

**PREVALENCE OF DOG-BITES IN DELHI:
KNOWLEDGE AND PRACTICES OF RESIDENTS
REGARDING PREVENTION AND CONTROL OF RABIES**

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ABSTRACT

This study was undertaken to find out the prevalence of dog-bites and knowledge and practices among the residents regarding prevention and control of rabies in Delhi. 5,412 households with a population of 30,554 were covered. The prevalence rate of dog-bite was 4.1 per 1,000 population in a year. Majority of the subjects suffering from dog-bite were males (77.8%) or children/adolescents (54.4). Washing of wounds, with soap/antiseptic was reported only in 41.3 per cent of cases. Complete vaccination by anti-rabies vaccine (ARV) as per schedule was received by 43.9 per cent. There was insufficient knowledge among the sample population about animal bites and transmission of rabies and the way it can be prevented. The finding highlights the need to start a vigorous IEC campaign to create awareness in the community regarding prevention and control of rabies with emphasis on vaccination of pets and victims in time.

Keywords: Dog-bite, Zoonotic. Anti-rabies vaccination (ARV) and IEC campaign.

Rabies is a zoonotic disease that transmits through animal bites. It accounts for more than 50,000 deaths every year across the world, with dog-bites being the predominant contributor. Out of the total deaths caused by rabies across the world, 60 per cent is reported from India.

Most of the studies on dog-bites and rabies in India are hospital-based and limited to their management only^{1,2,3}. The figures, for prevalence of rabies, wherever available, are only estimates and thus, do not reflect the exact situation in the community.

OBJECTIVE

The objective of the study is to find out the prevalence of dog-bites; and knowledge of the residents of Delhi and practices' followed by them regarding prevention and control of rabies.

MATERIALS AND METHOD

This cross-sectional survey was conducted in various wards of Municipal Corporation of Delhi from 1st September 2001 to 31st August 2002 as a part of WHO assisted study on the prevention of rabies in the community. The sample size was estimated to be 27,060 after assuming 50 per cent prevalence of injuries with a confidence level of 90 per cent and relative precision of 0.01, which is based on the recommendations of WHO for determination of sample size⁴. As a single household was the sampling unit, taking the average size of a household as 5 the number of households selected was 5,412. Out of a total of 134 MCD wards in Delhi, 67 odd numbered wards were selected. As per the existing electoral list, the study population in these selected wards was 65,79,264 residing in 13,15,853 households. Systematic random sampling method with an interval of 243 (i.e. $13,15,853 / 5,412$) was adopted to select 5,412 households from these wards. The actual population covered in the selected households was 30,554. The head or an adult member of the household was interviewed using a pre-tested semi-structured schedule. In case of a locked house, the subsequent household was taken. Health workers specifically trained for this purpose interviewed the respondents.

FINDINGS

Dog bite cases (126), age and sex-wise, reported in the present study are given in Table 1. Among the affected cases, most of them were either children or teenagers (61.9%). More than three-fourth of them were males (77.8%) and less than one-fourth of them (22.2%) were females.

TABLE 1

AGE AND SEX WISE DISTRIBUTION OF DOG-BITE CASES (N=126)

Characteristic	n(%)
Age	
1-10	37(29.4)
11-20	41 (32.5)
21-50	41 (32.5)
>51	7(5.6)
Gender	
Male	98 (77.8)
Female	28 (22.2)

Out of the total dog-bite cases, 58.7 per cent was bitten by stray dogs and most of them (69.1%) had received treatment from a hospital/dispensary. 56.3 per cent of the dog bite cases received tetanus toxoid while 30.2 per cent did not have any treatment (Table 2).

TABLE 2

ACTION TAKEN ON EXPOSURE TO DOG-BITE

Characteristics	Male (n=98)	Female (n=28)	Total (n=126)
Habitation of biting dog			
Domestic	37(37.8)	15(53.5)	52 (41.3)
Stray	61 (62.2)	13(46.4)	74 (58.7)
Pet dog immunized	(n=37)	(n=15)	(n=52)
Yes	3 (8.0)	3 (20.0)	6(11.5)
No	34 (92.0)	12(80.0)	46 (88.5)
Wash wound with soap			
Yes	37 (53.5)	15(53.5)	52 (41.3)
No	55 (42.9)	12(42.9)	67 (53.2)
Don't Remember	6(6.1)	1(3.6)	7(5.5)
Place of treatment*			
Hospital/ dispensary	74 (75.5)	13(46.4)	87 (69.1)
Private practitioner	11(11.2)	3(10.7)	14(11.1)
Home remedy	8(8.1)	8(28.5)	16(12.7)
None	5(5.1)	4(14.3)	9(7.2)
Received TT			
Yes	65 (66.3)	16(57.2)	71 (56.3)
No	28 (28.6)	10(35.7)	38 (30.2)
Don't Remember	5(5.1)	2(7.1)	17(13.5)

(Figures in parentheses indicate percentage)

*Difference in place of treatment from Hospital/Dispensary/Private Practitioner and Home remedy/
Treatment proportion between males and females was not significant ($\chi^2=11.99$, $p=0.005$)

Out of the total dog-bite case's, only 32.5 per cent received anti-rabies vaccine (ARV) and the main source of treatment was dispensaries (65.9%). The most frequently used vaccine was 'Non tissue culture' (61%) and the preferred site for vaccination was stomach (61%). Further, it was observed that only 43.9 per cent of the dog-bite cases completed the recommended vaccinations as per schedule (Table 3).

TABLE 3
ANTI-RABIES VACCINATION STATUS OF DOG-BITE CASES

Characteristic	Male (n=98)	Female (n=28)	Total (n=126)
Received ARV			
Yes	32(32.7)	9(32.1)	41 (32.5)
No	66 (67.3)	19(67.9)	85 (67.5)
Source of ARV			
Hospital/dispensary	21(65.6)	6(66.7)	27 (65.9)
Private practitioner	11.(34.4)	3 (33.3)	14(34.1)
Type of ARV received			
TCV	11(34.4)	5 (55.6)	16(39.0)
NTV	21 (65.6)	4 (44.4)	25 (61.0)
Schedule of ARV vaccination			
Completed	13(40.6)	5 (55.6)	18(43.9)
Incomplete	19(59.4)	4 (44.4)	23 (56.1)
Site where ARV given			
NTV -Abdomen	21 (65.6)	4 (44.4)	25(61.0)
TCV -Arm	6(18.8)	3 (33.3)	9(22.0)
-Gluteal	5(15.6)	2 (22.3)	7(17.0)

(Figures in parenthesis indicate percentage)

Although 61.1 per cent of the study subjects were aware that rabies is transmitted through animal bites but only 49.2 per cent had the knowledge of vaccination of animals which could prevent the spread of the disease. Availability of such vaccines in Government hospitals and dispensaries was known to 58.7 per cent of the respondents. Approximately half (54.7%) of the study subjects were in favour of vaccinating pets against rabies and only 22.2 per cent of the subjects responded correctly about the period of observing dogs in post-bite cases (Table 4).

TABLE 4
KNOWLEDGE OF THE RESPONDENTS REGARDING PREVENTION OF RABIES
FROM THE HOUSEHOLDS REPORTING A DOG-BITE

Characteristic	Male(n=98)	Female (n=28)	Total (n=126)
Rabies is transmitted through*			
Animal bites	55 (56.1)	22(78.6)	77 (61.1)
Sneezing	9(9.2)	3(10.7)	12(9.5)
Don't Know	34 (34.7)	3(10.7)	37 (29.4)
Animal vaccination prevents rabies:			
Yes	46 (46.9)	16(57.2)	62 (49.2)
No	28 (28.6)	9(32.1)	37 (29.4)
Don't Know,	24 (24.5)	3(10.7)	27 (27.4)
Where ARV available			
Veterinary hosp./disp,	58 (59.2)	16(57.2)	74 (58.7)
Private practitioner	34 (34.7)	9(32.1)	43(34.2)
Don't Know	6(6.1)	3(10.7)	9(7.1)
Should pet dogs be immunized?			
Yes	49 (50.0)	19(67.9)	68 (54.0)
No	15(15.3)	7(25.0)	22(17.5)
Don't Know	34 (34.7)	2(7.1)	36 (28.5)
For how long dog should be observed after biting?			
Correct response	21(21.4)	7 (25.0)	28 (22.2)
Incorrect response	43 (43.8)	15(53.6)	58 (46.0)
Don't Know	34 (34.8)	6(21.4)	40 (31.8)

(Figures in parentheses indicate percentage)

*The difference between males and females residing correct response about transmission of rabies was significant ($\chi^2 = 4.62$, $p = 0.03$)

DISCUSSION

The findings of the study reveal that majority of the rabies cases (90%) were caused by the stray dogs and a large proportion was teenagers and males. Similarly, Ichhpujani (2001) observed that two-third of the victims of animal bites were males and about 40 per cent of them were children under 14 years of age. In the present study, it was observed that more than half of the dog bites (61.9%) were in the age group of 20 years or less and most of them were males (77.8%).

It was observed from the present study that 58.7 per cent of the subjects were bitten by stray dogs which is comparatively less as compared to the percentage reported by Singh et al, 2001. The difference could be due to the inclusion of only confirmed rabies cases by Singh et al as compared to all dog-bite cases with or without rabies in the current study.

The study reveals that one-third of the dog-bitten subjects received vaccination which is better as compared to other studies. Still, the coverage is low and it is a matter of concern. The possible reason for the difference might be due to different study population groups. The acceptability of Tissue Culture Vaccine (10.4%) has been reported to be higher as compared to Non Tissue Culture Vaccine (NTV) because TCV requires less number of doses with less side-effects and patients remain more comfortable during and after vaccination due to simplified procedures. Though the NTV has been recommended to be banned and replaced by TCV, the availability of NTV still continues at government health facilities, probably because of its low cost. It was observed in the present study that 20 per cent of the victims mostly females either took home remedy or did nothing. Further, 54 per cent of the study subjects favoured vaccinating pets. The study confirms that the awareness regarding post-exposure prophylaxis has been found unsatisfactory (32.5%) among the respondents and it was still worse (18.8%) in a study carried out in Haryana. However, awareness regarding post exposure prophylaxis was found better in a study conducted in Delhi.

A study carried out in Haryana' shows that a significant number of cases, as high as 85.7 per cent, never took any vaccination. In the present study too, it is 67.5 per cent which is alarming. Only 54 per cent of the study subjects expressed that pets should be vaccinated which indicates that subjects are not aware of the seriousness of rabies. The situation needs to be improved through repeated emphasis on importance of vaccination during awareness campaigns,

The awareness level of study subjects with regard to preventive aspects of Rabies revealed that only 61.1 per cent knew that rabies transmits through animal bites of which only 49.2 per cent knew that vaccination of animals could prevent rabies. Knowledge of the respondents regarding availability of animal vaccines in Government (58.7%) and private (34.2%) set-ups does not seem to be satisfactory. The fact that the period of observing dogs in post-bite cases was known to only 22.2 per cent of the subjects which indicates lack of knowledge on this aspect among the people. The findings emphasize the need to educate people about this deadly disease through vigorous IEC campaigns.

CONCLUSION AND RECOMMENDATIONS

The study findings indicate the need-to educate the community and health care workers about the importance of post-exposure prophylaxis and treatment to the dog-bite cases. It may be strongly advocated to start an effective rabies prevention and control programme by the Municipal Corporation of Delhi (MCD) for the stray dog populations which are the principal vector for rabies. The MCD would be able to control and prevent rabies to a great extent if it takes steps to vaccinate and sterilize the stray dogs. This will not only control the dog population but will also decrease the incidence of rabies in the community. It is, in fact, urgently required since the dog population in India is estimated to be around 25 million and growing fast and most of them are not owned by anybody and not immunized. Therefore, health education through anti-rabies campaigns may be provided, especially to children for protecting themselves from rabies. Community people may also be motivated to bring about a positive attitude towards possible health risks involved in contacts with pet as well as stray dogs.

