulative probabilities of all other sequences is presented.

tended to be poor and illiterate. A significant proportion of couples realized that religious treatments had not proven to be effective. After initially trying religious methods, a small number shifted to allopathic treatment as a second approach. Of the women who had opted for allopathic treatment for their second treatment, only 33 per cent tried the same treatment again; the rest sought no further treatment.

Preferred sequences of treatment

To examine the sequence of treatments adopted by childless women, further analysis of the flow charts was done (table 4). Only two flow charts were considered, i.e. those starting with allopathic and religious treatments. Cumulative probabilities were calculated using the numbers in figures 1 and 2. As a first choice of treatment, allopathic methods are preferred by the majority of the women in the sample followed by religious and traditional methods. Among the two-treatment sequences (based on both flow charts), the most preferred sequence is allopathic to religious. The second preferred sequence is allopathic to allopathic.

Table 5. Total mean cost of treatments and mean number of treatments, by initial treatment, of persons in Ranga Reddy district

First treatment	Total for:		Total
	Allopathic treatments	Religious treatments	
Allopathic (private)			
Mean cost (rupees)	6,002	1,355	7,357
Median cost (rupees)	2,000	80	3,024
Mean treatments (N)	2.1	1.8	2.9
Number of women			153
Allopathic (government)			
Mean cost (rupees)	9,777	2,768	12,545
Median cost (rupees)	2,000	500	2,500
Mean treatments (N)	2.2	1.9	4.2
Number of women			25
Religious			
Mean cost (rupees)	442	2,053	2,495
Median cost (rupees)	14	1,175	1,350
Mean treatments (N)	0.2	2	2.2
Number of women			56
Women who had at least one treatment			
Mean cost (rupees)	4,956	1,715	6,671
Median cost (rupees)	412	0	1,440
Mean treatments (N)	1.6	1.4	3.0
Number of women			242
All women			
Mean cost (rupees)	3,613	1,250	4,862
Median cost (rupees)	300	0	1,050
Mean treatments (N)	1.2	1	2.2
Number of women			332

The analysis based on three treatments showed the preferred sequence as allopathic-allopathic-religious, followed by allopathic-traditional-religious. While few couples started treatment with a religious method, many more used it as a final resort, perhaps out of desperation.

Cost of treatment

In table 5, the mean and median cost of all treatments and average number of treatments that women underwent are presented. These costs include doctors' fees, cost of medicines and travel costs. The bottom panel summarizes expenditure for all couples, regardless of whether or not they sought treatment. On average, childless couples spent around Rs. 5,000 (US\$1 = 46.7 Indian rupees) and had more than two treatments. The median cost was about

Rs.1,000. Among those who went for at least one treatment, the average cost was nearly Rs.7,000.

The upper three panels classify costs by type and source of initial therapy. The majority of those who opted for allopathic treatment used a private hospital or clinic for treatment. The average cost of allopathic treatment and average number of treatments is lower among these couples than among couples who initially used government services. In government hospitals, there are no fees for consultations but many hospitals do not have the necessary pathological and diagnostic equipment. In many instances, women had to make several visits for these services at government hospitals. Ultimately, people shifted to private services for higher quality diagnoses and treatment. The net result was that they spent more on their treatments and experienced a greater number of treatments than those opting for the private sector from the start.

Couples whose initial treatment was religious in nature tended to spend less than other couples and they underwent a smaller number of treatments. From this analysis it is very clear that allopathic treatment is not affordable by low-income couples; as an alternative, they are going for other forms of treatments. The following quotation is typical:

“I had a D&C done, this cost us Rs5,000. After that, every time we went to the doctor, he would charge us Rs.200 as a fee. He told us that I could have a child if I continued the treatment for one year more. Since we did not have that much money, we had to discontinue the treatment”. (**Literate woman aged 27 years**)

Conclusions and recommendations

This study is one of the most thorough non-medical investigations of infertility in India, but it has limitations. Most importantly, it does not throw light on the success rate of fertility-enhancing treatments as the sample of childless couples studied, by definition, comprised those who had so far not been treated effectively.

The high prevalence of childlessness in the state of Andhra Pradesh needs immediate attention to investigate the causes of infertility. A thorough examination of the reports of all couples who have undergone treatment is required, as well as investigations of the environmental (food, water, air) and occupational hazards they face. Some cases of infertility are preventable by

simple information on the timing of ovulation, the need to refrain from douching after intercourse and so on. The programme in Andhra Pradesh should emphasize such informational efforts to prevent infertility. In particular, specific interventions are required in areas where infertility is high in order to educate people about the causes of infertility and provide information on diagnosis and treatment. A good referral system is needed to help these couples, starting from the village level to "high-tech" hospitals. Infertility conditions that require sophisticated and expensive facilities may be better handled by the private sector for those people who can afford it.

In the present study, it was found that one quarter of childless couples had not sought any treatment for their infertility. The majority of them were illiterate and had a low standard of living. Many of them lack knowledge about the opportunities for diagnosis and treatment of infertility. A great need exists for more effective information and educational campaigns about infertility that reaches to the grass-roots level.

Unfortunately, couples who opt for allopathic treatment are spending a great deal of money on private practitioners without getting the desired result and without counselling to satisfy their questions regarding infertility. Couples adopt multiple pathways for treatment and sometimes this leads to exploitation, false hope and inhuman behaviour.

Infertility diagnosis and treatment services are very scarce in Andhra Pradesh and more or less similar situations prevail in other states of India (mapping of government services was done in the first phase of data collection). In the new Reproductive and Child Health Programme of the Government of India, there is no mention of strengthening existing infertility services or increasing them. A government programme for managing infertility is one way to demonstrate a public commitment to helping people with family building.

Acknowledgements

The research on which this article is based was supported by research grants from the Ford Foundation. The author would like to thank John Cleland, Shireen Jejeebhoy; Michael Koenig and Stephen Schensul for their help at various stages of this study.

References

- Berer, M. (1999). "Living without children" *Reproductive Health Matters* 7(13): 6-13.
- Jejeebhoy, S. (1994). "Infertility in South Asia: priorities for social science research". Paper presented at the Reproductive Health Workshop, New Delhi, 26 September to 7 October.
- Kakar, D.N. (1983). "Traditional healers in North India: a case study" *Nursing Journal of India* 74(3): 61-63.
- NFHS (1993). *National Family Health Survey 1992-93: India Report* (Mumbai, International Institute for Population Sciences).
- Okonofua, F. (1994). "Induced abortion — a risk factor for infertility in Nigerian women" *Journal of Obstetrics and Gynaecology* 14:272-76.
- Pathak, K.B. and S. Unisa (1993). *A Study of Childlessness and Infertility from Children Ever-Born Data: Project Report* (Mumbai, International Institute for Population Sciences).
- Sulabha, P., T.K. Roy, R.D. Devi, B. Paswan, P. Arokiasamy and S. Unisa (1999). *The Role of Women's Education in Shaping Fertility in India: Evidence from the National Family Health Survey* (Mumbai, Himalaya Publishing House).
- Sundby, J.B. and R. Sonkos (1998). "Infertility in Gambia: frequency and health care seeking" *Social Science and Medicine* 46(7):891-99.
- Unisa, S. (1999). "Childlessness in Andhra Pradesh, India: treatment-seeking and consequences" *Reproductive Health Matters* 7(13):54-64.
- _____ (2000). "Consequences of childlessness for women in Andhra Pradesh: special reference to marital stability", paper presented at Workshop on Reproductive Health in India: Evidence and Issues, Pune, March.