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ASSESSMENT OF KNOWLEDGE, ATTITUDE AND SEXUAL BEHAVIOUR IN RELATION TO HIV/AIDS/STDS AMONG UNIVERSITY STUDENTS OF DELHI

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ABSTRACT

This paper presents the knowledge, attitude and sexual behaviour patterns in relation to HIV/AIDS and STDs of the unmarried, post-graduate students of the three universities of the capital city of India namely, University of Delhi, Jawaharlal Nehru University and Jamia Millia Islamia University. The study covered a sample of 200 students (100 men and 100 women) between 20 and 34 years of age of these universities.

The findings of the study revealed that 177 (88.5%) respondents had heard of STDs; however, their knowledge seemed to be superficial. A small proportion of seven students claimed to have suffered from an STD. All the students were aware of AIDS and 96 (18.0%) possessed good knowledge about AIDS. Most students (99.0%) perceived the seriousness of AIDS but only 36 (18.0%) viewed themselves susceptible to it. Friends, books, newspapers and television according to them were their main sources of information about sexual matters. 197 (98.5%) respondents reported that sex education should be included in educational institutions.

HIV/AIDS in a span of a little over one decade has turned into a pandemic affecting a large number of people of all continents. It is estimated that 40 to 45 per cent of the world's AIDS cases will be young people between 15 and 35 years[1] of age, the group that is socially and economically most productive.

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HIV/AIDS and STDs are global health problems of paramount importance with broad socio-cultural, political, psychological, financial, ethical and legal implications. Because of the sensitivity of issues associated with sexual behaviour, communicating about HIV/AIDS and STDs is extremely difficult and health care workers and public health personnel confront major problems in the prevention and control of HIV/AIDS and STDs. Young people face a high risk for STDs and HIV infection due to their sexual behaviour, lack of contraceptive protection and drug use habit. They also face increased risk because of their impulsiveness, desire for immediate gratification and their tendency to perceive themselves as invincible"[2]. According to WHO at least one-fifth of all people with AIDS are in their twenties[3]. In the absence of an effective vaccine of cure for HIV infection and many viral STDs, education remains the most effective strategy to combat their spread.

Students of colleges and universities form a distinct group of young people. They are a diverse group coming from a wide range of religious, ethnic class and cultural backgrounds. As potential leaders of the future they are a high priority group[4]. It is crucial to find out the perceptions, attitudes and sexual behaviour patterns of these young people for designing health promotion strategies on sex education and HIV/AIDS/STDs. Till date, very little information exists on this topic in India.

This study was conducted among a sample of unmarried, post-graduate university students of Delhi to assess their knowledge, attitude and sexual behaviour related to STDs and AIDS.

OBJECTIVES

1. To find out the knowledge of university students about sexuality, STDs and AIDS,
2. To explore their attitudes towards sex, STDs and AIDS,
3. To find out the self-reported sexual behaviour of university students,
4. To find out their sources of information about sexual matters,
5. To find out their views about sex education in schools and colleges/universities, and
6. To make recommendations, particularly about sex education in schools, taking into account the students' points of view.

METHODOLOGY

Data were collected tor the study during August-September 1993. Organisations like the Ministry of Health and Family Welfare, National AIDS Control Organisation, WHO and UNICEF were contacted for collection of important documents, reports, etc. Both quantitative and qualitative approaches were applied using an anonymous self-administered questionnaire and focus groups respectively to collect information from an estimated study sample of 200 post-graduate, unmarried students (100 men and 100 women) representing different universities in Delhi, i.e. University of Delhi (50 men and 50 women), Jawaharlal Nehru University (25 men and 25 women) and Jamia Millia Islamia University (25 men and 25 women).

Two focus group discussions - one for a group of men and another one for a group of women were conducted before proceeding with the survey in order to gain an insight into students perceptions about issues relating to sexuality, STDs and AIDS.

FINDINGS

Age. The age of respondents ranged from 20 to 34 years. 151 (75.5%) respondents were aged between 20 and 24 years, 44 (22.0%) between 25 and 29 years and only 5 (2.5%) were between 30 and 34 years. This indicates that the majority of the respondents in this study were in their early twenties and only a few were above 30.

Religion. 157 (78.5%) respondents were Hindu, followed by 25 (12.5%) Muslim. There were 8 (4.0%) Sikh and 7 (3.5%) Christian respondents in the study. The category other included 3 (1.5%) respondents who stated that they were non-religious. (Majority of the population in India is Hindu by religion).

Course of Study. Over a half i.e. 134 respondents were pursuing MA/MSc courses while 31 were doing Ph.D./Post Ph.D. The category other included 5 respondents studying .LL.B. which is also a PG course.

Awareness of STDs:. The awareness of STDs was fairly high. 177 (88.5%) respondents had heard of STDs. When these respondents were asked to name the STDs, they were aware of AIDS, which was the most frequently mentioned, followed by syphilis and gonorrhoea, 80.2 per cent, 37.8 per cent and 28.2 per cent respectively. None mentioned about genital herpes. 23 responses were

incorrect which included leprosy, V.D. and haemophilia. 33 didn't respond.

Knowledge about how one can get STD. The respondents were asked a question with a number of options *on how one gets STD:* Out of 177 respondents who were aware of STDs, 172 (97.2%) knew that by having an unprotected sex with an infected partner one can get STD; however, some of these respondents also ticked the other options which were incorrect. 5 (2.8%) didn't respond.

Prevention of STDs: 172 (97.2%) respondents (N=177) knew that a person can prevent him/herself from getting STD. When these 172 respondents were further asked how one could prevent oneself from getting STD through an open question, 162 (94.2%) gave relevant answers which included faithful monogamy, using condom during sex, avoiding sex with an infected/unknown partner, not visiting a sex worker, abstinence and practising masturbation as an alternative to sexual intercourse. 6(3.5%) respondents gave incorrect responses which included using birth control pills, washing oneself after having sex, not using glass/cup used by the infected person and not kissing the infected person or sharing his/her clothes. 4 (2.3%) didn't respond.

Consequences of STDs: When asked *what are the problems STDs can lead to* only 6 (3.4%) respondents (N=177) mentioned about infertility and 48 (27.1%) didn't reply. Responses like miserable life, socio-economic problems, unhappy life and death in long run were included in 'other'' category.

Opinion about what a person should do if he/she gets STD: Most of the respondents (97.2%) were of the opinion that an infected person should go to a hospital/clinic.

Those having suffered from STD. 7 respondents (5 men and 2 women) claimed to have suffered from STD. When asked *what did you do about it* ? Five reported to have gone to the doctor for treatment, one did not respond and one male respondent stated that he was waiting for a sudden death.

Knowledge about AIDS. All 200 respondents questioned had heard of AIDS. The responses to 16 statements designed to test their knowledge about AIDS were categorized into 3 groups as follows:

i. *Good knowledge* - When the respondent had 14 or more correct responses, he/she was termed as having good knowledge about AIDS;

ii. *Moderate Knowledge* - When the respondent had 12 or 13 correct responses; and

iii. *Low Knowledge* - When the respondent had lesser than 12 correct responses.

Data revealed that 96 (48.0%) respondents possessed good knowledge, 51 (25.5%) moderate and 53 (26.5%) had low knowledge about AIDS.

Attitude towards AIDS: In response to statements designed to explore respondents' attitudes towards AIDS, 99.0 per cent of respondents agreed that AIDS is a very serious disease and 8.5 per cent of respondents were of the view that people having AIDS should be rejected by the society.

Susceptibility to AIDS. 36 (18.0%) respondents believed they were at risk of contracting AIDS. Table 1A shows the reason given by them as to why they perceived themselves susceptible to it. Similarly different reasons were given by 164 (82.0%) respondents who didn't view themselves at risk for AIDS, Table 1B.

TABLE 1A

DISTRIBUTION OF RESPONDENTS WHO FELT SUSCEPTIBLE TO AIDS BY THE REASONS GIVEN (N=36)

Reasons	Number
Lack of adequate information	3
Cannot make out who is infected with HIV	11
No control over avoiding infected blood transfusion	11
When in love, I don’t think of precautions/Love is impulsive	3
Partner may not agree with the idea of safe sex	2
Can get infected through infected syringes	2
Getting married to an infected person or a person having extramarital affairs may infect me	2
No response	2
Total	36

Table 1B

DISTRIBUTION OF RESPONDENTS WHO DIDN'T FEEL SUSCEPTIBLE TO AIDS BY THE REASONS GIVEN (N=164).

Reason	Number	Per cent
No sexual relations	65	39.6
Fully aware of how to prevent AIDS	37	22.6
Take/will take precautions during sex	23	14.0
Avoid sex with unknown partners	9	5.5
Don't belong to risk group	6	3.7
I'll ensure that my partner is AIDS tree	3	1.8
Can't relate myself to the causes	2	1.2
I'm not homosexual	1	0.6
No sexual relations and no plan to marry	1	0.6
I don't use infected needles	1	0.6
Take care while donating/accepting Blood	1	0.6
No response	15	9.2
Total	164	100

Safer Sex: When given options to the question *which of the following forms part of safer sex to avoid AIDS* 184 (92.0%) respondents ticked the correct option i.e., using condom during sex, 8 (4.0%) responded incorrectly by ticking the option 'using oral contraceptives' and 8 (4.0%) didn't respond.

Sources of Information about Sexual Matters; More than half of the respondents cited friends as their main source of information, followed by books, newspapers/magazines, television and teachers and parents we're cited by only 11.0 per cent and 9.5 per cent of respondents respectively (Table 2). There were 12 responses under category 'others' which included movies, video-films, pornography, scientific journals, periodicals, girl friend, sister and conversation with AIDS patient

Respondents were asked to mention three sources they would prefer to get information about sexual matters. Newspapers/magazines were cited as the preferred source by half of the respondents while radio was preferred by only 17.5 per cent of respondents.

TABLE 2

DISTRIBUTION OF RESPONDENTS BY THEIR MAIN SOURCES OF INFORMATION ABOUT SEXUAL MATTERS

Sources	Number	Per cent
Friends	120	60.0
Books	119	59.5
Newspapers/Magazines	111	55.5
Television	81	40.5
Health Workers	47	23.5
Posters/Pamphlets	43	21.5
Radio	35	17.5
Teachers	22	11.0
Parents	19	9.5
Others	12	6.0

Sex Education in Schools and Colleges: When asked if they had received any sex education in schools, 29 respondents replied in affirmative. Similarly, 22 respondents reported to have received sex education in college/university. Except for 3 (1.5%) women, all the other i.e. 197 (98.5%) respondents were of the opinion that sex education should be included in educational institutions. 100 (50.7%) of these felt that it should be included at secondary level (grade 9 and 10), 63 (32.0%) stated that it should be at middle level (grade 5 to 8) and 10 (5.1%) opined that it should begin at primary level (grade 1 to 5). 27 (12.2%) respondents mentioned that sex education should be included at college level.

