

**AWARENESS AND PRACTICE OF SPACING METHODS IN A
RURAL BLOCK OF HARYANA**

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ABSTRACT

To assess the level of awareness and practice of spacing methods, a study was conducted among couples in Beri block, Rohtak district, Haryana during the period April 1999 to March 2000. It was revealed that 48 percent of the sample couples were not using any kind of spacing method at all. Though the couple protection rate was 52 percent, spacing methods are practiced by only 25 percent of the subjects. Cu-T was the most popular spacing method followed by condom and oral pills. A majority of non-users of spacing methods were the illiterate and lower age couples. Most of the couples were using female-based spacing methods indicating poor male involvement in the programme; a trend that needs to be corrected through well-formulated IEC strategies.

Keywords: Spacing methods, Contraception, Fertility, Awareness, Age group.

Unchecked population growth is one of the greatest problems faced by the mankind today. According to UNFPA estimates, the world population is currently increasing at the rate of 80 million per year¹. It has crossed six billion on 12 October 1999². With more than one billion population, India is one of the biggest contributors to world population³. Ironically, India was the first country in the world to launch a family planning programme in 1952. Undue emphasis on terminal methods in the programme resulted a shift in priority for spacing methods, the use of which not only helps to bring down the birth rate but also ensures better health for the mother and the child. In the seventh five-year plan (1985-1990), special emphasis was laid on the use of spacing methods on a massive scale to improve the couple protection rate, especially for the younger age group. However, it made little positive impact since the percentage of users of spacing methods in the country remained unchanged at the same level of 12.2 percent (National Family Health Survey-2)⁴. As per NFHS-2, 15.8 percent of the couples felt the need for spacing or limiting the family although they were not using any method of contraception. For the effective use of spacing methods by different population

groups in our country, there is an urgent need to create awareness among these segments. The present study was, therefore, undertaken to determine the status of awareness and use of contraceptive methods for spacing childbirths by rural people in selected villages of Rohtak district, Haryana, and to identify the factors influencing such practices.

MATERIALS AND METHOD

The study was conducted in Beri block of Rohtak district, which is the rural field practice area of the Community Medicine department, Post Graduate Institute of Medical Sciences, Rohtak, Haryana. The study was conducted during April 1999 to March 2000 in which 840 couples in the reproductive age group were selected randomly from 118 anganwadis located in Beri block. The data were collected through a semi- structured interview schedule.

FINDINGS AND DISCUSSION

It was interesting to note that 48 percent of the couples in the study population were not using any kind of contraceptive methods (Table 1). Of the protected ones, 27 percent had permanent contraceptive methods in place and the rest 25 percent were using spacing methods only. Cu-T was the most popular spacing method followed by condom and oral pills. The reason for popularity of Cu-T was probably due to *its* convenience of use and further, it was a one-time protocol not requiring repeated visits by clients to the family welfare centre. The use of condoms was a meager 9 percent. The need to popularise condom, especially looking at its ability to prevent HIV and other STDs, can't be over emphasized. A wide choice of better quality condoms at an affordable cost needs to be made available in rural areas to increase their demand. The NFHS-2 reported that in Haryana, 48.2 percent of the couples were protected against childbirth out of which only 12.2 percent were using spacing methods⁴. However, it is found doubled in the present study. This may be explained by the fact that the study population is constantly monitored and supervised by the Community Medicine department of PGIMS, Rohtak, and the people are in frequent contact with health workers and interns posted at the Community Health Centre and as well with the faculty and postgraduates of Community Medicine department, PGIMS, Rohtak.

TABLE 1
METHODS OF CONTRACEPTION AND PRAC

Method	Number(%)
Unprotected	404 (48%)
Terminal Tubectomy Vasectomy	223 (26.5%) 3 (5%)
Spacing Cu-T Condoms Oral pills	112(13.3%) 76 (9.1%) 22 (2.6%)
Total	840

Figures in parentheses are
in percentage

The couple protection rate in the present study was 52 percent, which is still 8 percent short of the target. So, efforts are still needed to increase the rate of couple protection rate

As shown in Table 2, all those interviewed had the knowledge of at least one spacing method. However, 367 (43.7%) couples knew about all the three approved methods of contraception. This further underlines the need to improve the knowledge of people regarding the other spacing methods available.

TABLE 2
KNOWLEDGE OF SPACING METHODS AMONG USERS AND NON-USERS

Methods	Users	Non-users	Total
One method	8 (3.8%)	204 (96.2%)	212(100%)
Two methods	55 (21.1%)	206 (78.9)	261 (100%)
Three methods	147 (40.1%)	220 (59.9%)b	367 (100%)
Total	210	630	840

(Figures in parentheses are in percentage)

It was seen that as the knowledge about spacing methods increased, the rate of their use also increased. Statistical analysis of the study results showed significant relationship between knowledge and use of spacing methods ($p<0.001$). The study conducted by Jain et al showed a similar association between the increase in acceptance of spacing methods and to the increase in knowledge about the methods⁵. This emphasizes the need to improve the knowledge of people on spacing methods for improving its acceptability and use in

between childbirths. The knowledge should not only be given about the methods available but also how to use the contraceptives and their possible side effects. Good quality of contraceptives and proper follow-up services are also essential to improve the rate of use of such contraceptives.

The study findings revealed that the maximum number of contraceptive users (31.8%) was found in the 25-29 year age group and minimum users (0%) were in the 15-19 year age group (Table 3). This finding stresses the need to improve the contraceptive coverage in the younger age groups. The studies conducted by Singh et al and Alag et al also showed a similar low incidence of use of spacing methods among the younger couples⁵⁶. If we wish to decrease the total fertility, the younger couples have to be targeted for acceptance of such spacing methods.

TABLE 3
AGE OF WIFE VERSUS USERS AND NON-USERS OF SPACING METHODS

Age Group	Users	Non-users	Total
15-19	0	36(100%)	36 (100%)
20-24	86 (25.3%)	254 (74.4%)	340(100%)
25-29	80 (31.8%)	172 (68.2%)	252 (100%)
30-34	28(22.6%)	96 (77.4%)	124 (100%)
35-39	13(22.4%)	45 (77.6%)	58 (100%)
40-44	3(10%)	27 (90%)	30(100%)
Total	210	630	840

figures in parentheses are in percentage)

As the age at marriage of females increased, the acceptance of spacing methods also increased (Table 4). Statistically too, age at marriage was found highly associated with use of spacing methods (p<0.001). The study conducted by Audinarayan and Shakila also demonstrated a significant association between age at marriage of female and acceptance of fertility control methods⁷.

TABLE 4
AGE OF WIFE VERSUS USERS AND NON-USERS OF SPACING METHODS

Age Group (yrs)	Users	Non-users	Total
<18	3	341(99.1%)	344(100%)
18-21	71 (23.1%)	237 (76.9%)	308(100%
22-25	136 (72.3%)	52(27.7%)	188(100%)
Total	210	630	840

(Figures in parentheses are in percentage)

Table 5 shows that the use of spacing methods was negligible in couples having no living child (newly married couples). It increased in couples with 2 living children and then decreased. The use rate decreased in couples with 3 or more children since people go in for terminal methods after 3 children. Low use rate in couples having no living child is a cause of concern, as it is known that delay in the first child is very important for decrease in total fertility. Similarly, the use rate is also low in couples with one living child and needs to be re-looked accordingly. In the present study, 18 couples having 4 or more children were using spacing methods and most of them were continuing with their fertility for the search of a male child. Singh et al in their study reported that the percentage of acceptors of spacing methods was less among the couples whose youngest child was less than 2 years or not more than 4 years⁸.

TABLE 5
NUMBER OF LIVING CHILDREN VERSUS USERS AND NON-USERS OF SPACING METHODS

No. of Living children	Users	Non-Users	Total
0	0	34(100%)	34(100%)
1	38 (24.7%)	116(75.3%)	154(100%)
2	113(37.9%)	185 (81.5%)	298(100%)
3	41 (18.5%)	114(86.4%)	222(100%)
4+	18(13.6%)	114(86.4%)	132(100%)
Total	210	630	840

(Figures in parentheses are in percentage)

Use of spacing methods was significantly more in literate couples as compared to illiterate couples (p<0.001) (Table 6). The use rate increased as the level of education increased in couples indicating the importance of educational

status for the acceptance of spacing methods. Women who are well educated are in a better position to discuss the ways and means of avoiding pregnancy with the husband as education reduces the communication gap between the husband and the wife. Other studies conducted by various authors have also reported a positive association between education of couples and acceptance of spacing methods⁷⁻¹⁰.

TABLE 6
STANDFARD OF EDUCATION VERSUS USERS AND NON-USERS OF
SPACING METHODS

Education status	Users	Non-users	Total
HUSBAND			
Llliterate	8(9.3%)	78(90.7%)	86(100%)
Primary	26(24.5%)	80(75.5%)	106(100%)
High	132(24.1%)	416(75.9%)	548(100%)
Graduate	44(44.0%)	56(56.0%)	100(100%)
WIFE			
Llliterate	48(16.6%)	242(83.4%)	290(100%)
Primary	50(17.9%)	230(82.1%)	280(100%)
High	96(39.7%)	146(60.3%)	242(100%)
Graduate	16(57.1%)	12(42.9%)	28(100%)

Figures in parentheses are in percentage)

CONCLUSION

The present study has revealed an almost universal awareness on at least one spacing method in the rural population studied. Further, with the increase in awareness on the spacing methods, practice of such methods also increased. Therefore, it is essential to inform people regarding the spacing methods available to them if we wish to improve their use rate. At the same time, it is important to tell them about the source, how to use a particular method, what are its possible side effects etc. Wider choice of good quality contraceptives, regular supply, follow up services and courteous behaviour of the health care providers can go a long way in improving the practice of these methods. Commercial sales of contraceptives through increased outlets should also be encouraged. It is equally important that the health care providers should be trained and motivated enough to provide good quality services to the clients. For this purpose, the workers should be subjected to frequent orientation/refresher courses.

Use rate was low in illiterate couples and in couples where age at marriage of wife was low. Hence, it is not only important to improve literacy and discourage marriage at a younger age but also to identify such couples and target EC activities selectively on them.

The younger couples and couples having one or no child were using these methods in a low proportion. It is important to cover these couples on a priority basis by the health care providers if we wish to make a dent on total fertility in order to achieve a stable population.

In the present study, couples used female-based methods more commonly than the male-based ones, which indicate poor involvement of men in the family welfare programme. It is important to increase their participation as husbands often influence their wife's reproductive choices. Research is also needed to produce more male-specific contraceptives, as 2 of the 3 contraceptives approved and available in the programme are female-specific.

