

RELAPSE OF DUODENAL ULCER AMONG SMOKERS

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ABSTRACT

The study reveals that at the end of one year, the cumulative duodenal ulcer (DU) relapse rate in ranitidine group was significantly more in smokers than in non-smokers. Moreover, there was no significant difference in DU relapse among smokers in ranitidine and placebo group. Thus, among smokers giving up smoking is more important in the prevention of ulcer relapse than administration of ranitidine. The authors also feel that the patients of DU should be encouraged to stop smoking, otherwise, they should reduce their daily cigarette consumption to a single figure or at least not to smoke after having taken their nocturnal dose of H₂ blockers.

Duodenal Ulcer (DU) is characterized by remission and relapses. Recent studies have demonstrated that patient given H₂ blocker sucralfate antacid or proton pump inhibitor will have faster ulcer healing rate than placebo. None of the short-term therapies had altered the tendency for ulcer recurrence and up to 90 per cent of patients relapsed within six months after treatment was stopped¹. Smoking is thought to be one of the important risk factors of ulcer recurrence. Moreover, smoking delays ulcer healing and an average difference of healing between smokers and non-smokers is about 20 per cent. This single blind randomized trial was designed to investigate whether ranitidine would prevent DU recurrence among smokers and to compare the relapse rate between ranitidine and placebo groups.

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MATERIALS AND METHOD

This study was conducted during October 1993-July 1995 in the department of medicine, Indira Gandhi Medical College, Shimla. Olympus QIO endoscope was used for diagnosis of duodenal ulcer. The objectives of the study were explained to all the subjects and a written consent was also obtained from each of them. The personal data and smoking habits were recorded by an open ended question method. The clinical examination, relevant investigations and endoscopy were carried out for all the patients. Breach in duodenal mucous with presence of slough was taken as a criterion for the diagnosis of duodenal ulcer. Ranitidine 300 mg per day was given to all the subjects for six weeks and endoscopic examination was repeated.

Thirty subjects of endoscopically healed DU after six weeks ranitidine therapy were taken for this study purpose. Randomly 15 subjects were selected for ranitidine group and ranitidine 150 mg was given at bed time daily and the other 15 subjects were given placebo till the time they remained in this study. The medicine was issued on three monthly basis. Every subject was endoscopically reviewed after three months or earlier if symptomatic. The smoking habits were recorded at every review. The subjects with DU relapse were terminated from the study and treated accordingly. There was no drop out either in ranitidine or in placebo group. After one year of follow-up, cumulative relapse rate was calculated in both of the groups and compared between smokers and non-smokers.

STATISTICAL ANALYSIS

Collected data were analysed to find the difference in DU relapse rate between ranitidine and placebo. Chi square (X^2) test was applied for calculating the difference. P value of lesser than 0.05 was considered significant and more than 0.05 was considered insignificant.

FINDINGS

Smoking Habit in Two Groups: Eight subjects (53.3%) out of 15 in ranitidine group and 12 subjects (80.0%) out of 15 in placebo group were smokers. 7(46.7%) and 3 (20.0%) were non-smokers in ranitidine and placebo group respectively. Statistically the difference in prevalence of smoker among two groups was insignificant $\chi^2=2.4$, $P>0.05$ (Table 1).

Relationship between Smoking and Duodenal Ulcer Relapse: There was 100 per cent relapse rate in placebo group irrespective of the fact whether the subject was smoker or non-smoker, whereas, in ranitidine group 87.5 per cent among smoker subjects and only 28.6 percent among non-smoker had DU

TABLE 1

SMOKERS DISTRIBUTION

Smoker / Non-smoker	Ranitidine Group N=15		Placebo Group N-15	
	No. of subjects	% of subjects	No. of subjects	% of subjects
Smoker	8	53.3	12	80.0
Non-smoker	7	46.7	03	20.0
$\chi^2=2.4$ $P>.05$				

relapse. Statistically it was significant that smoker subjects even on maintenance therapy (Ranitidine group) had more chances of ulcer relapse as compared to non-smokers, $\chi^2=10.6$, $P<0.05$ (Table 2).

Among non-smokers, the incidence of DU relapse was significantly less in subjects on maintenance therapy as compared to placebo, $\chi^2=24.19$ $P<0.05$ (Table 2).

Moreover, there was no significant difference of DU relapse in smokers among ranitidine and placebo group $\chi^2=0.04$ $p>0.05$ (Table 2).

TABLE 2

RELATIONSHIP BETWEEN SMOKING AND DUODENAL ULCER
RELAPSE

Group	Smoker/Non - smoker	No. of subjects	%of subjects	No. of subjects with DU relapse	%of DU rep-apse
Ranitidine N=15	Smoker	8	53.3	7	87.5
Placebo N-15	Non-smoker	7	46.7	2	28.6
	Smoker	12	80.0	12	100.0
	Non-smoker	3	20.0	3	100.0
In ranitidine group (Smoker and Non-smoker)			$\chi^2 = 10.6$	$P<0.5$	
Among Non-smokers (Ranitidine and Placebo Group)			$\chi^2=24.19$	$P<0.05$	
Among Smokers (Ranitidine and Placebo Group)			$\chi^2=0.04$	$P>0.05$	

Duodenal Ulcer Relapse with Continued Smoking:. In both the groups (Ranitidine and placebo) 66.7 per cent DU relapse was observed among subjects who continued smoking throughout the study period (Table.3).

**TABLE 3 DUODENAL ULCER
RELAPSE WITH CONTINUED SMOKING**

Group	No. of subjects with DU relapse	No. of subjects who had continued smoking	Percentage
Ranitidine	9	6	66.7
Placebo	15	10	66.7

DISCUSSION

Several risk factors are responsible for DU relapse with or without maintenance therapy. The smoking adversely affects healing of DU with H₂ receptor blockers and smoking more than 10 cigarettes per day was found to be associated with ulcer relapse. Smoking leads to a high DU relapse rate and helps maintain its chronicity. In 1983 Melvyn G., *et al.* found a strong association between continued heavy smoking and failure of DU to heal and in patients with low cigarette consumption healing of DU was similar to that of non-smokers. The reason for this association remains not clear but the mechanisms related to ulcer disease include accelerated gastric emptying¹¹ of liquid components of food leading to increased acidification of duodenum, increased basal acid secretion, decreased pancreatic bicarbonate secretion and increased serum pepsinogen-1 secretion¹². The possible mechanisms suggest that effects of smoking are multi-dimensional and vary from person to person. In this study among thirty subjects, 80 per cent had DU relapse while 66.7 per cent of subjects were smokers.

Smoking is found to be associated with increased ulcer relapse¹³, especially among patients treated with H₂ receptor blocker¹⁴. Therefore, ranitidine and cimetidine for maintenance therapy are less potent in smokers than in non-smokers. The smokers who received H₂ blocker were likely to have relapse as non-smokers on placebo¹⁵. Smoking also reduces the anti-secretory effect of K blocker possible. In this study, 7 subjects out of 9 on ranitidine maintenance dose who had DU relapse were smokers. Thus giving up smoking will be

important in prevention of DU relapse than maintenance therapy with H₂ blockers. Since control of nocturnal acid secretion is important in promoting ulcer healing and maintenance of remission, so patients receiving anti-secretary drugs should be advised at least not to smoke after having taken their nocturnal dose of H₂ blocker.

The continued smoking leads to high DU relapse and helps maintain its chronicity. This study has also shown that ten subjects in ranitidine group had DU relapse who had continued smoking throughout the study period. Incidence of DU relapse in smokers on maintenance therapy is comparable to smokers and non-smokers in placebo group. Reason may be that 66.7 per cent of subjects in both of the groups had continued smoking during follow-up study period.

Thus patients of DU should be encouraged to stop smoking, otherwise, they should reduce their daily cigarette consumption to a single figure or at least not to smoke after having taken their nocturnal dose of H₂ blockers.