Masturbation: 99 (49.5%) respondents, 74 (37.0%) men and 25 (12.5%) women reported to practice masturbation (Table 3). More than half of these (65.6%) practiced it occasionally. Sex-wise comparison showed that out of 25 women who claimed to practice masturbation, a majority (84.0%) practiced it occasionally while this percentage was much lower for men (59.4%). The percentage of those who reported to masturbate regularly and very frequently was higher for men than women.

TABLE 3

SEX DISTRIBUTION OF RESPONDENTS BY THEIR FREQUENCY OF MASTURBATION (N=99)

Response	Male (%) (N=74)	Female (%) (N=25)	Total (%) (N=99)
Occasionally	44 (59.4)	21 (84.0)	65 (65.65)
Regularly Very	13 (17.6)	2 (8.0)	15 (15.15)
frequently	17 (23.0)	2 (8.0)	19 (19.20)
Total	74 (100.0)	25 (100.0)	99 (100.0)

When asked to offer their views about masturbation, 111 stated that it doesn't harm the body in any way while according to 40, masturbation makes the person physically weak. 9 mentioned that masturbation causes STDs and 27 didn't respond. It was found that out of 99 respondents who engaged in masturbation, 83 had positive attitude towards it; 73 respondents believed that masturbation doesn't harm the body in anyway and 10 stated that it relieves mental tension/frustration.

Opinion about When it is proper for a person to begin Sexual Intercourse. As Table 4 shows, the proportion of respondents who believed that one could have sex at any time after puberty, even if not married and those who felt that a person should have sex only after marriage was 48.5 per cent and 51.5 per cent respectively. More women (60.0%) than men (43.0%) favoured sex only after marriage.

TABLE 4

OPINION ABOUT WHEN IT IS PROPER FOR A PERSON TO BEGIN SEXUAL INTERCOURSE

Response	Male (%) (N=100)	Female (%) (N=100)	Total (%) (N=200)
Any time after puberty, even if not	57 (57.0)	40 (40.0)	97 (48.5)
married Only after marriage	43 (43.0)	60 (60.0)	103(51.5)
Total	100 (100.0)	100 (100.0)	200

Sexual Activity. 57 (28.5%) respondents, 45 men and 12 women, claimed to have had sexual intercourse; the majority of these belonged to the age group of 20 to 24 years (Table 5).

TABLE 5

AGE DISTRIBUTION OF RESPONDENTS WHO CLAIMED TO HAVE HAD SEXUAL INTERCOURSE (N=57)

Age (years)	Number	Per cent
20-24	42	73.7
25-29	15	26.3
Total	57	100.0

Age at First Sexual Intercourse : The age at first intercourse ranged from 13 to 24 years for men and from 16 to 24 years for women. The age at which the largest number of respondents claimed to begin sex was 20 years for men and 22 for women. The mean age at first sexual intercourse **for** men and women combined was 19 years.

Coital Frequency. Out of the 57 respondents who claimed to have had sex, 42 (73.7%) said that they had sex occasionally, 5 (8.8%) regularly and 10 (17.5%) reported to have gone in for sex only once.

Sexual Partners : 53 (93.0%) respondents claimed to have had sex with a person of opposite gender while for 3 (5.3%) men it was same-gender sex (N=57). One (1.7%) man reported to be bisexual 11 men stated to have had sex with a paid person, 3 with boyfriends and one with his brother. All 12 women who claimed to have had sex had so with their boyfriends.

Table 6 depicts the number of partners claimed by respondents. *When asked how many sexual partners they have had so far,* 40 (70.2%) respondents reported to have had more than one sexual partner and the highest number of partners, reported by one male respondent was 19.

TABLE 6

DISTRIBUTION OF SEXUALLY ACTIVE RESPONDENTS BY NUMBER OF SEXUAL PARTNERS (N=57)

No. of Partner (s)	No. of Respondents
1	17
2	15
3	7
4	7
5	1
6	1
8	2
12	1
15	2
16	1
19	1

Contraceptive Use. Out of the 57 sexually experienced respondents, 34 (59.6%), [26 (45.6%) men and 8 (14.0%) women] reported to have used any contraceptive. Table 7 shows the contraceptives used by them/their partner. 27 (47.4%) respond ends claimed to have used condom. The reasons given by 23 respondents who claimed to have had sex but didn't ever use any contraceptive are given in Table 8.

Knowledge and Attitude towards Condom: All respondents were asked to respond to certain statements designed to assess their knowledge and attitude towards condoms. The statements *condoms can prevent AIDS and STDs* and *condoms can be re-used more than* once were answered incorrectly by 16 (8.0%) and 26 (13.0%) respondents respectively. 125 (62.5%) respondents disagreed with the statement *condoms should be used only while having sex with prostitutes* and 54 (27.0%) agreed with it and 21 (10.5%) respondents couldn't decide. The other statement to explore their attitude towards condom was *condom reduce sexual pleasure* to which 55 (27.5%) respondents disagreed and 53 (26.5%) agreed. 92 (46.0%) respondents ticked under the category 'undecided. Some of these respondents specified that they couldn't decide since they had never used them.

TABLE 7

SEX DISTRIBUTION OF RESPONDENTS BY CONTRACEPTIVES USED (Nx34)

Method	Male	Female	Total
Condom	20	7	27
Contraceptive pills	6	1	7
Safe period	9	5	14
Withdrawal	-	2	2
Today	1	1	2
Copper-T	-	1	**1**

TABLE 8

SEX DISTRIBUTION OF RESPONDENTS BY REASONS FOR NON-USE OF CONTRACEPTIVES (N-23)

Reason	Male	Female	Total
Condoms reduce pleasure	5	-	5
Lack knowledge	4	-	4
Non-availability	1	1	2
Sex unplanned and impulsive	4	1	5
Felt no need	2	1	3
Have occasional sex with healthy partner	1	-	1
No response	2	1	3
Total	19	4	23

Need for more information about sex: 76 (38.0%) respondents, 40 men and 36 women, stated that they wanted to know more about sex but felt hesitant to discuss it with others. The suggestions given by them to improve the situation included sex education in schools and colleges, parents to discuss sex with children, books/newspapers/magazines to include more information on sex, more television programmes on sex matters and free distribution of condoms.

DISCUSSION

The results of this study confound some of the myths about the nature of Indian sexual behaviour and provide some interesting insights into the sexual behaviour patterns of the university students of the capital city of India. 57 (28.5%) students in this study were sexually experienced. Since the study group was unmarried university students, these relationships were pre-marital. Though this is a smaller proportion when compared with the findings of similar studies in some other countries,5-7 it is a significant finding in the Indian context where it has long been assumed that virginity and monogamy were the general rule.

The age at first sexual contact ranged from 13 to 24 years for men and 16 to 24 for women. 11 students in this study claimed to have gone in for paid sex. 40 students had more than one sexual partner; the largest number of sexual partners, as reported by one student was 19. These findings imply that there are changes taking place which point to growing sexual relationships and hence a growing susceptibility to all STDs, including AIDS.

The educational work hardly ever addresses itself to homosexuals. This is because it is generally assumed that there is no homosexuality within the Indian communities, particularly since its social expression differs from the West. However, though only 4 men claimed to have engaged in same-gender sex, the study does indicate the prevalence of such behaviour.

The proportion of students who believed in having sex only after marriage and those who felt that one could have sex anytime after puberty, even if not married was almost same 51.5 per cent and 48.5 per cent respectively which again implies a growing change in views about sexuality among Indian students.

Some parameters which appear to have affected the nature and types of sexual interactions and the social expression of sexuality are : changes in family structure and the erosion of traditional modes of living, type of urbanization, a rise in the living standards, increasing independence of women, the availability of birth control and the type of consumerism and advertising. Through the family welfare programme, there is wide awareness that it is now possible to separate sex from reproduction. Late marriage may be another factor giving rise to pre-marital sexual activity. Additionally, studying in the universities often involves movement from family to independent living, allowing for a variety of changes in social and sexual behaviour that place students at risk for STDs/AIDS.

In this study, out out the 57 sexually active students, 34 had used any contraceptive and only 27 reported to have used condom. This implies that there are some students in the universities of Delhi who are at risk for STDs including HIV infection and unintended pregnancies. Those who claimed to have multiple partners or sex with paid workers are likely to be at even greater risk for these health problems.

The results revealed that there was not much communication between teachers/parents and children about sex. The students depended on peer groups/ friends followed by books, newspapers/magazines and television for information in relation to sexual matters.

Students identified newspapers, magazines, books, friends and television as their preferred sources of information about sex. This implies that media and peer education could be used to promote healthy behaviour among university students. Peer counselors or youth promoters to reach and teach other young people on family life and sex education have been successfully used in a number of countries in Latin America and the Caribbean. Similar approach could be used in the Indian universities also to provide knowledge and skills to students about STDs/AlDS and sexuality in general. Peer group leaders can be identified and trained in communication skills and other aspects related to sexuality and STDs/AlDS.

From the findings it appears that newspapers and magazines are read by the majority of students in the absence of adequate sex education at home or at school and the same could be utilised to disseminate information about sex and STDs/AlDS.

98.5 per cent of students were of the opinion that sex education should be included in schools; 50.7% of these felt that it should be included at secondary level and according to 32.0 per cent it should be at middle level. The findings revealed that students welcomed the idea of having sex education in the schools.

Only 48.0 per cent of the students possessed good knowledge about AIDS. The study provided evidence that some university students have misconceptions about the risk of AIDS associated with kissing, sharing food/cups/clothes, shaking hands and receiving insect bites. The statement *an AIPS patient can infect others through coughing* was endorsed by 33 students. These have implication that students may avoid social contact with HIV-infected persons for the fear of contracting the disease. Misperception about determining

whether a person is infected with HIV just by looking at him/her may place students at risk for AIDS and so needs to be corrected urgently.

Most of the students (99.0%) perceived the seriousness of AIDS but only 18.0 per cent viewed themselves at risk of contracting the disease. If the students don't believe they are susceptible to AIDS, they are less likely to take precautions. Some of the reasons given by those who did perceive themselves susceptible, such as when in love, I don't think of precautions/love is impulsive, partner may not agree with the idea of safe sex, show the impact of drives and normative beliefs emphasized by Tones in Health Action Model of decision-making[8] etc. Reasons such as they have no control over infected blood transfusion and infected syringes emphasize screening of all blood and proper sterilization of needles/syringes in hospitals and reassuring the public.

Some of the reasons given by the students who didn't view themselves susceptible to AIDS include: not being homosexual, not using infected needles, AIDS is something that happens to others and not to them, etc. These issues need to be focused while educating students on AIDS. The results of the study also indicate that although students in general express sympathy with AIDS persons, some students endorsed statement isolation of AIDS patients. This implies that efforts are needed to remove the social stigma attached to the disease.