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यह अध्ययन दिल्ली में अलर्क रोग (रैबीज) की रोकथाम तथा नियंत्रण के बारे में निवासियों में कुत्तों द्वारा काटने संबंधी केसों की व्यापकता संबंधी ज्ञान तथा अभ्यासों का पता लगाने के लिए संचालित किया गया था। इसके अर्न्तगत 30,554 जनसंख्या सहित कुल 5,412 परिवारों को कवर किया था। कुत्तों द्वारा काटने संबंधी केसों से अधिकांश प्रजा में पुरुष (77.8%) तत्पश्चात शिशु/किशोर (54.4%) प्रभावित पाए गए थे। केवल 41.3 प्रतिशत केसों में घावों को साबुन/रोगाणुरोधक से धोने के बारे में रिपोर्ट की गई थी। नियत उपसा के अनुसार अलर्क रवे रोधी टीकों (एआरवी) द्वारा पूरा टीकाकरण 43.9 प्रतिशत द्वारा प्राप्त किया गया था। जन्तु द्वारा काटने के माध्यम से अलर्क रोग के की रोकथाम के बारे में ज्ञान कम पाया गया था। अध्ययन से प्राप्त निष्कर्षों द्वारा यथा समय पालतू जन्तुओं के टीकाकरण पर बल देकर अलर्क रवे की रोकथाम तथा नियंत्रण के बारे में समुदाय में चेतना उत्पन्न करने के लिए प्रबल सूचना, शिक्षा एवं संचार अभियान प्रारम्भ करने पर प्रकाश डाला गया है।

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WOMEN'S POSITION AND THEIR BEHAVIOUR TOWARDS FAMILYPLANNING IN TWO DISRICTS OF ANDHRA PRADESH

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ABSTRACT

India has a male dominated society where women are treated lower in position compared to men in all social, economic, cultural and political matters. The present study was initiated to determine the position of women in their families and their behaviour towards family planning in two districts (Nellore and Ananthpur) of Andhra Pradesh through multi-stage random sampling. The influences of variables such as education, occupation, income of women, succession to property, and son-preference, etc are also studied. An Index was developed on various aspects, on the status of women. The findings revealed that the adoption of family planning methods was higher (68%). among women who had education upto college and above. It was seen that 68 per cent of women with white-collar jobs adopted permanent methods of family planning (.01 levels of significance when tested by chi-square analysis). A majority of women (63.37%) with an annual income of Rs.30.00/- and above practiced family planning. The study reveals a positive relationship between son preference and family planning practices by women in Andhra Pradesh.

Keywords: Women's behavior, Family planning, Education, and Son-preference.

Women who form half of the population of India (around 49%) are discriminated in every sphere of life. In spite of five and half decades of Independence and the introduction of many women welfare programmes with the provision of specific reservations, women in India are still socially, economically, politically and culturally continue to be in a disadvantageous position. One of the research findings indicates that theoretically and legally, though women are recognized as equal to men, they are still in the grip of traditional roles and have not freed themselves from the domination of men¹. As women continue to be economically dependent on men, they are treated inferior to men. In the Indian society, daughter is considered as a liability while the son is considered as an asset. Experts suggest that improvement in the status of women expedites the

success of family planning. Therefore, any improvement in the status of women is considered an effective strategy for making family planning a real success in India as well as in other developing countries. It was well recognized by the UN General Assembly in 1972 that unless the status of women is improved, no initiatives in family planning would be successful. Therefore, the development of women is considered 'as the best contraception'. The position of women is also positively associated with the adoption of family planning among the couples in India, This means that when the position of women in the society is higher, the knowledge, attitude and adoption of family planning are proportionately higher. In the present study, women's position with respect to family planning behavior in two districts of Andhra Pradesh is studied and the impacts of other variables such as occupation, income, possession of property, index on women's social status, etc. that influence its adoption are analysed.

METHODOLOGY

The sample was drawn from two regions namely, Nellore district of coastal Andhra and Ananthapur district of Rayalaseema of Andhra Pradesh by a multi-stage random sampling. The subjects consisted of 600 currently married women in the age group of 15-49 years having at least one living child. The sample was drawn from thirty randomly selected villages in Talupula Mandal of Ananthapur district and Gudur Mandal of Nellore District. With the help of the prepared schedule, all the sample women were interviewed.

Data were analysed as per the objectives of the study, In case of contraceptive behavior, the adoption of family planning was treated as a dependent variable while all other variables were treated as independent variables. To assess the association between the independent variables and the dependent variable, the statistical measure of chi-square test was utilized.

FINDINGS AND DISCUSSION

Education of Wife

Educational level of women appears to be one of the significant factors effecting the adoption of family planning and fertility behavior. Data from the developed countries indicate that the education of women increases the opportunities for them to work outside their homes. Also, education is found to have a positive association with adoption of family planning. The relationship is

less consistent in the developing countries. Generally, a positive relationship appears to have existed between family planning adoption and the educational level both in the United States and Europe since the late 19th century. Earlier research in most developing countries also support the fact that there is a strong positive association between the levels of women's education and the adoption of family planning^{2,4}.

In this study, it was found that 34.7 per cent of the women were illiterates, while 34.8 per cent were literates with primary education up to 5th class. About 18.0 per cent of them studied up to secondary and intermediate level. Only 12.5 per cent had education up to the degree or above.

Among the women who had college education; it was found that an overwhelming proportion of them (68.0%) practiced permanent methods of family planning. Similarly, women with education up to higher secondary level (45.38%) had adopted family planning as compared to women who studied up to primary level (30.62%). In case of illiterate women, only 20.19 per cent adopted family planning and majority of them (72.6%) was not using any method of contraception, it is also similar in case of women with primary education, as most of them (65.07%) did not practice any method of family planning at all (Table 1).

TABLE 1
BY CONTRACEPTIVE BEHAVIOUR AND LEVEL OF EDUCATION

Educational Status of Women	Non-adopters	Temporary Adopters	Permanent Adopters	Total	Population (%)
Illiterates	72.60 (151)	7.21 (15)	20.19 (20.42)	100.00 (208)	35.00 (208)
Literate with primary level (I-V Class)	65.07 (136)	4.31 (9)	30.62 (64)	100.00 (209)	35.00 (209)
Literate with Secondary level (VI to PUC)	37.03 (40)	17.59 (19)	45.38 (49)	100.00 (108)	8.00 (108)
College level	20.00 (15)	12.00 (9)	68.00 (51)	100.00 (75)	12 (75)
Total	57.00 (342)	8.67 (52)	34.33 (206)	100.00 (600)	100.00 (600%)

X² results 94.35 and significant at 0.01 or 1 percent level
(Figures in parentheses denote the numbe of women)

Occupation of Wife

Occupation of wife is one of the important socio-economic status indicators that influences the contraceptive behavior of women. Some of the studies have established that working-women are more inclined to adopt one or the other methods of family planning as compared to housewives. The findings of the study reveal that among women; white-collar jobholders constituted only 10 per cent as compared to housewives (49 %) and agricultural labourers (33%).

Among the white-collar jobholders, 68 per cent of women used permanent methods of family planning as compared to only 40 per cent of the housewives. Out of the cultivators, 27.7 per cent of women adopted permanent methods in comparison to only 17 per cent of the agricultural labourers (Table 2). Hence, the study findings indicate that occupation of women is strongly associated with their family planning behavior.

Annual Income of the Family

Income is a composite variable, which has an association with the adoption of family planning. Usually, it is closely correlated with other socioeconomic variables which are also associated with family planning practice. Therefore, it is difficult to separate the role of income from other allied variables like occupation. A few studies have proved that couples with higher income are coming forward for the adoption of family planning. Also, a positive relationship between economic status of the family and the adoption of contraception has been observed by a few studies⁶⁷.

The women with an annual income of Rs. 30,001 and above, (63.37%) practiced permanent methods of family planning compared to women (56.39%) whose income varied from Rs.20,001 to Rs.30,000. Similarly, the adoption of family planning by women decreases when the income of the family decreases for example in the lowest income group, i.e. up to Rs. 5000, the adoption of permanent method of family planning was only 13.46 per cent (Table 3). The same trend was observed in case of women who practice temporary methods of family planning. Hence, income has emerged as one of the important determinants for adoption of family planning methods.

TABLE 2
DISTRIBUTION OF WOMEN
BY CONTRACEPTIVE BEHAVIOUR AND OCCUPATION

Occupation of respondent	Non-adopters	Temporary Adopters	Permanent Adopters	Total	Population (%)
Agricultural labourers	72.590 (144)	10.15 (20)	17.26 (34)	100.00 (198)	33.00 (198)
Cultivators	59.57 (28)	12.77 (6)	27.66 (13)	100.00 (47)	8.00 (47)
House Wives	55.93 (165)	4.07 (12)	40.00 (118)	100.00 (295)	49.00 (295)
White collar job holders	8.34 (5)	23.33 (14)	68.33 (41)	100.00 (60)	10.00 (60)
Total	57.00 (342)	8.67 (52)	34.33 (206)	100.00 (600)	100.00 (600%)

χ^2 results 107.96 and significant at 0.01 level.

(Figures in parentheses denote the number of women)

TABLE 3
DISTRIBUTION OF WOMEN
BY CONTRACEPTIVE BEHAVIOUR AND FAMILY INCOME

Income of the family (Rupees)	Non-adopters	Temporary Methods	Permanent Methods	Total	Population (%)
Upto Rs.5000	86.54 (135)	-	13.46 (21)	100.00 (156)	26.00 (156)
Rs.5001-10000	75.97 (98)	1.57 (2)	22.48 (29)	100.00 (129)	22.00 (129)
Rs.10001-20000	61.67 (74)	5.83 (7)	32.50 (39)	100.00 (120)	20.00 (120)
Rs.20001-30000	21.28 (20)	22.34 (21)	56.38 (53)	100.00 (94)	15.00 (94)
Total	57.00 (342)	8.67 (52)	34.33 (206)	100.00 (600)	100.00 (600%)

(Figures in parentheses denote the number of women)

Property

Table 4 shows the possession of property by the women in these rural areas and their behaviour towards family planning. Though legally, property right is

equally given to the daughters, but neither the parents strictly followed it, nor the daughters asked for their share of property the study revealed. However, it was observed that the share of the daughters from parental property was given in the form of dowry at the time of daughters marriages. It was seen that if the women possessed any personal property, they received a better social status. On the contrary with no property they had no significant value in the family and in the society in general. It is thus derived that women who possessed personal property enjoyed better status in the family and it was found to have a positive correlation with the adoption of family planning. Only 28.7 per cent of the study subjects possessed property in their names while the rest 71.3 per cent had no property in their names. Of course it is not uncommon while considering the culture and the society they live in.

In the present study, the adoption of family planning was found significantly higher among women who possessed property compared to those who did not have (significant at 1% level). Even among them who had property a higher proportion (65%) adopted permanent methods of family planning as compared to only 22 per cent who had no property (Table 4).

TABLE 4
DISTRIBUTION OF WOMEN BY

CONTRAC	EPTIVE BEHAVIOUR AND POSSESSION OF PROPERTY				
Possession of own property	Non-adopters	Temporary Adopters	Permanent Adopters	Total	Population (%)
No	69.39 (297)	8.64 (37)	21.96 (94)	100.00 (428)	71.00 (428)
Yes	26.16 (45)	8.72 (15)	65.12 (112)	100.00 (172)	29.00 (172)
Total	57.00 (342)	8.67 (52)	34.33 (206)	100.00 (600)	100.00 (600%)

X² results 107.96 and significant at 0.01 level
(figures in parentheses denote the number of women)

Son Preference

During the last two decades, there has been an increasing interest in the study of values of children, including son-preference as one of the major determinants of family planning adoption and fertility behaviour. Some other studies as well endorse this finding.