सारांश

अध्ययन से प्राप्त निष्कर्षों, से पता चलता है कि धूम्रपान न करने वालों की तुलना में धूम्रपानकर्ताओं के रेनीटिडिन ग्रुप में उदरीय अलसर की पुनरावृत्ति संबंधी संचयी दर महत्वपूर्ण रूप से अधिक थी। इसके अतिरिक्त धूम्रपान करने वालों के रेनीटिडिन ग्रुप तथा प्लेसेबो ग्रुप के व्यक्तियों में होने वाली उदरीय अलसर की दर में कोई महत्वपूर्ण, अन्तर नहीं पाया गया था। इसलिए अलसर के पुनराक्रमण की रोकथाम के लिए धूम्रपानकर्ताओं को रेनीटिडिन की दवा लेने की अपेक्षा उन्हें धूम्रपान छोड़ना अधिक प्रभावित रोगियों को धूम्रपान बन्द करने के लिए प्रोत्साहित किया जाना चाहिए, अन्यथा उन्हें सिगरेट पीना कम कर देना चाहिए तथा प्रतिदिन एक से अधिक सिगरेट नहीं पीनी चाहिए अथवा एच 2 ब्लाकर्स की रात्रिकालीन खुराक लेने के पश्चात तो कम से कम धूम्रपान नहीं करना चाहिए।

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A STUDY OF BEDS AND THEIR OCCUPANCY IN SAFDARJUNG HOSPITAL, NEW DELHI

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ABSTRACT

The authors confirm that average length of stay of patients and bed turnover rate are inversely related to each other. The bed occupancy rate has decreased in the medicine department of Safdarjang Hospital, as well as in Safdarjang Hospital, New Delhi, as a whole. The study has also observed that the beds are not available for all the patients and the patients are in que to occupy the beds. The beds are not kept vacant even for a minute. Most of the beds were occupied by 64.5 per cent of the patients belonging to Major Diagnostic Categories (MDC) 1,7 and 8.

The population of India has been steadily increasing day-by-day. The population of India, as per 1991 census was 846 million. The trend has been comparatively more in big cities viz. New Delhi, Bombay, Madras and Calcutta. In case of Delhi, its population is increasing at a greater speed not only due to increase in its residents but also due to migration of people every day from nearby States as well as from far off States, looking for an employment opportunity. Delhi, being the capital of India, is facing a very big crisis to tackle their health problems in hospital situations. Moreover, the pace with which hospital and their beds established have not been in pace with growth of the population.

The target established was at least 1 bed per 1000 population. But even today the bed-population ratio in India is only 0.70 bed per thousand population. This may even decline in near future if establishment of hospitals and in-patient beds are not further increased according to the population growth. This explains the phenomenon of overcrowding in most of the general hospitals in India.

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Another fact which emerging is the bed ratio in hospitals between urban and rural areas. The bed population ratio is more in the four major cosmopolitan cities in India as compared to the other parts of the country, for example, in Delhi in 1988 it was 1:90 and in 1993 it was 1:523³. This is supposed to be disappointing situation. The hospital administrators and health policy makers may have a very critical look at this issue.

A hospital bed is one installed for 24 hours for regular use by in-patients during their period of hospitalization. It is properly maintained and staffed for the accommodation and full time care of in-patients. The beds are situated in the wards of the hospital for continuous medical care of in-patients. In fact, the beds in the hospital occupy a very crucial position. Therefore, the authors attempt to find out the extent to which the in-patients occupy the bed in Safdarjang Hospital, New Delhi, and its turnover rate.

METHODOLOGY

This was a retrospective study, conducted in general medicine department of Safdarjang Hospital, New Delhi. The sample frame for the study was 9690 discharged case records who utilised 5386 patient days, belonging to 17 Major Diagnostic Categories (M.D.C.) of International Classification of Diseases (I.C.D.A.) Code 8. Out of which only 10 per cent of the discharged case records, 969 constituted the sample of the study. The Safdarjang Hospital, New Delhi, had in all 1387 beds in all the wards. Since the study was conducted in medicine department of Safdarjang Hospital, all the beds available, 183, in the medicine department of Safdarjang Hospital have been considered for the study. Though this study was conducted in 1988, the data in relation to bed occupancy in Safdarjang Hospital, New Delhi, have been updated till 1996.

FINDINGS

The extent of utilization of beds by the in-patients in medicine department of Safdarjang Hospital, New Delhi, is given in Table 1.

The bed occupancy rate has slightly increased in case of Unit I from 95.9 per cent in 1988 to 97.4 per cent in 1996 while the bed occupancy rate has reduced from 130 per cent in 1988 to 88.5 per cent in 1996 in Unit II and from 112 per cent in 1988 to 91.1 per cent in 1996 in Unit III (Table 1). Even in the medicine department, the bed occupancy rate has decreased from 119.3 per cent in 1988 to 90.8 per cent in 1996. On the whole, the utilization of beds by the

in-patients has decreased from 98.8 per cent in 1988 to 71.8 per cent in 1996 in Safdarjang Hospital, New Delhi.

TABLE 1
BED OCCUPANCY RATE IN MEDICINE DEPARTMENT
OF SAFDARJUNG HOSPITAL DURING 1988 AND 1996

Unit	BOR(%) 1988	BOR(%) 1996
I	95.9	97.4
II	130.0	88.5
III	112.0	91.1
Medicine Department	119.3	90.8
Hospital as a whole	98.8	71.8

(BOR - Bed Occupancy Rate)

The in-patients of medicine department of Safdarjang Hospital were grouped according to Major Diagnostic Categories (17) of I.CD.A. Code 8 in Table 2.

Data presented in Table 2 reveal that in medicine department of Safdarjang Hospital, New Delhi, most of the beds were occupied by 64.5 per cent of cases belonging to M.D.C. 1(20.1%), 7(27.3%) and 8(17.1%) and remaining 35.5 per cent were belonging to other 14 M.D.C. The highest number of in-patients were in M.D.C. 7 followed by 1 and 8. Similar trend has also been observed in all the three units (Table 2) of medicine department of Safdarjang Hospital, New Delhi.

TABLE 2
GROUPING OF CASES INTO MAJOR DIAGNOSTIC CATEGORIES
(M.D.C) OF I.C.D.A. CODE 8 IN MEDICINE DEPARTMENT

M.D.C	Unit I		Unit II		Unit III		Medicine	
	No.	%	No.	%	No.	%	No.	%
1	66	22.40	77	21.0	52	16.7	195	20.1
7	74	25.21	107	29.3	87	27.9	268	27.3
8	39	13.20	74	20.2	52	15.7	165	17.1
Total	179	60.81	258	60.5	191	61.3	628	64.5
Total No. Pls. in all the 17 M.D.C unit-wise	294		365		311		970	

M.D.C 1- Infectious and Parasitic Diseases

M.D.C. 2- Diseases of Circulatory System

M.D.C. 3- Diseases of Respiratory System

The average length of stay of in-patients in medicine department of Safdarjung Hospital is given in Table 3.

The occupancy rate has decreased from 6.1 days in 1988 to 4.5 days in 1996. While looking at the average length of stay of in-patients in different Units, data in Table 3 reveal that there has been a gradual reduction in bed occupancy rate, for example in Unit I, it has reduced from 6 days in 1988 to 3.3 days in 1996, Unit II from 6.5 days In 1988 to 4.2 days in 1996 and in unit III, it has reduced from 5.8 days to 4.8 days.

TABLE 3
AVERAGE LENGTH OF STAY OF IN-
PATIENTS (DAYS) IN MEDICINE
DEPARTMENT OF SAFDARJUNG
HOSPITAL

Year	Unit I	Unit II	Unit III	Mean Days
1988	6.0	6.5	5.8	6.1
1996	3.3	4.2	4.8	4.5

Bed turnover rate and bed turnover interval of medicine department of Safdarjung Hospital are given in Table 4.

It can be concluded from data presented in Table 4 that the beds are not available for all the patients all the times and in order to get a bed, they are in the que, in Unit II, 1/4 of the patients are waiting to get the beds while in medicine department more than 3/4 of the patients are waiting to get the beds. The data also indicate that at no time the bed is kept vacant in Safdarjung Hospital, New Delhi.

DISCUSSION

The situation in India both in terms of provision of health care facilities as well as their utilization seems to be unsatisfactory, even after almost fifty years of independence. Presently the country has only 0.48 doctors, 0.45 nurses and 0.70 beds in all the hospitals per 1000 population in India. However, the situation is different in urban areas, 19 beds per 1000 population as compared to rural population 0.20 beds per 1000 population. It clearly indicates that more efforts may have to be devoted to these issues to strengthen the provision of health care

facilities by the hospitals,2,4.

TABLE 4
BED TURNOVER AND BED TURNOVER INTERVAL IN
MEDICINE DEPARTMENT OF SAFDARJUNG
HOSPITAL

Unit	Bed Turnover Rate	Bed Turnover Interval
Unit I	48.4	0.64
Unit II	58.8	-0.25
Unit III	52.0	-0.35
Medicine Department (Ave.)	53.0	-0.82
Hospital as a whole	60.0	0.14

Bed occupancy rate is an important index for measuring the extent of utilization of hospital resources. It is very clear from Table 1 that bed occupancy rate in medicine department of Safdarjang Hospital has tremendously reduced in all the Units, ultimately affecting the whole of bed occupancy rate in Safdarjang Hospital. There could be several factors associated with this kind of situation, for example, shortage of nurses, clinicians and other resources. In addition, the magnitude of increase in population may have also affected the hospital facilities and the resources, including the availability of bed. Also, the non-availability of definite written admission and discharge policies may have resulted in affecting the bed occupancy by patients.