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यह अध्ययन अप्रैल 1999 से मार्च, 2000 की अवधि में हरियाणा के रोहतक जिले में स्थित बेरी ब्लाक में रह रहे दम्पतियों में अंतराल विधियों के बारे में उनकी जागरूकता एवं अभ्यास के स्तर का आकलन करने के लिए किया गया था। अध्ययन से प्राप्त निष्कर्षों से पता चला है कि 48 प्रतिशत दम्पतियों द्वारा किसी भी विधि का प्रयोग नहीं किया जा रहा था। यद्यपि दम्पति संरक्षण दर 52 प्रतिशत थी, किन्तु अन्तराल विधियाँ केवल 25 प्रतिशत दम्पतियों द्वारा ही प्रयोग में लाई गई थीं। कॉपर-टी को ही सर्वाधिक अंतराल विधि के रूप में पाया गया था, तत्पश्चात् इस क्रम में निरोध तथा 'ऑरल पिल्स' को अंतराल विधि के रूप में प्रयोग में लाया जा रहा था। अंतराल विधियों का प्रयोग न करने वाले अधिकांश दम्पतियों द्वारा अन्तराल विधि के रूप में महिला-आधारित तरीकों को अपनाया जा रहा था, जिससे यह संकेत मिलता है कि कार्यक्रम में पुरुषों की भागीदारी बहुत कम थी। सुव्यवस्थित सूचना, शिक्षा एवं संचार रणनीतियों द्वारा इस प्रवृत्ति में सुधार लाए जाने की आवश्यकता है।

REFERENCES

1. Ministry of Health and Family Welfare (Government of India), Annual Report 1998-99 (1999) *Ministry of Health & Family Welfare*, New Delhi, p. 1-24.
2. World population crosses 6 billion (1999) *The Tribune*, Oct. 13 (col. 2): 1.
3. Department of Family Welfare, IEC division (Government of India). National Population Policy 2000 (2000) Action plan, Vol. XXV No.6-7, New Delhi, 3-16.
4. Ministry of Health and Family Welfare (Government of India), National Family Health Survey-II (1998-'99) New Delhi.
5. Jain S, Singh JV and Bhatnagar M et al (1999) Attitude of rural women towards contraceptive and its use. *Indian J of Maternal and Child Health*, 1091:18-19.
6. Alag V & Banerjee A (1995) Acceptance of spacing methods of contraception in Municipal Corporation of Delhi. *Health and Population-Perspectives and Issues*, NIHFV, New Delhi, 18(2): 56-62.
7. Audinarayan N & Shakila Rani R (1996) Socioeconomic and demographic factors influencing the use of fertility control and regulating methods in a Tamil Nadu village. *Health and Population-Perspectives and Issues*, 19(4): 200-211.
8. Singh P, Kumar P, Goel V et al (1990) Adoption of family planning practices and associated factors in Paharganj area of Delhi. *The Journal of Family Welfare*, 36(2): 36-42.
9. Sunder R (1995) The status of women and family planning acceptance: Some field results. *The Journal of Family Welfare*, 41(3): 27-32.
10. Shyamini KA & Helen H (1995) A study of some factors relating to contraceptive use in an urban slum. *Health and Population-Perspectives and Issues*, 18(4): 176-189.

**MENSTRUATION: KNOWLEDGE, BELIEFS AND PRACTICES
OF WOMEN IN THE REPRODUCTIVE AGE GROUP
RESIDING IN AN URBAN RESETTLEMENT COLONY OF DELHI**

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ABSTRACT

In a community-based cross-sectional study, knowledge, beliefs and practices on menstruation were studied among the reproductive age group women residing in an urban resettlement colony of Delhi. Though menstruation is a physiological process, 86 percent of women were not psychologically prepared for it. As an absorbent, home-made pads made of unwashed clothes were used by 60 percent of women and three-fourths of them were unaware of the problems caused as a result of using dirty clothes. The quality of absorbent material used was significantly related to age and maternal education of the subjects. 79 percent of the subjects admitted that excessive bleeding and severe abdominal pain were abnormal. For those women having problems (28 %) in the last menstrual period, 44 percent reported excessive bleeding while 17 percent had severe abdominal pain. While 38 percent did not seek any remedial measures, 45 percent consulted a doctor and 15 percent took self-medication. The above findings highlight the need for health education among women so as to increase awareness and correct knowledge regarding various aspects of menstruation and menstrual hygiene.

Keywords: Menstruation, Reproductive-age women, Absorbent, Knowledge and Practice.

The onset of menarche marks the beginning of a women's reproductive life. Though a normal physiological process, menstruation is a topic that is often not discussed openly in our society. Some women, even in the developed countries, considered menstruation to be inconvenient or embarrassing¹. Consequently, there are plenty of misbeliefs and superstitions associated with it. Ignorance has led to many kinds of practices especially among the illiterate women, some of which are very much harmful. Menstrual problems have been reported in about 85 percent of women in India². This highlights the need to find out the various beliefs and practices associated with menstruation, as these have direct implications on the reproductive health of women. Most of the earlier studies

were reported amongst adolescent girls. In 352 randomly selected healthy Nigerian schoolgirls, 187 (53.1%) had menarche but 40 percent of those were deficient in their knowledge on menstruation. Although menstrual knowledge was higher in post-menarche girls, 10 percent were also totally ignorant about menses and 84 percent were not psychologically prepared for the first menses. Girls' menstrual knowledge was positively associated with parental education³ A similar study in Haryana among 130 girl students aged 13-17 years reported poor awareness and health seeking practices during menstruation. The study has reported the commonest reported menstrual problem as dysmenorrhoea (40.7%) followed by irregular menses (2.3%). While only 5.3 percent consulted a doctor, 22.4 percent preferred to take counter medications from chemist shops⁴. In the present set up, all women in the reproductive age group from a resettlement colony of Delhi were studied for their knowledge, beliefs, and practices relating to menstruation and the data was collected through a semi-structured interview schedule developed for the purpose.

OBJECTIVE

The objective of the study was to assess the knowledge, beliefs and practices regarding menstruation by women in the reproductive age group of 15-49 years.

MATERIALS AND METHOD

This was a community based cross-sectional study, carried out in Ambedkar Nagar, a resettlement colony in New Delhi. A minimum sample size of 250 women in the age group 15-49 years was included in the study. A semi-structured interview schedule was prepared and administered for collecting relevant information. A systematic random sampling method was used for selection of subjects. Four blocks were selected for the study. A total of 65 women from each block were taken. Women who refused to participate or unavailable on two visits were excluded from the study.

FINDINGS

A total of 254 women were enrolled for the study. As per their age distribution, almost 60 percent of the women belonged to the age group 20-29 years (Table 1). The mean age was 26 ± 7 years. More than 80 percent of the women were literate (Table 2). However, only 30 percent of their mothers were

literate. Almost one-fourth of the women were unmarried; mostly those belonging to the age group less than 20 years. A majority (86%) of the women did not know about menstruation before their menarche. Almost 90 percent of those who knew were below 20 years, and their source of knowledge was from their mothers, from schools or friends. More than half (54.3%) of the respondents said that the normal age for attaining menarche was 13 to 14 years; 62 percent had the knowledge that the normal duration of menstruation lasts for 4 to 5 days and normally 2 to 3 pads a day are required for the purpose. Most of the women reported that pain in abdomen is normally associated with menstruation, and 46 percent of them revealed backache as an associated problem. When asked about their perception on abnormal menstruation, excessive bleeding was considered by 79 percent, menstruation lasting more than five days, by 56 percent and severe abdominal pain by 46.5 percent of the subjects. Some women (8.5%) also perceived bleeding less than 2 days as abnormal too.

TABLE 1
DISTRIBUTION OF WOMEN BY AGE

Age group	No.	Percentage
15-19 years	43	16.9
20-29 years	149	58.6
30-39 years	44	17.3
40-49 years	18	7.2
Total	254	100

TABLE 2
DISTRIBUTION OF WOMEN BY EDUCATIONAL STATUS

Educational Status	No.	Percentage
Illiterate	46	18.2
Primary	67	26.4
Middle	86	33.8
High school and above	55	21.7
Total	254	100

Almost half of the women (47.6%) had reportedly attained menarche at 13 years of age, and 35 percent at 14 years. Some of the women, mostly older women, could not remember their age at menarche. All the women refrained from worshipping and participating in religious activities during their menstrual period. However, none of them were at rest during menstruation. When asked about the

kind of material used as absorbent, majority of them (60.2%) reported to have used home-made pads made of clothes while 11 percent used both clothes and sanitary napkins. Only 28 percent women found to have exclusively used napkins. The source of information to use sanitary napkins was obtained from mothers (52%) or from the media (27.8%). The expenditure for those who used sanitary napkins regularly ranged from Rs.20-35 per month. From those using clothes as absorbent, only 7.6 percent women preferred washed and cleaned clothes. The rest used any kind of cotton cloth available, and 18 percent used dirty clothes since they regard menstruation as unclean. 89 percent of the women who had not used sanitary pads were aware of their availability in the market, but could not afford due to economic constraints. There is a statistically significant association between the educational status of the mother and the use of absorbent materials. It was observed that the women with literate mothers (60.5%) were more likely to use sanitary napkins than those whose mothers were illiterate (14.6%) (Table 3).

TABLE 3
INFLUENCE OF MATERNAL EDUCATIONAL STATUS
ON MATERIALS USED AS ABSORBENT

Education	Only Cloth (%)	Only Napkins (%)	Both cloth and napkins (%)	Total (%)
Illiterate	19(10.6)	26(14.6)	133 (74.8)	178(100)
Literate mother	10(13.2)	46 (60.5)*	20 (26.3)	76(100)*
Total	29 (11.4)	72 (28.3)	153 (60.3)	254 (100)

*(p<0.05)

It was also observed that women of younger age group (20-29 years) were more likely to use sanitary napkins (73.4%) compared to the older women (30 years and above) (Table 4).

TABLE 4
WOMEN'S AGE VERSUS MATERIALS USED AS
ABSORBED

Age (years)	Only cloth (%)	Only Napkins (%)	Both cloth and napkins (%)	Total (%)
15-19	0	17(23.6)	26 (16.9)	43(16.9)
20-29		55(73.4)*	94 (61.5)	149 (58.6)*
30-39	11(37.9)	0	33 (21.6)	44(17.3)
40-49	18(62.1)	0	0	18(7.2)
Total	29(100)	72 (100)	153 (100)	254(100)

* P<0.05)

When asked about the possible reasons of using dirty clothes, three-fourth of the women were not aware of any diseases or problems associated with the use of dirty clothes as pads during menstruation. Some (13.2%) expressed that it might cause itching, and only 6 percent had the knowledge that it might lead to vaginal discharge (Table 5).

TABLE 5
KNOWLEDGE ON HAZARDS USING INSANI ARY MATERIALS AS
PADS

	No.	%
Don't know	138	75.8
Itching	24	13.2
White discharge	12	6.6
Others	8	4.4
<i>Total</i>	<i>182</i>	<i>100</i>

(n=182)*

None of the women reported any ceremonial bath or douching after menstruation. Most of them considered it to be filthy and therefore, refrained from having any sexual intercourse during the period. In case of any problem during menstruation, about one-fourth of them consulted either their mothers, or friends before approaching a doctor.

