Health and "Population
- Perspectives & Issues 1(3): 193-204, 1978

IMPACT OF FAMILY WELFARE PROGRAMME IN INDUSTRIAL SECTOR: AN ESTIMATE OF RETURNS TO THE MANAGEMENT

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ABSTRACT

The paper attempts to estimate the monetary benefit that would accrue to the management through the impact of contraception on fertility reduction at various levels of current fertility. It focuses attention and invoke interest among the experts, policy makers and those of the managements to highlight the economics of social welfare programmes such as family welfare among the industrial community. Such a successful programme will not only contribute to the national cause but would also be economically beneficial to the management, apart from contributing towards the social welfare of its employees. It visualizes the Employees State Insurance Corporation (ESIC) as a backbone to promote a nation-wide family welfare programme and only confined to Karnataka State by utilizing the service statistics of ESIS, Karnataka, Therefore, it aims to investigate the monetary benefits the management, especially the ESIC would have through an effective implementation of the family welfare programme amongst the industrial community.

Industrial undertakings in India have a large potential for introducing family welfare programmes. The employees of this community assume special significance because of their greater propensity to adopt innovative practices to maintain and improve their standard of living compared to the rest of

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the population as had been advocated from time to time by several authors 1,2,3,4. Besides, the industrial efficiency or production seems to depend to a great extent on how best the management has been able to alleviate the familial problems of its employees - a root cause of tensions, frustrations and discontents amongst them - to which today's industrial workers' community is conditioned to work. The congenial physical environment within the industrial premises provided by the management seems to be secondary in nature. It is in this context, Godrej remarked, "for industrialists active participation in family planning is both an economic necessity and a social obligation". Therefore, the familial problems of the industrial community appear to be one of the determinants of industrial efficiency which need to be-tackled.

Viewing the seriousness of the problem, a large number of industrial houses have already organized fairly successful programmes in this regard. However, such programmes exist in relatively large units and much remains to be done in small undertakings which lack organizational, professional and managerial expertise, possible, due to constraints of funds. Considering the fact that there were nearly thirty thousand factories (less than 2,500 workers per unit) in existence in March 1974 constituting 98.8 per cent of the total number of industrial units and covering 69.8 per cent of the industrial workforce, this segment rightly require top priority to be given by the policy makers. Therefore, the present paper attempts to investigate the monetary benefits the management, especially, the ESIC would have through an effective family welfare programme amongst the industrial community by estimating the various expenditures incurred by the Corporation for preventive and curative care from conception through pre-school stage,

A number of studies conducted by individual researchers, institutions and organisations have been more or less confined to fact findings/KAP type studies or individual experiences of running a family planning programme. Although in few industrial undertakings, the programmes have been fairly successful but most of them were confined to provide family welfare service facilities and incentives to the acceptors.

Current Fertility and Contraceptive Behavior Among the Industrial Community

Kurup and others conducted a study in Madura Mills Ltd. and found a birth rate of 34.6 and 36.8 per 1000 population in Madura and Ambasamudram units of the Mill. Sugathan and others reported the current birth rate of 30.6 in ITI, Bangalore. Although no generalization can be made on this basis, it is clear that the fertility among the industrial community seems to be higher than All India Urban fertility (28.5) and more or less close to All India Rural (36.7) fertility. Since the industrial community is stated to be socially and economically better off Compared to the rest of the population, the fertility of this community should have also been relatively low. But, wherever family planning programme was implemented effectively, it did drop considerably. For example, the birth rate in Assam Tea Plantation was stated to have been declined to 22.7 per 1000 population in 1968 from 38.6 in 1964[9]. Likewise, in Nilgiris plantations, it declined to 25.5 per 1000 population in 1973-74 from 40.4 in1969-70 mainly due to effective implementation of "No-Birth" Bonus Scheme" by UPASI.

The current practice of effective methods (sterilization, IUD and Oral Pills) among ITI employees, Bangalore, was found to be about one-seventh (13.8%) of the total eligible couples. This is rather low compared to the high prevalence of contraceptive practice expected among the employees of the organized sector, who are comparatively better off, both socially and economically. Since a considerable proportion of acceptors was found to be using Nirodh (18.3%) and 'other methods' (4.4%), the overall current practice was enhanced to a higher level (36.5%). Obviously, because of lower proportion of effective users, the birth rate among ITI employees remained high in spite of overall high proportion using contraceptives presently. Similar findings were also observed by Kurup and others with lower proportion (15.7%) of current effective contraceptive users (sterilization, IUD and Oral Pills) in Madura Mills Ltd., wherein not much effect on birth rate was found (34.6).