Out of 17 Major Diagnostic Categories (M.D.C.), only three M.D. Categories 1,7 and 8 utilised the beds to the extent of 64.5 per cent while remaining 35.5 per cent utilised by other 14 M.D.Cs. This indicates that these are the categories of diseases normally people suffer from and seek hospitalisation and Safdarjang Hospital was trying to meet their needs. However, there were certain problems as the number of medical beds in Safdarjang Hospital, though ranked fourth out of the medical beds provided in six other big hospitals in Delhi, the burden on the medicine beds was very heavy because it is in South Delhi and is the only large hospital which never refuses hospitalization to any needy patient on any ground. Therefore, the number of patients belonging to M.D.C. 1,7 and 8 need to be scrutinised while admitting.

The target of 1 bed per 1000 population has not yet reached even today this is why the study has observed the reduction in the average length of stay of in-patients in medicine department of Safdarjang Hospital from 6.1 days in 1988

to 4.5 days in 1996. Also, there may be other factors like increase in population, non-availability of beds, non-availability of doctors, nurses and other resources which may have made the hospital system to shorten the stay of in-patients in hospital. Hospital is a costly resource today. Hospital is also overcrowded due to non-regionalisation of hospital services in large general hospital.

Bed turnover rate (BTR) and bed turnover interval (BTI) are important indicators for measuring the intensity of utilisation of beds. It can be concluded that lower is the average length of stay (ALS) of patients, higher is the BTR. ALS and BTR are inversely related to each other. In this study in medicine department of Safdarjang Hospital the patients are already in que to occupy the beds while the in-patients are not ready to vacate the beds. This is really a critical situation for the clinicians. So this safely confirms the findings that the population is growing at a great speed and the prevention of diseases is not so quick. This issue needs very careful analysis as to how to tackle the situation. The other alternative could be that the medicine department of Safdarjang Hospital may acquire more number of beds to adjust the timing of vacating the beds by the in-patients and admitting the patients for treatment.

RECOMMENDATIONS

1. A reasonable amount of fee is to be charged for all the patients who utilise the hospital facilities and resources even in government hospitals in order to avoid unnecessary stay in the hospital by the patients.
2. Hospital admission procedures and surveillance programme of the hospital are to be strengthened by applying appropriate medical information system.
3. A systematic discharge plan is to be worked out in order to avoid unnecessary delay in the discharge of patients.
4. A definite written policies and procedures for admissions and discharges should be strictly adhered to.
5. Allocation of beds is to be increased based on the periodic assessment of demand, according to the bed utilization indices.
6. Proper scheduling of in-patients admissions and discharges should be followed based on the hospital admission scheduling system.

7. The Review Committee of the Safdarjang Hospital may periodically review the hospital services and resources in order to utilise them more efficiently.

सारांश

प्रस्तुत लेख में लेखकों द्वारा यह पुष्टि की गई है कि अस्पताल में रोगियों के रहने की औसत समयावधि दर और बिस्तरों की कुल संख्या में पारस्परिक संबंध है। सफदरजंग अस्पताल के औषधि विभाग के साथ-साथ समूचे अस्पताल में बिस्तरों की भर्ती, सभी रोगियों के लिए बिस्तर उपलब्ध नहीं हैं और बिस्तर प्राप्त करने के लिए रोगियों को प्रतीक्षा करनी पड़ रही है। बिस्तर, एक मिनट के लिए भी खाली नहीं रखे जाते हैं। अधिकांश बिस्तर प्रमुख वैदैनिक रोगों की श्रेणियों से संबंध 64.5 प्रतिशत रोगियों द्वारा भरे हुए थे।

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A STUDY OF REACH AND EFFECTIVENESS OF COMMUNICATION MEDIA IN GWALIOR DISTRICT OF MADHYA PRADESH

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ABSTRACT

This paper presents the reach and effectiveness of various communication media whether they are low, medium or high in Gwalior district of Madhya pradesh. The reach of inter-personal communication was considered to be very high (82.2%) and the television was high (62.2%). The radio, newspapers, posters and wall paintings had medium reach while the other media such as films, exhibitions, traditional media group/mass meetings and pamphlets had low reach as far as the reach of communication media was concerned. Also, the study reveals the reach of communication media and the level of education of the respondents are directly proportional to the effectiveness of communication media in the study area.

The national health and family programme is an educational endeavour. This view has been universally accepted. Communication forms a part of national health and family welfare programmes. India's National Health Policy (1982) also recognises its importance and reveals that the recommended efforts, on various fronts would bear only marginal results unless nation-wide health education programmes backed by appropriate communication strategies are launched to provide health information in an easily understandable form to motivate the development of an attitude for healthy living. Hence, the Indian planners have consistently provided enough resources in each successive five year plans for family planning and health education activities.

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The national health and family welfare programmes take advantage of a wide range of media, from traditional to modern media of satellite communication to reach widely dispersed population with appropriate messages. But, people always perceive, absorb and remember matters differently according to their wishes, motives and value systems. The changes in the views or behaviour following an exposure to a message may be differently affected by the individuals predispositions and attitudes¹. Every medium is selective and selects its own audiences while audiences too have their own preferences for a particular medium. For example, information travels by a word of mouth by local modes and reaches favourably those who had no exposure to any of the media in rural areas. The reach as well as effectiveness of the media also differ as the audiences differ in their choices for a particular medium. Keeping this in view, an attempt has been made in this paper to analyse the reach and effectiveness of communication media in Gwalior district of Madhya Pradesh.

METHODOLOGY

The study has been conducted in three PHCs namely, Bhitwar, Hastinapur and Dabra of Gwalior district, Madhya Pradesh. 24 villagers; eight from each PHC were selected by following stratified random sampling technique. In all, 360 households from rural areas, 120 from each PHC and 90 households from urban areas of PHCs, (40 from Bhitwar and 50 from Dabra), making a total of 450 households were included as sample of the study. The ratio of sample between rural and urban areas was 80:20. This study was conducted during 1994-95.

The Reach of Communication Media

It was examined on the basis of the community members exposure to each of the media, such as radio/transistor, group/mass meetings, home visits, traditional/folk media wall paintings/hoardings and pamphlets/leaflets. They were asked whether they have seen or heard any health and family welfare programmes one month or one year prior to the date of interview on any of the media. On the basis of the respondents exposure to a particular medium, the reach of a particular medium was judged whether it was low, medium, high or very high.

The exposure to each medium was worked out in terms of percentage, depending upon the exposures. The maximum percentage expected was 100 and the minimum was 0. Thus, the maximum percentage of 100 was again divided into

four categories to indicate the degree of reach of a particular medium, *i.e.*,

0-25 per cent	Low
26-50 per cent	Medium
51-75 per cent	High
76-100 per cent	Very

Effectiveness of Communication Media

It was examined on the basis of respondents understanding of the messages communicated by various media such as radio/transistor, televisions, newspapers, films, posters, exhibitions, group/mass meetings, home visits, traditional folk media, wall painting/hoardings and pamphlets/leaflets. The effectiveness of communication media was assessed by asking the community members whether they had understood the language and meaning of the messages communicated through these media.

Further, the effectiveness of each of the media was worked out in terms of percentage, depending upon the responses given by the sample respondents of the study. Therefore, the maximum percentage expected was 100 and the minimum was 0. Thus, the maximum percentage of 100 was again divided into four categories to indicate the degree of effectiveness of a particular medium, *i.e.*

0-25 per cent	Low
26-50 per cent	Medium
51-75 per cent	High
76-100 per cent	Very high

FINDINGS

Reach of Communication Media

Among various communication media under study, the inter-personal channel (home visits) claimed to have reached more number of community members 82.2 per cent while the traditional media have reached almost 0 per cent (Table 1). Data presented in Table 1 further reveal that the availability of radio is lesser, though its cost is cheaper, as compared to television. The reach of television is higher 62.2 per cent as compared to radio 45.6 per cent. The reason could be that though the availability of television sets is with in case of only around 55 per cent of the community members while the reach of this medium has been

high 62.2 per cent. Probably, this could be due to the fact that the community members may have listened to their own television sets or the TV sets available in the community halls or available with their neighbours.

TABLE 1
REACH OF COMMUNICATION MEDIA

S. No.		Availability		Reach		Degree of Reach
		Yes	No	Expose	Not Exposed	
1.	Radio/Transistor	35.8	64.2	45.6	54.4	Medium
2.	Television	54.9	45.1	62.2	37.8	High
3.	Newspapers	42.4	57.6	36.2	63.8	Medium
		(Reading)		(Read H&FW)		
4.	Films	-	-	16.7	83.3	Low
5.	Posters	-	-	46.2	53.8	Medium
6.	Exhibitions	-	-	6.9	93.1	Low
7.	Group/Mass Meetings	-	-	24.0	76.0	Low
8.	Home visits	-	-	82.2	17.8	Very high
9.	Traditional Media	-	-	0	100	Low
10.	Wall paintings/Hoardings	-	-	36.0	64	Medium
11.	Pamphlets/Leaflets	-	-	19.3	80.7	Low

In case of newspapers, the respondents stated that (42.4%) who have been reading newspapers while only 36.2 per cent of respondents read in relation to what was in the newspapers in relation to health and family welfare programmes.