For the last menstrual period, 28 percent of women reported to have some problems; the most common being excessive bleeding (44.4%) or severe pain abdomen (17%). During the same period, 45 percent of them consulted a doctor, while 38 percent did not do anything. About 15 percent of the subjects took self-medication mostly for pain abdomen.

DISCUSSION

Women residing in this resettlement colony originally belonged to different adjoining states of Delhi; mainly UP, Bihar, Rajasthan etc. Therefore, their diverse cultural backgrounds and upbringing is expected to influence their knowledge, beliefs and practices. It was found that 86 percent of the women were not aware of menstruation before their menarche. This was, in a way, similar to the results reported in a study in Nigeria where 84 percent of girls were not psychologically prepared for their first mense². Abnormal menstruation in terms of duration and amount of bleeding was correctly perceived by a majority of women. This ordinarily would have a direct bearing on the care seeking behaviour of subjects perceiving abnormal symptoms. However, such a behavior depends not only on the awareness, but also on the literacy status as observed in the present study. Illiterates were found less likely to seek for any medical help. Among those who decided to seek help, some of them preferred over-the-counter medicines due to their easy availability and accessibility in chemist shops. An important finding of this study was that only one-third of the study subjects used sanitary pads as absorbents. The rest used home-made pads out of clothes that are, more often than not, dirty and unhygienic. The awareness about the possible hazards of using unclean material as pads was poor, which emphasizes the risk leading to high prevalence of reproductive tract infections in these women. Use of sanitary napkins was significantly more in younger women whose mothers were literate. Apart from education, the media played an important role influencing the use of sanitary napkins. The most common menstrual complaint was excessive bleeding and dysmenorrhoea, similar to the findings as reported from Haryana³. In a study among nursing students in Alexandria, it was revealed that one quarter of the sample population avoided bathing during their periods. Menstrual pain and fear of bleeding were the causes of absenteeism from schools among 37.62 percent of the sample subjects⁵. In the present study, none of the subjects reportedly took any rest during menstruation. Similar to the studies as earlier reported⁵, mothers continued to be the sole and trusted source of information regarding menstruation.

CONSLUSION

An attempt has been made in the present study to assess the knowledge, beliefs and practices of women regarding menstruation. Women of all age groups were included in this cross-sectional study, which provided an advantage of gaining insight as to how the perceptions and practices of women change with time. Literacy was found as an important influencing factor. The other important

factor observed was the role of the mothers in imparting knowledge on menstruation, which would have a direct bearing in the identification and management of Reproductive Tract Infections. The above observations may be true only for the study population, and therefore, cannot be generalised to other women belonging to different socio-economic or cultural backgrounds. Beliefs are instrumental in shaping patient's health seeking behaviour, and may contribute to their negative health practices. Therefore, there is a need to know the knowledge, beliefs and practices of women regarding such issues like menstruation prior to formulating relevant health education programmes.

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दिल्ली की एक शहरी पुर्नवास कालोनी में रहने वाली प्रजनन आयु-वर्ग की महिलाओं को माहवारी के बारे में उनके ज्ञान, विश्वास और अभ्यास का पता लगाने के लिए एक समुदाय पर आधारित क्रास-सैक्शनल अध्ययन किया गया था। यद्यपि माहवारी एक कायिकीय प्रक्रिया है, किन्तु 86 प्रतिशत महिलाओं को शारीरिक रूप से इस प्रक्रिया के लिए तैयार नहीं पाया गया था। 60 प्रतिशत महिलाओं द्वारा, घर पर बिना धुले कपड़ों से तैयार किए गए अवशोषक पैड का प्रयोग किया जाता था और उनमें से तीन-चौथाई महिलायें गन्दे कपड़ों के प्रयोग से होने वाली समस्याओं से अनजान थी। प्रयोग की जाने वाले अवशोषक पैड की गुणवत्ता का संबंध उल्लेखनीय रूप से आयु और माता द्वारा उन्हें दी शिक्षा से सम्बद्ध पाया गया था। 79 प्रतिशत महिलाओं द्वारा यह स्वीकार किया गया था कि उन्हें अत्यधिक रक्तस्राव और गम्भीर रूप से उदर में दर्द होता था। पिछली माहवारी के समय इन समस्याओं से पीड़ित महिलाओं (28%) में से 44 प्रतिशत महिलाओं द्वारा अत्यधिक रक्तस्राव होने की बात कही गई थी, जबकि 17 प्रतिशत महिलाओं ने गम्भीर उदर पीड़ा झेली थी। 38 प्रतिशत महिलाओं द्वारा कोई उपचारात्मक उपाय नहीं कराया गया था, जबकि 45% महिलाओं ने डाक्टर से सलाह ली थी और 15 प्रतिशत महिलाओं ने अपने ही तरीके से इलाज किया था। अध्ययन से प्राप्त निष्कर्ष महिलाओं को स्वास्थ्य शिक्षा दिए जाने की आवश्यकता और माहवारी के बारे में महिलाओं को सही जानकारी देने तथा माहवारी के दौरान साफ-सफाई के विभिन्न पहलुओं के बारे में उनकी जागरूकता बढ़ाने की जरूरत को इंगित करते हैं।

REFERENCES

1. Abrahams, Fraser I, Gebski V, Knight C, Llewellyn-Jones D, Mira M & Mcneil D (1985) Menstruation, menstrual protection and menstrual cycle problems: The knowledge, attitudes and practices of young Australian women. *MedJAust*, 142:247-251.
2. Bang RA, Bang AT, Baltule M, Choudhury Y, Sarmikuddam N & Tale O (1989) High prevalence of gynaecological disease in rural Indian women. *Lancet*, 1:85-87.
3. Abioye-Kuteyi EA (2000) Menstrual knowledge and practices amongst secondary school girls in Nigeria. *J Soc Health*, 120:23-26.
4. Singh MM, Devi R & Gupta SS (1999) Awareness and health seeking behaviour of rural adolescent schoolgirls on menstrual and reproductive health problems. *Indian J Med ScL*, Oct., 53:439-443.
5. Shazly MK, Hassanein MH, Ibrahim AG & Nosseir SA (1990) Knowledge about menstruation and practices of nursing students affiliated to University of Alexandria. *J Egypt Public Health Assoc.*, 65:509-523.

PSYCHO-SOCIAL HEALTH OF MIGRANT EMPLOYEES

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ABSTRACT

To assess the psychosocial health of migrant employees compared to non-migrants, 750 (551 migrant and 199 non-migrant) people employed in Ahmedabad were randomly included in the study. 25.6 percent of the migrant employees revealed addictive habits compared to 15.1 percent of the non-migrants ($p=0.0000$). Cardio-vascular or musculoskeletal conditions were the most frequently cited stress conditions by migrant (3.6%) and non-migrant (3.5%) employees respectively. But the difference in the pattern and frequency of stress-related disorders amongst the migrant versus non-migrants was statistically not significant ($p=0.96$). Overall stress, experienced by the migrant employees within one year of migration (15.6%) was more compared with the lifetime stress (9.3%). The migrants in the eldest category (51-60 years) were maximally stressed (24.3%) followed by the young entrants, 21-30 years (19.1%). Amongst the non-migrants, the youngest (21-30 years old) were maximally stressed (15.4%). Both migrant and non-migrant employees were found almost equally to suffer (14.0% and 15.5% respectively, $p=0.58$) from non-psychotic psychiatric conditions. The above findings indicate higher vulnerability to stress and stress-related manifestations by migrant employees. It underscores the need for organized employment and to establish help-lines and set-ups for extending care, help and support for such migrant employees. This should include rendering help in terms of accommodation, settling-in, social interaction, medical care, counselling, information and advice particularly during the first year of their migration.

Keywords: Migrant employees, Stress and Psycho-social health, Addiction

Throughout history, people have always moved to new lands in search of better lives and livelihood, and to flee from conflicts or conflict zones subsequent to political, religious or ethnic uprising. The migrants are derived from all social strata; barons and beggars, adventurers and outcastes, gold-diggers and breadwinners. The economic and socio-political causes of migration vary. Migrants face an acute sense of being uprooted, the difficulties of situational adjustments and adaptation to environmental changes, the frustration of unfulfilled

expectations, the competition for acquiring a job and other problems like insecurity and lack of housing etc. Migrants are often subjected to discrimination and prejudice, denied human rights and also exploited as cheap labour¹.

In USA, it was revealed that migration from one place to another is associated with a greater incidence of psychiatric illness among the migrants². In UK, the prevalence of psychiatric morbidities was found to be 140 per 1000 industrial workers³. Strole et al⁴ concluded that it is the low status and poverty of migrants that is responsible for their poor mental health. In a comparative study of illness patterns of Asian immigrants and British patients, it was found that schizophrenia prevalence rate was higher in the migrants. The difficulty in communications or inability to express due to varying cultural backgrounds might be the important factors besides individual instability⁵. Several similar studies on mental health of migrants have also been conducted in India^{6,11}. Dube reported that mental morbidity rate in the uprooted Punjabi community in Uttar Pradesh was higher than the local population⁶. He also reported that the refugees who did not undergo stressful experiences showed no significant difference in the rate of mental illness as compared to the local population. In a study in Surat, no significant association between migration and stress was found among the migrant employees⁷. Wig et al⁸ reported a morbidity rate of 88.6 percent amongst the Afghan refugees in Delhi, with the majority suffering from anxiety, depression and somatic symptoms. In another study of immigrants from West Pakistan settled in Lucknow, it was observed that prevalence of psychiatric illness among migrants (9.6%) was more than in the non-migrants (4.2%)⁹. A mental morbidity rate of 102.8 per 1000 persons was reported in an uprooted Muslim community in rural West Bengal¹⁰. However, except for the study by Bhaskaran et al¹¹, most others revolved around specific communities and dealt with people migrated due to political compulsions. It was Bhaskaran et al who reported that anxiety and reactive depression were the major disorders among migrants and 25 percent of the migrant industrial workers were suffering from psychiatric illness¹¹.

OBJECTIVE

The present study was aimed to assess the psycho-social health of migrant employees in Ahmedabad. The city with an estimated population of 413.09 lakhs as per the 1991 census¹², has a large industrial base, and attracts a large number of migrant employees from different parts of the country in search of livelihood.

MATERIALS AND METHOD

In this cross-sectional and descriptive sample study, institutions in the organized sector having a significant proportion, at least 25 percent of migrant employees in their workforce, were selected. Eleven such institutes namely, EDPL Forensic Science Laboratory, Indian Space Research Organization, Indian Institute of Management, National Institute of Design, National Institute of Occupational Health, Oil and Natural Gas Commission, Cadila Pharmaceuticals, Torrent Pharmaceuticals, Physical Research Laboratory and Plasma Research Institute were identified. Four among these, like, National Institute of Occupational Health, National Institute of Design, Physical Research Laboratory, and Indian Space Research Organization were selected randomly representing one from each of four areas (quadrants) of the city of Ahmedabad.