Although, no efforts seem to have, so far, been made at the national level to assess the fertility level of this community, it may be mentioned that contrary to general expectations, the fertility level of this community seems to

be in no way different from the rest of the population. Therefore, there appears to be an immediate need to evolve national strategy for effective family welfare planning programme among this community.

The Employees State Insurance Corporation (ESIC) \

Under the ESIC Act, the Corporation provides a compulsory integrated system of social insurance and other benefits such as health, maternity and accident benefits etc. to the industrial workers, their wives and dependent children for those who are earning Rs.1,000 or less per month in perennial factories using power and employing 20 workers or more. Since such employees and their dependants are entitled to receive all necessary medical care free of cost, all the expectant mothers and their children are also to be provided with adequate care, both preventive and curative, by the Corporation.

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Findings

Estimated expenditure on medical care to the expectant mothers and their children: The details of average actual expenditure for the provision of medical care per pregnant woman during ante-natal, natal and post-natal stages in terms of number of medical attendance, costs of drugs, doctor's time and laboratory investigation etc., were worked out on the basis of actual data collected from ESIS sources. The costs of drugs were estimated based on the wholesale purchase rate of the ESIS. The doctor's time was estimated by considering the actual time taken by them, their total emoluments and the effective working hours in a day. The details of such estimates are provided in appendices I-tl.

Table 1 provides the details of expenditure worked out for the provision of medical car an expectant mother usually avails of through ESIS at ante-natal, natal and post-natal stages. On an average, the expenditures incurred by the Corporation are Rs.40.5, Rs.40.2 and Rs.6.8 during ante-natal, natal and post-natal stages respectively. Thus, the total expenditure for these three stages, the Corporation incurs works out to a minimum of Rs.87.4 per pregnant woman.

Estimated expenditure on preventive and curative care per child up to five years of age: The average actual expenditure

on preventive and curative care per child was estimated from infancy to pre—school stage by considering the existing incidence of illness, type of illness, the required amount of medical attendance by a doctor. This worked out to be Rs.2 per patient per visit by considering his time, total emoluments and the effective working hours. Besides treatment for illness, infants and pre-school children require preventive care, including immunization, such as pre-vaccination, DPT, prophylaxis against nutritional anemia etc. These were quantified in terms of equivalent amounts in rupees. The details are given in appendix III.

The total expenditure incurred by the. Corporation for preventive and curative care during the five years (from infancy through pre-school stage) worked out to be Rs.117.6 per child without considering the mortality effect. When the actual proportion of surviving children from year to year was taken into account, the cost decreased to Rs.104.4 per child. By taking the discount factor into consideration, the expenditure of Rs.104,4 during the five year-period is equivalent to an expenditure of Rs.77.9 at the initial stage itself. This means that the net economic benefit to the Corporation by way of less expenditure on medical care would

TABLE 1

EXPENDITURE ON MEDICAL CARE PER EXPECTANT MOTHER

Stage of care	Number of medical attendance	Cost of medical care (In Rs.). Drugs	Medical attendance + Lab, investigation		Total
Ante-natal	10*	11.05		29.40	40.45
Natal	20% hospital delivery**		40.16		40.16
Post-natal	3***	0.83		6.00	6.83
Total		11.88	40.16	35.40	87.44

Source: The figures were estimated after discussion with the ESIS officials of Karnataka State, Bangalore.

*Once a month up to 7th month pregnancy, fortnightly during 8th month and weekly afterwards; totaling an observed average number of 10 visits per case.
**Assumed on the basis of ESIC Annual Report.
***Mininum 3 visits within 1st month after delivery.

be Rs.165 per pregnant woman for prevention of each pregnancy ending in live birth. This excludes other benefits which the nation would realize by way of reduced expenditure on various welfare programmes amounting to several thousands of rupees. (Table 2).