Despite the high awareness of STDs among the study group, the knowledge seemed to be superficial. For instance, 27.1 per cent of those who had heard of STDs were not aware of consequences of STDs and only 3.4 per cent mentioned about infertility. Again, misperceptions about using birth control pills and washing oneself after sexual intercourse to prevent STDs may place students at risk for STDs/HIV infection.

Overall, the level of STDs and AIDS related knowledge, attitude and behaviour among students suggest the need for university based STD/HIV education programmes that would help students acquire the knowledge and skills they need to adopt and maintain behaviour to reduce the risk of STDs, including AIDS and other related health problems.

RECOMMENDATIONS

In view of the research findings, the following recommendations are made:

i. The universities need to offer STD/HIV education programmes which, besides targeting specific knowledge gaps and mis perceptions existing in students as revealed in the study, should emphasize decision-making, communication and psychomotor skills. Ongoing research is recommended to investigate the effectiveness of different teaching methods.

ii. It is essential that STD/AIDS education is backed up with adequate clinical services, including contraceptives and counseling.

iii. Peer education is recommended to promote protection from HIV/STD among students. Student Unions, National Service Scheme and other student groups should be encouraged to develop innovative strategies for STD/HIV prevention. They should be assisted to run health clubs for preventing risky behaviour among students.

iv. There is a need to remove barriers of communication and encourage parents to discuss sexuality frankly with their children to enable them to make informed choices about their sexual behaviour. Parents should be provided with necessary knowledge and social interaction skills. Support groups need to be involved to assist parents in this area.

v. It is recommended that press and television be used more effectively to disseminate vital information on STDs/AIDS and to correct misconceptions. Action should be taken to restrict dishonest and misleading advertising. Mass media should be used to promote healthy behaviour and not to glamorize unhealthy behaviour which glorify irresponsible sexuality. The impact of mass media activities needs to be investigated.

vi. There is a need to sensitize public at large and to take effective measures so that sex is regarded as something natural and healthy and not a taboo any more. This requires involvement of all key groups including the school, family, health system, religious and community leaders and the community organizations.

vii. Sex education should be mandatory for all school children and be integrated throughout the whole curriculum.

viii. All the ministries, non-governmental organizations, private sectors and religious groups must be encouraged to participate in STD/AIDS prevention activities.

ix. The policy makers should give adequate priority to the STD/AIDS prevention programme for the youth; a policy with clear plan of action needs to be formulated.

x. It is recommended that similar studies be undertaken at the national level; besides sexual, the other behaviour such as the drug taking should also be studied. Similar research should be done on the adolescent population in order to establish baseline data on adolescents. The prevalence of HIV among university students needs to be estimated.

CONCLUSIONS

The findings of the study indicate that there are knowledge gaps and misperceptions among some university students which may contribute to both Spread of STDs/HIV as well as discrimination against infected persons. The students' views about sexuality and their sexual behaviour patterns affirm a more open form of sexuality.

It is true that universities, with their variety of courses and students, full-time and part-time, are difficult institutions within which to organise work on STDs/AIDS, but it could be argued that the university students are one of the important groups for whom such education is most relevant. The universities offer a readymade context for educating large number of future community leaders and professionals.

It is significant that most students in this study favoured sex education at the school level. Education authorities working in this area should be encouraged by the views of university students who are going to be parents in near future. The author hopes that more schools will offer sex education in the future.

it is hoped that findings of this study will be helpful in developing STD/HIV interventions in universities.

सारांश

प्रस्तुत लेख में भारत की राजधानी शहर के तीन विश्वविद्यालयों–दिल्ली विश्वविद्यालय, जवाहर लाल नेहरू विश्वविद्यालय और जामिया मिलिया इस्लामियां विश्वविद्यालय के अविवाहित स्नातकोत्तर छात्रों में एचआईवी/एड्स/यौन सवंमित रोगों के बारे में उनकी जानकारी, दृष्टिकोण एवं यौन व्यवहार संबंधी प्रतिरूप को प्रस्तुत किया गया है। अध्ययन में इन विश्वविद्यालयों के 20–34 वर्श, आयु वर्ग के 200 छात्रों (100 पुरूष और 100 महिला) के एक सैम्पल को कवर किया गया है।

अध्ययन से प्राप्त निश्कर्षों से पता चलता है कि 177 (88.5%) उत्तरदाताओं को यौन सवंमित रोगों के बारे में जानकारी थी, किन्तु इस संबंध में उनका सतही प्रतीत हुआ था। आनुपातिक रूप से सात छात्रों के एक छोटे से वर्ग द्वारा यौन सक्रंमित रोग से पीड़ित होने का दावा किया गया है। सभी छात्र एड्स से अवगत थे और 96 (18.0%) छात्रों को एड्स के बारे में बेहतर जानकारी थी। अधिकांश छात्रों (99.0%) को इसके प्रति संवेदनशील मानते थे। उनके अनुसार यौन संबंधी मामलों के बारे में 197 (98.5%) उत्तरदाताओं ने बताया कि यौन शिक्षा शैक्षिक संस्थानों के पाठ्यक्रम में शामिल की जानी चाहिए।

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INDICATORS FOR MONITORING OF NATIONAL HEALTH PROGRAMMES IN A DISTRICT

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ABSTRACT

This paper presents the comprehensive/composite indicators for studying the performance of a group of activities. The study reveals that information collected from the sub-centre needs to be analysed while sending it upwards for necessary administrative purposes. Based on the findings of the study, the authors suggest composite indicators for knowing the comparative performance of family planning, maternal care, immunization, child care under five years of age and antimalarial activities for two primary health centres such as Dighal and Silani of Rohtak district. The activities performed by a PHC has been ranked as poor, good or high performance, depending up on percentile values.

District is the single main administrative unit responsible for implementation of health services. In the district, a District Health Officer (DHO) is the overall in-charge of various activities of health programmes. To monitor the implementation of these programmes he needs to define indicators to ensure that the desired progress is achieved, since, an indicator is the basic unit of monitoring the programmes. The DHO receives many kinds of information for a programme for which there can be a number of indicators but a large number of indicators are often unmanageable. Therefore, there should be a minimum number of critical indicators for different services and programmes to show the achievements in key activities.

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The key indicators simplify the process of evaluation of unit of administration such as different districts or different primary health centres, etc. Thus, an objective method can be established to assess the performance, monitor the achievements and identify the areas of activity which need attention for improvement. After identifying the key indicators, a weight age can be assigned in a predetermined way and then added or an average is taken. Once a weight age system is designed, the combination of measures of various specific activities into a composite index for assessment of overall performance can be done easily. A composite index/indicator is required to know the overall performance of a primary health centre, taking into account all the programmes implemented at primary health centre level.

Indicators, as the name suggests, are an indication of a given situation or a reflection of a given situation. in WHO'S guidelines, they are defined as "Variables which help to measure changes". They are often used when these changes cannot be measured directly[1]. Therefore, they are an indirect measure of an event or condition eg. weight for age is an indirect measure (Indicator) of a child's nutritional status. Indicators when measured sequentially over a period of time can indicate direction and speed to change, and serve to compare different areas or groups of people at the same time. Generally they aim at monitoring progress, motivate people to action, help in the identification of priorities and in stimulating actions where necessary. Another important use of indicators is for the monitoring of health programmes at different levels, i.e., national, State, district, primary health centre, etc.

Monitoring, an administrative function, deals with watching actual progress in comparison with planned progress, timely detections of deviations in performance, identification of field problems, locations of bottlenecks and taking corrective actions wherever necessary. The various health programmes aim at improving the health status of the population through various activities in which inputs are required for higher outputs. These outputs are given as targets at the district as well as at primary health centre levels. The District Health Officer needs to have indicators to see if desired progress is achieved against the set targets.

The present study attempts to analyse the existing monitoring indicators to suggest a composite index for selected national health programmes.

REVIEW OF LITERATURE

Satish Kumar, et al used indicators for monitoring the level of quality of maternal care where workers were observed with reference to five parameters (history taking, general physical examination, obstetric examination, antenatal advice and tetanus toxoid given). Out of twenty observations, if workers performed well in fifty per cent of observations, then a score of one was given and below fifty per cent means a score of only zero was given. So, for five parameters the maximum score obtained could be five. If the score was three for all aspects
combined, than the quality was taken as acceptable and not acceptable if it was lesser than three. In the present study also a scoring system was used where values were given scores one, two and three for performance values, below 25^{th} percentile values, 25th-75th percentile values and more than 75th percentile values respectively and scores obtained for each activity was added up and average was taken.

Gupta, R.B. observed that medical officers review the workers performance based on reports to see the achievements against the targets mainly for family planning and immunisation, while large volume of data were rarely used so the worker at the grass root level rarely pay attention to the quality of data. There was no proper feedback sent to them. If a feedback is sent on the basis of composite indicators for all the activities, the grass root workers would also send the quality data.

Caral Barker has discussed that the world development report was concerned with the improving health status, assess the effectiveness and in terms of different measures. The Disability Adjusted Life Year (DALY) was a composite measure of health status. It was an indicator of the time lived with a disability together with the time lost due to premature mortality. DALYs as a composite indicator can be used to describe the burden of disease around the world and the variation of diseases between different countries can be compared.

MATERIALS AND METHOD

The present study was undertaken at Rohtak district of Haryana. A multistage simple random sampling technique was used to select two blocks in the first stage and then two primary health centres (PHCs) from each block. Data were collected for the last five years (1992-96) with reference to the selected national health programmes from the primary health centres.

For the development of norms for monitoring the performance of family planning, maternal and child health activities and anti-malarial activities, the records were analysed. The monthly performance of the primary health centres was estimated in terms of mode, median and percentile values for various activities. The value equal to or more than mode and mean was graded 'good performance.

On the basis of percentile values the performance was graded as under:

Values lesser than 25th percentile values	= Poor
Values between 25th and 75th percentile values	= Good
Values equal to all or more than 75th percentile values	= High

These monthly performance norms for primary health centres were given to a panel of five experts, comprising District Health Officer, Senior Medical Officer, Medical Officer of primary health centres and Health Assistants. The majority of them agreed to the norms suggested by the percentile value criteria. Based on these criteria, checklists for monitoring the monthly performance of primary health centre were developed for the use of supervisory cadre. Most of the panel members agreed to the cut-off values given by performance based norms.

To assess the overall performance of primary health centres as well as the national health programmes, an attempt was made to suggest a composite index as follows:

The percentile values obtained were for a population of 27471 for four primary health centres, which was standardised for a population of 30000. In the next step scoring system was developed in which all values between 0 and 25th percentile values were given a score of one, values between 25th and 75th percentile values were given a score of two, and all values more than 75th percentile values were allotted a score of three.