A complete list of all employees was procured from each of the four institutes. The sample consisted of 25 percent employees from each Institute. This included 750 employees randomly selected for the study from a total 3,015 employees on the rolls of the four institutions.

A pre-tested questionnaire, which was prepared both in English as well as in Gujarati, was used to obtain information. The respondents' age, migrant status and time since migration were noted. The psycho-social health of the respondents was assessed in terms of frequency of addictive habits, stress-related disorders, presumptive stressful life event (PSLE) Score, and non-psychotic psychiatric conditions through the Goldbergh Health Questionnaire-12.

The Gurmeet Singh PSLE Scale¹³ was used to estimate the effect of various psycho-social stressful events. The employees were graded as Normal, No stress (5 X), Mild stress ($X + 1 \text{ SD}$), Moderate stress ($X + 2\text{SD}$) and Severe stress ($9X + 3 \text{ SD}$). The battery detailing the stressful psychosocial factors, events and circumstances used in this PSLE Scale are detailed in Chart-I. Two time scales were used: (a) past one year and (b) life time, taking into consideration of the facts that recall events in recent time period was better, and that the impact of the event differs with the passage of time.

The Goldbergh Health Questionnaire-12 (GHQ-12)¹⁴ is a standard questionnaire for assessment of non-psychotic morbidity (Chart-II). It consists of twelve questions, having four possible responses: never, not more than usual, more than usual and frequently. The answers were scored as 0 or 1, depending

upon the question and the response received, as per the guidelines. The respondents were assessed on the basis of the total score of the 12 items and categorized as: Normal (score < 3), borderline (score = 3), possible non-psychotic psychiatric condition (score > 3).

The data were compiled, tabulated and the variables were analyzed as per the migrant/non-migrant status of the employees. The chi-square test was applied to assess the statistical significance of the difference's observed.

FINDINGS AND DISCUSSION

208 (38.0%) of the migrant employees were from South, 126 (23.0%) from North, 106 (19.3%) from West, 68 (12.4%) from East and 40 (7.3%) from Central India. Only 68 (12.3%) of the migrants had migrated within the last one-year, 214 (38.8%) during the last 1-10 years, 130 (23.6%) during the last 11-20 years and 139 (25.2%) were migrated more than 20 years back.

It was interesting to note that 171 (22.8%) employees had one or more addictions. Addiction was observed to be significantly higher in migrant employees (26.6%) than in the non-migrants (15.1%). Smoking was the most frequent (90.1%) addiction amongst the migrants, followed by alcohol (70.9%), whereas amongst the non-migrants smoking and substance abuse were the most common (46.7%) addictions (Table 1). According to a study on alcoholism among employees in Stockholm, the addiction was significantly more common among the migrants than in the non-migrant workers¹⁵. Smoking has been shown to be associated with tension and anxiety and the inability to stop smoking among engineers and scientists was observed to be associated with job stress and higher levels of quantitative workloads.

CHART I
Gurmeet Singh's Presumptive Stressful Life Events Scale (PSLES)

CHART 1
Gurmeet Singh's Presumptive Stressful Life Events Scale (PSLES)

RANK No.	LIFE EVENTS	MEAN STRESS SCORE	RANK No.	LIFE EVENTS	MEAN STRESS SCORE
1	Death of spouse	95	27	Marriage of daughter or dependent sister	49
2	Extramarital relations	80	28	Minor violation of law	48
3	Marital separation/divorce	77	29	Family conflict	47
4	Suspension/dismissal from job	76	30	Break-up with friend	47
5	Detention in jail of self or close family member	72	31	Major purchase / construction of house	46
6	Lack of child	67	32	Death of pet	44
7	Death of close family member	66	33	Failure in examination	43
8	Marital conflict	64	34	Appearing for examination or interview	43
9	Property or crops damaged	61	35	Getting married or engaged	43
10	Death of friend	60	36	Trouble with neighbour	40
11	Robbery or theft	59	37	Unfulfilled commitments	40
12	Excessive alcohol or drug abuse by family member	58	38	Change in residence	39
13	Conflict with in-laws (other than over dowry)	57	39	Change or expansion of business	37
14	Broken engagement or love affair	57	40	Outstanding personal achievement	37
15	Major personal illness or injury	56	41	Begin/end schooling	36
16	Son or daughter leaving home	55	42	Retirement	35
17	Financial loss or problems	54	43	Transfer/Change in working conditions	33
18	Illness of family member	54	44	Change in sleeping habits	33
19	Trouble at work with colleagues, superiors or subordinates	52	45	Birth of daughter	30
20	Prophecy of Astrologer or palmist	52	46	Gain of new family member	30
21	Wife's pregnancy	52	47	Reduction in number of family functions	29
22	Sexual problems	51	48	Change in social activities	28
23	Family member unemployed	51	49	Change in eating habits	27
24	Lack of son	51	50	Spouse begins or stops work	25
25	Large loan/debt	51	51	Going on pleasure trip/pilgrimage	20
26	Heavy loan/debt	49			

(Source: 13)

CHART-II
Goldbergh Health Questionnaire (GHQ-12)

Please answer the following questions by inserting one of these choices in the box:

(1) Never (2) Not more than usual (3) More than usual (4) Frequently

- (a) Do you have any problems in sleeping due to tension?
- (b) Do you usually suffer from anxiety/tension?
- (c) Are you able to concentrate in every work you do?
- (d) Do you feel that you help others in their work?
- (e) Are you able to tackle your own problems/difficulties?
- (f) Are you able to take decisions on any matter by your own?
- (g) Do you feel that you cannot solve your problems?
- (h) Are you happy?
- (i) Are you able to enjoy your day-do-day activities?
- (j) Do you usually remain unhappy and sad?
- (k) Have you lost your self-confidence?
- (l) Do you feel that you are a useless person?

Scoring: The following responses for the questions carry score 1, other responses are scored as 0.

- (a) 3,4 (b) 3,4 (c) 1,2 (d) 1,2 (e) 1,2 (f) 1,2
- (g) 3,4 (h) 1,2 (i) 1,2 (j) 3,4 (k) 3,4 (l) 3,4

TABLE 1
DISTRIBUTE OF RESPONDENTS ON THE BASIS OF THEIR ADDICTION

Addiction	Migrants (n= 551)	Non-migrants (n=199)	Total (n=750)
No Addiction	410(74.4%)	169 (84.9%)	579 (77.2%)
Addiction +	141 (25.6%)	30(15.1%)	171 (22.8%)
Smoking	127 (90.1%)	14 (46.7%)	141 (82.5%)
Alcohol	100 (70.9%)	7 (23.3%)	107 (62.6%)
Substance Abuse	22(15.6%)	14 (46.7%)	36 (21.1%)

(X² = 46.5, d.f. = 3. p = 0.0000)

The most frequent stress-related condition in the migrant employees was cardio-vascular conditions (3.6%); while in the non-migrants, it was muscle-skeletal conditions (3.5%) (Table 2). In an over-view of psychological and social risk factors in coronary heart disease (CHD), Jenkins reported that the evidence of work overload and chronic conflict situations were related to the risk of developing CHD¹⁶. However, no statistically significant difference (p=0.96) in the pattern and/or frequency of stress-related disorders amongst the migrant and non-migrant employees was observed in the present study.

TABLE 2
FREQUENCY OF STRESS-RELATED CONDITIONS IN THE RESPONDENTS

Stress-related Conditions	MIGRANTS (N = 551) =		NON- MIGRANTS (N = 199)		TOTAL (N=750)	
	n	%	n	%	n	%
Cardio-vascular	20	3.6	6	3.0	26	3.5
Dermatological	11	2.0	5	2.5	16	2.1
Gastrointestinal	16	2.9	5	2.5	21	2.8
Immunological	10	1.8	6	3.0	16	2.1
Musculoskeletal	17	3.1	7	3.5	24	3.2
Respiratory	13	2.4	4	2.0	17	2.3
Sub-total*	87		33		120	
No disease	476	86.4	174	87.4	650	86.7
Total	551		199		750	

(X² = 1.53,d.f.=6, p=0.96)
[*75 migrants (13.6%) and 25 non-migrants (12.6%) suffered from stress-related conditions. 12 migrants and 8 non-migrants reported more than one of the above conditions, hence the sub-total is more than the number of respondents, denoting the number of conditions reported.]

Stress as determined by the PSLE Score, experienced by the migrant employees within one year of migration (Table-3) was so high (15.6%) that it was even more than the overall stress experienced by them (9.3%) in their whole lifetime (Table-4). This shows that the migrant employees experienced the maximum stress within the first year of migration, and that the level of stress decreased with the passage of time, as they gradually adapt to the changed environment. A similar study on Bosnian refugees in 1998 has referred to such recovery from stress, hypertension and shock of displacement with the passage of time¹⁷. Acculturation and increased stability in the realms of family, work, community or other aspects of life structure were mainly responsible for the gradual decline of stress among the migrants. Most investigators consider

Murphy's¹⁸ second postulate of "migration-as-stress hypothesis" to be true as it states- "hardships of migration precipitate mental disorders in susceptible individuals by creating mental stress." Some investigators in India also report increased morbidity with migration⁶⁻⁸⁻¹⁰.

TABLE 3
DISTRIBUTION OF RESPONDENTS ON THE BASIS OF THE PSLE SCORE (STRESS SCORE)FOR THE PAST ONE YEAR

Stress Category	Stress Score	Migrants	Non-Migrants	Total
Mild Stress	328-453	63 (11.4%)	14(7.0%)	77(10.3%)
Moderate Stress	454-578	13(2.4 %)	2(1.0%)	15(2.0%)
Severe Stress	579 & above	10(1.8%)	0	10(1.3%)
Subtotal (persons having any degree of stress)	> 327	86(15.6%)	16(8.0%)	102(13.6%)
No Stress	<328	465 (84.4%)	183 (92.0%)	648 (86.4 %)
TOTAL		551 (100 %)	199 (100%)	750 (100%)

(Stressed vs Non-stressed: $X^2 = 7.1$, d.f. = 1, p = 0.0076)

TABLE 4
DISTRIBUTION OF RESPONDENTS ON THE BASIS OF THE PSLE SCORE (STRESS SCORE)

Stress Category	Stress Score	Migrants	Non-Migrants	Total
Mild Stress	459-603	36 (6.5%)	12(6.0%)	48 (6.4%)
Moderate Stress	604-748	10(1.8%)	3(1.5%)	13(1.7%)
Severe Stress	749 & above	5(0.9%)	0	5(0.7%)
Subtotal (persons having any degree of stress)	> 458	51 (9.3 %)	15(7.5%)	66 (8.8 %)
No Stress	<459	500 (90.7 %)	184 (92.5%)	684 (91.2%)
Total		551 (100 %)	199(100%)	750 (100%)

Stressed vs Non-stressed : $X^2 = 0.54$, d.f. = 1, p = 0.4633)

Table 5 shows that the migrants in all age groups were found stressed more than the non-migrants. The eldest migrants (51-60 years old) were maximally stressed (24.3%), followed by young people, 21-30 years old (19.1%), the 31-40 years old (12.6%) and the 41-50 years old (10.1%) categories. Amongst the non-migrants the proportion of the stress decreased with age, with the young (21-30 years old) found stressed maximally (15.4%), followed by those in 31-40 years (7.9%), 41-50 years (7.5%) and the oldest in the 51-60 years (3.3%). These differences were statistically significant (p=0.04). The above findings demonstrated a higher vulnerability of migrants, per se, to stress, particularly the elderly and the youngest migrants. This may be an expression of the higher level

of insecurity and worry experienced by the elderly and the youngest, while the young adults in between the age groups were able to adapt to changes and withstand adversity more readily than others. Weine et al, in their study on post-traumatic stress disorder (PTSD) in Bosnian refugees one year after resettlement in the United States, also found older refugees to be at greater risk¹⁷.