Preference for son exists more in the developing countries as compared to the developed regions of the world due to various socio-cultural and psychological reasons. Therefore, it is hypothesized that eligible couples usually adopt one or the other family planning method, only after getting their desired number of sons. Studies conducted in India and abroad have confirmed that son preference has a significant influence on the acceptance of contraceptive practices.

In the traditional agrarian societies, particularly in patriarchal societies, sons are preferred for many reasons such as; sons contribute to the family's economic resources by working in the farm; family name is carried on through the sons (lineage transmission), sons are expected to perform funeral rituals, sons support the parents during sick and old age, sons provide physical strength to the family and social status in the community. In addition to this, the value dimensions for son(s) are deeply associated with superstitious, cultural and traditional beliefs and values.

The economic and family continuity (lineage) factors seem to dominate son preference because people live in patri-lineal societies prefer sons. It has often been argued that strong son preference is one of the major barriers in the adoption of family planning, particularly in the rural areas".

Data presented in Table 5 show that the adoption of family planning is closely associated with strong son preference. In the present study, 67 per cent of the respondents had son preference while 33 per cent had no such preference. It is seen that 65 per cent of the women who had no son preference practised permanent methods of family planning compared to only 19 per cent who practice the same with a son preference. Data clearly depict that adoption of family planning was significantly higher among women who have no son preference (significant at 1 % level) as compared to others who have son preference. In case of adoption of temporary methods too, 12 per cent of women with no son preference adopted family planning compared to only 7 per cent of women who had strong son preference.

TABLE 5
DISTRIBUTION OF WOMEN BY
CONTRACEPTIVE BEHAVIOUR AND SON PREFERENCE

Son preference	Non-adopters	Temporary Adopters	Permanent Adopters	Total	Population (%)
Son preference	73.88 (297)	6.97 (28)	19.15 (17)	100.00 (402)	67.00 (402)
No preference	22.73 (45)	12.12 (24)	65.15 (129)	100.00 (198)	33.00 (198)
Total	57.00 (342)	8.67 (52)	34.33 (206)	100.00 (600)	100.00 (600%)

X^2 results 94.35 and significant at 0.01 level
(Figures in parentheses denote the number of women)

Index on Women's Social Status

Women's social status and their position in the society were also measured in terms of socio-economic status of women, health and demographic position of women, social equality, modernisation and socio-economic independence. In the present study an index was developed with 20 variables related to the status of women and women's development and classified in the following five broad dimensions:

1. **Socio-economic status** of women has been assessed through the variables such as- (i) education, (ii) occupation, (iii) income, and (iv) owning of property.
2. **The demographic status** was assessed through variables such as- (i) age at marriage, (ii) son preference, (iii) knowledge about infant diseases, and (iv) identification of malnutrition in children.
3. **Social equality** was assessed through information collected like (i) travel, alone, (ii) subordination, and. position of women, (iii) married women working along with men, and (iv) consulting female members in all the important decision-making processes in the family.
4. **Modernisation** was determined through information obtained like (i) having a personal bank account, (ii) permission from husband on various matters, (iii) freedom of wife, and (iv) the level of freedom enjoyed.
5. **Social independence** was assessed through information like (i) women's exposure to the outside world, (ii) female autonomy, (iii) frequency of intra-spouse communication, and (iv) decision-making.

Based on the aforesaid 20 variables, an index was developed to determine the status of women; and their attitudes related to women's development and modernization of women.

The status of women was assessed with the help of a chart published by the Population Crisis Committee, Washington Status of women was measured by taking all the five indicators, score values including their attitudes towards woman-development. Each respondent's score was compiled by adding 20 variables of women's status related to the categories such; as socio-economic position, health and demographic position of women, social equalities, modernisation and social independence. In each category, four classified measures were studied to measure women's general well being.

After assigning scores for each of these items, scores, were, compiled and pooled together for the population as a whole. The total scores were graded and classified into low or poor, moderate and high status of women. The minimum score of index was fixed at 20, and the maximum at 59. Based on the overall pooled scores, the respondents were, classified into 3 categories namely (i) low status (score 20-32), (ii) moderate status (score 33-34), and (iii) high status (score 46-59). This tracheotomized classified index on the status of women was cross tabulated with their contraceptive behaviour.

A positive association was observed while examining the link between the status of women and the adoption of family planning. It was observed that the adoption of family planning, by women increased with the rise in the status of women. Table 6 indicates that in the current study, majority of women (73%) had a low status, followed by 6 per cent in the medium and 21 percent in the higher status.

It was found that 65 per cent of women in the higher status (Score value-46 to 59) category practised permanent methods of family planning as compared to 39 per cent for those in the moderate status (score value- 33 to 45) category. Only 25 per cent of women in the poor status category adopted the permanent methods of family planning (Score value- 20 to 32).

TABLE 6
DISTRIBUTION OF WOMEN BY
CONTRACEPTIVE BEHAVIOUR AND INDEX ON SOCIAL STATUS

Social status of women Index	Non-adopters	Temporary Adopters	Permanent Adopters	Total	Population (%)
Poor status (score 20-32)	66.59 (52.63)	8.24 (36)	25.17 (110)	100.00 (437)	73.00 (437)
Moderate status (score 33-45)	52.63 (120)	7.89 (3)	39.47 (15)	100.00 (38)	6.00 (38)
Higher status (score 46-59)	24.80 (31)	10.40 (13)	64.80 (81)	100.00 (125)	21.00 (125)
(600%)	(600%)	(600%)	(600%)	(600%)	(600%)

X² results 94.35 and significant at 0.01 or 1 percent level
(Figures in parentheses denote the number of women)

CONCLUSION

The findings of the present study suggest that the position of women in the society had greatly influenced the adoption of family planning by them. The educational level of women emerged as one of the most important factors with a positive impact on the family planning practice. Majority of highly educated women adopted family planning. Occupation of women was one of the important socio-economic status indicators that influenced contraceptive behaviour. Annual family income was a composite variable which invariably impacted on the family planning practice by the subjects. In this study a positive relationship was seen between the annual income of the family and the practice of family planning by women. Women, who belonged to the higher income group of families had a higher proportion of family planning adoption **(63%)** compared to women in the low-income group of families. It was also observed that adoption of family planning was significantly higher among women who possessed property. The present study revealed that women who have a strong son preference demonstrated a lower rate of adoption of family planning practices **(19%)** compared to those who do not **(65%)**.

The above findings indicate the need for policy oriented researches on the current roles and conditions of women and their impact on family planning adoption. Education is an essential requirement for improving the status of women, which in turn, encourages the adoption of family planning. Importantly

steps should be taken to universale female education through formal and non-formal education programmes. The mind-set of people for a greater value for son(s) affects the adoption of family planning which needs to be changed by promoting awareness on equal values for son and daughters. To support this, property right for the daughter needs to be effectively implemented.

Lkkjk'k

प्रस्तुत लेख में आंध्र प्रदेश के दो जिलों (नेल्लोर एवं अन्नतपुर) में बहु चरण यादृच्छिक सैम्पलिंग के माध्यम से महिलाओं की उनके परिवारों में स्थिति तांम परिवार नियोजन के प्रति उनके व्यवहार संबंधी अध्ययन किया गया था। भारत में पुरुष-प्रधान समाज विद्यमान होने के कारण सामाजिक, आर्थिक, सांस्कृतिक तथा राजनीतिक मामलों में महिलाओं को पुरुषों की तुलना में कम स्थान प्राप्त है। शिक्षा, व्यवसाय, महिलाओं की आय, सम्पत्ति विभाजन तथा पुत्र-वरीयता जैसे विभेदकों के प्रभाव का भी अध्ययन किया गया है। निष्कर्षों से यह पता चलता है कि कालेज तथा उच्च शिक्षा प्रभाव का भी अध्ययन किया गया है। निष्कर्षों से यह पता चलता है कि कालेज तथा उच्च शिक्षा प्राप्त महिलाओं में परिवार नियोजन विधियों की स्वीकार्यता उच्च (68%) थी। यह देखा गया था कि बाबूगिरी व्यवसाय वाली 68 प्रतिशत महिलाओं द्वारा परिवार नियोजन संबंधी स्थायी विधियां (चाई-स्क्वायर विश्लेषण द्वारा परीक्षण करने पर उल्लेखनीय .01 स्तर) अंगीकृत किया गया था। रु. 30,001/- तथा अधिक वार्षिक आय प्राप्त करने वाली अधिकांश महिलाओं (63.37%) द्वारा परिवार नियोजन विधियां प्रयोग की जाती थी। अध्ययन द्वारा यह निष्कर्ष प्राप्त होता है कि आंध्र प्रदेश में महिलाओं द्वारा बालक शिशु को वरीयता प्रदान करने तथा परिवार नियोजन संबंधी अभ्यासों के बीच एक सकारात्मक संबंध विद्यमान है।

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**STATUS OF IODINE DEFICIENCY DISORDERS (IDDs)
IN AMRELI DISTRICT OF GUJARAT**

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ABSTRACT

A resurvey was conducted in Amreli district of Gujarat in March 2000 to find out the existing status of iodine deficiency disorders (IDDs) and to compare the data with the survey conducted earlier (1988). The findings revealed that the overall prevalence rate of goiter among primary school children in the entire district was 10.67 per cent with almost equal prevalence in boys and girls. Goiter in 4 school children was accompanied by other manifestations of IDD's such as mental retardation, deaf end mutism but the overall prevalence of these later disorders was only 0.04 per cent. Goiter prevalence in the entire district community was 2.65 per cent, which included cases of both grade-I (2.55%) and grade-II goiters (0.1%). The prevalence was slightly higher in females (3.26%) than males (2.05%). The entire district had 10 cases of mental retardation, 1 case of deaf and mutism and 2 cases of cretinism. The study has established the fact that Amreli district of Gujarat continues as a non-endemic district with respect to IDD's.

Keywords: Iodine deficiency disorders (IDDs), Endemic goiter and Deaf, mutism and cretinism.

Iodine deficiency is the single most common cause of preventable mental retardation and brain damage. It causes goiter and decreases the production of hormones vital to growth and development. Globally, 1.6 billion people are at risk of IDD's. Iodine deficiency affects 50 million children and 1,00,000 cretins are born every year¹.

In India, it is estimated that about 200 million people are at risk of Iodine deficiency. Out of them, around 70 million (35%) persons are suffering from goiter and other iodine deficiency disorders. Various surveys conducted by the Central and State Health Directorates and ICMR reveal that none of the States/Union territories is free from the iodine deficiency disorders (IDDs) 235 districts across

the country have been found endemic with a prevalence rate of more than 10 per cent.

The Department of Community Medicine, Medical College, Bhavnagar, initiated a survey in the Amreli district in the month of March 2000 to find out the endemicity of IDD's and compared the improvements in prevalence of IDD's with the survey conducted in 1988.

METHODOLOGY

The survey was conducted in both primary school children and village population. The details of village population and primary school children were obtained from the records of Amreli district panchayat. 10 villages were selected from the total of 10 talukas of the district by simple random sampling so as to cover at least 1 per cent of the village population and 5 per-cent of the primary school children. Primary schools were excluded from the villages that were selected for monitoring of the IDD's in the village population. A preliminary training for the investigation was organized so that the uniformity in properly diagnosing various forms of Iodine deficiency disorders and grading of goiters could be maintained. Information from all the individuals was collected in standard proforma and cases of goiter were identified and classified as per the latest classification by WHO.

WHO Classification of Goiter

Grade	Description
Grade – 0	No palpable or visible goiter / No goiter.
Grade – I	A mass in the neck that is consistent with an enlarged thyroid that is palpable but not visible when the neck is in the normal position. It moves upward in the neck as the subject swallows. Nodular alteration(s) can occur even when the thyroid is not enlarged / goiter palpable but not visible.
Grade – II	A swelling in the neck that is visible when the neck is in a normal position and consistent with an enlarged thyroid when the neck is palpated / goiter visible and palpable.

Criteria of Endemicity: Endemicity for goiter in the population is considered when the prevalence of goiter in the community exceeds more than 5 per cent.