Next, the monthly reports sent by two primary health centres from the blocks under study were taken. There were many kinds of reports being sent on various activities. Out of many activities being reported, the report was divided into four parts for family welfare programme where four activities for family planning, nine activities for maternal care, five activities for children immunisation and three activities for children care for under five years of age were taken.

For antimalarial activities, three activities viz. blood smears collected by active and passive surveillance and detected as positive cases were taken.

Thus, the maximum score which could be obtained by these activities was 12 for family planning (4x3 = 12), 27 for maternal care (9x3 = 27), 15 for immunisation (5x3 = 15), 9 for children under five years (3x3 = 9) and 9 for antimalarial activities (3x3 = 9). By this way the maximum score that could be obtained was ascertained.

In the next step the reports for the last three years (1994-96) for two primary health centres were reviewed and each of the activities selected was given a score as per the criteria mentioned above and the score obtained was tabulated month-wise and year-wise (Tables 1 to 5). By looking at these tables, we can find out that in which month the performance under family planning, maternal care, immunisation, child care under five years, and antimalarial activities had been better. Year-wise performance can also be reviewed. By this index, the different primary health centres can also be ranked on the basis of their performance**.**

FINDINGS

Under the family planning, four activities (number of sterilizations, number of sterilizations follow-up, number of oral pill cycles initiated and number of lUDs inserted) were taken and the maximum score which could be obtained was 12. From Table 1, it can be seen that according to the mean score obtained, the performance can be compared between different years and different months of the same year similarly, the performance between two primary health centres has been compared.

Table 2, presents the 9 activities (number of pregnant women registered, number of women given three contacts, number of high risk cases identified, number of high risk cases referred, number of activities conducted by health worker (F), number of deliveries conducted by trained dai, number of deliveries conducted by untrained dai, number of pregnant women given TT-2nd dose and number of women received 100 IFA tablets) of two primary health centres in different months and years.

TABLE 1

COMPARATIVE PERFORMANCE OF FAMILY PLANNING ACTIVITIES OF TWO PRIMARY HEALTH CENTRES

Months	PHC - Dighal Max. Score - 12			Mean (S.D.) of 3 years	PHC - Silani Max. Score - 12			Mean (S.D.) of 3 years
	1994	95	96		1994	95	96	
Jan.	10	7	5	7.3 (2.5)	9	8	9	8.6 (0.5)
Feb.	8	11	7	8.6 (2.0)	8	10	7	8.3 (1.5)
Mar.	6	7	5	6.0 (1.0)	7	6	8	7.0 (1.0)
Apr.	6	5	7	6.0 (1.0	4	7	7	6.0 (1.7)
May	6	7	7	6.6 (0.5)	7	10	6	7.6 (2.0)
Jun.	8	5	7	6.6 (1.5)	8	7	6	7.0 (1.0)
Jul.	6	5	5	5.3 (0.5	9	7	5	7.0 (2.0)
Aug.	8	7	5	6.6 (1.5)	7	7	-	7.0 (0.0)
Sept.	8	4	7	6.3 (2.0)	7	5	-	6.0 (1.4)
Oct.	10	6	6	7.3 (2.3)	9	9	-	9.0 (0-0)
Nov.	8	6	6	6.6 (1.1)	9	9	-	9.0 (0.0)
Dec.	9	7	-	(8.0) (1.4)	8	9	-	8.5 (0.7)
Mean	7.7 (1.4)	6.4 (1.7)	6.0 (0-9)		7.6 (1.4)	7.8 (1.5)	6.8 (1.3)	

Grading: Less than 4 - Poor, Between 4-8 - Good, More than 8 - High.

TABLE 2

COMPARATIVE PERFORMANCE OF MATERNAL CARE OF TWO PRIMARY HEALTH CENTRES

Months	PHC - Dighal Max. Score - 27			Mean (S.D.) of 3 years	PHC - Silan Max. Score - 27			Mean (S.D.) of 3 years
	1994	95	96		1994	95	96	
Jan.	13	21	17	17.0 (4.0)	16	14	15	15.0 (1.0)
Feb.	18	19	15	17.3 (2.0)	15	17	13	15.0 (2.0)
Mar.	14	17	13	14.6 (2.0)	15	15	11	13.6 (2.3)
Apr.	17	19	16	17.3 (1.5)	15	14	13	14.0 (10)
May	17	17	16	16.6 (0.5)	13	19	13	15.0 (3.4)
Jun.	20	19	17	18.6 (1.5)	14	17	15	15.3 (1.5)
Jul,	20	19	19	19.3 (0.5)	15	16	17	16.0 (1.0)
Aug.	20	20	22	20.6 (1.1)	19	16	-	17.5 (2.1)
Sept.	18	16	18	17.3 (1.1)	13	19	-	16.0 (4.2)
Oct.	18	22	20	20.0 (20)	15	18	-	16.5 (21)
Nov.	21	17	15	17.6 (3.0)	16	13	-	14.5 (2.1)
Dec.	21	19	-	20.0 (1.4)	14	15	-	14.5 (0.7)
Mean	18.0 (2.5)	18.7 (1.7)	17.0 (2.9)		15.0 (1.5)	16.0 (19)	13.8 (1.0)	

The comparative performance of immunisation activities (number of children given BCG, number of children given OPV-IIIrd dose, number of children given DPT-lllrd dose, number of children given measles, number of children given Vit. A drops) of two primary health centres is given in Table 3.

TABLE 3

COMPARATIVE PERFORMANCE OF IMMUNISATION ACTIVITIES OF T

WO PRIMARY HEALTH CENTRES

Months	PHC - Dighal Max. Score - 15			Mean (S.D.) of 3 years	PHC - Silani Max. Score - 15			Mean (S.D.) of 3 years
	1994	95	96		1994	95	96	
Jan.	11	10	13	11.3 (1.5)	15	9	12	12.0 (3.0)
Feb.	13	12	10	11.6 0.5)	13	10	9	10.6 (2.0)
Mar.	13	13	11	12.3 (1.5)	13	12	7	10.6 (3.2)
Apr.	8	10	12	10.0 (2.0)	12	10	12	11.3 (1.1)
May	11	11	12	11.3 (0.5)	11	7	10	9.4 (2.0)
Jun.	7	12	10	9.6 (2.5)	7	9	10	8.6 (1.5)
Jul.	11	10	9	10.0 (10)	9	11	9	9.6 (1.1)
Aug.	8	13	11	10.6 (2.5)	5	8	-	6.5 (2.1)
Sept.	10	7	11	9.3 (2.0)	11	10	-	10.5 (0.7)
Oct.	8	11	13	10.6 (2.5)	11	11	-	11.0 (0.0)
Nov.	14	12	12	12.6 (11)	9	9	-	9.0 (0.0)
Dec.	13	14	-	13.5 (0.7)	8	10	-	9.0 (14)
Mean	10.5 (2.3)	11.2 (0.8)	11.2 (1.2)		16.3 (2.8)	9.6 (1.3)	9.8 (1.7)	

Grading: Less than 5 - Poor, Between 5-10 - Good, More than 10 - High.

The performance in regard to child care under five years of age (number of children received 100 IFA tablets, number of children diagnosed as suffering from diarrhoea, number of children treated for diarrhoea) of two primary health centres is compared in Table 4.

TABLE 4

COMPARATIVE PERFORMANCE OF CHILD CARE UNDER FIVE YEARS OF TWO PRIMARY HEALTH CENTRES

Months	PHC - Dighal Max. Score 9			Mean (S.D.)	PHC - Silani Max. Score - 9			Mean (S.D.)
	1994	95	96		1994	95	96	
Jan.	4	7	4	5.0 (1.7)	5	5	5	5.0 (0.0)
Feb.	8	4	6	6.0 (2.0)	5	5	4	4.6 (0.5)
Mar.	7	5	6	6.0 00)	6	5	6	5.6 (11)
Apr.	8	5	7	6.6 (1.5)	5	5	7	5.6 (1.1)
May	8	5	9	7.3 (2.0)	8	7	7	7.3 (0.5)
Jun.	7	5	9	7.0 (20)	6	5	7	6.0 (1.0)
Jul.	7	5	8	6.6 05)	6	3	7	5.3 (2.0)
Aug.	6	7	9	7.3 0.5)	6	5	-	5.5 (0.7)
Sept	9	9	5	7.6 (2.3)	4	9	-	6.5 (3.5)
Oct.	7	8	9	8.0 (10)	5	7	-	6.0 (1.4)
Nov.	5	6	5	5.3 (0.5)	4	9	.	6.5 (3.5)
Dec.	4	4	-	4.0 (0.0)	4	7	-	5.5 (2.1)
Mean	6.6 (1.6)	5.8 (1.6)	1.8 (1.8)		5.5 (1.1)	6.0 (1.8)	6.1 (1.2)	

Grading: Less than 3 - Poor, Between 3-6 - Good, More than 6 - High.

Table 5 shows that blood smears collected during active and passive surveillance and detected as positive cases.

TABLE 5

COMPARATIVE PERFORMANCE OF ANTIMALARIAL ACTIVITIES OF TWO PRIMARY HEALTH CENTRES

Months	PHC - Dighal Max. Score - 9			Mean (S.D.)	PHC - Silani Max. Score - 9			Mean (S.D.)
	1994	95	96		1994	95	96	
Jan.	3	4	6	4.3 (1.5)	4	3	5	4.0 (10)
Feb.	4	4	6	4.6 (1.1)	4	3	6	4.3 (1.5)
Mar.	4	5	6	5.0 (1.0)	3	4	4	3.6 (0.5)
Apr.	5	6	6	5.6 (0.5)	4	4	3	3.6 (0.5)
May	6	8	8	7.3 (11)	3	4	3	3.3 (0.5)
Jun.	6	7	9	7.3 (1.5)	4	3	7	4.6 (2.0)
Jul.	8	6	8	7.3 (1.1)	6	3	8	5.6 (2.5)
Aug.	9	9	8	8.6 (0.5)	9	4	-	6.5 (3.5)
Sept.	9	7	9	8.3 (1.1)	6	7	-	6.5 (0.7)
Oct.	9	9	9	9.0 (0.0)	5	7		6.0 (1.4)
Nov.	7	9	8	8.3 (1.1)	5	5	-	5.0 (0.0)
Dec.	6	6	6	6.6 (1.1)	3	3	-	3.0 (0.0)
Mean	6.3 (2.1)	6.6 (1.8)	1.3 (1.3)		4.7 (1.8)	4.0 (1.3)	-	

Grading: Less than 3 - Poor, Between 3-6 - Good, More than 6 - High.