In case of posters, 46.2 per cent of the respondents stated to have seen posters which is even better than the reach of radio (45.6%). This shows that radio has not established good reputation as far as the messages with which radio was broadcasting in the study area. The media such as films, group/mass meetings, pamphlets/leaflets occupied less importance as far as the reach of the media is concerned.

Effectiveness of Communication Media

Table 2 shows the effectiveness of various communication media and has been analysed in terms of understanding of language and meaning by the respondents.

As far as the effectiveness of communication media was concerned, the messages communicated over television (59.8%) was more effective followed by posters (46.2%) and radio (44%) as compared to other media as shown in Table 2. This definitely indicates a positive relationship between reach of media and effectiveness. The reach of television was the highest (62.2%) followed by posters (46.2%) and radio (45.6%) Table 1. It can be stated that in order to create a definite impact on the viewer, the reach of a particular medium is essential. While examining other media in relation to effectiveness, they do have some association with reach, for example, films, exhibitions, newspapers and pamphlets/leaflets.

TABLE 2
EFFECTIVENESS OF COMMUNICATION
MEDIA: UNDERSTANDING OF LANGUAGE
AND MEANING

S.No.	Modes of Communication	Understandability (Language & Meaning)			Degree of Effectiveness
		Yes	No	NA	
1.	Radio/Transistor	44.0	1.5	54.5	Medium
2.	Television	59.8	1.5	38.7	High
3.	Newspapers	36.0	0.2	63.8	Medium
4.	Films	15.7	4.0	80.3	Low
5.	Posters	46.2	53.8	-	Medium
6.	Exhibitions	5.6	1.3	93.1	Low
7.	Group/Mass meetings	22.8	76.1	1.1	Low
8.	Home visits	-	-	-	-
9.	Traditional media	-	-	-	-
10.	Wall paintings/Hoardings	-	-	-	-
11.	Pamphlets/Leaflets	18.6	0.8	80.6	Low

Higher the education of the respondents, better the effectiveness of the communication media. Irrespective of level of education of the respondents, the effectiveness of communication media was found to be between low and medium only in the study area. Unfortunately, no medium could have either highly effective

or very highly effective as far as effectiveness of media was concerned. It indicates a gap between what was communicated through various communication media and what the listener has understood (Table 3).

Further, with reference to effectiveness of communication media, Table 3 also reveals to have no much difference between illiterates (23%) and the respondents who had primary level of education (25%). However, data presented in Table 3 clearly reveal a positive association between level of education and effectiveness of media, for example, the effectiveness of communication media was slightly higher, almost 34 per cent in case of respondents who had high school level of education.

TABLE 3
EFFECTIVENESS OF COMMUNICATION
MEDIA: EDUCATION AND
UNDERSTANDING

S.No.	Modes of Communication	Education and understand ability			
		I	P	H	NA
1.	Radio/Transistor	22.8	24.5	33.8	18.9
2.	Television	23.0	24.0	34.0	19.0
3.	Newspapers	-	-	-	-
4.	Films	23.0	24.6	33.6	18.8
5.	Posters	22.9	24.5	33.7	18.9
6.	Exhibitions	22.9	24.9	34.0	18.2
7.	Group/Mass Meetings	22.9	24.4	33.8	18.2
8.	Home visits .	-	-	-	-
9.	Traditional media	-	-	-	-
10.	Wall paintings/hoardings	-	-	-	-
11.	Pamphlets/Leaflets	22.8	24.4	33.9	18.9

I=Illiterate, P - Primary,
H =High School

DISCUSSION

The inter-personal communication, though cannot reach mass audiences simultaneously, it has claimed to have reached 82 per cent of the audiences in the study area, assuming very high reach as compared to other communication media under study. Probable reasons could be that inter-personal communication is strong, friendly and persuasive in nature. It takes place in close proximity with a

definite purpose. Also, it allows more interaction, more sharing of information and more learning by both the sender of the health message, (health personnel) and the receiver (community member). It is specially effective when supported by media such as leaflets, posters, flip charts, video, role play, songs, dramas, etc³ Here the atmosphere is very cordial and warmth. Very delegate, sensitive and personal matter can be freely discussed⁷. Hence, the respondents attached more importance to inter-personal communication as compared to other modes of communication.

The reach and effectiveness was concerned, the television has occupied second position, revealing high reach, followed by posters and radio. The television is the most powerful of all mass media. By combining pictures with sound, television could have communicated messages more effectively as compared to radio and print³. However, radio has a larger audience than any other form of mass communication. Radio is cheap and easily accessible to illiterate audiences. Even messages broadcast by radio can reach a large number of listeners simultaneously and can be repeated at low cost. The radio is more flexible than television or print. Therefore, on the basis of the findings, the authors suggest that All India Radio (AIR) may have more number of programmes, variety of formats, enlarging as well as diversifying of messages in terms of new information about programmes and services to attempt to remove doubts, fears and inhibitions or to counteract prevailing rumours among people and train AIR personnel who are dealing with health and family welfare in AIR. Even the co-ordination between AIR and Department of Health and Family Welfare may be strengthened. No doubt, the modern media, particularly radio and television have affected the behaviour pattern of the village youth who have different orientation towards community life⁶. The print media (posters) reach a key audience of community and religious leaders, health and development workers, school teachers, students and political leaders. They play a key role in mobilising the support of community for any major initiatives. May be because of this reason, the poster could have more influence even as compared to radio. Still, posters could have been much more effective, had they carried catchy slogans, attractive pictures and prominent personalities in addition to proper style of message presentation⁵.

The media such as wall paintings/hoardings, pamphlets/leaflets occupied less importance as far as the reach and effectiveness of these media was concerned. The reach of printed media in general is limited and primarily meant for literates while in rural areas, the level of literacy percentage is low as compared to urban areas². Because of this reason, the sample respondents may not have preferred these media. Also, the bias in the mass media software in

favour of the urban elite aggravates the situation. The use of small media despite various experiments has still to go a long way to be effective in localised communication process. The social and cultural realities of India are challenging and yet they also provide some fascinating opportunities for dissemination of messages.

Unfortunately, the reach of traditional media in the study area was found to be ineffective and efforts may be made to combine traditional media and mass media for dissemination of messages regarding health and family welfare. Of course, traditional media can work along with mass media as an extension, besides being adopted to work within it.

सारांश

इस लेख में मध्य प्रदेश के ग्वालियर जिले में विभिन्न संचार माध्यमों, चाहे वह निम्न स्तरीय, मध्यम स्तरीय हां अथवा उच्च स्तरीय संचार माध्यम हो, उनकी पहुंच तथा प्रभावकारिता के बारे में चर्चा की गई है। अन्तरवैयक्तिक संचार की पहुंच अधिक ऊँची (82.5%) आंकी गई थी और टेलीवीजन की पहुंच उच्च (62.2%) आंकी गई थी। जहां तक संचार माध्यम का संबंध है, रेडियो, समाचारपत्र, पोस्टरों और भित्ती चित्रों की पहुंच मध्यम स्तरीय आंकी गई थी, जबकि फिल्मों, प्रदर्शनियों, पारम्परिक माध्यमों, जैसे गुप बैठकों/जनसभाओं और इशतिहारों जैसे अन्य माध्यमों की पहुंच अल्प स्तर की पाई गई थी। अध्ययन से प्राप्त निष्कर्षों से भी पता चलता है कि अध्ययन क्षेत्र में संचार माध्यमों की पहुंच और उत्तरदाताओं के शैक्षिक स्तर में सीधा संबंध था जो समान अनुपात में संचार की प्रभावकारिता को प्रभावित करता है।

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DELIVERY OF HEALTH CARE SERVICES THROUGH INDIGENOUS SYSTEM OF MEDICINE IN GWALIOR DISTRICT OF MADHYA PRADESH

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ABSTRACT

The accessibility, availability, cost of treatment and fear of side effects of modern medicine were a few reasons offered by the community members to prefer indigenous system of medicine (ISM) for treatment in the study area. The rural population attaches more importance to ISM as compared to urban population. Further, the study reveals that most of the practitioners of ISM follow a mixed practice, homoeopathy with allopathy, ayurvedic with allopathy, etc. though they have educational qualifications in any one of the fields. The most commonly treated diseases by these practitioners were cough and cold, followed by fever, diarrhoea and indigestion.