TABLE 1

LIST OF SCHOOLS AND VILLAGES SURVEYED IN AMRELI DISTRICT

Sr. No.	Name of Taluka	Name of Villages	Villages where Primary Schools were Selected
1	Babara	Chamaradi	Mota-Devaliya
2	Amreli	Sarmbhada	Gavadeka
3	Dhari	Nagodhara	Chalala
4	Lathi	Chavand	Lathi
5	Liliya	Saladi	Liliya
6	Rajula	Vavera	Rajula
7	Jafarabad	Mota-Mansa	Timbi
8	Khambha	Ingorala	Samdhiyala
9	Kukavav	Amrapur	Kukavav, Nani Kukavav, Amargadh
10	Kodinar	Vadnagar	Sindhaj, Ghantvad, Kantala, Givdevli, Nagdala

(Information Collected from District Panchayat, Amrel)

TABLE 2

VILLAGE POPULATION AND SCHOOL CHILDREN IN AMRELI DISTRICT

Village	Population	Number of School Children
Total	Surveyed	Total
11,96,220	12,052	1,81,554
		9,652

(Figures Provided by District Panchayat, Amreli)

FINDINGS AND DISCUSSION

Prevalence of goiter among school children in all the talukas of Amreli district is shown in Table 3. The prevalence rate varied from 3.62 per cent in Babara taluka to 15.43 per cent in Khambha taluka. Overall prevalence rate of goiter among primary school children in the district was 10.67 per cent.

TABLE 3
PREVALENCE OF GOITER AMONG PRIMARY SCHOOL CHILDREN IN AMRELI DISTRICT
(TALUKA-WISE DISTRIBUTION)

Sr. No.	Name of Taluka	Population of School-children	5% School Children surveyed	Children Examined	Prevalence of Goiter (%)
1	Amreli	20158	1008	1010	10.99
2	Babara	17717	886	884	3.62
3	Dhari-	22253	1113	1124	8.36
4	Lathi	19272	964	984	7.92
5	Liliya	10707	536	554	10.10
6	Rajula	22106	1106	1315	12.39
7	Jafarabad	11179	559	751	10.51
8	Khambha	9243	463	473	15.43
9	Kukavav	21389	1070	1095	14.15
10	Kodinar	27540	1377	1462	12.86
Total		111554	9082	9652	

Table 4 depicts the prevalence of goiter among primary school children according to age, sex, and grades of goiter in all the talukas. A total of 1,030 (10.67%) cases of goiter were diagnosed among the students. Prevalence of goiter in grade-I was 10.64 per cent and 0.03 per cent in the grade-II.

Out of the goiter cases, four were accompanied by other manifestations of iodine deficiency disorders such as mental retardation, deaf and mutism. However, overall prevalence rate of these disorders along with goiter was only 0.04 per cent.

In 1988, the Health Department of Gujarat had-conducted a-survey in Amreli district to find put'the problem of jodirie/deftciency.disorders. The present study was undertaken'-in the month of March 2000 in the same district to.assess the improvement in goiter prevalence as compared to the survey conducted in 1998 and to know the existing problems related to iodine-deficiency disorders (IDDs).

Table 4
AGE, SEX AND GRADE-WISE DISTRIBUTION OF GOITER
AMONG SCHOOL CHILDREN IV AMRELI DISTRICT

Age group	Sex	Total Examined	Goiter			
			Grade-I	Grade-II	No.	%
5-7 Yrs	M	1,433	140	0	140	9.77
	F	1,414	134	0	134	9.48
	Total	2,847	274	0	274	9.62
8-10 Yrs	M	1,913	224	0	224	11.71
	F	2,054	242	2	244	11.88
	Total	3,967	466	2	468	11.80
11 yrs and above	M	1,506	152	0	152	10.09
	F	1,332	135	1	136	10.21
	Total	2,838	287	1	288	10.15
Total	M	4,852	516	0	516	10.63
	F	4,800	511	3	514	10.71
	Total	9,652	1,027 (10.67)	3(0.03)	1030	10.67

(Figures in parentheses show the percentage of grade-I and grade-II goiter)

TABLE 5
COMPARISON OF GOITER PREVALENCE IN SCHOOL CHILDREN
IN 1988 AND 2000 IN VARIOUS TALUKAS OF AMRELI DISTRICT

Sr. No.	Name of Taluka	1988 Survey (% of Goiter)	2000 Survey (% of Goiter)
1	Amreli	13.4	10.99
2	Babara	17.7	3.62
3	Dhari	9.6	8.36
4	Lathi	26.5	7.92
5	Liliya	35.9	10.10
6	Rajula	15.2	12.39
7	Jafarabad	11.2	10.51
8	Khambha	17.0	15.43
9	Kukavav	11.9	14.15
10	Kodinar	19.2	12.86
Total		17.1	10.67

It is clear from the comparative figures presented in Table 5 that the percentage of Goiter cases in the primary school children has declined from 17.1 per cent in 1988¹ to 10.67 per cent in 2000,

TABLE6
PREVALENCE OF GOITER IN THE COMMUNITY OF AMRELI DISTRICT
(TALUKA-WISE DISTRIBUTION)

Sr. No.	Name of Taluka	Total Population	1% Target population	Person examined	Goiter	
					No.	%
1	Amreli	1,46,193	1,462	1,466	9	0.61
2	Babara	1,09,633	1,097	1,115	2	0.18
3	Dhari	1,62,291	1,623	1,629	59	3.62
4	Lathi	1,12,115	1,122	1,104	19	1.72
5	Liliya	71,774	718	752	22	2.93
6	Rajula	1,48,008	1,481	1,448	57	3.94
7	Jafarabad	72,626	723	811	20	2.47
8	Khambha	59,345	594-	635	25	3.94
9	Kukavav	1,58,434	1,585	1,533	40	2.61
10	Kodinar	1,55,801	1,559	1,559	67	4.29
Total		11,96,220	11,964	12,052	320	2.65

As per the present findings, the prevalence of goiter in the, community varied from 0, 18 per cent in Babara taluka to 4.29 per cent in Kodinar taluka. However, the overall prevalence rate of goiter in the entire district was 2.65 per cent. Prevalence in females (3.26%) was little higher than males (2.05%) (Table 7).

TABLE 7
AGE, AND SEX-WISE DISTRIBUTION OF GOITER
IN THE COMMUNITY OF AMRELI DISTRICT

Age group	Sex	Persons examined	Goiter Grades		Total of Goiter cases	%
			I	II		
0-4 Yrs	M	686	1	0	1	0.15
	F	618	0	0	0	0.00
	Total	1304	1	0	1	0.08
5-9 Yrs	M	705	20	0	20	2.84
	F	657	14	0	14	2.13
	Total-	1362	34	0	34	2.50
10-14 Yrs.	M	687	28	0	28	4.08
	F	665	18	0	18	2.71
	Total	1352	46	0	46	3.40
15-19 Yrs	M	640	23	1	24	3.75
	F	705	39	1	40	5.67
	Total	1345	62	2	64	4.76
20 Yrs & Above	M	3319	48	3	51	1.54
	F	3370	116	8	124	3.68
	Total	6689	164	11	175	2.62
Total	M	6037	120	4	124	2.05
	F	6015	187	9	196	3.26
	Total	12052	307 (2.55)	13(0.1)	320	2.65

(Figure in parentheses show the percentage of grade-I and grade-II goiters)

Goiter cases observed in two surveys conducted in 1998 and 2000 are given in Table 8. The overall prevalence of goiter cases in the community is very low (2.65%) in the present survey as compared to the survey of 1998. The decline in goiter cases in the community may be due to an increase in the awareness among them.

TABLE 8
COMPARISON OF GOITER PREVALENCE IN 1988 AND 2000
IN ALL THE TALUKAS OF AMRELI DISTRICT

Sr. No.	Name of Taluka	1988 Survey(% of Goiter)	2000 Survey (% of Goiter)
1	Amreli	10.8	0.61
2	Babara	18.3	0.18
3	Dhari	10.5	3.62
4	Lathi	18.9	1.72
5	Liliya	16.4	2.93
6	Rajula	9.6	3.94
7	Jafarabad	16.6	2.47
8	Khambha	8.9	3.94
9	Kukavav	8.6	2.61
10	Kodinar	22.00	4.29
Total		14.00	2.65

CONCLUSION

The findings of the present survey indicate that except Kukavav, almost all the talukas of Amreli district showed a significant decline in the prevalence of goiter among the school children as compared to the figures of 1988 survey. The average prevalence rates of grade I and II goiters in the community were 2.55 and 0.1.percentresepetively. Further, ,10 case of mental retardation case of deaf mutisum and 2 cases of cretinism were observed in the population under study. This clearly indicates a declining trend in the prevalence of IDD in the .entire district. When the criterion of endemicity is applied, Amreli comes out as a non-endemic district for IDD.

गुजरात के जिला अमरेली में आयोडीन की अल्पता विकार संबंधी वर्तमान स्थिति का पता लगाने तथा इससे पूर्व संचालित (1988) सर्वेक्षण के आकड़ों से तुलना करने के लिए मार्च, 2003 में एक पुर्न-सर्वेक्षण संचालित किया गया था। इस अध्ययन से प्राप्त निष्कर्षों से पता चला है कि पूरे जिले में प्राथमिक स्कूली शिशुओं में घेंघा (गायटर) रोग की समग्र व्यापकता 10.67 प्रतिशत होने के साथ-साथ बालक तथा बालिकाओं में लगभग यही समान प्रतिशतता विद्यमान थी। चार स्कूली शिशुओं में घेंघा रोग होने के साथ आयोडीन अल्पता विकार संबंधी अन्य लक्षण अर्थात् मानसिक मन्दता, बहरापन, मूकपन प्रत्यक्षतः स्पष्ट थे, किन्तु इन तत्पश्चात् विकारों की समग्र व्यापकता केवल 0.04 प्रतिशत ही थी। पूरे जिला समुदाय में घेंघा रोग की व्यापकता 2.65 प्रतिशत थी, जिसमें ग्रेड-1 (2.55%) तथा ग्रेड-11 घेंघा रोग (0.1%) दोनों प्रकार के केस शामिल थे। पुरुषों (2.05%) की तुलना में महिलाओं (3.26%) में इसकी व्यापकता थोड़ी सी उच्च थी। संपूर्ण जिले में मानसिक मन्दता के 10 केस, बहरेपन एवं मूकपन का एक केस तथा जड़मानता के 2 केस पाए गए थे। इस अध्ययन द्वारा यह तथ्य स्थापित किया गया है कि गुजरात का जिला अमरेली आयोडीन अल्पता विकार के संबंध में निरन्तर रूप से गैर-स्थानिक रोग जिला बना हुआ है।

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**BELIEF, ATTITUDE AND BEHAVIOUR TOWARDS HIV/AIDS
AMONG PREGNANT URBAN WOMEN IN DELHI**

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ABSTRACT

The study was conducted during the period from June 1999 to July 2000 in an urban area of Delhi to find out the belief, attitude and behaviour of pregnant women towards HIV/AIDS. The study population had 44.5 per cent illiterates and 3.5 per cent with education up to graduation or above. The respondents mainly belonged to middle (46%) and lower socio-economic status (53.8%), only 39.3 per cent of the subjects had heard of AIDS. Those who were aware, 79.3 per cent perceived AIDS as a threat to the health of the local community. Education and socio-economic status of subjects were found to have significant positive correlations with behaviour. Out of 162 subjects who perceived that by changing behaviour, one could avoid getting AIDS; 60.5 per cent considered important to avoid multi-partner sex. 71.8 per cent felt that government should take appropriate steps to prevent AIDS and 69 per cent agreed to take up the HIV test. While majority (94.3%) were keen to know the result of the test and 89.9 per cent also felt it necessary to disclose the result of the test to their respective families.

Keywords; Beliefs, Attitudes, Behavioural change, and HIV test.