DISCUSSION

Kirtane in Vadu Rural Health Project had also discussed that the performance varies from village to village and from one activity to another,

depending upon involvement of rural community as well as health team. The performance may be good in a month or so, say for example MCH activities, while in other public health activities it may be lower than expected. This is bound to happen. Therefore, for a relative comparison, the performance has to be considered in terms of its ratio to the village population or to other relative characteristics of village. These ratios are the direct indicators of efforts of public health team or participation of village community. Further, it was proposed that total of such ratios with due weight age to some priorities in health programmes in the form of a composite index number would give an assessment of the total performance in the village.

In the same way, some activities usually examined by supervisors were taken in the presort study and performance was given a weight age and compared. The performance was standardised for a population of 30,000 as both the primary health centres (Dighal and Silani) had different population.

In Vadu Project ranking of villages was done 0-100 and if a village was below 50 that called for attention of the supervisory staff while below 40 attracted the attention of project director. In the present study if performance comes out to be below poor grade as suggested, then it must receive attention of programme officers, and the particular activities can also be pinpointed.

In most of the developing countries, the improvement of services provided through health centres was a difficult management challenge. In Philippines also supervisory practices and visits were not consistent and were unstructured9. It was felt that few simple, objectives and quantifiable indicators would help improve the health workers performance. These indicators were incorporated as a checklist in which each of 20 indicators was assigned a score 0-3. With the help of these indicators as a checklist, the performance could be improved, as measured by the combined scores on the 20 indicators.

This study can also be used as a checklist where performance has been graded as poor, good and high. If some primary health centres with 30000 population shows as poor performance, then appropriate measures have to be taken up for improvement.

सारांश

इस लेख में एक समूह की गतिविधियों के निष्पादन के अध्ययन हेतु व्यापक/समन्वित संकेतक प्रस्तुत किए गए हैं। अध्ययन से पता चलता है कि आवश्यक प्रशासनिक उद्देश्यों हेतु इन्हें उच्च स्तर पर भेजते समय उप–केन्द्रों से एकत्रित सूचना का विश्लेषण किए जाने की आवश्यकता होती है। अध्ययन से प्राप्त निष्कर्षों के आधार पर लेखको द्वारा रोहतक जिले में दीधल और सिलानी जैसे दो प्राथमिक स्वास्थ्य केन्द्रों में संचालित परिवार नियोजन, मातृ परिचर्या, प्रतिरक्षण, पांच वर्ष से कम आयु वर्ग के शिशुओं के लिए शिशु परिचर्या और मलेरिया निरोधक गतिविधियों के तुलनात्मक निष्पादन के बारे में जानकारी प्राप्त करने के लिए समन्वित संकेतक सुझाए गए हैं। एक प्राथमिक स्वास्थ्य केन्द्र द्वारा निष्पादित गतिविधियों की उनकी प्रतिशतता मूल्यों के आधार पर अपर्याप्त, उत्तम और उच्च निष्पादन में रैंकिंग की गई है।

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UTILISATION AND DETERMINANTS OF SELECTED MCH CARE SERVICES IN RURAL AREAS OF TAMIL NADU

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ABSTRACT

In this paper an attempt is made to explore some of the determinants of the utilisation of selected ante-natal (ante-natal check-up and iron and folic acid tablets), natal (Place of delivery) and post-natal (post-natal check-up) health care services in rural areas of Tamil Nadu. The analysis of determinants of various MCH aspects revealed that controlling for other variables, respondents' education exhibited significant positive effect on the use of ante-natal and natal health care services. Respondents belong to higher caste groups are more likely to use antenatal and post-natal check-ups as compared to their SC/ST counterparts. Number of living children is significantly and negatively associated with the use of ante-natal and post-natal check-ups. Monthly family income has exhibited positive influence on post-natal check-up. Use of ante-natal care services has a significant and positive effect on their place of delivery. Contrary to the expectation, respondents' work status showed a negative effect on the utilisation of ante-natal care services.

In preventive medicine, maternal and child health is defined as the field of work related to the physical, mental and social well being of women immediately before (pre-natal), during pregnancy/delivery (natal) and after child birth (postnatal) and of infants and children. Maternal and child care services improve the survival status of mothers as well as children.

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In India, the component of MCH services was integrated with family welfare programme during the Fourth Five Year Plan (1969-74). Then onwards several developments took place in MCH programme. In spite of all such developments, the use of MCH services by the eligible women seems to be at a moderate to lower level only. For example, data from the recent national family health survey revealed that the per cent of women who had ante-natal check-up, TT vaccine, institutional delivery and receipt of iron and folic acid tablets was 62, 61, 26 and 51 respectively. Another notable feature in this regard is that women belonging to the Southern States of India had utilised MCH services comparatively better than those women residing in central and Northern parts of India. Differential socio-economic and infrastructure developments in the States seem to be the major reason for such differential use of MCH services.

Empirically, in Indian context some of the earlier studies focused on the utilisation of one or the other aspects of pre-natal, natal and post-natal health services and their differentials through cross tabular analysis. However, the studies dealt with the determinants through multivariate techniques of selected indicators of MCH were scanty. But such attempts were made quite often in various other developing countries. Under these circumstances, the present paper aims at exploring some of the major determinants of the utilisation of selected ante-natal, natal and post-natal health care services in rural areas of Tamil Nadu.

MATERIALS AND METHOD

Data used for this paper were collected from 134 currently married women, residing in two villages, namely, Karadibavi and Mallegoundanpalayam of Coimbatore district of Tamil Nadu. The criterion used for the selection of these women was that they should have at least one child during preceding four years (1992-95) of the survey. Thus the information on the utilisation of ante-natal, natal and post-natal care services by the sample women was gathered for 172 live born children (and currently living) during the survey period (December, 1995). Of course, information on utilisation of MCH services for those pregnancies ended as still births and for those children born but died before the date of survey is also important, however, attempts have not been made in the present study. Because respondents (mothers) may not give proper response, at times they would become emotional and thereby the overall response rate may get affected.

The following variables have been chosen and used for the present analysis.

Dependent Variables

Ante-natal Check-up	('0' if not received and '1' if received).

(Also used as an explanatory variable in the case of place of delivery).

Iron and Folic Acid Tablets	('0' if not and used 60 or less and '1' if used 61 or more).
Place of Delivery	('0' if home delivery and '1' if institutional delivery).
Post-natal Check-up	('0' if not received and '1' if received).

Explanatory (Independent) Variables

Caste	('0' if scheduled castes and '1' if non-scheduled castes).
Respondent's Education	(in completed years of schooling)
Spouse's Education	(in completed years of schooling)
Respondent's Work Status	('0' if non-working and '1' if working)
Monthly Family Income	(log of actual income)
Exposure to Mass Media	Index (pooled scores)
Number of Living Children	(actual number of children)

Respondents' exposure to mass media (index) has been prepared by assigning the scores (though the procedure is arbitrary, the scores are assigned from lower to higher side with an increase in the respondents' frequency of exposure to mass media) in the following procedure:

Listening to radio and watching TV.- '1' if monthly/rarely and '2' if daily/weekly; reading print media - 'V if not reading and '2' if reading either daily/weekly/occasionally.

The scores assigned are added for each respondent separately which ranges from 3 to 6. The index is classified as lower (4 or less), moderate (5) and higher (6).

A Brief Description of Log-it Regression Analysis

Log-it regression analysis has been felt appropriate and therefore, applied to the data, since the dependent variables are dichotomies in nature. Let 'y' be the dichotomies variable representing the use of maternal health care services, which equals to '1' if such service is received or used and '0' otherwise, and 'P' denotes the probability of _tilizing maternal health care services i.e., p = p (y=1). In Log-it regression p, where

$$p = \frac{E\ Bi\ xi}{i+e\ Bi\ xi}$$

wherein xi are the explanatory variables and Bi are the co-efficient.

Using the explanatory variables, firstly Log-it regression co-efficient have been estimated with their *'t'* values for each of the dependent variables separately. At the next stage, probabilities have been estimated for each of the dependent variable, keeping one category as reference category, in each of the explanatory variables (Tables 3 and 4).

A Brief Description of the Variables

Of the sample respondents (Table 1), 48 per cent belonged to scheduled castes and the rest (52%) were from other caste Hindus. Half of the respondents (51%) were illiterates, 21 per cent were educated up to primary level and the remaining studied up to high school and above. In the case of their spouse's educational status, the corresponding percentages were 49, 16 and 36 respectively. An overwhelming proportion (81%) of the respondents were not working at the time of survey, whereas, 19 per cent were engaged in one or the other works, viz., agricultural/non-agricultural labourers, petty business and teachers in that order. A substantial proportion of the respondents had monthly family income of Rs.1000 and less (45%) and Rs. 1001-2000 (43%), whereas, the rest 12 per cent belonged to comparatively higher monthly family income group (Rs. 2001 and above). 39 per cent had one child during the reference period, 45 per cent had two children and the remaining had three or more. 66 per cent of the respondents had a moderate exposure to mass media, one-fifth (21%) at a higher

side and 13 per cent at a lower side.

TABLE 1

PER CENT DISTRIBUTION OF RESPONDENTS BY THEIR SOCIO-ECONOMIC AND DEMOGRAPHIC CHARACTERISTICS AND EXPOSURE TO MASS MEDIA

Characteristics	Per cent	No.
Caste		
Scheduled Castes	47.8	64
Non-SCs	52.2	70
Respondent's Educational Status		
Illiterate	51.5	69
Primary	20.9	28
High School and above	27.6	37
Spouse's Educational Status		
Illiterate	48.5	65
Primary	15.7	21
High School and above .	35.8	48
Respondent's Work Status		
Non-working	81.3	109
Working	18.7	25
Monthly Family Income		
1000	44.8	60
1001-2000	43.3	58
2001 and above	11.9	16
Number of Living Children		
1	38.8	52
2	44.8	60
3 and above	16.4	22
Exposure to Mass Media (Index)		
4	13.4	18
5	65.7	88
6	20.9	28
Total	100.00	134

Details about the utilisation of MCH services (collected for 172 children born and living during the reference period) reveal that more than two-thirds (68%) had ante-natal check-up outside home and 54 per cent had taken 61 or more iron and folic acid tablets. Three-fourths of the deliveries had taken place in government/private hospitals/clinics whereas only 41 per cent of the mothers had post-natal check-up outside home during the reference period (Table 2). By and large, the use of MCH service was moderate to higher side in the sample villages.