TABLE 5
ASSOCIATION OF STRESS VERSUS AGE

Age Group	MIGRANTS (N=551)			NON-MIGRANTS (N=199)			TOTAL (N=750)		
	n	Stressed	%	n	Stressed	%	n	Stressed	%
21-30	115	22	19.1	26	4	15.4	141	26	18.4
31-40	143		12.6	63	5	7.9	206	23	11.2
41-50	178	18	10.1	80		7.5	258	24	9.3
51-60	115	28	24.3	30	1	3.3	145	29	20.0
Total	551	86	15.6	199	16	8.0	750	102	13.6

(X² = 8.46, d.f. = 3, p = 0.04)

Table 6 shows that migrant and non-migrant employees were found to suffer almost equally (14.0% and 15.5% respectively, p=0.58) from non-psychotic psychiatric conditions, as determined by the Goldbergh Health Questionnaire-12 9GHQ-12).

TABLE 6
DISTRIBUTION OF RESPONDENTS ON TRHE BASIS OF NON-PSYCHOTIC PSYCH IATRIC CONDITIONS (AS PER GHQ-12)

Category	Migrants		Non-migrants		Total	
	No.	%	No.	%	No.	%
Borderline	33	6.0	12	6.0	45	6.0
Symptomatic	44	8.0	19	9.5	63	8.4
Sub-total	77	14.0	31	15.5	108	14.4
Normal	474	86.0	169	84.5	642	85.6
Grand Total	551	100	199	100	750	100

(Abnormal vs Normal: X² = 0.3, d.f. = 1, p = 0.58)

CONCLUSION

The study demonstrated a higher vulnerability to stress by the migrant employees. They were more prone to addictions than the non-migrants. The most frequent stress-related condition reported in the migrant employees was cardiovascular disorders. The stress experienced by them within one year of migration

was more than the lifetime stress. The eldest migrant employees (51-60 years old) were found maximally stressed, followed by those in the youngest age group. However, non-psychotic psychiatric disorders were found to be almost equally prevalent amongst both the migrant and the non-migrant employees. This study underscores the need for the organized employment sector to establish help lines and set-ups for extending care, help and support to migrant employees, focusing on their needs in terms of accommodation, settling-in, social interaction, medical care, counseling, information and advice. Ideally such support needs to be family-based and made available to the employees for a minimum period of one year after migration.

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(स्थानान्तरित न होने वाले) कर्मचारियों की अपेक्षा (स्थानान्तरित न होने वाले) कर्मचारियों के मनोवैज्ञानिक-सामाजिक स्वास्थ्य का आकलन करने के लिए अहमदाबाद में तैनात 750 (551प्रवासी और 199 अप्रवासी) व्यक्तियों को अध्ययन में यादृच्छिक आधार पर शामिल किया गया था। 15.1 % (पी -0.000)अप्रवासी कर्मचारियों की अपेक्षा 25.6प्रतिशत प्रवासी कर्मचारियों में नशा करने की आदतें देखी गई थीं। क्रमशः प्रवासी (3.6%) और अप्रवासी (3.5%) कर्मचारियों में तनाव की जिन स्थितियों का उल्लेख किया गया था से अधिकांश का संबंध कार्डियो-वेस्कुलर अथवा मस्कुलो-स्केलटल स्थितियों में पाया गया था। प्रवासी कर्मचारियों की तुलना में अप्रवासी कर्मचारियों में होने वाले तनाव संबंधी विकारों की प्रवृत्ति और वारंवारता में सांख्यिकी दृष्टि से कोई उल्लेखनीय अन्तर नहीं पाया गया था। पूरे जीवनकाल में होने वाले तनाव (9.3%) की तुलना में एक वर्ष के दौरान प्रवासी कर्मचारियों (15.6%) द्वारा अनुभव किया गया कुल तनाव अपेक्षाकृत अधिक पाया गया था। 51-60 वर्ष के प्रवासी कर्मचारियों में तनाव अधिकतम पाया गया था। 21-30 वर्ष के आयु वर्ग के युवा अप्रवासियों में अधिकतम तनाव साइकोटिक मानसिक स्थितियों से पीड़ित (क्रमशः 14.0% तथा 15.5 %) पाए गए थे। अध्ययन से प्राप्त निष्कर्षों से पता चलता है कि प्रवासी कर्मचारियों के तनाव तथा तनाव से संबंधित अन्य रोगों का शिकार होने की संभावनाएं अधिक थी। यह विश्लेषण प्रवासी कर्मचारियों के मामलों में संगठित रोजगार की आवश्यकता, सहायता एवं समर्थन तथा स्वास्थ्य परिचर्या के विस्तार के लिए हैल्प लाइन्स और सहायता-केन्द्र स्थापित करने की आवश्यकता उपलब्ध कराना, उन्हें व्यवस्थापित करना, सामाजिक समन्वय, चिकित्सा परिचर्या, सूचना एवं परामर्श जैसे घटक सम्मिलित किए जाने चाहिए।

REFERENCES

1. World Health Organization (1981) Social dimensions of mental health, p. 9-10.
2. Malzberg B (1940) Social and biological aspects of mental disease. Utica, New York State Press.
3. Fraser R (1948) The incidence of neuroses among factory workers. *Industrial health research board*, Report No. 90, London.
4. Strole L et al (1962) Mental health in the metropolis: The midtown Manhattan study, New York. *McGraw Hill*, vol.1
5. Pintoo R (1971) Psychosocial variables associated with mental illness in patients of Asian origin. *Indian J. Psychiatry*, 16:203.
6. Dube KC (1970) A study of prevalence and bio-social variables in mental illness in rural and urban community in U.P. *Acta Psychiat Scand*, 46:327.
7. Parmar R 1 (1994) Role of psychosocial stress in epidemiology of hypertension. *Dissertation submitted for the award of the degree of M.D. (SPM)*, May 1994, South Gujarat University.
8. Wig NN et al (1983): Psychiatric problems of afghan refugees in Delhi: A study on 152 out-patients. *Indian Journal of Psychiatry*, 25:40-45.
9. Sethi BB & Manchand R (1978) Socio-economic, demographic and cultural correlates of psychiatric disorders with special reference to India. *Indian Journal of Psychiatry*, 20:199-211.
10. Nandy DN et al (1975) The incidence of mental disorder in one year in a rural community in West Bengal. *Indian Journal of Psychiatry*, 18:79.
11. Bhaskaran et al (1970) Migration and mental health in industry. *Indian Journal of Psychiatry*, p. 102.

12. Government of Gujarat, State Bureau of Health Intelligence, Commissionerate of Health, Medical Services and Medical Education (2000) Basic Health Statistics, Gujarat, 1999-2000:1.
13. Gurmeet Singh et al (1984) Presumptive Stressful Life Event Scale (PSLES)- A new Stressful Life Event Scale for use in India. *Indian Journal of Psychiatry*, 26 (2): 107-114.
14. Goldbergh DP (1976) The detection of psychiatric illness by questionnaire. *British Journal of Psychiatry*, 129:61-67.
15. Lawrence WG et al (1982) Physical and psychological stress at work in Dublin. *The European foundation*.
16. Jenkins CD (1976) Psychological and Social Risk Factors in Coronary Heart Disease. *New England Journal of Medicine*, 294:987-1033.
17. Weine SM et al (1998) PTSD Symptoms in Bosnian refugees I year after resettlement in the United States. *American Journal of Psychiatry*, 155: 562-564.
18. Murphy JM (1965) A cross-cultural comparison of psychiatric disorders. In: Trans-cultural research in mental health. *Univ. Press of Hawaii*, Honolulu, 1972: 213-226.

**AWARENESS REGARDING PULMONARY TUBERCULOSIS IN A
RURAL POPULATION OF GUJARAT**

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ABSTRACT

Awareness on unhealthy practices leading to tuberculosis (TB) is crucial in bringing down the incidence of the disease in the general population. In the present study, knowledge and awareness about TB were assessed among 257 randomly selected rural people in Navagam, Gujarat. Though all the subjects had heard of TB, weakness and breathlessness, as a symptom of TB, was known only to 71.9 percent of the study population. 89 percent of the people had the knowledge that TB can be transmitted from one person to another and only 38.1 percent provided the correct aetiology of TB as an infective organism. A very high (91.82%) proportion of sample populace preferred the government allopathic health facilities for the treatment of TB and equally a large (90) percentage was aware of the existence of the District Tuberculosis Centre (DTC) close to the village. 70.5 percent knew that anti-TB drugs are available free of cost at the government health centres. But misconceptions on the mode of transmission of TB through food and utensils and cure of TB through non-vegetarian diet were very much prevalent, which need to be removed from the minds of the rural folk through adequate awareness campaigns.

Keywords: Tuberculosis, Symptoms, Transmission, Aetiology, Awareness and Misconception.

Tuberculosis is a major public health problem in India. It has become more problematic with the rise in the number of AID cases where the most common opportunistic infection is tuberculosis¹. The Revised National Tuberculosis Control Programme (RNTCP) depends on the passive reporting of the chest symptomatic to the health institutions². Therefore, it is important that the basic information about the disease and the availability of treatment reaches clearly to the individuals in a community. Equally important is to learn about unhealthy practices, if any,

so that appropriate remedial steps can be implemented. The present study was undertaken in villages of Navagam, Jamnagar, Gujarat, with the objective of assessing the knowledge and practices with respect to pulmonary tuberculosis in a rural community.

MATERIALS AND METHOD

The study was conducted in the rural area of Navagam, Jamnagar, having a population of approximately 40,000 distributed among 8000 households. This village is situated close to M.P. Shah Medical College and Hospital, Jamnagar and comes under the District Tuberculosis Centre, Jamnagar.

Study Period: The study was carried out during September to November 2002.