Indian system of medicine is one of the valuable heritages of Indian people. There are thousands of practitioners of ISM&H in government as well as in private sectors who provide health care services to the people both in rural and urban areas all over the country. The traditional practitioners work very closely with the community and have better understanding about their physical, psychological and social problems. They are more acceptable to the community as compared to the allopathy doctors. The modern medical practitioners diagnose the disease and try to cure it while the traditional practitioners follow a more holistic approach for diagnosing as well as treating the patients.

From ancient times, indigenous system of medicine has been well accepted in India and has established its roots in the community. Government of India has developed a vast infrastructure for ISM&H system to cater to the needs of the people. In spite of the fact, the services provided by ISM&H practitioners

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in the community remain unrecognised and they are not effectively utilised. There have been a few studies to give comprehensive information about the health care service provided by ISM&H system. The policy makers and programme planners have also recognised the limitations of modern medicines in catering to the health needs of the people of the country. Therefore, the ISM practitioners have been identified as a potential reservoir for providing preventive and promotive aspects of health care to the people. Thus, ISM practitioners form an important part of the government health care machinery and unfortunately, they have not been effectively utilised in government health care programmes. Hence, their educational qualifications, level of knowledge, experience in the profession, service delivery, involvement in various health and family welfare programmes and acceptance by the community need to be examined very closely. This paper has made a humble beginning in this direction.

METHODOLOGY

This study was conducted in Gwalior district of Madhya Pradesh during 1992-94. Detailed information on existing infra structural facilities of ISM&H system in the district was collected from the records available at State headquarter, Bhopal, and Divisional Office, Ayurveda, Gwalior. To study the contributions made by the academic institutions of ISM&H system, Regional Research Centre, and service delivery at peripheral health institutions, meetings were held with the concerned officials at State, district and block levels. The infra structural facilities available at ISM&H dispensaries and services provided by the practitioners were also observed with the help of a checklist prepared for this purpose.

Out of 48 dispensaries of ISM&H system in Gwalior district, 18 dispensaries were studied representing rural (eight), urban (four) and municipal corporation (six). In case of urban areas the dispensaries were selected following random sampling technique while in case of rural areas, the selection of dispensaries was made following a two stage random sampling technique. At the first stage, three block level PHCs namely, Barai, Dabra, and Bhitwar were selected for community survey and one additional PHC Hastinapur was included. In the second stage, two ISM&H dispensaries within the selected blocks were selected at random. Altogether, 44 ISM&H practitioners were included, 19 representing government based ISM&H practitioners working at blocks, PHCs and dispensaries and 25 ISM&H practitioners working in private sector. Beneficiary population of only sampled ISM&H practitioners were considered for inquiry. Thus, five beneficiaries from each practitioner who have availed of services during

the last three days formed the sampling unit. Thus, 149 beneficiaries from rural areas and 85 beneficiaries from urban areas were selected for the study. The size of the sample beneficiaries was 234.

FINDINGS

Gwalior is one of the industrialised districts in Madhya Pradesh with vast network of health infra structural facilities, including medical colleges of different kinds. As the district was under DANIDA project, the district had the advantage of having additional inputs in terms of health institutions, trained manpower and materials. Besides modern system of medicine, the Indian system of medicine had its own popularity in the district.

Distribution of ISM&H Practitioners by Age and Number of Living Children: It is evident from Table 1 that more than 50 per cent of the ISM practitioners were in the age group of 36-45 years and had two to three children. More the age of the practitioners, it seems the number of children is also more, for example, 50 years of age of practitioners. Also, it is very clear from Table 1 that the beginners, the age group below 30 years, in the profession seems to be less as well as in the age group of practitioners between 46 and 50 years.

TABLE 1

DISTRIBUTION OF ISM&H PRACTITIONERS BY AGE AND NUMBER OF LIVING CHILDREN

Age in Years	No. of Practitioners	No. of Living Children	No. of Practitioners
Below 30	4 (9.50)	No Child	5 (11.36)
31 -35	6(13.65)	1	4 (9.50)
36-40	14	2	14 (31.80)
41 -45	(31.80) 10	3	12 (27.27)
46-50	(22.72)	4	4 (9.50)
50 +	4 (9.50)	5 or more	5(11.36)
Total	44	Total	44

(Figures in parentheses-indicate percentages)

Educational Status of ISM Practitioners. Number of degree holders in ISM is more in government dispensaries than in private (Table 2) and number of diploma holders is more in private as compared to government dispensaries. Also, the number of post-graduate degree holders has been found to be more in private as compared to government dispensaries.

TABLE 2
DISTRIBUTION OF ISM&H PRACTITIONERS BY THEIR
EDUCATIONAL STATUS

Educational Status	Govt. Org.	Private	Total
Formal Schooling	2 (4.55)	3 (6.82)	3 (6.82)
Diploma Degree	15 (34.09)	6 (13.63)	8 (18.18)
in ISM PG	2 (4.55)	12 (27.26)	27
Degree in ISM		4 (9.10)	(61.35)
Total	19	25	44

(Figures in parentheses indicate percentages)

Experience of ISM Practitioners: In both government as well as in private, the practitioners of ISM had 10-15 years of experience (Table 3). The private practitioners even had more than 20 years of experience (6.82%) while in government it was only 2.68 per cent. As far as lesser than five years of experience was concerned, the practitioners of ISM had an equal percentage in both government as well as in private practice (6.82%).

Income of ISM Practitioners: More than one-third of the ISM practitioners in government had an income of more than Rs.4000.00 (36.80%) and 32 per cent of the ISM practitioners in private had an income of lesser than Rs.2000. More of the private practitioners of ISM had lesser income as compared to the practitioners of ISM in government, for example, none of the private practitioners of ISM had an income of more than Rs.4000.00 (Table 4).

ISM Practitioners Training and Practice. Out of 44 practitioners of ISM under study, including both government as well as private, three of them had no training and 7 had training in Ayurveda, two each in homoeopathy and Unani. Remaining 30 had mixed type of training and practice but they were qualified in

any one of the systems. In most of the cases, the line of treatment was in combination, *i.e.* ayurvedic and allopathy or homoeopathy and allopathy (Table5).

TABLE 3

DISTRIBUTION OF PRACTITIONERS OF ISM&H BY THEIR EXPERIENCE

Work Experience in Years	Govt. Service	Private Practice	Total
Less than 5 years	3 (6.82)	3 (6.82)	6 (13.64)
5-10 years	2 (4.55)	6 (13.63)	8(18.18)
11-15 years	11 (25.30)	7 (16.20)	18 (41.50)
16 - 20 years	2 (4.55)	6(13.63)	8 (18.18)
21 and more	1 (2.68)	3 (6.82)	4 (9.50)
Total	19	25	44

(Figures in parentheses indicate percentages)

TABLE 4

DISTRIBUTION OF ISM&H PRACTITIONERS BY THEIR MONTHLY INCOME FROM THE PROFESSION

Income (in Rupees)	Private	Practitioners in Govt./Pvt. service	Total
Below			
Rs. 1000	4	-	4 (9.50)
1001-2000	10	-	10 (22.72)
2001 -3000	8	1	9(19.62)-
3001-4000	3	2	5 (1. 36)
4001 -5000	-	12	12 (27.30)
5000 +	-	4	4 (9.50)
Total	25	19	44

(Figures in parentheses indicate percentages)

TABLE 5

**DISTRIBUTION OF ISM&H PRACTITIONERS BY SYSTEM OF
MEDICINE PRACTICED AND TRAINED**

System of Medicine Practiced	Not trained	Ayurvedic	Homoeopathy	Unani	Total
Ayurvedic	1	7	-	-	8
Homoeopath	2	-	2	-	4
Unani	-	-	-	2	2
Mixed	-	27	3	-	30
Total	3	34	5	2	44

Reasons for Seeking ISM&H Care: The reasons offered by 75.21 per cent of respondents to prefer ISM&H practitioners were accessibility, availability, behaviour of the practitioners and faith in the system was also opined by 51.28 per cent of the beneficiaries. According to 55.66 per cent of beneficiaries, the cost of treatment was another important factor to choose ISM as a method of treatment. The weaker and lower income group of population attached due recognition to ISM&H. It was also observed that due to the side effects of allopathy, 16.23 per cent of the respondents preferred to go in for ISM&H. In addition, the reasons opined to go in for ISM&H by 17.52 per cent of beneficiaries were long waiting time, harassment in government health institutions, non-availability of medicines in government allopathic institutions, etc. (Table 6).