TABLE 2

PER CENT DISTRIBUTION OF RESPONDENTS BY UTILISATION OF SELECTED MCH CARE ASPECTS

MCH Care Aspects	Per cent	No.
1. Ante-natal Check-ups (Outside Home only)	31.98	55
Not had ANC Had ANC	68.02	117
2. No. of Iron and Folic Tablets Used	45.93	79
Not Used/Used 60 or less Used 61 or more	54.07	93
3. Place of Delivery	24.42	42
Home	75.58	130
Government/Private Hospital		
4. Post-natal Check-up	59.30	102
Not had PNC Had PNC	40.70	70
Total	100.00	172

TABLE 3

LOG-IT REGRESSION ANALYSIS OF SELECTED ANTE-NATAL, NATAL AND POST-NATAL SERVICES ON SELECTED SOCIO-ECONOMIC AND DEMOGRAPHIC CHARACTERISTICS

Explanatory Variables	Ante-natal Check-up		Use of Iron and Folic Acid Tablets		Place of Delivery		Post-natal Check-up	
	Coeff.	t-value	Coeff.	t-value	Coeff.	t-value	Coeff.	t-value
Constant	1.7685	0.743	-0.4869	-0.034	0.5908	0.532	-2.5376	-1.886
Caste	2.6529***	3.595	-0.3883	-0.766	1.0081	1.460	0.7368*	1.699
Respondents' Education	2.2920***	2.201	0.1306*	1.756	0.2239*	1.720	-0.0327	4 -
Spouse's Education	-0.0197 -	-0.178	1.671**	2.391	-0.0036	-0.036	0.0608 -	0.477
Respondents' Work Status	0.2122***	-2.788	0.3077	0.576	-0.6969	-1.086	0.3908 -	0.914
Exposure to Mass Media	0.1160 -	0.253	0.1205	0.466	0.1531	0.382	0.3760 -	-0.774
Number of Living Children	1.0696***	-2.944	-0.0878	-0.350	-0.1010	-0.369	0.3945*	-1.469
Monthly Family		-0.052 -	-0.6215	-1.124 -	-0.2964	-0.036	-	-1.661
					1.2653**	2.446	1.0956**	2.128 -
N =	172		172		172		172	
Log Likelihood =	-55.5902		-95.0292		-66.7832		-101.3200	
CHI-square =	104.40		29.82		57.65		29.81	
P> =	0.0000		0.0001		0.0000		0.0001	

Note: * = Significant at .01 level, ** = Significant at .05 level and * = Significant at .10 level.**

TABLE 4

LOG-IT REGRESSION ESTIMATES OF PROBABILITIES OF UTILISATION OF SELECTED ANTE-NATAL, NATAL AND POST-NATAL SERVICES ON SELECTED SOCIO-ECONOMIC AND DEMOGRAPHIC CHARACTERISTICS

Explanatory variables	Ante-natal Check-up		Use of Iron and Folic Acid Tablets		Race of Delivery		Post-natal Check-up	
	Prob.	Diff.	Prob.	Diff.	Prob.	Diff.	Prob.	Diff.
Caste Scheduled Castes Non-Scheduled Castes	.6391) .9617)	.3226	.1485) .1057)	.0428	.4309) .6748)	.2439	.3410) .5460)	.2050
Respondent's Educational Status Illiterate Primary Level	.6391) .8841)	.2450	.1485) .2509)	.1024	.4309) .6988)	.2679	.3410) .3315)	.0085
Spouse's Educational Status Illiterate Primary Level	.6391) .6161)	.0230	.1485) .2867)	.1382	.4309) .4265)	.0044	.3410) .4141)	.0731
Respondent's Work Status Non-working Working	.6391) .1624)	.4767	.1485) .1917)	.0432	.4309) .2739)	.1570	.3410) .2833)	.0577
Respondent's Exposure to Mass Media Low High	.6391) .7150)	.0759	.1485) .2002)	.0517	.4309) .5452)	.1143	.3410) .2170)	.1240

Contd.

Number of Living Children								
1	.6391)	-.2611	.1485)	-.0108	.4309)	-.0245	.3410)	-.0562
2	.3780)		.1377)		.4064)		.2848)	
Monthly Family Income								
Rs. 133 (Log Income = 2.5911)	.6391)						.3410)	
Rs.2016 (Log Income = 3.0039)	.6345)	-0.0460	.1485)		.4309)		.4274)	
			.1189)	-.0296	.4012)	.0297		.0864
Antenatal Check-up								
Not Received	-	-	-	-	.4309)		-	-
Received					.7296)	.2977		

Note: The numbers in this table are probabilities of utilising selected aspects of ante-natal, natal and post-natal care. These numbers are calculated based on the results from the previous table.

The following are the reference categories in calculating these probabilities: 1) Scheduled Castes; 2) Illiterate; 3) Non-working; 4) Low exposure to Mass Media; 5) One living child; 6) Mean (log) Monthly Family Income; and 7) Not received Ante-natal Care.

FINDINGS AND DISCUSSION

Results given in Table 3 (column 1) reveal that controlling for other variables (used in the model), the caste background and educational status of the respondents had positive effects on receiving ante-natal check-up (i.e., members belong to non-scheduled caste groups and with more education associated with greater likelihood of receiving ante-natal check-ups) and are statistically found to be significant (at 0.01 and 0.05 level, respectively). The number of living children too has exhibited a significant (at 0.01 level), negative effect on receiving the antenatal care. Contrary to the expectation, work status of the respondents has shown a negative effect (i.e., non-working had more ante-natal care) on ante-natal check-up and also significant at 0.01 level.

When these results are translated into probabilities (column 1 of Table 4), it can be seen that respondents belong to non-SC groups likely to receive antenatal check-ups by 32 per cent higher than their lower caste counterparts (SCs). So also primary educated by 25 per cent higher than illiterates. On the other - hand, working women receive ante-natal care lesser by 48 per cent over their non-working counterparts, and those who had two children received ante-natal care lesser by 26 per cent than those who had one living child.

Findings from column 2 of Table 3 highlight that educational status of respondents as well as husbands exhibits a positive effect on the use of iron and folic acid tablets, while controlling for other variables, (i.e., higher the level of education, higher will be the use of iron and folic acid tablets) and is statistically significant at 0.10 level and 0.05 level, respectively.

Further, from Table 4 (column 2) it is evident that respondents taking 61 or more iron and folic acid tablets would increase by 10 per cent and 14 per cent respectively when their own and their spouse's level of education is primary as compared to the illiterates.

Results presented in column 3 of Table 3 show that the effect of respondents' education and receipt of ante-natal check-up exert a positive influence on their place of delivery, i.e., controlling for other variables an increase in the level of education of the respondents and receipt of ante-natal check-up increases the likelihood of institutional deliveries and statistically turned out to be significant at 0.10 and 0.05 level respectively. In terms of the probabilities (percentage points) they are worked out to be 27 and 30 per cent respectively (column 3, Table 4).

It is evident from the results given in Table 3 (column 4) that controlling for other factors, monthly family income of the respondents has exhibited a significant (at 0.05 level) positive effect on the utilisation of post-natal check-up services (i.e., higher the monthly family income, higher will be the post-natal check-ups). Also, it is observed that the women belong to non-SC community and of lower parity utilised the post-natal check-up services more than those women of scheduled castes and higher parity, but statistically significant at a lesser extent (0.10 level). The corresponding probabilities in terms of percentages were 9, 20 and 6, respectively (column 4 of Table 4).

Rest of the explanatory variables used in the Log-it model have shown very weak and inconsistent effect on the MCH care aspects used in this paper (Table **3** and **4).**

CONCLUSIONS AND IMPLICATIONS

The analysis of determinants of use of various maternal and child health care services not only confirmed some expected patterns, but also yielded a few unexpected results. Women's education is found to be the crucial factor which has shown a significant and positive effect on ante-natal check-up, use of iron and folic acid tablets and place of delivery. Next in that order were caste background of the respondents and number of living children. Women belonged to non-SC groups and lower parity had utilised the ante-natal check-up and post-natal care services comparatively better than the women of SC community and higher parity. As expected, receiving post-natal check-up is positively and significantly associated with monthly family income, whereas the probability of women tend to deliver babies at health facility increases with the receipt of ante-natal check-ups. Further, it is interesting to note that spouse's education has also played a significant role in the use of iron and folic acid tablets by the respondents.

The unexpected point noted here was that the receipt of ante-natal check-up was significantly lower among working women as against their non-working counterparts. The sample working women were mostly engaged in agriculture and weaving (as daily wage earners), and thus earning some income for living. Such expectant mothers will loose the wages if they go for ante-natal check-ups to the government/private hospitals, situated in nearby towns and therefore, they may neglect to take regular ante-natal care services.

In the light of these findings, it may be suggested that education in general, female education in particular, has to be encouraged in rural areas which

will have a spectrum of benefits in the field of health and family welfare. Also through adult education and social education the awareness and importance of utilisation of MCH care aspects may be imparted to the adults as well as to the couples in the reproductive ages. Besides, village level meetings can be conducted in which doctors, lady health visitors and other paramedical personnel should interact with women to educate and clarify the issues related to MCH care. Government has to take steps to provide basic maternal health services with quality at sub-centre level itself.

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bस लेख में तमिलनाडू के ग्रामीण क्षेत्र में चयनित प्रसव–पूर्व (प्रसव–पूर्व जांच तथा आयरन और फालिक एसिड गोलियां), प्रसव (प्रसव–स्थल) और प्रसवोत्तर (प्रसवोत्तर जांच) जैसी स्वास्थ्य परिचर्या, सेवाओं की उपयोगिता संबंधी कुछेक निर्धारित पक्षों का अन्वेषण करने का एक प्रयास किया गया है। मातृ एवं शिशु स्वास्थ्य परिचर्या, के विभिन्न पक्षों के निर्धारकों के विश्लेषण से पता चलता है कि अन्य विभेदकों पर नियन्त्रण और उत्तरदाताओं के शैक्षिक स्तर से प्रसव–पूर्व और प्रसव कालीन स्वास्थ्य परिचर्या सेवाओं के प्रयोग पर उल्लेखनीय सकारात्मक प्रभाव पड़ा है। अनुसूचित जाति/अनुसूचित जनजाति प्रति पक्षों की अपेक्षा उच्च जाति वर्ग के उत्तरदाताओं द्वारा प्रसव–पूर्व प्रसवोत्तर जाँच सेवाओं का उपयोग अधिक किया गया है। प्रसव–पूर्व और प्रसवोत्तर जाँच के उपयोग से सम्बद्ध जीवित शिशुओं की संख्या उल्लेखनीय तथा नकारात्मक रही है। पारिवारिक मासिक आय का प्रसवोत्तर जाँच पर सकारात्मक प्रभाव पड़ा है। प्रसव–पूर्व परिचर्या सेवाओं के उपयोग का प्रसव–स्थल पर एक उल्लेखनीय और सकारात्मक प्रभाव रहा है। इस अपेक्षा के विपरीत उत्तरदाताओं के कार्य–स्तर का प्रसव–पूर्व परिचर्या, सेवाओं की उपयोगिता पर एक नकारात्मक प्रभाव देखा गया है।

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CONTENT OF IODINE IN IODISED SALT AND ITS AWARENESS

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ABSTRACT

The study reveals that all samples of iodised crystalline salt contained either nil or inadequate amount of iodine whereas all samples of poly packed powdered salt contained adequate amount of iodine. In majority of the houses salt was kept in kitchen in a container which is a bad conductor of heat and humidity. The majority of people in rural areas are consuming iodised salt with sufficient amount of iodine though they are ignorant of iodine content. The implementation of iodine deficiency disorders control programme is poor in the area under study and even people of the area seem to be unaware of iodine nutrition.