Economics of estimated savings - an illustration: As mentioned earlier, the ESIC will have a saving of around Rs.165 by preventing a pregnancy ending in live birth. In Table 3, the levels of current General Marital Fertility Rates (GMFRs) were assumed at various levels. Accordingly, the expected reduction in fertility at 10, 20, 30, 40 and 50 per cent levels were also assumed. Likewise, at different levels of GMFR, the equivalent savings were also worked out at various levels of fertility reduction by multiplying the expected number of births prevented to that of the total savings per birth, *i.e.,* expenditure on medical care per expectant mother during ante-natal, natal and post-natal stages (Rs.87.4) plus curative and preventive care from infancy to pre-school stages (Rs.77.9).

TABLE 2

ESTIMATED EXPENDITURE ON PREVENTIVE AND CURATIVE CARE PER CHILD FROM 0 TO 5 YEARS OP AGE

Age in years	Average number of illness per child	Estimated cost of medical care per year (in Rs.)				Total cost based on expenditure on actual survivors	Equivalent total value at the initial year*
		Preventive	Medical attendance	Drugs	Total		
0-1	4	4.40	8.00	8.71	21.11	19.78	15.90
1-2					28.93	25.84	21.35
2-3			6.00	15.91**	24.11	21.19	15.93
3-4	3	2.20			24.11	20.99	14.34
4-5					19.29	11.63	10.36
All		6.60			117.55	104.4 3	77.88

* During the year of pregnancy, ten per cent discount factor is taken into account for calculation. An expenditure of Rs.l9.29 during the 4th year is equivalent to an expenditure of Rs.10.36 during the 10th year and so on.
** The total expenditure is assumed to be in the ratio of 30: 25 : 25 : 20 during 1st through 4th year of age.

Table 3 provides data on expected benefits the management would have through various levels of contraceptive impact on fertility reduction at various levels of current fertility. For example, a study conducted in Indian Telephone Industries, Bangalore, by the Population Centre, revealed a GMFR of 200 per thousand currently married women. Assuming that the number of births prevented per year among them would be 20, 40, 60 and so on for the expected reduction in fertility at 10, 20 and 30 per cent levels etc. respectively; the benefit in terms of equivalent amount for the corresponding reduction in fertility would be Rs.3, 000, 6,600 and 9,900 etc. respectively.

TABLE 3

AMOUNT OF EXPECTED SAVING PER 1000 CURRENTLY HARRIED COUPLES BY LEVELS OF GENERAL MARITAL FERTILITY RATE (GMFR) AND EXPECTED PER CENT REDUCTION IN FERTILITY

Level of current GMFR per 1000 women	Expected per cent reduction in fertility assumed				
	10	20	30	40	50
	Rs.	Rs.	Rs.	Rs.	Rs.
300	4,950 (30)	9,900 (60)	14,850 (90)	19,800 (120)	24,750 (150)
280	4,620 (28)	9,240 (56)	13,860 (84)	18,480 (112)	23,100 (140)
260	4,290 (26)	8,580 (52)	12,870 (78)	17,160 (104)	21,450 (130)
240	3,960 (24)	7,920 (48)	11,880 (72)	15,840 (96)	19,800 (120)
220	3,630 (22)	7,260 (44)	10,890 (66)	14,520 (88)	18,150 (110)
200	3,300 (20)	6,600 (40)	9,900 (60)	13,200 (80)	16,500 (100)
180	2,970 (18)	5,940 (36)	8,910 (54)	11,880 (72)	14,850 (90)
160	2,640 (16)	5,280 C32)	7,920 (48)	10,560 (64)	13,200 (80)
140	2,310 (14)	4,620 (28)	6,930 (42)	9,240 (.56)	11,550 (70)

Figures in brackets indicate the estimated number of births likely to be saved.

On the whole, experience in selected industrial units in India showed ample evidence of potential reduction in fertility varying from 10 to 30 per cent with moderate family planning programme. Therefore, there seems to be the need to intensify the efforts in order to keep a sustained fertility reduction beyond 30 per cent. Assuming a resultant impact on fertility of 20 per cent reduction from its original level (assumed about 200 live births per 1000 currently married women), the monetary benefit to be derived by the management, say for an industrial community of 50 thousand workers, would be of the order of Rs.2.5 lakhs per year. Since the ESIC covers around 5 millions industrial workers throughout the country, the likely benefit to the Corporation per year would be of the order of Rs.25 millions provided the level of fertility reduction of 20 per cent is maintained. This clearly justifies the necessity of creating family planning cells in various regions of the country through ESIC to intensify the contraceptive programme among industrial workers along with existing medical and other welfare programmes. Such an effort would be beneficial not only to the Corporation by way of reducing the expenditure on medical care but would also contribute to the success of the country's population programme