Types of Ailment and Treatment The ISM&H was accepted by the respondents for most of the common ailments, particularly for chronic diseases like indigestion and arthritis. The most common diseases for which treatment sought were cough and cold, (64.10%), fever (60.25%) and diarrhoea (40.17%) followed by chronic conditions of gastric/acidity with indigestion and arthritis with joint pain. The females were treated for gynaecological problems such as, leucorrhoea, anaemia and also backache. The treatment for skin conditions was also sought by more than 10 per cent of beneficiaries. Besides, the treatment was sought by the beneficiaries from their respective practitioners of ISM&H, Table 7, were other minor ailments like injury, headache, sore throat, jaundice, eye irritation, burns, etc.

TABLE 6
REASONS FOR SEEKING MEDICAL CARE FROM ISM&H PRACTITIONERS

Sl. No.	Reasons	Beneficiaries (per cent)
1.	Within the area and easily available	176(75.21)
2.	Cheaper or more economical	130 (55.66)
3.	Faith in the system	120 (51.28)
4.	Better behaviour of doctor	50 (21.30)
5.	Scared of reaction of allopathic medicine	38 (16.23)
6.	Long waiting time in government hospitals	41 (17.52)
7.	Others	18 (7.72)

(Figures in parentheses indicate percentages)

TABLE 7
THE TYPES OF AILMENT AND TREATMENT

Type of Ailment	Beneficiaries (per cent)
Cough and cold	150 (64.10)
Fever	141 (60.25)
Diarrhoea	90(40.17)
Indigestion	86 (36.75)
Joint pains/Arthritis	50 (21.36)
Skin problems	27 (11.53)
Gynaecological problems	10 (4.23)
Other ailments	52 (22.22)

Cost of Treatment It was found that one-fifth of them (21.79%) reported that they do not spend even a penny as services and medicines were provided free of cost to them by the ISM practitioners working in the government. The amount of money spent by the beneficiaries of ISM for getting treatment was very meagre, ranging from Rs.5 to Rs.30 (Table 8). This is why, the beneficiaries of

ISM, particularly more of rural people felt that the cost of treatment is the major factor which encourages them to seek health care services from ISM practitioners.

DISCUSSION

Indian system of medicine continues to occupy a key position in health care coverage in India. Quite a good number of people in both urban as well as in rural areas seek health care from traditional practitioners as the system has more holistic approach for attainment of positive health in addition to physical, mental and social well being. This system is widely used by rural masses as compared to urban population as it is affordable and acceptable. Political, social and economic factors in the country have played a great role in the growth and development of Indian system of medicine and has undergone tremendous changes in different phases. Professionalism in ISM has been recognised. Efforts were also made to integrate with Western medicine. States enforced laws for regulation of teaching and training in ISM^{1,2}. However, it has certain problems.

TABLE 8
EXPENDITURE MET BY THE BENEFICIARIES FOR VISIT
TO ISM&H PRACTITIONERS

Expenditure (in Rs.)	Beneficiaries
No reply	29 (12.39)
Free	51 (21.79)
1 -5	59 (25.21)
6- 10	40 (17.09)
11 - 15	11 (4.70)
16-20	22 (9.40)
21 -25	7(2.99)
26-30	8(3.99)
30 +	7(2.99)
Total	234

(Figures in parenthesis indicate percentages)

The beginners in the profession appears to be less though it enjoys equal status like allopathy medicine and a significant progress has been made in educational front of Indian system of medicine. The process of curing is also slow. In an emergency situation one may not depend upon this treatment. Moreover, the bright students would like to pursue modern medicine as its scope

is much more wider and the reputation attached by the community is also very high. The study has also observed to have more of male practitioners which is in agreement with the findings of the studies conducted in Kerala, Bihar and Tamil Nadu. As far as the age of the ISM practitioners was concerned, it is between 36 and 45 years which has also been reported in other studies. It means, this is the age group of ISM practitioners who are also having a considerable years of experience in the profession and may be involved in the delivery of health care services to the masses.

The scarcity of female practitioners of ISM has also been observed in this study. This situation would prevent rural young women to approach male ISM practitioners for their problems relating to gynaecology and obstetrics. This implies that female practitioners of ISM may be trained though they are in limited number and used for MCH services in rural areas.

As far as the educational qualification of the ISM practitioners was concerned, the study revealed that most of the practitioners are graduates and a few of them are having diploma or post-graduate degree in ISM. This, in fact, signifies the importance and role of ISM practitioners in the delivery of health care services to the people. Thus, they form an important part of the government health care machinery, however, their involvement in the promotion of health and family welfare programmes is to be stepped up.

Mixed practice has been commonly found among the practitioners of ISM⁵⁷. They were not confining themselves to the system in which they are trained. The commonly treated diseases, according to the ISM practitioners, were cough and cold, fever, diarrhoea and indigestion⁸. The probable reasons could be that as ISM medicines had no side effects and comparatively cheaper, the people may have preferred this medicine for these minor ailments. These are, of course, not so complicated problems like other communicable diseases. Also, the accessibility, availability and cost of treatment may have made them to go in for ISM as compared to allopathy.

CONCLUSION

The findings of this study as well as other studies conducted in different parts of the country on ISM practitioners clearly indicate that the ISM practitioners are professionally qualified and have considerable years of experience. The use of modern drugs and medical instruments are not new to them. They do take care of health problems of the society to some extent. With adequate training,

supportive supervision and infra structural development, this vast human resource for health can be very effectively utilised for achieving the goal of HFA by 2011-2016.

सारांश

अध्ययन क्षेत्र में रहने वाले समुदाय के लोगों द्वारा उपचार हेतु देशी चिकित्सा प्रणाली को वरीयता देने के पक्ष में उन्होंने जो कारण प्रस्तुत किए हैं, उनमें सेवाओं तक सहज पहुंच, उपलब्धता, इलाज पर होने वाला व्यय और आधुनिक चिकित्सा पद्धति से होने वाले गौण प्रभाव आदि प्रमुख कारण हैं। शहरी लोगों की तुलना में ग्रामीण जनता देशी चिकित्सा प्रणाली को अधिक महत्व देती है। अध्ययन से आगे यह भी पता चलता है कि देशी चिकित्सा प्रणाली को अधिक महत्व देती है। अध्ययन से आगे यह भी पता चलता है कि देशी चिकित्सा प्रणाली के अधिकतर चिकित्सक यद्यपि किसी एक ही चिकित्सा पद्धति संबंधी योग्यता रखते हैं, किन्तु वह मिश्रित चिकित्सा पद्धतियों जैसे होम्योपैथी के साथ एलोपैथी, आयुर्वेदिक के साथ एलोपैथी आदि को प्रयोग में लाते हैं। इन चिकित्सकों द्वारा प्रायः खांसी-जुकाम, बुखार, अतिसार तथा बद्धजमी जैसे साधारण रोगों का ही उपचार किया जाता है।

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ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICES (KAP) AMONG COLLEGE STUDENTS ABOUT AIDS IN DELHI

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Abstract

The authors conclude that the college students consider HIV/AIDS as a disease which cannot inflict them, though, they possess adequate knowledge about all dimensions of HIV/AIDS. However, they are found to be deficient in some areas such as mode of spread, incubation period, etc. It was further found that a high percentage of the students tend to indulge in high risk life styles of AIDS. The college students attached due importance to television and radio as sources of information about HIV/AIDS in addition to their friends. The authors, therefore, suggest an urgent need to intensify the media programmes regarding HIV/AIDS in electronic media and print media.

AIDS, apparently an innocuous sounding word, is an enigma which has defied all efforts of health professionals and scientists to find any effective cure or vaccine against it. Consequently, the prevalence rate of HIV infected patients during the last few years has been mounting ominously the world over without any manifest signs of remission.

The greatest achievement of this century has been the eradication of smallpox while HIV/AIDS epidemic in the world poses a great challenge to us. Each individual has the power to protect himself/herself from AIDS provided he/she receives an appropriate information and is ready to develop necessary knowledge and skills.

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There have been alarming rise in HIV positive cases ever since it was detected in India. AIDS is now considered to be a behavioural problem in the absence of any breakthrough in clinical management of this disease. The pandemic situation calls for developing appropriate, reliable and scientifically valid communication strategies that could help people change their health behaviour in regard to sex, intravenous drug use, etc.

Majority of Indian studies conducted among college students have examined the knowledge aspect while attitude and practices aspects have been studied by a limited researchers. These studies claim that college students are knowledgeable about HIV/AIDS (rural and non-science students have less knowledge than their counterparts). Students still believe that AIDS can spread by touch even. Certain misconceptions and wrong beliefs about AIDS still exist. Large number of the college students either indulge in or approve of extra-marital or pre-marital sex. Hence, this study was undertaken to assess the knowledge, attitude and practices about AIDS among college students as well as to suggest the choices of media for creating AIDS awareness among college students.