Iodine is a trace element which helps in synthesis of an essential hormone thyroxine in thyroid gland. Thyroxine is essentially required for the normal physical growth and development. There is an environmental iodine deficiency in sub-Himalayan region. It extends from Jammu and Kashmir in the North West to Arunanchal Pradesh in North East of the country. Himachal Pradesh belongs to this region. Locally cultivated food contains less iodine. Therefore, people of this area are at the risk of iodine deficiency disorders (IDDs) in the form of endemic goitre, abortions, still births and mild to severe degree of neurological deficits. Collectively these disorders are known as hypothyroidism. Females are at higher risk of IDDs as compared to males.

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Small amount of iodine is sufficient to prevent from IDDs, i.e., 150 ugm to 25C ugm per head per day. Prevention of Food Adulteration Act (PFA) was amended to specify that iodised salt should contain not lesser than 30 ppm iodine at manufacturing level and 15 ppm at retail level. It was calculated that 15 PPM of iodine in edible salt is sufficient to fulfill daily requirement of iodine. Regular iodine administration is easy because salt is taken by everyone rich or poor. Government of India was committed to the goal of universal access to iodised salt by 1992. In Himachal Pradesh sale of non-iodised salt has been banned for the last fourteen years[4]. Government is providing subsidy on transport of iodised salt in tribal and backward areas of the State. Poor families identified under integrated rural development project (IRDP) also get this iodised salt at a cheaper rate, i.e., 25 paise per kg.

Despite the available cost-effective technology, there seems to be poor implementation of iodine deficiency disorders control programme (IDDCP). People are unaware of iodine nutrition. Weak legislation allows iodised and non-iodised salt to flow in the market. Monitoring and evaluation of salt quality is difficult because of poor co-ordination between health and civil supply department.

Therefore, a quick and small effort with low budget scheme towards iodine nutrition awareness of IDDCP and amount of iodine in edible salt at consumer level in a rural village was conducted.

MATERIALS AND METHOD

This study was conducted at Government Middle School Rampur-Bharatpur in District Sirmaur in the month of October 1994. Students from 6th to 8th class were included in this study. This study had two components:

i. Health education regarding importance of iodine in our diet was provided by a pre designed lecture. This lecture also included awareness of IDDCP. For further queries on iodine nutrition clarification was given to the head master of the school.

ii. Spot testing of salt was done to know its iodine content. At the end of lecture as shown below was given to every student to assess the knowledge of their parents regarding edible salt.

Students were requested to bring pinch of salt, along with completed pro forma (as given below) from their houses next day. Estimation of iodine content

was done by field test kits for iodised salt prepared by MBI Chemicals, 85 GN Chetty Road. T. Nagar, Madras-600 017, India.

PROFORMA

Name of the House Address

Type of Salt Used

Date of Manufacture

Storage (container)

Iodine Content (Assessed by Research Scholar) p.p.m.

RESULTS

In this study, 304 samples from 304 houses were analysed and found that in 83.6 per cent of houses poly packed powdered salt was used and only in 16.4 per cent of houses crystalline salt was used. Adequate quantity of iodine, i.e., more than 15 ppm was found in 83.5 per cent of the samples. 5.3 per cent of samples had no iodine whereas 11.2 per cent of samples had lesser than required amount of iodine (Table 1).

TABLE 1

ANALYSIS OF TYPE OF SALT USED AND ITS IODINE CONTENT

Type of Salt		Iodine Content in p.p.m.			
Crystalline salt	Poly packed powdered salt	0	7	15	30 or more than 30
50	254	16	34	24	230
Percentage					
16.4%	83.6%		11.2%	7.9%	75.6%

Adequate quantity of iodine i.e. 15 p.p.m. or more than 15 p.p.m. = 7.9 + 75.6 = 83.5%

Total percentage of salt samples containing sufficient amount of iodine are 83.5%.

Total 254 samples of poly packed powdered salt showed that 90.6 per cent of samples had iodine content of 30 ppm or more and only 9.4 per cent had 15 ppm. It revealed that 100 per cent samples of poly packed powdered salt had adequate amount of iodine content (Table 2).

TABLE 2 IODINE

CONTENT IN POLY PACKED POWDERED SALT

	Total samples analysed 254 Iodine content in p.p.m.			
	0	7	15	30 or more than 30
Number of samples	0	-	24	230
Percentage of	-	-	9.4%	90.6%

Adequate iodine content i.e. 15 p.p.m. or more than 15 p.p.m. = 9.4% = 100%.

Among 50 samples of crystalline salt, it was found that 32 per cent of samples were having no iodine and 68 per cent had only 7 ppm which is inadequate. Therefore, all the samples of crystalline salt were deficient in iodine content (Table 3).

TABLE 3

IODINE CONTENT IN CRYSTALLINE SALT

	Total samples analysed 50 Iodine content in p.p.m.			
	0	7	15	30 or > than 30
Number of samples	16	34	0	0
Percentage of	32%	68%	0%	0%

Thus inadequate iodine content i.e. lesser than 15 p.p.m. = 32% + 68% = 100%.

In this study 44.7 per cent of salt samples were kept in mud container, 36.2 per cent in glass container and 18 per cent in the same poly packed in which salt was brought from the market. In lesser than one per cent salt was kept in iron container (Table 4).

TABLE 4

METHODS OF STORAGE OF EDIBLE SALT

Total Samples Analysed 304

Type of salt	Container			
	Mud	Glass	Poly packed	Iron
Crystalline salt Poly	42	6	0	2
packed powdered salt	94	104	56	0
Total	136	110	56	2
Total percentage of samples stored	44.7%	36.2%	18.4%	0.7%

Out of 136 samples kept in mud container, 94 samples were of poly packed powdered salt with adequate iodine content. Similarly out of 110 samples kept in glass container, 104 samples of poly packed powdered salt had adequate amount of iodine. Thus, all the samples of poly packed powdered salt had adequate amount of iodine, irrespective of the fact whether it was kept in mud or in glass container (Table 4).

Out of 48 samples of crystalline salt stored in mud or glass container, 34 had inadequate iodine (7 ppm) and 14 were without iodine. Two samples of crystalline salt stored in iron container, both were without iodine (Table 5).

Only 9.9 per cent of the household were aware of the date of manufacture of salt and 90.1 per cent were unaware because they may not be knowing its importance.

DISCUSSION

The study concludes that majority of the people in rural areas are

consuming iodised salt. Goitre control programme is successful in Himachal Pradesh, stated by Somuel Paul. Though the importance of storage of salt is more at the level of wholesaler than retailers but at the same time method of transport should not be ignored. Storage of salt at consumer level is equally important. In this study majority of the families were using mud or glass container which are bad conductors of heat.

TABLE 5

IODINE CONTENT IN EDIBLE SALT STORED IN DIFFERENT CONTAINERS

Total Samples Analysed 304

Container	n	Type of Salt	Iodine content in p.p.m.				
			n	0	7	15	30 or >
Mud	136	Crystalline salt	42	12	30	-	-
		Poly packed Powdered salt	94	-	-	14	40
Glass	110	Crystalline salt	6	2	4	-	-
		Poly packed Powdered salt	104	-	-	10	94
Ploypacked	56	Crystalline salt		-	-	-	-
		Poly packed Powdered salt	56	-	-	-	56
		Crystalline salt		2	-	-	-
Iron	2	Poly packed Powdered salt	2	-	-	-	-

This study revealed that only few people were aware of the fact that salt expires after six months of its manufacture (its iodine content becomes inadequate). People love crystalline salt and consider it original and economical, because it is crystalline nature, pure and more saline[5]. Its small quantity gives

desirable taste than powdered salt. Local shopkeepers still command their choice and give Barbara salt to gain better profit. They still justify their action as they are providing cheaper and better commodity. Therefore, there is a need for health education regarding importance of iodine in the diet, its daily requirement, availability and disorders due to its deficiency. Child to community approach has been used in different fields where lesson goes to their parents. Therefore, younger generation, i.e., school children should be provided requisite knowledge regarding iodised salt and IDDCP.

RECOMMENDATIONS

School children must be involved in the awareness campaign of iodine deficiency disorders control programme (IDDCP). Along with total literacy campaign such awareness of iodised salt must go in a campaign mode. Without active community involvement and proper integration between health and civil supply department the effectiveness of IDDCP cannot be ensured.

Lkkjk'k

प्रस्तुत अध्ययन से पता चलता है कि आयोडीनयुक्त रवेदार नमक के सभी सैम्पलों में आयोडीन की मात्रा या तो न के बराबर थी अथवा अपर्याप्त थी, जबकि पिसे हुए नमक के सभी पॉलीपैक सैम्पलों में आयोडीन की मात्रा पर्याप्त थी। अधिकांश घरों की रसोई में नमक गर्मी और आर्द्रता अप्रवाही बर्तन में रखा जाता है। ग्रामीण क्षेत्र में अधिकांश लोग नमक में आयोडीन की मात्रा के बारे में अनभिज्ञ होते हुए भी पर्याप्त मात्रा में आयोडीन युक्त नमक का प्रयोग करते हैं। अध्ययन क्षेत्र में आयोडीन की कमी के कारण उत्पन्न विकार नियन्त्रण कार्यक्रम का क्रियान्वयन अपर्याप्त पाया गया था। तथा इस क्षेत्र के लोग आयोडीन पोषण के बारे में भी अनभिज्ञ पाए गए थे।

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A STUDY OF IN-PATIENTS AND CLINICIAN'S SATISFACTION WITH VARIOUS SERVICES AND FACILITIES PROVIDED BY GENERAL MEDICINE DEPARTMENT OF SAFDARJANG HOSPITAL, NEW DELHI

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ABSTRACT

This study identifies the weak areas in the provision of hospital services based on the clinicians and in-patients satisfaction with various services provided by the Safdarjang Hospital, New Delhi. The study also suggests areas for strengthening to improve the quality of services. The overall satisfaction of in-patients with the services provided by the hospital was more than 60 per cent while the clinician's satisfaction with in-patients resources and services availability was found to be lesser than 50 per cent.

The modern hospital is a scientific institution with a high degree of multidimensional scientific approach towards diagnosis and treatment of in-patients. It is engaged in patient care, education and training of medical, nursing, paramedical personnel and research in bio-social sciences. All the departments of the hospital including general medicine department help to attain this goal. Furthermore, the hospital in-patients are aware of their rights today and they demand better and prompt services. This has led to rapid increase in the utilization of hospital in-patient resources and facilities.