Summary

It was estimated that on an average the Corporation spends Rs.87.4 per pregnant woman for ANC, natal and post natal services. The total expenditure incurred by the Corporation for preventive and curative care from infancy to pre-school stage (five year period) worked out to be Rs.104.4 per child which is equivalent to an expenditure of Rs.77.8 at the initial stage itself when the discount factor was also taken into account. Therefore, the net monetary gain to the Corporation by way of less expenditure on medical care would be about Rs.165 per pregnant woman for prevention of each pregnancy ending in live birth,

The expected monetary benefit the management would have through the various levels of contraceptive impact on fertility reduction at various levels of current fertility was also worked out. It was estimated that a programme with an impact of 20 per cent reduction in fertility would be giving a cost benefit of nearly Rs.7,000 per 1000 currently married couples. This is in addition to the benefits, the nation

would otherwise realize by way of reduced expenditure on various welfare programmes amounting to several thousands of rupees.

The ESIC covers over 5 million industrial workers in the country as a whole. This means that there would be nearly four million eligible couples. It is estimated that the total benefit expected by the Corporation for the country as a whole will be of the order of about Rs.25 million per year, if the fertility reduction is maintained at the level of 20 per cent. Such gains would further accelerate provided the fertility is further reduced.

Considering the above facts, the effective implementation of family planning programme among the industrial workers at national and regional levels through ESIC would not cost much compared to the ultimate multidimensional benefits which the Corporation, the management, the industrial community and above all the nation would have. Therefore, the authors visualize the ESIC as a backbone for strengthening the nation-wide family welfare planning programme and suggest for creation of separate family welfare planning cells through it to intensify the contraceptive programme among the industrial community.

Acknowledgements

The authors express their gratitude to Dr.K. Srinivasan, Director, IIPS, Bombay (formerly Director, Population Centre, Bangalore) for his professional encouragement and support. They also wish to thank Dr. P.H. Reddy, Assistant Director, Population Centre, and Bangalore for his editorial help; and not the least to the doctors and other staff of the ESIS Hospital, Rajaji Nagar, and Bangalore who extended their full cooperation.

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APPENDIX I

WORKED OUT COST PER AND CHECK-UP

Particulars	Doctor	Para-medical
Total approximate monthly salary (in Rs.)	1,626.00	520.00
Effective time spent per day (in hours)	4	4
Total time available per month (in hours)	26 x 4	26 x 4
Cost per hour (in Rs.)	16.53	5.00
Time required per ANC check-up (in minutes)	6	15
Cost per ANC check-up (in Rs.)	1.56	1.25
Cost of chemicals for investigation (in Rs.)		0.13
Total cost per ANC check-up (in Rs.)		2.94

APPENDIX II

WORKED OUT COST OF DRUGS PER ANTE-NATAL AND POST-NATAL CARE

Name of the drugs	Quantity required	Unit cost (in Rs.)	Per cent of cases required	Cost per ANC (in Rs.)
ANC				
Folic acid and ferrous sulphat tablets	100	28.0/100	100	2.80
Injections (Inferron)	10	7.47/10	20	1.50
T.T. injection	2	0.68/2	100	0.68
Calcium preparation for 5 months	100	0.64/100	25	0.16
Antibiotics capsules (Terracyclene) 250 mg.	20	6.70/20	5	0.34
Vit. B Complex and multivlte	100	3.70/100	100	3.70
Analgesics (tablets)	10	0.90/10	25	0.22
Antiemetics (tablets)	30	5.55/30	25	1.39
Antacids (tablets)	30	0.75/30	10	0.08
Diuritics (tablets)	5	1.75/5	10	0.18
Total				11.05

PNC

Inferron injections	10	7.47/10	10	0.75
Iron and folic acid tablets	30	28.0/1000	10	0.08
Total				0.83
Grand Total				11.88