Estimates of UNAIDS/WHO state that India has the largest number of HIV infected persons in the world. The estimate for the year 2001 comes to 3.31 million persons in the adult population (15-49 years of age groups) are infected with HIV in the country¹. With a 20 per cent variability to take care of the unaccounted numbers of intra-venous drug users, men having sex with men, and other age groups a working estimate of 3.97 million HIV infections has been derived. It is perceived that health/education and preventive measures are the only means to prevent HIV transmission. It is also seen that most individuals do not have

accurate and complete information on HIV/AIDS and its preventive measures. The female literacy in India and Delhi is 55 per cent and 75 per cent respectively. However, many individuals do not have the access to most channels of mass communication because of socio-economic status, illiteracy, poor educational background, linguistic barriers and cultural diversification. National Annual Sentinel Surveillance reported that 0.25 per cent pregnant women were HIV infected in the year 2000. So, it is evident that HIV infection has already percolated into the general population. Women's role in child rearing and care of the family is vital. However, there are only a few studies to ascertain the behaviour and attitudes of pregnant women towards HIV/AIDS. It is thus pertinent to assess the perceptions and attitudes of pregnant women towards HIV/AIDS. Therefore, the present community-based study was conceptualized and conducted in an urban population of Delhi. It is expected that the findings of the study will be helpful in - making strategies for controlling AIDS in the community.

MATERIALS AND METHOD

Study Area and Period: The study was carried out in an urban area of Gokulpuri in East Delhi, from June 1999 to July 2000. Gokulpuri Health Centre is run by the I Department of Community Medicine, Maulana Azad Medical College which has been providing comprehensive health services to the local community. The health services provided by the Health Centre include ante-natal care, post-natal care, family planning services, well-baby clinic, immunization, school health services, health education and referral services. Rapid urbanization and distorted development patterns have brought about migration of rural people to the urban settings in search of livelihood⁵. Majority of the population in the study area and its vicinity belong to the middle and lower class. The total population of Gokulpuri is 31,140. The area is subdivided into four blocks. There are 13 anganwadis located in this area. Anganwadi worker who is a part-time voluntary worker from the same locality, manages the anganwadi in her locality. The beneficiaries of an anganwadi are pregnant women, lactating women and children below 6 years of age. Pregnant women visit anganwadi every day to get nutritional supplements during ante-natal period. The health centre is centrally located in this area. Health services are provided free of charge by the government. Besides Gokulpuri community, residents from the adjacent areas also avail of health services because of non-existence of any better health infrastructure facilities in their areas.

Subjects and Sample Population: Gokulpuri health centre provides ante-natal care once a week as per the schedule. The ante-natal coverage is reported to be

more than 95 per cent. Newly registered antenatal cases at the health center and others from the vicinity who attended the clinic, from June 1999 to July 2000 were included in the study. Efforts were made to include all pregnant women through verification of available records in the anganwadis. located in the respective areas. The health workers made further efforts to pick up unregistered cases in these areas by making monthly home visits to each house.

Data Collection: Three female health workers posted at Gokulpuri health centre were specially trained at the beginning of the study to collect accurate unbiased information. While maintaining absolute privacy, they conducted face-to-face interviews in local language with subjects at the health centre. The confidentiality of data was assured as subjects expressed apprehensions against answers on sensitive questions on sexual transmission of HIV. The research package designed by the World Health Organization on Knowledge, Attitudes, Beliefs and Practices on AIDS⁶⁷ was modified, simplified and pre-tested before use.

Statistical analysis: The SPSS (Statistical Package for the Social Science, version 8.0) software was used to analyze the data,

FINDINGS

57.8 per cent of the subjects considered that AIDS, at present, forms a serious threat to their community. It was felt more by educated subjects rather than illiterates.

To the question whether AIDS was going to be a serious menace to the health of the community in the near future, level of education of the respondents had influence on their behaviour and attitude towards HIV/AIDS. 62 per cent illiterates, 77.9 per cent educated up to primary, 74.2 per cent middle-educated, 87.8 per cent of high school educated, 86.6 per cent senior secondary and 96.6 per cent of graduates and post graduates replied in affirmative, the difference of perceived risk among various subjects belonging to various education level categories was statistically significant ($P < 0.01$), While 45.3 per cent felt that by changing behaviour, one could avoid getting AIDS and 34.6 per cent was not at all sure about it (Table 1).

TABLE 1
PERCEPTION ON AIDS AMONG WOMEN WHO HAD HEARD OF AIDS:
CORRECT RESPONSE VERSUS EDUCATIONAL STATUS

Questions	Illiterate (n=71)	Primary School #(n=68)	Middle School (n=62)	High School (n=90)	Senior secondary (n=37)	Graduate or more (n=30)	Total (n=358)	P value*
Do you think at present AIDS is a threat to the health of your local community	44 (62.0)	53 (77.9)	46 (74.2)	79 (87.8)	33 (86.6)	29 (96.7)	284 (79.3)	<0.01
Is AIDS going to be a serious threat in near future to the health of this community?	44 (62.0)	51 (75.0)	45 (72.6)	88 (97.8)	34 (91.9)	29 (96.7)	291 (81.3)	<0.00 1
Can a person avoid getting AIDS by changing his/her behaviour	24 (33.8)	33 (48.5)	34 (54.8)	25 (27.7)	20 (54)	26 (86.6)	162 (45.2)	<0.00 1

(Figures in the parentheses indicate percentage)

The commonest behavioral changes to avoid AIDS as perceived by women are shown in Tables 1, 2 and 3. A majority (60.5%) of subjects expressed that by avoiding multi-partner sex one can prevent HIV/AIDS. This mode of behavioral change was considered helpful in the prevention of AIDS by more than 50 per cent of the study population from each of the sub-groups based on age, education and socio-economic criteria.

TABLE 2
METHODS TO AVOID AIDS INFECTION AS PERCEIVED BY WOMEN
IN DIFFERENT AGE GROUPS

Age (Yrs)	Avoid MPS	Using Condom	Sterilised Needles	Blood Transfusion	IV Drug Use	Incorrect Answer	'Don't Know	Total
<20	10 (55.6)	2 (11.1)	4 (22.2)	2 (11.1)	0 (0)	3 (17)	2 (11.1)	18 (100)
20-24	58 (63.7)	9 (9.9)	13 (14.3)	7 (7.7)	1 (1.1)	6 (6.6)	19 (20.9)	91 (100)
25-29	25 (56.8)	8 (18.2)	4 (9.1)	3 (6.8)	1 (2.3)	3 (6.8)	7 (15.9)	44 (100)
30 & more	5 (55.6)	1 (11.1)	3 (33.3)	1 (11.1)	0 (0)	1 (11)	1 (11.1)	9 (100)
Total	98 (60.5)	20 (12.3)	24 (14.8)	13 (8)	2 (1.2)	13 (8)	29 (17.9)	162 (100).

(Figures in parentheses indicate percentage)

TABLE 3
METHODS TO AVOID AIDS INFECTION AS PERCEIVED BY WOMEN
IN DIFFERENT EDUCATION LEVELS

Education	Avoid MPS	Using Condom	Sterilised Needles	Blood Transfusion	IV Drug Use	Incorrect Answer	'Don't Know	Total
Illiterate	14 (58.3)	2 (8.3)	1 (4.2)	0 (0)	0 (0)	4 (17)	4 (16.7)	74 (100)
Less than primary	17 (51.5)	1 (3)	5 (15.2)	3 (9.1)	0 (0)	3 (9.1)	9 (27.2)	33 (100)
Middle	23 (67.6)	1 (2.9)	3 (88)	1 (2.9)	2 (5.9)	3 (8.8)	5 (14.7)	34 (100)
High school or more	44 (62)	16 (22.5)	15 (21.1)	9 12.7	0 (0)	3 (4.2)	11 (15.5)	71 (100)
Total	98 (60.5)	20 (12.3)	24 (14.8)	13 8	2 (1.2)	13 (8)	29 (17.9)	162 (100)

(Figures in parentheses indicate percentage)

TABLE 4
METHODS TO AVOID INDFECTION AS PERCEIVED BY WOMEN
BELONGING TO DIFFERENT SOCIO-ECONOMIC STRATA

Socio-economic status	Aviod MPS	Using Condom	Sterilised Needles	Blood Tranfusion	IV Drug Use	Incorrect Answer	Don't Know	Total
Lower or upper low	47 (61)	8 (10.4)	10 (13)	5 (6.5)	1 (1.3)	4 (5.2)	16 (20.8)	77 (100)
Lower middle	36 (58.1)	8 (12.9)	10 (16.1)	6 (9.7)	1 (1.6)	6 (9.7)	11 (17.7)	62 (100)
Upper middle	15 (65.2)	4 (17.4)	4 (17.4)	2 (8.7)	0 (0)	3 (13)	2 (8.7)	23 (100)
Total	98 (60.5)	20 (12.3)	24 (14.8)	13 (8)	2 (1.2)	13 (8)	29 (17.9)	162 (100)

71.8 per cent of the subjects expressed that the government to take steps to prevent AIDS. Regarding willingness to undergo the test, a majority of the respondents (69%) expressed their readiness. Infact the younger population was found more keen to know their result of the tests. On the whole, 68.2 per cent wanted to know the result of the test and most of them (89.9%) desired that their family should also know the results of their HIV test (Table 5),

TABLE 5
ATTITUDES AND BELIEFS ON AIDS AMONG WOMEN WHO HAD HEARD
OF AIDS AND THE PERCENTAGE OF CORRECT RESPONSE

QUESTIONS	Yes	No	Don't know	Total
Do you think that Govt, should take step/	257 (71.8)	19 (5.3)	82 (22.9)	158 (100)
Doctors can tell you have the AIDS virus by carrying out a test on your would you be willing to take this test?	247 (69.0)	76 (21.2)	35 (9.8)	358 (100)
Would you want to know the results of the test	233 (94.3)	12 (4.9)	2 (0.8)	247 (100)
would you want your family(i.e. your spouse, parents or children) to know the results of the test?	222 (89.9)	13 (5.3)	12 (4.8)	247 (100)

(Figures in parentheses indicate percentage)

DISCUSSION

The present study has focused on the perceptions, attitudes and beliefs regarding HIV/AIDS among all the pregnant women mainly belonging to the middle or lower socio-economic group who were mostly illiterates. The clinic covered all the pregnant women living in the study area during the period from June 1999 to July 2000.

Out of total number of 911 subjects, only 39.9-per cent of subjects had heard of AIDS. This should be considered as a marginal improvement in knowledge compared to the previous study (33.4%), which involved general population in 15-60 years of age in the same area⁶ during 1993. In contrast, another study in 1995⁷ reported that only 5.7 per cent of women residing in urban slums of Delhi with poor educational background and low socio-economic status had heard of AIDS.

In the present study, the perception of threat of AIDS was considered higher among all categories with varied educational level. The study revealed that even the illiterates too, perceived well on the aspect of threat of AIDS. Other authors earlier revealed, similar findings among the educated groups. Such perception of threat is important as it may help to motivate subjects to know more about HIV/AIDS and the ways and means of its prevention.

In the current study, 45.3 per cent believed that behavioral change could help them avoid getting AIDS. The commonest behavioral change viewed by most of the subjects (60.5%) was avoiding multi-partner sex. Mittal et al also reported that individuals indulging in multi-partner sex (25%) and those going to prostitutes (16.7%) were perceived by women to be at a higher risk of contracting HIV/AIDS. Similar findings have also been reported by Mehra⁹ from an urban slum who observed that heterosexual promiscuous people going to prostitutes and the sex workers were at higher risk of acquiring AIDS. These findings clearly indicate that women consider AIDS as preventable and avoiding sex with multiple partners can prevent the spread of the disease.

Majority (71.8%) of the studied women viewed that the government should take steps to prevent AIDS. Also, 69 per cent of the subjects showed their willingness to go for an HIV test in response to a query that a doctor can diagnose a patient with HIV by means of a blood test on her. Similar findings are reported by Sehgal in which majority (73.6%) expressed their willingness to have a test to

diagnose HIV infection. This probably reflects a positive attitude of the people towards the test, which is partly influenced by the fear of the spread of AIDS among them.