Though the number of hospital beds has increased three-fold during the last 30 years, overcrowding or over-utilization is an almost universal feature in any of the large general hospitals of india. in view of the absence of regionalisation

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of hospital services in India, the situation of in-patient resources and facilities are worsened and a considerable percentage of patients seek hospitalization even from distant places. These patients usually avail of hospital services for a longer duration. Moreover, specialised services are available only in the large hospitals situated in big cities of india and not even in district hospitals. These are only a few in comparison to the needs of the population of the country.

The in-patient services of a hospital depend upon the availability and utilization of different resources *viz.* manpower, supportive services like pathology, bio-chemistry, radiology, special investigations, pharmacy, dietary, linen, house-keeping, duration of patients stay, admission and discharge policies and their utilisation. An understanding of the utilization of available resources from time to time in any hospital could help to improve its services.

The best people to judge the areas of hospital services to be strengthened are the providers, *i.e.* clinicians and the beneficiaries, *i.e.* in-patients. The quality of care can be improved if we enhance the availability of appropriate clinical services to the patients. Proper synchronization and streamlining of hospital services are also essential to increase the efficiency of services within the available resources. Keeping this in view, the study has been conducted in general medicine department of Safdarjang Hospital, New Delhi.

METHODOLOGY

Ninety in-patients of general medicine department of Safdarjang Hospital were interviewed through a structured interview schedule to assess in-patients satisfaction. Only those in-patients were chosen for the study who were conscious, alert, co-operative and had a hospital stay of 10 or more days. Also, other items with which they were satisfied and dissatisfied were noted. Further, their personal and bio-social data were collected.

Fifty clinicians were also interviewed from the same department through a structured schedule. The satisfaction of both in-patients and doctors was graded with reference to various services provided by the hospital.

FINDINGS

In-patients satisfaction : The medicine department of the Safdarjang Hospital had three units. The level of satisfaction differs from one unit to the other.

TABLE 1

IN-PATIENTS SATISFACTION SCORES IN GENERAL MEDICINE DEPARTMENT (UNIT-WISE)

Satisfaction Level	Unit I %	Unit II %	Unit III %	Average
Maximum	72.2	86.1	80.5	79.3
Minimum	36.1	44.4	55.5	45.3
Average	60.1	63.8	66.1	63.3

TABLE 2

AVERAGE SATISFACTION SCORES (ASS) OF IN-PATIENTS ACCORDING TO THEIR AGE, SEX, EDUCATION AND OCCUPATION

	Unit I ASS%	Unit II ASS%	Unit III ASS %	Overall ASS %
Age				
4-19	57.0	56.8	59.8	57.8
20-29	57.8	59.8	63.9	60.5
30-39	59.7	62.1	66.7	62.8
40-49	60.0	65.7	66.5	64.0
50-59	61.4	70.4	69.1	66.9
60 and above	64.7	67.8	70.6	67.6
Sex				
Male	54.1	62.0	53.6	56.5
Female	66.1	65.6	78.6	70.1
Education				71.2
Literate	74.4	71.1	68.1	60.9
Less than metric	55.5	61.2	66.2	57.8
More than	50.4	59.1	64.4	
Occupation				
Employed	56.8	63.6	64.5	61.1
Private	63.8	65.8	67.2	65.6
Government	59.7	62.8	66.6	63.0

Overall satisfaction of in-patients with various services was found to be more than 60 per cent in all the units, the maximum being (86.1%) in case of Unit II, followed by Unit III (80.5%) and Unit I (72.2%). Again the in-patients minimum score was

found to be in Unit I (36.1%). While considering the general medicine department as a whole, the in-patients were highly satisfied with the services provided (79.3%), Table 1.

Data in Table 2 reveal that older the age, more the satisfaction (67.6%) with the services provided by the hospital. However, none of the patients, irrespective of the age group, said that they were not satisfied with the services provided by the hospital. Even while looking at unit-wise satisfaction score of in-patients, it is very clear that they were not dissatisfied in any of the units, irrespective of the age. The average satisfaction score of in-patients in all the units was found to be around 60 per cent or more. The in-patients average satisfaction score was better in Unit III and in Unit II.

While looking at the average satisfaction score of the in-patients according to their sex, it is very interesting to note that the female (70.1%) in-patients were much more satisfied with the services provided by the hospital as compared to the male in-patients (56.5%).

Data in Table 2 further reveal that literate in-patients were much more satisfied with services provided by the hospital (71.2%) than in-patients who were having educational level either lesser than metric (60.9%) or more than metric (57.8%).

As far as the occupational status of the in-patients was concerned, the government employed in-patients were having better average satisfaction score (63%) as compared to people just employed (61.1%). It is, in fact, interesting to see that irrespective of educational status, the average satisfaction score of in-patients was found to be almost 60 per cent in all the units (Table 2).

Satisfaction of clinicians with respect to various services : Data presented in Table 3 reveal the opinion of clinicians of medicine department of Safdarjang Hospital with reference to in-patients resources and services availability. The clinicians were satisfied with services like E.C.G. (89.7%), microbiology (65.3%) and ultrasound (61.2%).

Unfortunately, the clinicians had very poor opinion about the services like bio-chemistry (10.2%), house-keeping (12.2%), beds (14.2%) and dietary (22.4%). However, in services like EEG and E.M.G. the clinicians had satisfaction score of above 50 per cent.

TABLE 3

AVERAGE SATISFACTION SCORE OF CLINICIANS OF MEDICINE DEPARTMENT WITH INPATIENT SERVICES AND RESOURCES

Items	Average Satisfaction Score
Doctors	57.1
Nurses	46.9
Beds	14.2
Blood Bank	24.3
Dietary	22.4
Pharmacy	32.6
Housekeeping	12.2
Linen and Laundry	69.3
Pathology	63.6
Microbiology	65.3
Bio-chemistry	10.2
Radiology	26.2
Special Investigations	
E.C.G.	89.7
Ultrasound	61.2
E.E.G.	53.2
E.M.G.	54.3

DISCUSSION

The resources and in-patient services *viz.* doctors, nurses, paramedical workers, laboratory investigations (pathology, bio-chemistry, radiology and special investigations), pharmacy, diet, house-keeping, central sterile service, ambulance, mortuary, blood bank, etc. are provided by all the large general hospitals, including Safdarjang Hospital, New Delhi. But they are all dependent on the number of beds provided for different specialities in the hospital.

The level of satisfaction of in-patients as well as clinicians differs from one unit to another in the medicine department of Safdarjang Hospital, New Delhi. This could be due to variations in the knowledge and experience of clinicians. The clinicians who work in Unit I may be competent while the clinicians in Unit II or III may not be so. Hence, sometimes in-patients may feel dissatisfied with clinicians for some reasons in any of the units. However, medicine department of Safdarjang Hospital, being well known for its treatment, it could handle all the in-patients more carefully and the average satisfaction score of the in-patients was

found to be more than 70 per cent This is, in fact, an encouraging result, though it is a very big hospital.

According to the findings presented in Table 2, that more the age, more the education and better the occupation, the average satisfaction score derived by the Inpatients was comparatively higher[2]..Probably, the in-patients who were very old (above 60 years of age) may have more complications as compared to younger ones. These old patients when they get even some relief from the multiple problems, they feel much more satisfied. In case of educated ones, their access to hospital facilities and resources could be one of the reasons which make them feel more satisfied with services and resources provided by the hospital as compared to the less than matric or more than matric[4]. Moreover, the educated ones have the privilege of establishing contacts with the clinicians so as to have priority in the treatment as well as in the facilities utilized by them while the same would have been possible for less educated ones but they may have taken more time which ultimately might have affected their level of satisfaction. Of course, their average satisfaction score is more than 50 per cent In case of sex, female in-patients seem to have better average satisfaction score as compared to male in-patients'. This is obvious because females may have been more sincere in adhering to the advice of the doctors.

The satisfaction of clinicians in the medicine department of Safdarjang Hospital differs with respect to various services provided by the hospital. This being medicine department certain services which have direct implications in the treatment found to have better score as compared to other services like EEG and EMG[3]. Therefore, clinicians were giving weight age to ECG, pathology, linen, ultrasound, etc.*. However, this being a big hospital in the country, the authorities should give more weight age to services like bio-chemistry, house-keeping, bed, dietary, etc. These services would also facilitate the functioning of hospital in general[7]. No services can be ignored whether they are very important or not, every service has its own significance. The in-patients satisfaction was found to be more than 60 per cent while the clinician’s satisfaction was found to be lesser than 50 per cent. It reveals that the hospital could meet the requirements of the in-patients as compared to the clinicians. However, the hospital authorities should give adequate facilities as required by the clinicians as per the norms so as to make them more effective in their ***treatment.***

RECOMMENDATIONS

1. Methods of handling in-patients complaints and implementation of suitable action by hospital administration need to be improved.

2. Patients representatives i.e., Area Welfare Officer may be made as a member of Utilisation Review Committee.

3. Administrative support is to be provided to the doctors so as to control their subordinates and other staff members who are directly concerned with maintenance/cleanliness of the wards.

4. Supervision at all levels needs to be improved. Better quality of diet, proper distribution of medicines, investigations, provision of potable drinking water, provision of more number of oxygen cylinders, etc. are essential.

5. Staff members of all categories may be increased as per norms and beds as per demand.

6. As the clinicians are not so satisfied as the in-patients, the hospital authorities may consider to provide the basic requirements as per the norms demanded by the clinicians.

7. The weak areas such as bio-chemistry, house-keeping, beds, dietary, etc. may be strengthened so as to safeguard the interest of the in-patients.

8. Average satisfaction of in-patients is to be studied periodically, on routine basis, so as to find out the areas which need to be strengthened from time to time.

9. Suggestion boxes are to be provided in each department where in-patients may give their suggestions to improve the quality of services provided by the hospital.

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इस अध्ययन का उद्देश्य चिकित्सकों तथा अन्तरंग रोगियों की संतुष्टि के साथ–साथ सफदरजंग अस्पताल, नई दिल्ली द्वारा प्रदत्त विभिन्न सेवाओं के आधार पर अस्पतालीय सेवाओं के प्रावधान में कमजोर क्षेत्रों का पता लगाना है। अध्ययन में सेवाओं की गुणवत्ता में सुधार लाकर इन क्षेत्रों को सुदृढ़ बनाने के लिए उपाय भी सुझाए गए हैं। कुल मिलाकर अस्पताल द्वारा दी जाने वाली सेवाओं के बारे में अन्तरंग रोगियों की संतुष्टि 60% से अधिक थी, जबकि अन्तरंग रोगियों संबंधी संसाधनों और सेवाओं की उपलब्धता के बारे में चिकित्सकों की संतुष्टि 50% से भी कम पाई गई थी।

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