APPENDIX III

WORKED OUT COST OF MEDICINE FOR PREVENTIVE AND CURATIVE CARE DURING INFANT AND PRE-SCHOOL STAGES

Type of illness	Rate of illness per 1000 per year	Cost of medicine per case (in Rs.)	Cost per child (including all) (in Rs.)
INFANT			
Ictprus (Janudice)	75	29.85	0.22
Umbilical sepsis	250	3.66	0.92
Diarrhoea and Gastroenterities	500	15.14	7.57
		Total	8.71
PRE-SCHOOL			
Measles	250	6.23	1.56
URI	500	1.92	0.96
UTI (Urinary track injection)	25	12.44	0.31
Malnutrition	100	37.43	3.74
Gastroenterities	200	15.14	3.03
Pertusis	200	13.90	2.78
Discharge from year	50	21.16	1.06
Cold and URI	200	9.52	1.90
Mumps	20	11.75	0.24
Conjunctivities	100	2.26	0.23
Abscess	15	6.50	0.10
Scabies	100	11.32	1.13
		Total	15.91
PREVENTIVE CARE			
Infant			
BCG and Smallpox			0.40
DPT and Polio (3 doses)			4.00
Pre-school			
Booster dose (DPT and Polio)			2.00
Revaccination			0.20
		Total	6.60
		Grand Total	31.22

Health and Population - Perspectives & Issues 2(3):205-219, 1978

INFORMATIONAL AND DOCUMENTATIONAL NEEDS FOR MOTIVATION, EDUCATION, AND COMMUNICATION ASPECTS OF HEALTH AND FAMILY WELFARE**

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ABSTRACT

In this paper, an attempt has been made to examine and outline different kinds of people in Health and Family Welfare who need information, the different kinds of information that they may need, the different sources of information available, and .the different purposes for which they need information in relation to motivational, communicational, and educational aspects of health and family welfare. An attempt has also been made to present some general principles for presenting, organizing, and managing this information.

Information serves several purposes. It may serve different purposes for different kinds of people. In health and family welfare, it helps basically in decision-making. Certain kinds of information may help people in a village to decide whether to adopt any family planning practice or not, to select most appropriate method for them and to take some preventive steps in an epidemy hit area. Information may also have a motivational value and thus it may drive a person to take a quick decision besides helping him to make a correct decision. Information also helps different categories of people. Everyone needs information - family planning workers, health workers, officers, medical personnel, researchers, teachers, etc.

Information Categories in Motivation, Education and Communication

For convenience, information under motivation, educa-

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***Adapted from the key-note paper presented at the National Workshop on Documentation in the Field of Health and Family Welfare, November 1977 held at New Delhi,*

tion, and communication may be sub-divided into several categories. They are as under:

Motivation

Information in the area of motivation relevant to health and family welfare may be classified as follows.

*An understanding of motives in human behavior** Information in this category aims at increasing the understanding of the receiver about human motives, their nature, their operation etc.

Adoption behavior: Information in this category aims at increasing the understanding of the receiver about the adoption process behavior of people like adoption of ideas and family planning practices and various stages thereof.

Techniques of influencing and motivating people: This information aims at equipping the family welfare and health employees with techniques of motivating or moving people towards adoption of desired health and welfare practices. Information on this dimension deals, for example, with the techniques, strategies or methods that can effectively be used to motivate people at different stages of adoption to move forward.

Employee's motivation or work-motivation: Information on these dimensions would aim at helping the officers in any supervisory roles to motivate their employees better and create conditions for work-motivation. It also aims at designing policies with appropriate reward or incentive systems which may encourage employees to put forth the best in their jobs.

Education

Information relating to educational aspects can be dealt with as under.

Population education: Information in this category includes all content related information on population (such as the population problem, economic aspects of population growth, effects of family size on health and welfare of family, sex education, contraceptive methods, etc.). Pro-

gramme related information (availability of educational materials, contraceptives, population programme facilities, etc.) and methodology of imparting population education (including techniques of presenting information to people, availability of teaching materials, development of teaching aids, etc.). This information primarily aims at equipping the field worker to impart population education.

Information relating to health education: Information in this category includes all the:

i. health education content;

ii. Methodology of health education; and

iii. Methods of communicating health education related concepts to various groups of people.

This information aims at equipping the field workers to actually impart health education.

Information relating to developmental activities: Information in this category includes:

i. The various developmental measures taken by Government or other agencies for rural development or the development of various communities, special groups, etc.

ii. Specific Information about concessions available for villagers, backward communities and special groups declared from time to time.

iii. Rights and duties of various officers and when to approach whom for day-to-day needs of villagers.