CONCLUSION

A low level of HIV/AIDS among ante-natal mothers was observed in the present study. However, the perceptions of threat of HIV/AIDS was higher among all categories with varied educational levels. A positive attitude of ante-natal mothers towards HIV test is partly influenced by the fear of spread of HIV/AIDS among them. Thus, behavioral change communication among ante-natal mothers can help them avoid getting HIV/AIDS.

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गर्भवती महिलाओं में एड्स/एचआईवी रोग के बारे में विश्वास, दृष्टिकोण तथा व्यवहार का पता लगाने के लिए जून, 1999 से जुलाई, 2000 की अवधि में दिल्ली की एक मलिन बस्ती में एक अध्ययन संचालित किया गया था। अध्ययनगत समुदाय में 44.5 प्रतिशत निरक्षरों तथा 3.5 प्रतिशत तक ग्रेजुएट अथवा इससे उच्च स्तर तक शिक्षित लोगों को शामिल किया गया था। अध्ययनगत व्यक्ति मुख्यतः मध्यवर्ग (46%) तथा निम्न सामाजिक-आर्थिक स्थिति (53.8%) से संबंधित थे। केवल 39.3 प्रतिशत अध्ययनगत व्यक्तियों ने एड्स के बारे में सुना था। जो व्यक्ति इससे अवगत थे, उनमें से 79.3 प्रतिशत का एड्स के बारे में प्रत्यक्षतः समझ थी, वह स्थानीय समुदाय स्वास्थ्य के प्रति भय बने रहते थे। अध्ययनगत व्यक्तियों की शैक्षिक तथा सामाजिक आर्थिक स्थिति का व्यवहारात्मक प्रभाव से महत्वपूर्ण सकारात्मक सह संबंध पाया गया है। एक सौ बासठ अध्ययनगत व्यक्तियों, जिनके व्यवहार में प्रत्यक्षतः परिवर्तन अनुभव किया गया है, में से एक व्यक्ति को एड्स रोगग्रस्त होने से रोग जा सकेगा: 60.5 प्रतिशत द्वारा अनेक व्यक्तियों से यौन संबंध बनाने से बचने को महत्वपूर्ण माना गया है। 71.8 प्रतिशत द्वारा यह अनुभव किया गया है कि सरकार द्वारा एड्स रोग की रोकथाम के लिए समुचित उपाय किए जाने चाहिए तथा 69 प्रतिशत द्वारा एचआईवी परीक्षण कराने के बारे में सहमति व्यक्त की गई है। अधिकांश (94.3%) द्वारा परीक्षण के परिणाम के बारे में जानने के प्रति जिज्ञासा प्रदर्शित की गई तथा 89.9 प्रतिशत द्वारा यह भी अनुभव किया गया कि आवश्यकता होने पर परीक्षण के परिणाम संबंधित परिवारों के समक्ष स्पष्ट कर दिए जाने चाहिए।

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SOCIO-CLINICAL PROFILE OF CHILD LABOURERS IN BERHAMPUR TOWN OF ORISSA

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ABSTRACT

The present study was initiated to investigate the socio-clinical profile of three hundred and thirty-five child labourers engaged in different sectors in Berhamapur town of Orissa. Information was collected through observational techniques, questionnaires and physical examination. All the children included in the present study were in the age group of 5-15 years. Nearly 44 per cent of children were from rural areas and 61 per cent had come from large families. In 41.7 per cent cases, more than one sibling had joined the labour force. 60 per cent of the child labourers were from families with illiterate fathers. 35 per cent of the children had never attended any school and the rest 65 per cent though attended the school but could not complete it. The main reason for joining the labour force was poverty (60%). However, wages were exploitatively low i.e. Rs. 297.90 per boy and Rs. 306 per girl per month for an average 8 hours of working per day. Different grades of malnutrition were observed among 85 per cent of boys and 73 per cent of girls working as child labourers. Observed ailments included anaemia (51.34%), respiratory tract infections (22.08%), helminthic infestations (21.49%), scabies and skin infections (16.41%) and minor injuries (5.67%). One girl child had goitre. More than half, 68.4% of the study population was addicted to Betel nut or chewing tobacco products like Khaini or Tarda. 23.4 per cent were Bidi smokers and 7.7 per cent consumed alcohol. The above findings call for action by government and NGOs for establishing more vocational and educational institutions for children in the area and ensuring their attendance in schools by mobilizing the support of their peers.

Keywords: Child labour, Socio-economic status, Working condition, Exploitation, Health status.

The International Labour Organisation (ILO), in 2002, had estimated that about 246 million children aged 5-17 years are employed worldwide and 98 per cent of these economically active children in the age groups of 5-14 years were found mostly in the developing countries. In 1989, it is reported that around 4 per cent of the children aged 5-14 years in 17 Indian states were engaged in some or other forms of labour force with wide regional variation of wages³.

Industrialization coupled with urbanization has changed the social structure by opening newer occupational systems and avenues. Agriculture-based occupations have also changed, with landless labourers and their children joining the urban economy in the form of a Pushed Force.

Taking into account the International Labour Organization's (ILO) definition of labour, it was reported that around 18 per cent of the children aged 5-14 years contributed directly to the economic benefit of their respective families. Similar observations have also been reported from other places. With more than 1.04 crore child labourers in the 1991 census, our country has the dubious distinction of having the largest number of child labourers in the world. Child labour contributes to 20 per cent of the nation's GDP. Though free primary school education for every child has been advocated and considered as a fundamental right, yet 15 per cent of children never go to school and of every 100 who begins 1st standard in the school, only 52 of them reach up to 5th class. Every 7th child, it is believed, is economically active and contributing more to the family than for himself or herself. These children mostly live in urban slums and are exposed to the risk of infectious diseases, malnutrition and impaired cognitive development. The present study was, therefore, undertaken to analyse the socio-economic background, types of exploitation, educational status, health and nutritional profile including common diseases of working children in Berhampur town of southern Orissa situated in the East-coast of India.

MATERIALS AND METHOD

This study was conducted by the Department of Community Medicine, MKCG Medical College, Berhampur during October to December 2003. Data were systematically collected from randomly selected child labourers working in different establishments of Berhampur town using a pre-tested proforma and through personal interviews, observations and physical examinations. In all, 335 working children were examined at their working places, either alone or in the presence of their employers.

FINDINGS

The study highlights the conditions of working children in Berhampur town of Orissa. Most of the children were working in unorganized sectors such as tea stalls, roadside hotels (Dhabas), hostel canteens, garages, cycle repairing shops, vegetable/grocery shops small business establishments or as domestic servants.

The study shows that 55 per cent of children were between 13 and 15 years, 33.1 percent 10 and 12 years and-11.9 per cent between 7 and 9 years of age. 69.8 per cent and 30.1 per cent were boys and girls respectively (Table-1). The percentage of boys working as labourers was significantly high ($P<0.001$) in all the age groups.

TABLE 1
AGE AND SEX-WISE DISTRIBUTION OF CHILD LABOURERS

Age Group	Boys	Girls	Total
7 to 9 years	24(10.2%)	17(16.6%)	41(11.9%)
10 to 12 years	67(28.57%)	44(43.3%)	111(33.1%)
13 to 15 years	143(61.2%)	40(40.1%)	183(55%)
Total	234(70%)	101(30%)	335(100%)

While 61 percent of children came from large families, the rest belonged to small families (parents with 2 . children is called a small family as per the National Family Welfare Programme as per the Health Policy of the Govt, of India). It was also noted that 41.7 per cent of the child labourers had one or more sibling(s) working in the labour force (Table 2).

TABLE 2
FAMILY SIZE OF WORKING CHILDREN

Family size	Less than 2 or equal	2 to 4 members	More than 4 members	Total
Boys	94(71.8%)	117(81.4%)	23(39%)	234(70%)
Girls	37(28.2%)	27(18.6%)	37(61%)	101(30%)
Total	131(39%)	144(43%)	60(18%)	335(100%)

(Figures in parentheses indicate percentage)

56.2 per cent of the sample children were from slum areas and the rest 43.8 per cent had migrated from rural areas. In both genders, number wise, urban children were 10 per cent more than their rural counterparts (Table 3).

TABLE 3

RESIDENCE (RURAL/URBAN) OF WORKING CHILDREN

Residence	Boys	Girls	Total
Rural	103(4.2%)	44(43.3%)	147(43.8%)
Urban	131(55.8%)	57(56.6%)	188(56.2%)
Total	234(70%)	101(30%)	335(100%)

(Figures in parentheses indicate percentage)

60 per cent of the fathers of these children were illiterate, 15 per cent last attended secondary schools and 25 per cent had education up to primary level. The other significant finding of the study was that 35 per cent of the children did not attend any school while 51 per cent had primary and 14 per cent had secondary level of education respectively (Table 4).

TABLE 4

EDUCATION OF FATHERS VERSUS WORKING CHILDREN

Education	Father	Children
	Number	Number
Illiterate	201(60)	117(35)
Primary	84(25)	171(51)
Secondary	50(15)	47(14)

(Figures in parentheses indicate percentage)

Table 5 lists various reasons stated by the children for joining the work force. These include, to support or supplement the income of family (62%), less or no interest in studies (18%) and being beaten or scolded by the teacher (11%). It was observed that 93.4 per cent of the total girls were found working to supplement their family income compared to 48.6 per cent of the boys. Surprisingly, while 9 per cent of the total children had expressed self-interest in working, not a single girl was of the opinion of joining the labour force by her self-interest.

TABLE 5

DISTRIBUTION OF CHILDREN VERSUS THE REASONS FOR JOINING WORK

Reason for joining work	Boy	Girl	Total
To support the Income	113(48.6)	95(93.4)	208(62)
No Interest in Studies	57(24.2)	3(3.3)	60(18)
Self Interest in Working	30(12.8)	0(0)	30(9)
Being beaten or scolded by Teacher	34(14.4)	3(3.3)	37(11)
Total	234(70)	101(30)	335(100)

(Figures in parentheses indicate percentage)

It was seen that 11 per cent of the children, mostly boys, were engaged in garages, tea stalls and a few roadside hotels (Dhabas). They were found working very hard without any financial remuneration as they were 'under training'. Children, working, at the tea stalls and mess canteens were paid Rs.3007- per month. The maximum wage of Rs,400/- per month was received in Agarbati (incense) factories. However, wages per month were exploitatively low (Table 6).

TABLE 6
DISTRIBUTION OF CHILDREN ON THE BASIS OF
THEIR AVERAGE INCOME AND TYPE OF WORK

Type of Category	Per Boy In Rs. (Per Month)	Per Girl in Rs. (Per Month)
1) Biscuit Factory	Rs. 335.20	Rs,350.00
2) Packing Factory	--	Rs. 270 00
3) Agarabathi Factory	Rs. 410.00	Rs. 425.00
4) Bread Factory	Rs. 325.00	Rs. 300.00
5) Soap Factory	Rs. 300.00	--
6) House maid	--	Rs. 185.00
7) Hotel/Mess/Tea Stall	Rs. 316.70	--
8) Tailor / Grocery Store/ Automobile repairing etc.	Rs. 240.00	--
9) Daily Wage Worker	Rs, 200.00	--
10) Cultivation Worker	Rs. 200.00	--
11) General Shops	Rs. 240.00	--
12) Vegetable/Grocery	Rs. 412.15	--

The present study revealed the harsh working conditions faced by these children. Many had to work beyond their physical capabilities. Working hours varied from 3 14 hours per day to 12 hours. Some worked even 12 hours without any recreation, education, social contacts and rest (Table 7). 75 per cent of the children confined that they were not given any food during working hours (Table 8).