Participants: All the households in the rural area formed the universe of the study. Systematic random sampling was carried out to select the study subjects. After random selection of first household, every 31st household was included in the study. The head of the household, or if found absent, any other adult member of the family (>20 years) was interviewed. In case the selected house was found locked on three successive weekly visits, people in the adjacent household were interviewed. On an average, each interview lasted for about 15 to 20 minutes.

Study Instrument: A pre-tested questionnaire was prepared. It contained questions with regard to socio-demographic variables such as age, sex, religion, caste, type of family, literacy status, occupation, per capita income, social class (as per Prasads classification 1991), knowledge about symptoms, transmission, aetiology, investigations, choice of treatment facilities in case of chest symptoms, treatment, prevention of tuberculosis and source of information.

Statistical Analysis: The data was analyzed using MS Excel 2000 and Z Test.

FINDINGS

Socio-Demographic Profile: A total of 257 individuals with a mean age of 43.02 years (Range: 20-90 years) were interviewed out of which 178 (69.3%) were males and 79 (30.7%) were females. 98 percent of the study population were Hindus. Majority was from nuclear families (59.5%). Only 21.01 percent was illiterate. Majority of the females were housewives (89.87%) and males were predominantly labourers (47.75%). The mean per capita income per month was Rs.920 (range Rs. 190-5840).

All the 257 individuals had heard about tuberculosis. However, weakness and breathlessness as the most common symptom was known to 71.9 percent, followed by cough with sputum (70.4%), chest pain (52.5%), hemoptysis (46.7%) and fever (41.2%). None were aware of all the chest symptoms. 23.3 percent of individuals were not aware of any symptom of tuberculosis. Males and individuals with literacy and high socio-economic status were significantly more aware of the symptoms of tuberculosis (Tables 1 & 2). No significant relation was found between age and knowledge about symptoms of TB.

TABLE 1

DISTRIBUTION OF KNOWLEDGE ON SYMPTOMS OF TB
BY SEX

	Sex		Z	P
Symptoms	Males (n=178)	Female (n=79)		
Cough with Sputum	138 (77.5%)	4 (53.2%)	3.78	<0.01
Fever	76 (42.7%)	29 (36.7%)		
Haemoptysis	84 (50%)	30 (37.9%)		
Chest Pain	100 (56.2%)	35 (44.3%)		
Weakness + Breathlessness	138 (77.5%)	42 (53.2%)	3.78	<0.01
Not Aware	20(11.2%)	34 (43.3%)	5.26	<0.01

(Figures in parentheses indicate percentages)

TABLE 2
STATUS KNOWLEDGE ON SYMPTOMS OF TB VERSUS LITERACY

Symptoms	L		teracy Status			Z	P	
	illiterate (n-54)	Primary (n=83)	Secondary (n=96)	High Secondary <n-12)	Graduate (n=12)			
Cough with Sputum	24 (44.4%)	56 (67.5%)	75 (78.1%)	12(100%)	12(100%)	4.38	<o.o1	
Fever	15(27.7%)	31 (37.3%)	46(47.9%)	4 (33.3%)	9(75.5%)			
Hemoptysis	13 (27.07%)	39 (46.9%)	53 (55.2%)	7 (58.3%)	8 (66.6%)			
Chest Pain	15(27.7%)	46 (55.4%)	57 (54.3%)	8 (66.6%)	10 (83.3%)			
Weakness + Breathlessne ss	22 (40.7%)	58 (69.8%)	79 (82.3%)	11(91.6%)	11(91.6%)			
Not aware	24 (44.4%)	23 (27.7%)	7 (7.3%)	0	0	4.12	<o.o1	

Mode of Transmission: Majority (89%) was aware that TB could be transmitted from one person to another but only 55.6 percent respondents cited transmission via air. Significantly higher proportion of literate males and those individuals from high socio-economic status were aware of correct mode of transmission (Tables 3 & 4). Utensils and food as routes of spread were cited by 57.4 percent while 39.7 percent cited that sharing clothes and talking also could transmit TB.

TABLE 3
DISTRIBUTION BY SEX ON THE KNOWLEDGE TB AND ITS MODE OF TRANSMISSION

Symptoms	Sex		Z	P
Mode of Spread	Males (n=178)	Female (n=79)		
Physical Contact	59 (28.08%)	22 (27.8%)		
Air	107 (60.11%)	30 (37.8%)	3.38	<0.01
Food + Utensils	111 (62.35%)	36 (45.6%)		
Clothing & Talking	72 (40.4%)	29 (36.7%)		
Not Aware	33 (18.5%)	36 (45.6%)		

(Figures in parenthesis indicate percentages)

TABLE 4
 KNOWLEDGE ON MODE OF TRANSMISSION OF TB VERSUS LITERACY STATUS

	Literacy Status					Z
Mode of Spread	Illiterate (n=54)	Primary (n=83)	Secondary (n=96)	High Secondary (n=12)	Graduate (n=12)	
Physical Contact	7(12.9%)	25 (30.12%)	32 (33.3%)	2 (16.6%)	5(41.6%)	
Air	11(20.4%)	36 (43.4%)	70 (72.9%)	10(83.3%)	10(83.3%)	6.45
Food + Utensils	12(22.2%)	47 (56.6%)	66 (68.8%)	10(83.3%)	8 (66.6%)	
Clothing & Talking	10(18.5%)	32 (38.5%)	52 (54.2%)	6 (50%)	3(25%)	
Not Aware	40 (74.07%)	23 (27.7%)	7(7.3%)	0(0%)	0 (0%)	

Aetiology: Only 38.1 percent individuals knew the correct aetiology of tuberculosis as an infective organism (Table 5). There was no significant difference regarding the knowledge on correct aetiology of TB between males and females. But this knowledge was significantly higher among literates and those belonging to high socio-economic class group (Tables 6 & 7). The other possible causes cited by the individuals included smoking and alcohol consumption along with poor diet (57.6%), heredity (48.2%) and curse (7%).

TABLE 5
 KNOWLEDGE ON THE CAUSE OF TB VERSUS AGE OF RESPONDENTS

Cause*	Age Group						Total (n=257)
	20-29 (n=58)	30-39 (n=80)	40-49 (n=67)	50-59 (n=32)	60-69 (n=15)	>70 (n=5)	
Infective Organism	23 (39.7%)	23 (28.8%)	30 (44.8%)	14 (43.8%)	6 (40%)	2 (40%)	98 (38.1%)
Heredity	35 (60.3%)	31 (38.8%)	32 (47.8%)	20 (62.5%)	3 (20%)	3 (60%)	124 (57.6%)
Smoking + Alcohol + Diet	40 (68.9%)	38 (41.5%)	40 (59.7%)	20 (62.5%)	7 (46.7%)	3 (60%)	124 (48.2%)
Curse	11 (18.9%)	4 (5%)	3 (4.5%)	0	0	0	18 (7%)
Not Aware	15 (25.9%)	35 (43.8%)	17 (25.4%)	9 (13.4%)	9 (13.4%)	2 (40%)	87 (33.9%)

(Responses are not mutually exclusive)

TABLE 6
KNOWLEDGE ON CAUSE OF TB VERSUS LITERACY STATUS OF
RESPONDENTS

	Literacy Status					Z	P
Cause	Illiterate (n=54)	Primary (n=83)	Secondary (n=96)	High Secondary (N=12)	Graduate (n=12)		
Infective Organism	7 (12.96%)	26 (31.7%)	50 (52.08%)	7 (58.3%)	9 (75%)	5.62	<0.01
Heredity	8 (14.8%)	37 (48.19%)	64 (66.6%)	8 (66.6%)	6 (83.3%)		
Smoking + Alcohol + Diet	11 (20.37%)	40 (44.5%)	71 (73.95%)	10 (83.3%)	10 (50%)		
Curse	4 (7.4%)	6 (7.2%)	6 (6.25%)	1 (8.3%)	1 (8.3%)		
Not Aware	40 (74.7%)	31 (37.34%)	13 (13.54%)	1 (8.3%)	-	-	-

TABLE 7
KNOWLEDGE ON CAUSE OF TB VERSUS SOCIO-ECONOMIC CLASS
(AS PER PRASADS CLASSIFICATION) OF RESPONDENTS

	Socio-economic Class					Z	P
Cause	I (n=1)	II (n=15)	III (n=52)	IV (n=137)	V (n=52)		
Infective Organism	1 (100%)	10 (66.6%)	23 (44.2%)	46 (33.6%)	16 (30.7%)	2.79	<0.01
Heredity	-	10 (66.6%)	28 (53.8%)	65 (49.4%)	21 (40.4%)		
Smoking + Alcohol + Diet	1 (100%)	13(86.6%)	35 (67.3%)	74 (54.01%)	24 (46.2%)		
Curse	0	10 (66.5%)	2 (3.8%)	10 (7.3%)	7 (11.5%)		
Not Aware	0	10 (66.6%)	11 (21.2%)	49 (55.7%)	22 (42.3%)	-	-

Investigations and Treatment: About 1/4th (24.9%) of the respondents were not aware of any investigations leading to the diagnosis of tuberculosis. Majority stated X-ray (73.15%), blood examination (70.8 %), urine and stool examination (70.4%), and sputum examination (65.75%) as the investigations to be carried out in suspected cases of tuberculosis. Some respondents also cited more than one investigation.

A large number (74.7%) of respondents believed that tuberculosis is curable. Government health facilities (allopathic) were stated to be the place of choice for diagnosis and treatment of the disease by 91.82 percent, whereas 8 percent preferred private practitioners. Only a few (0.18%) opted for ayurveda as their treatment of choice.

Practice of consumption of non-vegetarian diet was observed to be prevalent in the study population with 4.5 percent individuals admitting to have eaten it themselves or given it to by a relative following diagnosis of TB and 8 percent admitted to have heard about the practice.

While 90 percent of the study population was aware of the presence of the District Tuberculosis Centre (DTC) near the village, 5 percent had no knowledge on the facilities provided for the treatment of the disease. Free availability of anti-tuberculosis drugs at Government health facilities was known only to 70.5 percent, whereas 3 percent felt that the treatment was not really free of cost and 25 percent were not aware of the status. The duration of treatment (6-9 month) was correctly known to only 28.01 percent of the respondents.

Knowledge regarding prevention: Majority (75.8%) of the subjects stated that some precautions should be taken if a family member is diagnosed of tuberculosis. Good diet (77.04%) was the most common precaution observed. Other precautions included clean environment (75%), cover mouth while coughing (72.3%), proper sputum disposal (65.36%), avoiding contact with child (63.42%), separate food and utensils (61.4%), separate room (48.2%). Many respondents stated more than one precaution. Only 15.6 percent had heard about the BCG vaccine in spite of the reported 90 percent immunization coverage among infants in the same village. Only 5.8 percent knew that BCG helps to prevent TB.

Source of information: Doctors and health care workers were stated to be the main sources of information regarding various aspects of tuberculosis among 56.8 percent of respondents followed by friends/relatives (34.63%) and mass media (30.35%).