METHODOLOGY

A sample of 250 undergraduate students from five colleges of Delhi were interviewed using an interview schedule besides conducting five focus group discussions for studying the quantitative and qualitative aspects of KAP status among college students regarding HIV/AIDS. This study was conducted in 1994.

FINDINGS

Profile of Students: The sample of college students consisted of 250 students of whom 64.0 per cent were males and 36.0 per cent were females. 85.2 per cent of them were Hindus while the remaining (14.8%) were non-Hindus. Rural and semi-urban students constituted 14.8 per cent each while urban students were 70.4 per cent by residence profile. Science students comprised 36.0 per cent while 64.0 per cent belonged to other non-science subjects. Students belonged to I,II and III year were 40.4 per cent, 24.4 per cent and 35.2 per cent respectively. 62.8 per cent of college students belonged to category of family income of Rs. <5000 while 37.2 per cent belonged to family income of Rs. >5000. Only 4.0 per cent of students were married. 58.4 per cent of the students studied in CO- educational schools while 41.6 per cent belonged to exclusive girls/boys schools.

Knowledge of College Students Regarding AIDS'. Knowledge about HIV/AIDS was assessed by further sub-dividing this component into various sub-components. *Knowledge about AIDS* as a disease was found to be good among 76.2 per cent of students. Similarly, 78.7 per cent of students possessed correct knowledge about *transmission pattern of AIDS*. Knowledge about *prevention of AIDS* was found to be accurate among 71.6 per cent of students. Knowledge about *diagnosis and treatment* was found to be adequate among 70 per cent of students. Knowledge about *high risk lifestyle and drug addiction* was found to be correct among 62.5 per cent and 55.0 per cent of students respectively. Out of attainable overall score of 36, the overall score of college students possessing appropriate knowledge about AIDS was found to be 25.24+3.4 S.D. which is satisfactory. But the students lacked proper knowledge on some specific areas. For example, *knowledge about incubation period* (time taken for infection) *of AIDS* was found to be grossly inadequate, 75 per cent of students could not give correct answer. Similarly, only 25.6 per cent of students responded to the question correctly about *whether it is possible that a person to be infected with HIV and not have the disease of AIDS*. Only 27.6 per cent knew that *drug and alcohol have indirect relation with HIV infection*.

Comparatively science students possessed better knowledge about HIV/AIDS than non-science students. The better knowledge among science students could be attributed to their biological sciences background especially at higher secondary school level where such areas are taken up in greater details. Urban and semi-urban students (by residence profile) had better knowledge about HIV/AIDS than students in rural areas. This could be attributed to better media exposure and exposure to other developmental programmes. Students studying in semi-urban colleges scored better than students studying in urban colleges. Students studying in semi-urban colleges are from Delhi urban areas as such the difference among semi-urban and urban area colleges was more artificial than real.

Although religion as a factor was found to have no effect on knowledge status regarding AIDS but students belonging to higher socio-economic status have scored (Score of 26.9 vs. 24.1) better as compared to students of low socio-economic status. The reasons for better knowledge could be due to frequent exposure to print and electronic media.

Male college students scored better than female students. Probably the male students are prone to talk more openly about sex and also about AIDS in comparison to the females. This is in contrast to what was reported. Year of study in the college was not found to be significantly associated with level of knowledge about AIDS. Students having co-educational background seem to have better knowledge about AIDS than the students of non-co-educational background. This could be due to the fact that in co-educational schools, boys tend to interact more freely with girl students about various issues including AIDS. The interaction between boys and girls being more frequent and more open, the chances of having better knowledge about AIDS is not surprising.

The study reveals that college students possess fairly accurate knowledge about AIDS. But in some areas their knowledge has been found to be inadequate. Such areas include: (a) knowledge about difference between HIV infection and AIDS disease, (b) spread of HIV by touch, (c) knowledge about which body fluid contains virus, (d) incubation period of AIDS and (e) drug addiction leading to increase in HIV infection.

Attitude of College Students Towards AIDS. Students attitude towards HIV/AIDS was measured on 27 statements which were carefully selected out of 150 statements after they were judged by a panel of judges for their content validity. The 27 selected statements covered nine dimensions of AIDS viz. attitude regarding (i) sexual behaviour, (ii) intravenous drug use, (iii) wrong perceptions regarding AIDS, (iv) frank discussion about AIDS, (v) use of condom, (vi) prevention of AIDS, (vii) diagnosis and treatment of AIDS, (viii) media preferences and (ix) fear of AIDS.

For each of these areas, two to three statements were selected. Table 1 furnishes the average score attained by the students in all the twenty seven statements. The scores have been adjusted according to the negative and positive nature of the statements. The students were required to tick any one of the five options provided for each statement. The students were required to tick any one of the five options provided for each statement. The scoring method for each statement is given in Table 1.

TABLE 1

**ATTITUDE STATEMENTS AND THE AVERAGE SCORE RECEIVED BY COLLEGE STUDENTS
ON 27 STATEMENTS**

Statements	Average Score of the Statement	Remarks
Attitudes towards sexual behaviou		
Promiscuity is bad and should be discouraged so as to prevent AIDS	4.6	Score 5 indicates strong agreement and score 1 strong disagreement
One should not miss the chance of having sex with a stranger even if there is a risk of AIDS	4.0	Score 5 indicates strong disagreement and score 1 strong agreement
Attitudes towards intravenous drug uses		
Drug addiction is a treatable disease	4.3	Score 5 indicates strong agreement and score 1strong disagreement
Drug addiction should be treated	4.4	- do -
Prevention measures should be adopted by drug addicts so as to prevent HIV/AIDS	4.2	- do -
Drug addiction increase AIDS in population	3.6	- do -
Wrong perceptions about AIDS		
If spouse or partner is HIV positive, one Should divorce or separate to protect Himself/herself	2.8	Score 5 indicates strong disagreement and score 1 strong agreement
Family members of a known HIV/AIDS patients should not be welcomed at home	3.5	do
A person with AIDS needs counselling	3.9	Score 5 indicates strong agreement and score 1 Strong disagreement

Statements	Average Score of the Statement	Remarks
Attitude towards frank discussion on AIDS		
A parent should be willing to talk frankly to children about AIDS	4.1	-do-
Schools/colleges should teach students about AIDS even if they have to talk explicitly about sex.	4.2	-do-
All the young people students should know about HIV/AIDS prevention	4.6	-do-
Attitudes towards use of condom		
Condom should be used every time while having sex with strangers	4.5	-do-
Use of condom to prevent AIDS should be encouraged as it has proved to be effective barrier to HIV/AIDS spread	4.3	-do-
Condom should be promoted for family planning purposes only and not for prevention of AIDS	3.5	-do-
Condom should be made available even in schools and colleges	2.6	-do-
Attitude towards prevention of AIDS		
Frequent travellers specially going abroad should take necessary precautions against HIV/AIDS	4.2	-do-
HIV carrier/AIDS patients should be totally isolated from society	3.8	Score 5 indicates strong disagreement and score 1 strong agreement
HIV infected students should not be allowed to attend school as they can transmit the disease	3.6	-do-

Statements	Average Score of the Statement	Remarks
Attitude towards diagnosis and treatment		
Every hospital should have facilities for HIV/AIDS detection and treatment	4.4	Score 5 indicates strong agreement and score 1 strong disagreement
Test for AIDS should be must for all passengers who come from other countries	4.1	-do-
Patients with HIV or AIDS should be clearly told about their status and fate	3.6	-do-
Attitude towards media credibility		
Steps should be taken by government authorities for prevention of AIDS	4.7	-do-
Messages on TV/Radio/Newspapers etc. is an effort by government to prevent AIDS which are effective and serving the purpose	4.2	-do-
Attitude towards fear of AIDS		
AIDS is an important problem in this country	4.3	-do-
I am afraid of getting AIDS	2.7	-do-
I am afraid that someone in my family may get AIDS	2.2	-do-

The findings in respect of attitude of students towards various dimensions of AIDS show that college students generally are aware of the disease and are not fearful. Positive attitude is indicative of the fact that the students are oriented towards preventing this dreadful disease by taking appropriate action which helps in this direction. Of the 27 statements, in almost 70 per cent of the statements, the students have shown a positive attitude to prevent the disease, use of condom or changing attitudes towards sexual behaviour. In some cases, college students have remained undecided on issues like whether condoms should be made

available in all schools and colleges to prevent AIDS. Similarly, college students also are not in an agreement with the statement that *in case spouse is HIV positive, one should divorce or separate to prevent himself or herself* (mean score 2.8). Both of these statements are value loaded and students have preferred to remain near 'undecided' category. Among other contributing factors which explain the positive attitude towards AIDS among college students could be due to their status of education, exposure to mass media and the cultural taboos relating to less permissiveness about sex related activities. Adolescents who received the AIDS educational exposures developed not only AIDS knowledge but also developed appropriate attitudes towards changing sexual behaviour. It has been observed that educational programmes' change the knowledge more than the attitudes.