On the basis of anthropometry, the extent of malnutrition was assessed as per to the IAP classification. 14.28 per cent of boys and 26.3 per cent of girls were found to have normal nutritional status and the rest of the child labourers were having different grades of malnutrition. 34 percent of boys and 25 percent of girls were classified in the Grade III and IV malnutrition category respectively (Table 9).

TABLE 7
AVERAGE DURATION OF WORK FOR CHILDREN
IN DIFFERENT WORK PLACES

Category of Work	Average Duration of Work
Agarabathi Factory	5Hrs.
Biscuit Factory	7Hrs.
Snacks Packing Factory	5Hrs.
Bread Factory	5Hrs.
Soap Factory	6Hrs.
House Maid/Milk Maid	3½Hrs.
Hotel/Mess/ Tea Stall	12 Hrs.
Tailor/Grocery Store/ Automobile Repairing	11 Hrs.
Daily Wage Worker Cultivation works	5Hrs.
General Shop Worker Vegetable/ Grocery	5Hrs.
Shop	9 Hrs.
	12 Hrs.

TABLE 8
DISTRIBUTION OF CHILDREN WITH OR WITHOUT
FOOD PACKAGE DURING WORK

Food provided	Yes	No	Total
Male	37(44)	197(78.6)	234(70)
Female	47(56)	54(21.4)	101(30)
Total	84(25)	251(75)	335(100)

(Figures in parentheses indicate percentage)

TABLE 9
DISTRIBUTION OF CHILDREN BY THEIR NUTRITIONAL STATUS

Nutritional Grade	Boys	Girls	Total
Normal	33(14.28)	27(26.3)	60(18)
Grade-I	68(28.64)	28(27.5)	94(28)
Grade-II	53(22.8)	20(20)	74(22)
Grade-III	67(28.57)	23(23.1)	90(27)
Grade-IV	13(5.71)	3(3.1)	17(5)
Total	234(70)	101(30)	335(100)

(Figures in parentheses indicate percentage)

Common diseases among these children were Respiratory Tract Infections (22.08%), Helminthic infestations (21.49%), Scabies and skin infections (16.41%), Diarrhoeal diseases (9.25%) and Minor injuries (5.67%)(Table 10).

Table 11 reveals that 51.34 per cent of children had anemia, **9.85** per cent, vitamin A deficiency and 13.73 per cent with vitamin B complex deficiency in. One girl was having goiter Grade I.

TABLE 10
DISTRIBUTION OF CHILDREN ON THE BASIS OF
THEIR CURRENT MORBIDITY

Type of Illness	Boys	Girls	Total
Acute Respiratory Inf.	46(19.6)	28(27.7)	74(22.08)
Diarrhea	22(9.4)	9(8.9)	31(9.25)
Fever	5(2.1)	2(1.9)	7(2.08)
Scabies & Skin Inf.	38(16.2)	17(16.8)	55(16.41)
Helminthic Infestations	51(21.8)	21(20.7)	72(21.49)
Injury	19(8.1)	(0)	19(5.67)
Other Systemic Diseases	1(0.4)	2(1.9)	3(0.89)
Total	182(77.7)	79(78.2)	261

(Figures in parentheses indicate percentage)

TABLE 11
DISTRIBUTION OF CHILDREN WITH DEFICIENCY DISEASES

Deficiency Disease	Boys	Girls	Total
Anemia	103(44.01)	69(68.3)	172(51.39)
Vit. A Deficiency	22(9.40)	11(10.9)	33(9.85)
Vit. B Complex Def.	29(12.40)	17(16.8)	46(13.73)
Goitre(Iodine Def.)	0(0)	1(0.99)	1(0.29)
Total	154(65.8)	98(97)	252

(Figures in parentheses indicate percentage)

History of addiction was enquired directly from the working children. Majority of the boys (60.9 %) and girls were addicted to betel nut, Gutka or Khaini 29.2 per cent of the boys were addicted to smoking while 9.9 per cent boys were consuming alcohol (Table 12).

TABLE 12
DISTRIBUTION OF CHILDREN AS VARIOUS ADDICTIONS

Additions	Chewable Tobacco (Pan, Gutka, Khaini)	Smoking (Cigarette/Bidi)	Alcohol	Total
Boys	83 (60.9)	40(29.2)	14(9.9)	137 (58.6)
Girls	34(100)	0(0)	0(0)	34(33.4)

(Figures in parentheses indicate percentage)

DISCUSSION

Article 18 of the UN Convention on the Rights of the 'Child' and Convention 138 of the International Labour Organization have directives in consonance with the Child Labour (Protection and Regulation) Act India, 1986 which state that the tender age of children shall not be abused and that "Citizens are not forced by economic necessity to enter avocations un-suited to their age or strength".

Some earlier studies endorse that most of the children in the age group of 7-15 years were engaged in unorganised sectors and a few in some factories. It was observed in the present study that 61 per cent of the working children came from large families and were forced to work because of the poor financial condition of their families which is in conformity with earlier findings in this area. In the current study too, poverty has been found as the most frequently cited reason for children to work (62%) which is supported from findings by other authors. A total of 20 per .cent children left schools and took up jobs out of their personal attitude following being beaten up by the schoolteacher. The finding is also in similar lines with the observations made by other-studies.

A comparative analysis of average wages of children engaged in different sectors reveals a very low income for these working children (boys-Rs. 297.90/-and girls-Rs. 306/- per month) and similar observations were made by other investigators. It is pathetic to realize that the harsh working conditions of children, where they have to work beyond their physical abilities for more than 10 hours and sometimes even more without food till the assignment is complete. Similar findings have been reported by authors also.

RECOMMENDATIONS

Child labour is a social problem prevalent on a large scale in our society. Poverty, ignorance, indifferent attitude of employers, lack of political will and inadequate NGO-participation are the main factors which need to be given importance for alleviating the plight of the working children in our country. However, the following are the recommendations for consideration by competent authorities for improving the situation.

- i) Establishment of vocational and educational institution by social organizations with monetary and nutritional benefits to elder children >12 years of age.
- ii) Creation of awareness among the public about the hazards of forced labour for children during their tender and growing stage of life,
- iii) Compulsory primary school education for children with nutritional facilities.
- iv) Counseling and placement services for children who had undergone vocational training in schools.

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प्रस्तुत अध्ययन उड़ीसा के बहरमपुरशहर के विभिन्न सेक्टरों में जुटे तीन सौ पैंतीस बाल श्रमिकों के सामाजिक—क्लिनिकल प्रोफाइल संबंधी अन्वेषण करने के लिए प्रारम्भ किया गया था। संबंधित सूचनायें प्रेक्षणात्मक तकनीकों, प्रश्नावलियों तथा वास्तविक परीक्षण के माध्यम से एकत्रित की गई थी। प्रस्तुत अध्ययन में शामिल सभी शिशु पांच पन्द्रह वर्ष के आयुवर्ग में थे। लगभग 44 प्रतिशत शिशु ग्रामीण क्षेत्रों से आए थे तथा 61 प्रतिशत शिशु बड़े परिवारों से आए थे। 41.7 प्रतिशत केसों में एक से अधिक सहोदर को श्रमिक बल पेशे में भेजा गया था। साठ प्रतिशत बाल श्रमिकों के परिवार में पिता निरक्षर थे। पैंतीस प्रतिशत शिशु कभी भी स्कूल नहीं गए थे, तथा शेष 65 प्रतिशत शिशु स्कूल तो गए थे, किन्तु उन्होंने अपनी शिक्षा पूरी नहीं की थी। श्रमिक बल में आने का मुख्य कारण निर्धनता (60%) था, किन्तु मजदूरी दरें शोषणात्मक रूप से अत्यन्त कम अर्थात् प्रतिदिन औसतन 8 घंटे कार्य करने के लिए प्रतिमाह रु0 297.90

प्रति बालक तथा रु0 306 प्रति बालिका थी। बाल श्रमिक के रूप में कार्यरत 85: बालकों तथा 73 प्रतिशत बालिकाओं में कुपोषण के विभिन्न ग्रेड प्रेक्षण किए गए थे। प्रेक्षण किए गए रोगों में रक्ताल्पता (51.34%) श्वसन मार्गी संक्रमण (16.41%) कृमिरोग पीड़ा (21.49%) खारिश रोग एवं त्वचा संक्रमण (68.4%) तथा छोटी चोटें (5.67%) शामिल थे। एक बालिका शिशु को घेंघा रोग पाया गया था। अध्ययनगत समुदाय में आधे से अधिक बाल श्रमिकों में सुपारी अथवा खैनी अथवा जर्दा जैसे तम्बाकू उत्पाद चबाने का व्यसन पाया गया था। 23.4 प्रतिशत बाल श्रमिक बीड़ी पीते थे तथा 7.7 प्रतिशत शराब पीने के आदी थे। उपरोक्त निष्कर्षों के अर्न्तगत संबंधित क्षेत्र में शिशुओं के लिए अधिक व्यासायिक तथा शैक्षिक संस्थान स्थापित करने तथा उनके समीक्षक व्यक्तियों के समर्थन से गतिशील करके स्कूलों में उनकी उपस्थिति सुनिश्चित करने के लिए सरकार तथा गैर सरकारी संगठनों द्वारा कार्यवाही हेतु आह्वान किया गया है।

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KNOWLEDGE AND ATTITUDE OF MOTHERS ABOUT ORAL REHYDRATION SOLUTION IN FEW URBAN SLUM OF DELHI

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ABSTRACT

Scientific basis of oral rehydration therapy (ORT) has revolutionized the concept and management of diarrhoea. Since the use of oral rehydration solution largely depends on the level of knowledge and attitude of mothers, the present study was undertaken to determine the same in women living in the slum areas adjoining Lady Hardinge Medical College, New Delhi. Out of total 457 mothers interviewed, 210 (46%) used oral rehydration solution (ORS) packets for diarrhoeal remedy in under-five children. Only 38.7 per cent of the mothers were able to tell the correct method of preparation and 41.6 per cent had the knowledge about the exact quantity of ORS to be given to the child suffering from diarrhoea. Misconceptions are prevalent that prevent the use of ORS during diarrhoea. Many mothers (29.3%) believed that one needs a prescription from a doctor in order to buy ORS or ORS has a bad taste or no fluid are to be given during diarrhoea, etc. Misconception rate was significantly higher among the less literate mothers. 69.8 per cent of the mothers had knowledge regarding the role of ORS during diarrhoea but only 46.0 per cent had ever used ORS. Among the ORS users, most of them had the correct knowledge regarding the role of ORS during diarrhoea (89.5%), and 67.6 per cent knew how to prepare ORS. The study establishes that poor literacy status limits the ability of mothers to utilize ORS properly for preventing diarrhoeal induced dehydration.

Keywords: ORS, ORT, Diarrhoea, Urban slum, Mothers, Knowledge, Education, and Misconceptions

Diarrhoea is one of the major causes of morbidity and mortality among young children. Globally, an estimated 1.8 billion cases of childhood diarrhoea are reported which is responsible for more than three million under five children deaths annually. It is estimated that 60-70 per cent of diarrhoea related deaths are caused by dehydration. Scientific basis of oral rehydration therapy has revolutionized the concept and management of diarrhoea. It is simple, highly effective, inexpensive and technologically appropriate. A number of studies

substantiate the contribution of oral rehydration therapy (ORT) and its technical advances in the reduction of dehydration and diarrhoeal mortality. In accordance with the WHO guidelines, Government of India promotes oral rehydration therapy as one of the top priority activities for ensuring child survival during diarrhoea. This programme is aimed at educating mothers and communities about causes, symptoms and treatment of diarrhoea. However,, lack of knowledge of mothers about diarrhoeal diseases is a common problem in many developing countries. Use of oral rehydration solution largely depends, on the .level of mother's knowledge and her attitude towards its use. The present study assesses the level of knowledge and attitude of urban slum mothers towards the use of oral rehydration solution during diarrhoeal illness. Also, an attempt has been made in this study to correlate the literacy level of mothers with the use of oral rehydration solution.