DISCUSSION

In the present study, weakness and breathlessness (71.9%), cough with sputum (70.4%) hemoptysis (46.7%) and fever (41.2%) were observed to be the symptoms of tuberculosis known to people indicating a fairly good level of knowledge on the disease. Uplekar³ and Subramanian⁴ have reported that cough and hemoptysis were known only to 66 versus 13 percent or 15 versus 8 percent of individuals in these two studies

respectively. Another study⁵ indicated similar awareness on symptoms of tuberculosis among people; like cough and sputum (73.7%), weakness and breathlessness (40.4%), fever (34.3%) and hemoptysis (30.0%). The present finding among subjects indicating a relatively better awareness of the symptoms is indeed encouraging and may help in improving the identification of passive cases.

It was also encouraging to observe that 89 percent of the study subjects knew that tuberculosis could be transmitted from one person to another but air, as the correct route, was cited by only 55.6 percent of the individuals. In contrast, findings from another study revealed that 65 percent of the subjects were aware of the correct route of transmission while 95.3 percent study subjects knew that tuberculosis could be transmitted from one person to another⁵. Misconceptions of utensils and food as routes of transmission need to be addressed and measures should be undertaken towards the stigma attached to the disease. The incorrect awareness was reflected in their practices as 61.47 percent of individuals used separate utensils and food as precautions after a family member was diagnosed of tuberculosis. This misbelief was as high as 79.3 percent among the individuals as reported in the study by Malhotra⁵.

The correct knowledge on the infectious agent responsible for tuberculosis was low as compared to combined categories of lack of knowledge or incorrect knowledge about the causes (heredity, curse etc). Such incorrect awareness might lead to harbouring of wrong beliefs and misconceptions about the causes of the disease, which may affect the timely reporting of cases to the health institutions. An increased awareness of 48.4 percent on this aspect was earlier reported by the study conducted by Malhotra⁵-

In the present study, females and illiterate individuals among lower socio-economic class were found to have less knowledge about the symptoms, transmission and cause of the disease. Similar findings are reported by other studies too⁶. Malhotra⁵ also observed that females and individuals without schooling were the people who had a significantly lower level of knowledge about the symptoms, transmission and cause of the disease. Thus, health education on a priority basis needs to be provided to these groups on various aspects of the disease and its control so in order

to improve the status of early reporting and compliance for regular treatment by patients.

Although 91.82 percent individuals preferred treatment from Government health facilities, a small proportion (4.5%) admitted of taking non-vegetarian food in the past as a mode of treatment for tuberculosis. Such wrong practices need to be corrected through EC programmes aimed to remove misconceptions about the disease. An identical observation by R. Malhotra⁵ stated that though 73.75 percent individuals preferred treatment from good health care facilities, a small proportion (3.3%) consumed tortoise meat in the past for the treatment of tuberculosis.

BCG as a vaccine against tuberculosis was known to 15.6 percent of the individuals. Subramanian⁴ reported this as 14 percent and Malhotra⁵ reported this as 9.8 percent in their respective studies. However, this lack of knowledge did not reflect on the immunization status of the children in the study community as 90 percent of the infants from the same village had reportedly received BCG vaccination.

In the present study, the sources of information on various aspects of tuberculosis were found to be health care workers, mass media, friends / relatives. The findings are similar to those as reported in other studies⁴⁻⁵. These sources need to be further utilized to improve the existing level of knowledge and bring about a positive change in the practices of people regarding tuberculosis.

CONCLUSION

Though knowledge regarding symptoms, mode of transmission and causation was fairly good among the study population, females and illiterate individuals need health education on the subject on a priority basis. Misconceptions among people, like food and utensil as mode of transmission or non-vegetarian diet as treatment of TB need to be removed.

आम जनता में क्षयरोग को कम करने के लिए अस्वास्थ्यकर आदतों के कारण होने वाले क्षयरोग के बारे में जागरूकता लाना आवश्यक है। प्रस्तुत अध्ययन का संचालन गुजरात स्थित नवगांव में यादृच्छिक आधार पर चुने हुए 257 ग्रामीणों में क्षयरोग के बारे में उनके ज्ञान एवं जागरूकता का आंकलन करने के लिए किया गया था। यद्यपि अध्ययन के लिए चुने गए सभी लोगों ने क्षयरोग के बारे में सुन तो रखा था, लेकिन क्षयरोग के एक लक्षण के रूप में इस रोग के कारण होने वाली कमजोरी और सांस लेने में कठिनाई के बारे में केवल 71.9 प्रतिशत व्यक्तियों को ही पता था। 89 प्रतिशत लोगों को इस बात की जानकारी थी कि क्षयरोग एक व्यक्ति से दूसरे व्यक्ति में संक्रमित हो सकता है, और केवल 38.1 प्रतिशत व्यक्तियों को ही क्षयरोग संबंधी सही जानकारी थी कि यह रोग संक्रामक जीवाणु से होता है। क्षयरोग के इलाज के लिए अधिकांश लोगों (91.82%) द्वारा सरकारी एलौपैथी चिकित्सा सुविधाओं को ही वरीयता दी गई थी और अधिकांश (90 %) लोगों को ही गांव के समीप ही जिला क्षयरोग स्थित होने के बारे में भी जानकारी थी। 70.5 % लोगों को यह पता था कि क्षयरोग निरोधी दवाएं सरकारी स्वास्थ्य केन्द्रों में निशुल्क उपलब्ध होती हैं। किन्तु भोजन और बर्तनों द्वारा क्षयरोग के संक्रमण के बारे में भ्रान्तियों तांम मांसाहारी खुराक द्वारा क्षयरोग के इलाज संबंधी भ्रान्तियां व्यापक रूप से देखी गई थीं। जनता में अभियान चलाकर ग्रामीणों के मतिश्क से इन भ्रान्तियों को हटाए जाने की आवश्यकता है।

REFERENCES

1. Combating HIV/AiDS in India 1999-2000. Government of India, *Ministry of Health and Family Welfare*, National AIDS Controls Organization, Section, p. 6.
2. Operational guidelines for Tuberculosis control (1997) Revised National Tuberculosis Control Programme *Central TB Division, Directorate General of Health Services*, Nirman Bhavan, New Delhi, India, May, Section 1:1.
3. Uplekar MW, Rangan, S (1996) Tackling TB: The search for solutions. *The Foundation for Research in Community Health*, Mumbai.
4. Subramanian T, Charles N, Balasubramanian R, Balambal R. Sundram V & Gabapathy S et al (1999) Knowledge of tuberculosis in a South Indian rural community: Initially and after health education, *Ind. J Tub*, 4: 251-254.

5. Malhotra R et al (2002) Awareness regarding Tuberculosis in a rural population of Delhi. *Indian Journal of Community Medicine*, Vol. XXVI, No.2, April-June: 62-68.
6. Purohit SD, Gupta ML, Madan, A, Gupta PR, Mathur BB and Sharma TN (1988) Awareness about tuberculosis among general population: A pilot study. *Ind. J Tub*, 35:183-187.

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COMMON HEALTH PROBLEMS ENCOUNTERED BY THE TRIBAL COMMUNITY IN BASTAR DISTRICT

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ABSTRACT

In order to find out the common health problems prevalent among tribes, a cross-sectional study involving 1,580 tribal households in selected tehsils of Bastar district, Chattisgarh (formerly in Madhya Pradesh) was undertaken. Fever (72.5%), cough and cold (56.4%), skin problems (22.0%) and diarrhoeal diseases (32.9%) were the common health problems reported in all the tribal community groups. Common illnesses among mothers and children were anaemia, malnutrition, diarrhoeal disease and skin infection. In addition, vaginal discharge and excessive bleeding during menstruation were the other frequent health problems cited by mothers only. Development of local need-based infrastructure with low-cost technologies and involvement of personnel engaged in alternative system of medicine may help in reducing the disease burden in the tribal community to a great extent.

Keywords: Tribals, Disease burden, Health facilities. Alternative medicine.

More than half of the world's tribal population lives in India. There are more than 533 tribes¹ comprising 8 percent of the total population of India. Largest concentrations of tribals (15.4 million) are found in Madhya Pradesh. Bastar district (at the time of the study the district was in Madhya Pradesh) has one of the largest (67.4 %) congregation of tribal population². Poverty, illiteracy, malnutrition, poor sanitary conditions and scarcity of safe drinking water have contributed to the poor health status of these people all over the country. The available information on health status of tribals is grossly inadequate, though studies have reported anaemia, diarrhoea and malaria as the common health problems in tribal women and children in various parts of the country. Lack of infrastructures, inaccessibility to health institutions and affordability are some of the main problems contributing to their poor health status. The aim of the present study was to find out the common health problems faced by the tribal population in Bastar district of

Madhya Pradesh and to assess their health seeking behaviour with respect to accessibility and availability of health care facilities.

MATERIALS AND METHOD

Through a multi-stage sampling carried out in 13 tehsils, four Tehsils namely- Jagdalpur, Kanker, Dantewara and Narainpur were selected for data collection. A total of 1,580 households (HH) were selected belonging to eight primary health centers and sixteen sub-centres. Two to three villages from each sub-centre with 90 to 100 households were included in the study. Information regarding health facilities, their affordability and morbidity status among the study population were obtained through pre-structured questionnaires. Respondents included district health administrators, medical and para-medical functionaries at PHC/sub-centre, trained dais, private health practitioners and traditional healers in selected villages, head of the households and women in the reproductive age group of 15-45 years.

A total number of 1,580 households from 50 villages were included in the community survey. Out of these, 837 (53%) were from PHC/sub-centre head quarter villages and 743 (47%) from non-head quarter villages. 1,548 tribal women in the reproductive age group and 129 health professionals were interviewed in detail regarding the health problems affecting the tribal community.

FINDINGS

The predominant tribal population in the 4 tehsils were Murias constituting (42.3% HH) the highest concentration (70.5 %) of which live in Dantewara Tehsil. This was followed by Gonds (41.4% HH), their highest concentration (73.9 %) found in Narainpur Tehsil and other tribal groups like Halbas and Bhatras together constituting 16.3 percent of the households (Table 1).

TABLE 1
TYPE OF TRIBAL POPULATION IN BASTAR

Name of the tribe	Precent of household studied
Muria	42.3
Gond	41.4
Halba and Bhatra	16.3

Common Health Problems Experienced by the Community

As reported by the respondents, common health problems (Table 2) encountered by the tribal community were fever, 1,146 (72.5%), cough and cold, 891 (56.4%), skin problem, 347 (22.0%) and diarrhoeal diseases, 321 (32.0%).

TABLE 2
COMMON HEALTH PROBLEMS ENCOUNTERED BY THE TRIBAL
COMMUNITY

Common Health Problems	Number of Respondents	%
Fever	1146	(72.5)
Cough & Cold	891	(56.4)
Skin problems	347	(22.0)
Diarrhoeal Diseases	821	32.9)

Illness Experienced in the Family during the Last Three Months

Illness experienced in the family in last 3 months among 315 households (Table 3) again included fever (41.6%), cough & cold (9.5%), skin problems (11.4%) and diarrhoea (11.6%).