Practices of College Students About HIV/AIDS: The findings depict that more than fifty per cent (52%) of college students claimed that students indulge in sexual activities. Only one-fourth of the students had no knowledge about such indulgence. This finding reflects that the college students form a high-risk target group for AIDS prevention activities. When the students were probed about the frequency of such activities; around 23.6 per cent of students claimed that this behaviour is repeated occasionally. At the same time around 41 per cent of the students were not able to specify the exact frequency of such indulgence. A fraction of college students (11.2%) stated that college students visit commercial sex workers occasionally (9.6%) or frequently (1.6%). The rest of the college students either never knew about it or stated that students never visit commercial sex workers. When the students were required to evaluate their own behaviour which risks them to have HIV/AIDS, around 35.2 per cent of the students claimed that they do not practice high-risk life style which would endanger them to have AIDS. Almost half of the sampled college students have confessed to indulge in high risk lifestyle.

The prevalence of high risk lifestyle among the college students despite good knowledge and appropriate attitude towards AIDS might be due to change in moral and social values, influence of Western culture and exposure to cable TV network and foreign media. They do know that AIDS exists and is spreading fast but they indulge in these activities as they are not afraid of getting it themselves. When these students were asked about their opinion regarding their chances of getting HIV/AIDS, around 48 per cent thought that they have no chances of getting this disease while 28 per cent showed their concern about the disease. Around

one-fourth of these students did not know about such possibility of having AIDS. Japanese students studying in USA perceived a higher risk of contracting AIDS in United States than in Japan. A very small proportion of college students (6.5%) in this study stated that college students are sharing needles and syringes. Most of the students pleaded for introducing health education (43.2%) followed by counselling (17.2%) for intravenous drug users. Twelve per cent even suggested for a very strong action against such drug users.

Sources of Information for College Students about HIV/AIDS and Their Media Preference:

The main sources of information for college students about HIV/AIDS were friends (42%), TV programmes (25.2%) and radio programmes (15.2%). The other sources of information about HIV/AIDS reported in other studies were magazines for medical and non-medical students and television for nurses. Thus in terms of providing information and education to the students about HIV/AIDS, all types of communication media have suitably been used as a source of information. When further probed as to whom they contact for seeking sex knowledge, around 60 per cent of them claimed friends to be the first choice followed by others (not specified 21.2%).

Around 44.5 per cent of the students listen to radio frequently and only 5 per cent did not listen to it. Similarly, around 54.4 per cent of the students watched television regularly and 42 per cent watched it occasionally. The viewing of cable TV is limited to only around 24 per cent of the college students on regular basis whereas 58.4 per cent do not watch cable TV at all. 74.8 per cent of the college students visited cinema theatres occasionally. Reading newspaper on regular basis was restricted to only around 20 per cent of the students whereas rest of the students either read newspaper occasionally or frequently.

A fairly large number of students (around 65%) have seen advertisement regarding HIV/AIDS on TV at least between one and 4 times during one month prior to the date of survey. Around 32 per cent had seen such advertisements ranging between five and eight times. Since cable TV viewing is restricted to only 20.4 per cent of the students who have seen such advertisement between one and four times and around 18 per cent between 5 and 8 times. The newspaper advertisements regarding HIV/AIDS have been seen by 80.4 per cent of the students between one and four times.

The programme preferences in electronic and print media were undertaken

with a purpose to identify the most popular programmes which could be utilised for disseminating HIV/AIDS related messages. In this regard, the college students were required to specify the programmes they prefer to see/hear on electronic media in order of their preference. These preferences were restricted to three. Table 2 depicts the media preference on electronic media among college students.

TABLE 2
THE PROGRAMMES PREFERENCES OF THE COLLEGE STUDENTS ON
ELECTRONIC MEDIA

Programmes	Ist Preference	IInd Preference	IIIrd Preference
Western Music	29.6	10.8	5.2
Serials	27.2	8.0	16.4
Films	16.8	13.2	22.8
News	0.4	1.2	1.6
Sports	4.0	0.8	2.4
Indian Songs	11.2	46.4	8.8
Documentaries	0.4	1.6	0.8
Others	0.4	1.6	4.4
No preference	10.0	3.2	3.2
N.R.	-	13.2	34.4

(Figures are in percentage)

The most frequent programmes preferred to be seen/heard on electronic media as a first preference were (i) Western music; (ii) serials; (iii) films; and (iv) Indian songs. The second preference was the same but the order of preference has been found to be varying: (i) Indian songs; (ii) films; (iii) Western music and (iv) serials. Films, serials and Indian songs were found to be the third preference for the college students. It can be seen thus the programmes where HIV/AIDS messages can be introduced are restricted to four only viz. Western music; serials;

Indian songs; and films. The documentaries and the news have been found to be the least preferred programmes by the college students.

About print media, the students were again required to specify the columns they prefer to read more frequently than others. Here also the students were required to give first three choices. Table 3 shows the preference of the areas which are most frequently read by the college students.

The college students first preference in print media was current affairs followed by sports, science columns, fiction and economic affairs and their second preference was sports followed by current affairs, fiction and science programmes. Around 9 per cent of the college students did not specify their first preferred issue which is read by youth.

TABLE 3
PREFERENCE OF AREAS READ MORE FREQUENTLY BY THE COLLEGE STUDENTS IN PRINT MEDIA AS THEIR PREFERENCES

Areas	Ist Preference	IInd Preference	IIIrd Preference
Current affairs	39.6	14.8	10.8
Science	13.2	11.2	3.6
Fiction	9.6	12.0	2.0
Sports	14.0	17.6	7.2
Economic affairs	6.0	3.6	1.6
Political affairs	5.2	0.2	3.2
Environment	-	2.0	2.4
Any other	2.8	5.6	13.2
No preference	9.2	3.2	3.2
N.R.	0.4	20.8	52.8

It can thus be concluded that college students have varying preferences for electronic and print media in terms of programmes to be seen, heard and read.

These observations have an important role to play for determining the media and programme preference by the college students which will help disseminate messages regarding HIV/AIDS.

To an open ended question, *the measures which the students recommend for further improving the KAP status about HIV/AIDS among college students* a wide variety of responses were received. They include: the role of health education, sex education, TV and radio programmes and may be intensified for disseminating appropriate information to the college students regarding HIV/AIDS.

TABLE 4
DISTRIBUTION OF THE STUDENTS AS PER THEIR SUGGESTED WAYS FOR IMPROVING KAP ABOUT HIV/AIDS

Suggestions	Percentage of students
Introduce sex education	13.2
Health education	14.0
Introduce TV and radio advertisements	10.8
Introduce AIDS teaching in college curriculum	9.6
Exhibit prevention of HIV/AIDs in important festival situations	7.6
Involve students and teachers in AIDS education activities	6.8
Introduce HIV/AIDs education programmes through seminars and education programmes	7.2
Provide necessary reading materials	6.8
No response	15.0

From the findings of the study, the authors conclude that firstly, the college students consider HIV/AIDS as a disease which cannot inflict them though they possess adequate knowledge about all dimensions of HIV/AIDS and there is an urgent need to intensify the media programmes on HIV/AIDS on electronic media and print media.

ACKNOWLEDGEMENT

The help rendered by Dr. (Mrs.) Gita Bamezai, Lecturer, NIHFWS, New Delhi, in preparing this paper is thankfully acknowledged.

Lkkjk'k

आलेखकों द्वारा यह निष्कर्ष, निकाला गया है कि कालेज-विद्यार्थी, एचआईवी/एड्स के सभी पक्षों के बारे में पर्याप्त जानकारी रखते हुए भी एड्स/एचआईवी को उन्हें कोई नुकसान पहुंचा सकने वाला एक रोग मानते हैं। किन्तु इन विद्यार्थियों में रोग के प्रसार की प्रक्रिया और रोग की बढ़ने की प्रक्रिया आदि जैसे कुछ पक्षों के बारे में जानकारी का अभाव पाया गया था। यह भी पाया गया है कि विद्यार्थियों का एक उच्च प्रतिशत, एड्स के उच्च प्रतिशत, एड्स के उच्च जोखिम वाली जीवन शैली की ओर अधिक प्रवृत्त रहता था। एचआईवी/एड्स संबंधी सूचना स्रोत के रूप में कालेज के छात्र अपने मित्रों के अलावा टेलीविजन और रेडियों को काफी महत्व देते थे। इसलिए आलेखकों द्वारा इलेक्ट्रॉनिक मीडिया और प्रिन्ट मीडिया के माध्यम से एचआईवी/एड्स संबंधी चलाये जाने वाले कार्यक्रम को और अधिक सुदृढ़ बनाने का सुझाव दिया गया है।

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