MATERIALS AND METHOD

The present study was conducted in the slums adjoining the Lady Hardinge Medical College, New Delhi. Majority of the population belonged to the lower socio-economic strata engaged in various kinds of skilled work. Most of the houses had government and civic facilities like tap water, community latrines etc. The houses found locked and used for commercial purposes; houses those had no children below five years of age were excluded from the study. In all, 457 houses were covered using a pre-tested, semi-structured schedule. In addition to their basic demographic information; the selected mothers were asked to recall remedies and sources of care sought by them for childhood diarrhoeal diseases. A diarrhoeal episode was considered to have occurred if any child had loose/watery stool thrice or more during the last 24 hours preceding the study.

FINDINGS

Out of the 457 families surveyed, 579 children-were below five years of age. Prevalence rate of diarrhoea among the children was 10.1 per cent at the time of the study. But, based on the method of recall by mothers; the prevalence rate of diarrhoeal diseases during the month preceding .the study was 16.01 per cent. Out of the total of 457 mothers interviewed, 210 (46%) used ORS packets for diarrhoea in under-five children (Table 1). It was interesting to note that ORS use was found increased significantly with an increase in the literacy level of mothers (Table 2). Most of the ORS users and literate mothers could tell the role of ORS properly for-preventing or controlling diarrhoeal diseases. Correct method of

preparation of ORS was also stated by 38.7 per cent of mothers and the quantity of ORS to be given during diarrhoea was replied correctly by 41.6 per cent. This difference was statistically significant between ORS users and literacy of mothers. Only 13.3 per cent of the mothers knew the harmful effects of giving too much ORS at a time and 28.4 per cent knew the danger of keeping ORS for a longer period (Table 1).

TABLE 1
KNOWLEDGE OF MOTHERS REGARDING DIFFERENT ASPECTS OF ORS
(only correct responses]

Observations	ORS users n=210	ORS non- users n=247	Total n=457	Remarks
Role of ORS	58.9 (89.5)	41.1 (53.0)	319 (69.8)	χ^2 71.6 p< .001
Preparation of ORS	80.2 (67.6)	19.8 (14.2)	177 (38.7)	χ^2 56.2 p< .001
Quantity of ORS	68.4 (61.9)	31.6 (24.3)	190 (41.6)	χ^2 66.1 p< .001
Harm of giving too much ORS	65.6 (19.0)	34.4 (8.5)	61 (13.3)	χ^2 10.9 p< .01
Danger of keeping ORS for a longer period	75.4 (46.7)	24.6 (13.0)	130 (28.4)	χ^2 63.3 p< .001
Stop ORS, if diarrhoea continues	42.0 (47.1)	58.0 (55.5)	236 (51.6)	Fisher Exact test p< .005
Stop ORS, if vomiting continues	48.0 (27.1)	52.0 (25.1)	119 (26.0)	χ^2 697 p .404
Any misconception (yes)	26.9 (17.1)	73.1 (39.7)	134 (29.3)	χ^2 27.8 p< .001

(Figures in parentheses indicate percentage)

The findings reveal that 29.3 per cent of mothers had misconceptions about the use of ORS and it was very high among the ORS non-users and illiterate mothers. Common misconceptions observed among the mothers were, i) one needs a prescription of a doctor to procure it; ii) ORS has a bad taste and iii) no fluid is to be given during diarrhoea etc. Approximately, half of the mothers (46.7%) had the knowledge of starting ORS at the onset of diarrhoea while 23.8 per cent of mothers advocated its use only after due recommendation by a doctor.

24.8 per cent of mothers expressed that ORS need to be given when the child looks weak and 4.8 per cent viewed that ORS should be given to the child in case of vomiting. The researchers found that the common sources of ORS packets were the hospitals (44.8%) followed by dispensaries (21.01%), private practitioners (21.1%) and chemist shops (13.3%). Television (65.2%) and radio (26.5%) were the main sources of information regarding ORS for the sample subjects.

TABLE 2
CORRELATION BETWEEN MOTHERS EDUCATION AND THEIR
KNOWLEDGE REGARDING DIFERENT ASPECTS OF ORS USE (only correct
responses)

Observations	Educational status of mothers				Total	Remarks
	Illiterate Above	Primary	Middle			
Role of ORS during diarrhoea	45 (52.9)	55 (65.5)	70 (78.7)	149 (74.9)	319 (69.8)	X ² 17.9 P<.001
Used ORS during diarrhoea	25 (29.4)	32 (38.1)	40 (44.9)	113 (56.8)	210 (46.0)	X ² 20.8 P<.001
Preparation of ORS	18 (21.2)	31 (36.9)	36 (40.4)	92 (46.2)	177 (38.7)	X ² 15.9 P<.001
Quantity of ORS	26 (30.6)	24 (28.6)	40 (44.9)	100 (50.3)	190 (41.6)	X ² 16.6 P<.001
Harm of giving too much ORS	9 (10.6)	7 (8.3)	17 (19.1)	28 (14.1)	61 (13.3)	X ² 5.0 P<17
Danger of keeping ORS	22 (25.9)	25 (29.8)	28 (31.5)	55 (27.6)	130 (28.4)	X ² .81 P<.848
Stop ORS, if vomiting continues	43 (50.6)	46 (54.8)	45 (50.6)	102 (51.3)	236 (51.6)	X ² .419 P<.936
Stop ORS, if diarrhoea continues	24 (28.2)	25 (29.8)	28 (31.5)	42 (21.1)	119 (26.0)	X ² 4.7 P<.196
Misconceptions in using ORS (yes)	33 (38.8)	27 (32.1)	30 (33.7)	44 (22.1)	134 (29.3)	X ² 9.8 P< .020

(Figures in parentheses indicate percentage)

DISCUSSION

Out of the total of 579 under-five children, point prevalence of diarrhoea was 10.1 per cent while period prevalence in last one month was 16.6 per cent. Studies done in India and abroad have also reported varied prevalence of diarrhoea which might be due to the difference in study methodology, nature of population, geographic, seasonal variation and socio-economic condition of the community selected for the study.

Knowledge regarding oral rehydration solution is quite interesting in the present study as 69.8 per cent of mothers knew the role of ORS during diarrhoea and 46.0 per cent of them ever used ORS. Among the ORS users a majority had the correct knowledge regarding the role and preparation of ORS. Studies conducted elsewhere have reported varied results. In Indonesia, 56 per cent of mothers used ORS but only 37 per cent of them were able to prepare it correctly while in Sudan, ORS use rate was very low, (2.1%-4.3%) and almost all the mothers had reported knowing about ORS but only one-fourth of them could describe how to prepare and use ORS packets. In Madras, 69 per cent of mothers were aware of ORS but only 66 per cent of them ever used it. While in Chandigarh, awareness of mothers about ORS was 86.7 per cent but only 18.3 per cent of mothers could tell the correct method of preparation. As per the NFHS, in India, 43 per cent of women knew about ORS packets but only 26 per cent had ever used it. The figures for Delhi were 74 per cent and 45 per cent respectively which is comparable to the figures collected in the present study.

Appropriate preparation of ORS is more effective in prevention of severe dehydration. In this study, approximately one-third of the subjects could tell the correct method of preparation of ORS. Knowledge level was significantly better among the ORS users and literate women. Studies elsewhere have reported different figures. The current study reveals that more than half of mothers had incorrect knowledge as to when ORS needs to be stopped and whether it needs to be stopped if the child continues to have vomiting or diarrhoea. The findings are comparable to those already reported. Improper preparation and intake of ORS hampers the prevention and treatment of diarrhoeal diseases and contribute to morbidity and mortality. This clearly shows the need for extensive EC activities to raise the level of knowledge among communities regarding ORS use.

The relationship between maternal education and state of health of the children is well documented. In the present study too, maternal literacy level was found significantly associated with the knowledge regarding various aspects of oral rehydration therapy. Maternal literacy persistently affects mother's understanding of ORT and her ability to prepare ORS. Poor literacy status appears to limit the mother's ability to utilize ORS for preventing diarrhoea induced dehydration. Merrich noted that mothers with formal education were more likely to render appropriate diarrhoeal treatment.

In the present study, since most of the women who used ORS got it either from a hospital or dispensary, it seems that they were not properly instructed about its time of use when they were supplied with ORS packets. One of the concerns in the study findings is that more than half of the mothers had incorrect knowledge regarding the quantity of ORS to be given to the affected child. It shows that mothers considered ORS as other form of medication and not necessarily a replacement of body fluid.' Studies have indicated that the electronic and mass media are effective in increasing the awareness level of people about the use of oral rehydration therapy. Mothers regularly exposed to electronic mass media are much more likely to know about ORS packets and its use for treating children suffering from diarrhoea.

The authors concluded that although most of the mothers knew about ORS and used it at times of need, many had inadequate knowledge on the importance and appropriate use of ORS. The health care workers should therefore spend more time to emphasize on the need of ORS for the prevention of dehydration due to diarrhoea and undertake IEC activities for correct preparation of ORS solution. Activities should also focus as to why and when it is to be used and how correctly it can be used. These activities need to be regular and continuous so that morbidity and mortality due to diarrhoeal disease are effectively prevented.

Lkkjk'k

जीवन रक्षक थिरेपी (ओआरटी) के वैज्ञानिक आधार द्वारा अतिसार रोग संबंधी अवधारणा तथा उपचार में एक क्रांति आई है। चूंकि, जीवन रक्षक घोल (ओआरएस) का प्रयोग माताओं के ज्ञान एवं दृष्टिकोण स्तर पर बहुत अधिक निर्भर करता है, प्रस्तुत अध्ययन लेडी हार्डिंग्स मेडिकल कालेज, नई दिल्ली के समीपवर्ती क्षेत्रों में स्थित मलिन बस्ती में हरने वाली माताओं में इसे निर्धारित करने के लिए संचालित किया गया था। साक्षात्कार की गई 457 माताओं में से 210 माताओं (46%) द्वारा उनके पांच वर्ष से कम आयु के शिशुओं को अतिसार से उपचार देने के लिए जीवन रक्षक घोल के पैकेट प्रयोग किए जाते थे। केवल 38.7 प्रतिशत मातायें घोल तैयार करने की ठीक विधि के बारे में उल्लेख कर सकी थी तथा 41.6

प्रतिशत माताओं को अतिसार रोगग्रस्त शिशु को देने के लिए ओ आर एस की सही मात्रा के बारे में ज्ञान था। अतिसार के दौरान जीवन रक्षक घोल का प्रयोग रोक देने के बारे में अनेक भ्रांतियां व्याप्त हैं। अनेक माताओं (29.3%) को यह विश्वास है कि जीवन रक्षक घोल के पैकेट खरीदने के लिए डाक्टर से पर्ची पर नुस्खा लिखवाना आवश्यक होता है अथवा ओ.आर.एस. का स्वाद खराब होता है अथवा अतिसार रोग की अवधि में कोई द्रव्य पदार्थ देने की आवश्यकता नहीं है। यह देखा गया था कि कम शिक्षित माताओं में मिथ्या अवधारणाओं की दर उच्च थी। 69.8 प्रतिशत माताओं को अतिसार की अवधि में जीवन रक्षक घोल की भूमिका के बारे में ज्ञान था, किन्तु केवल 46.0 प्रतिशत द्वारा कभी जीवन रक्षक घोल प्रयोग नहीं किया था। जीवन रक्षक घोल प्रयोग किस प्रकार तैयार करना चाहिए। मातृ साक्षरता द्वारा जीवन रक्षक थिरेपी के बारे में माताओं की समझ तथा जीवन रक्षक घोल तैयार करने हेतु उनकी सक्षमता महत्वपूर्ण रूप से प्रभावित हुई है। इस अध्ययन द्वारा यह धारणा स्थापित की गई है कि कम साक्षरता स्तर से अतिसार प्रेरित निर्जलीकरण की रोकथाम की रोकथाम के लिए जीवन रक्षक घोल का समुचित प्रयोग करने के लिए माताओं की क्षमता सीमित होती है।

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