TABLE 3
ILLNESS EXPERIENCED IN THE FAMILY DURING LAST THREE MONTHS

Nature of Illness	Number of Respondents	%
Fever	131	41.6
Cough & cold	30	9.5
Skin problem	36	11.4
Diarrhoea	30	9.5

Types of Illnesses Prevailing at the Time of Survey

The types of illnesses prevailing at the time of survey in 105 households were again found to be fever (25.7%), cough & cold (13.3), skin problem (13.3%) and diarrhoeal diseases (11.4%) (Table 4).

TABLE 4
TYPRSS OF ILLNESS PREVAILING AMONG TRIBALS AT THE TIME OF SURVEY

Nature of illness	Respondents(%)
Fever	25.7
Cough & Cold	13.3
Skin Problem	13.3
Diarrhoea	11.4

Common Illness among Children

776 mothers who delivered during the last 2 years of the study, revealed that their children had suffered mostly from (Table 5) fever (50.5%), cough & cold (49.5%), skin problem (13.2%) and diarrhoeal diseases (39.0%).

TABLE 5
COMMON ILLNESS AMONG THE TRIBAL CHILDREN

Nature of illness	Number of Respondents	%
Fever	390	50.5
Cough & Cold	374	49.5
Diarrhoeal disease	301	39.0
Skin problem	102	13.2

Health Problems in Women, Children and Men as Reported by Health Professionals

Health professionals from Primary Health Centres, Sub-centres and health administrators reported identical types and patterns of illnesses prevailing among the different segments of the tribal populace. According to the health supervisors, anaemia, vaginal discharge, irregular vaginal bleeding, swelling of feet, malaria and premature delivery were the common health problems among the women. Similarly, anaemia, diarrhoeal disease, pneumonia, skin infection, malnutrition and low birth weight were common among the tribal children. Tribal men reportedly suffered from gastroenteritis, skin infection, weakness and malaria (Table 6).

TABLE 6
COMMON HEALTH PROBLEMS IN TRIBALS AS
REPORTED BY HEALTH PROFESSIONALS

Population Segment	Most Prevalent Diseases
Mothers	Anaemia, vaginal discharge, irregular bleeding swelling of feet, Malaria, Premature delivery
Children	Anaemia, diarrhoeal disease, pneumonia, skin infection, malnutrition & low birth weight
Men	Gastroenteritis, skin infection, weakness, Malaria

Health Facilities Preferred by the Community for Availing Services

Information on health facilities preferred by the community was obtained from the heads of the households and also from health personnel from all the 4 tehsils. Information gathered from heads of households indicated that PHC was the highest preferred health facility for people in all the four districts. Only 25.2 percent of them preferred *sirha* or *gunia* (traditional healer) for treatment of their health problems (Table 7). While the sub-centre was the highest preferred (61.3%) in Kanker district, PHC was the most preferred (63.6%) health facility for the people of Dantewada. Pattern of consultation against health problems experienced in past 3 months in the 4 tehsils indicated that a majority (65%) consulted the government institutions and only 16 percent used services from private practitioners including *sirha/gunias*.

TABLE 7
TYPES OF HEALTH FACILITY PREFERRED BY THE TRIBALS

Health Facility Preferred	Name of the Tehsils				
	Dantewada (%)	Jagdalpur (%)	Kanker (%)	Narainpur (%)	Total (%)
Sub-centre	32.9	58.9	61.3	39.9	48.7
PHC	63.6	43.7	58.1	58.1	51.4
<i>Sirha/gunia</i>	37.3	30.4	6.6	25.3	25.2

Information provided by the health personnel revealed the same pattern of preference as reported by the subjects. The main reasons for such preferences were the easy availability of treatment with respect to various illnesses, faith in the

service provider, satisfaction with the services, distance of the health care facility, accessibility and availability of free services.

DISCUSSION

The present study not only analysed the common health problems but those encountered by the tribals in the recent past were also included. Health problems in men, women and children as presented by the health professionals matched with the information collected from the subjects. Basu et al reported a higher frequency of Bitot's spot, Angular stomatitis and molting of teeth were common among the Gond children³⁻⁵. Muscular wasting was higher among Gond children as compared to the children of the Bhatra tribe³. Protein caloric intake was reported less among the Gond children. Malnutrition and Ricket were also reported in the tribals of Bastar district. Higher incidence of Goitre (53.9%) was found in the tribals of Sarguga, Jhabua and Bastar district of Madhya Pradesh. Inadequate dietary intake and lack of quality food supplementation were the reasons leading to these disorders. Worm infestation and irregular bowel further deteriorated such conditions.

Malnutrition among the children was reported to be quite common in Bastar district and diarrhoea diseases, malaria and measles were the more prevalent. Diarrhoeal disease due to bacteria and viruses was frequent in infants and young children indicating a poor nutrition status. There was a strong association between anaemia and malaria and these diseases were quite common in Bastar district⁴.

Basu et al in their study of major tribal groups of Bastar district like Gonds and their sub-groups such as Muria, Madia, Abuj Madia, Halbas and Bhatras reported that morbidity pattern in these tribal groups mostly included diarrhoea, respiratory infection and skin diseases⁴. Another study revealed that other diseases such as malaria, pneumonia, pyrexia of unknown origin and urinary tract infections were also rampant among the tribals⁴.

Another study conducted among 27,000 tribals and rural pre-school children under ICDS programme reported moderate to severe protein energy malnutrition in 40 percent of the tribals and rural children of which 20 percent were anaemic and 40 percent had Vitamin A deficiency and 80 percent were ill at the time of the survey⁵.

Though no specific disease prevalence was looked into in the present study, information regarding common health problems encountered by all the community groups was obtained. As per the NIN study, all tribal women were anaemic and 67 percent were severely anaemic (Hb <7 gm/dl) with a high prevalence rate of malnutrition⁶. Rapid household survey of Bastar District indicated that 62.1 percent of urban children and 16.9 percent of the rural children were suffering from breathing problems⁷. In the current study, 49.5 percent of mothers who had delivered in the recent two years reported that their children suffered from upper respiratory tract infections. In the Rapid Household Survey in Bastar district (1998 - 1999), it was found that 11.9 percent children in rural areas and 18.9 percent in urban areas suffered from diarrhoeal diseases⁷. In contrast, as per the findings of the present study, 39 percent of the mothers delivered in recent two years reportedly admitted to have a similar problem with their children.

As per the Rapid Household Survey 1999, low birth weight has been reported from 34.7 percent babies born in rural and 31.3 percent babies born in urban areas⁷. In the current study, though no birth weight record was available, health professionals and community respondents reported this problem as quite common.

According to NIN study in Bastar District, 30 percent of the males and 23 percent of females and children (in the 5 to 14 years age group) suffered from severe anaemia⁶.

The health problems encountered by the tribals in Madhya Pradesh seem to be common in all the tribal populations in different parts of the country. Though the exact estimates and prevalence rate have not been worked out, solutions to these problems would emerge only through adopting low-cost technologies and providing basic amenities to the poor tribal community.

Basu et al reported the aspects of poor utilisation health services and difficulties in persuading Bastar tribals to avail modern medical treatment⁴. In the present study, a change in attitude has been observed in the tribal communities of Kanker and Jagdalpur districts for availing the services from Government health agencies like the sub-centres and Primary Health Centres the preference earlier being the traditional practitioners.

Available health facilities and trained technical manpower were found grossly inadequate to cater to the needs of the tribal populations in the district of Bastar (data not shown).

CONCLUSION

It is concluded that few of the health problems are common to all tribal communities and can be solved to a great extent by utilising low-cost technologies and developing local need-based health infrastructure. Involvement of practitioners of alternative system of medicine will help in reducing the disease burden of the tribal community.

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आदिवासियों में व्याप्त आम स्वास्थ्य समस्याओं का पता लगाने के लिए छत्तीसगढ़ (पहले मध्य प्रदेश में स्थित) के बस्तर जिले की कुछ चुनी हुई तहसीलों के 1,580 आदिवासी परिवारों को अध्ययन में शामिल करके एक क्रॉस-सेक्शनल अध्ययन किया गया था। अध्ययन से प्राप्त निष्कर्षों से पता चलता है कि सभी आदिवासी समुदाय समूहों में बुखार (72.5%), जुकाम-खासी (56.4%) त्वचा संबंधी समस्याएं (22.0%) तथा अतिसार संबंधी रोग (32.9%) आम स्वास्थ्य समस्याएं थीं। महिलाओं तथा बच्चों में रक्ताल्पता, कुपोषण अतिसार संबंधी रोग और त्वचा संक्रमण आदि आम बीमारियां व्याप्त थीं। इसके अतिरिक्त महिलाओं द्वारा श्वेत प्रदर और माहवारी के समय अत्यधिक रक्तस्राव आदि जैसी बार-बार होने वाली स्वास्थ्य समस्याओं का उल्लेख भी किया गया था। आवश्यकता पर आधारित स्थानीय ढांचे को विकसित करके, निम्नलागत की तकनीकों को अपनाकर और वैकल्पिक औषध प्रणाली में जुड़े व्यक्तियों के सहयोग से आदिवासी समुदाय में रोगों की भयावहता को काफी हद तक कम करने में सहायता मिल सकती है।

REFERENCES

1. Swain S (2003) Health Status of Tribal People. Concept paper presented in the "*National Seminar on Health for all in New Millennium*" 24-26 February, *NIHFW*, New Delhi.
2. Census of India (1991) Paper-1 of 1992 Final Population Totals. *Registrar General and Census Commissioner of India*, New Delhi.
3. Basu SK, Jindal A, Kshatriya GK, Singh Roy P & Sharma KKN (1989) Epidemiological investigation of haemoglobinopathies and allied disorders, nutrition and physical growth trends, health profile, health seeking behaviour and their environmental correlates for the promotion of health care among scheduled tribes and scheduled castes of Bastar district, Madhya Pradesh. Project Report, *Department of Population Genetics & Hum. Dev., NIHFW*, New Delhi.
4. Sharma TP. Strengthening Health Delivery System in Bastar District (Madhya Pradesh) (1994) "Tribal Health in India", (Ed. Basu SK), *Manak Publications Pvt.. Ltd.*, New Delhi.
5. Chakravarti MR (1994) Health profile among mother-child groups. In "Tribal health in India," (Ed. Basu SK), *Manak Publications Pvt.. Ltd.*, New Delhi.
6. Gopalan C (1971) Nutritional atlas of India. *ICMR*, New Delhi.
7. Rapid Household Survey report of Bastar district, Madhya Pradesh- RCH I Project, Phase-II (1999) *Ministry of Health and Family Welfare, Government of India*, New Delhi. Conducted by Socio-Economic Research Centre, New Delhi.