This information aims at equipping the field worker with knowledge of the various developmental programmes with the help of which he/she can help the people in the villages and thus establish his/her credibility besides helping the Government.

Fertility population methods: Information on this area should deal with subjects like the different methods of fertility regulation, their uses and abuses, their effective-

ness, side effects, precautions, availability, administration, doubts people have about them, care to be taken, rumors and the basis of these rumors, new methods being experimented, results of these experiments, practices of these methods in different areas by different categories of people, recommendations by doctors and guidance for clients. This information should be of help to all field workers including the doctors so that they are well equipped to guide and help the clients.

Family welfare planning: This information aims at equipping a field worker to help people plan their family welfare. This may also be directly used by people for their family welfare.

Continuing education: The information on this area would be different for different categories of employees. The aim is to update each category of worker *i.e.* Medical Officers, BEE etc. in his/her area of technical knowledge and competence.

Administrative practices and management education: Information on this aims at equipping managers and administrators of health and family welfare programmes with advanced techniques of management so that they can manage their programmes, organisations, and people better. The related areas are personnel management, manpower planning, human resources development, information systems, budget planning, record maintenance, materials management etc. etc. It also helps the planners and policy makers to be innovative and learn from the experiences of others.

Education methods: The aim of this information is to equip the field workers with methods of educating people. They also aim at equipping trainers of the health and welfare employees in training methodology.

Communication

Information relating to communication could be viewed under the following categories.

Interpersonal communications: Information in this category aims at equipping the field workers with techniques of communicating effectively with the clients. Topics

covered may include person-to-person communication, lectures, demonstration, etc. methods, group discussions, hope and fear arousal techniques etc.

Mass communication: Information in this category aims at equipping those concerned with designing and implementing any communication programmes for masses (like TV organizers, programmer producers, etc.) to plan and organize their programmes for effectiveness. The topics covered may include: nature of communication process, channels of communication, strategies of communicating with clients, listening habits of people, reading habits, mass communication, advertising strategies, hope and fear arousal techniques, principles and techniques of effective communication, etc.

Organizational communication: Information relating to this category should aim at equipping the administrators and managers of health and family welfare programmes and organisations with techniques of communicating with their employees so that the communicating is effective and leads to organizational effectiveness. The topics in this area may include one-way or two-way communication, channels of organizational communication, written communication, verbal and non-verbal communication, effectiveness of orders, maintaining information, uses of communication, upward and downward communication, communication strategies for organizational effectiveness, etc.

Categories of People Needing Information in Health and Family Welfare

There are various categories of people that need information relating to health and family welfare. A brief classification of these people from the point of view of their information needs is described below.

People in general: The first category of people who need information is peopling themselves *i.e.,* the masses. Everyone in this category needs to have basic knowledge about health and family welfare. Knowledge or awareness is the first step in adopting innovation or maintaining a healthy and a welfare state of being. People can be classified on various dimensions in relation to their information needs, information acquisition capabilities, information acquisition modalities, etc. They may be classified on the basis of their age, caste

group, education, place of living (urban-rural, etc.), economic status, and other demographic variables. Researchers have shown that these variables play a great role in relation to the use of health and family welfare practices.

Field level paramedical workers: These workers include all those who are in direct contact with the masses for health and family welfare work.. They include workers like ANMs, BEEs, FPHAs, HAs, SIs, His, Nurses in the hospitals and other paramedical staff.

Non-medical field workers: With the realization that health and family welfare are integral parts of development, several other categories of workers are being called upon from other departments to take active part, such as BDOs, VLWs, Extension Education Workers, teachers, etc. etc. These categories of people need information that should be passed on to people and also should know the mechanism of passing this information to them.

Medical practitioners who deal with people: This category includes all the medical practitioners who deal directly with people and provide services to them. They include PHC level doctors, clinicians in the hospitals, private practitioners, doctors employed by voluntary agencies etc.

Medical officers at the PHC-level having administrative responsibilities: Although this category is covered as clinicians, their information requirements as clinicians are different than their requirements as clinic managers. As this category is very vast in our country they deserve special attention. They also perform very critical roles.

Officers in the area of health and family planning: The officers in this area include the district level officers, (DMOs, CMOs, Dy. CMOs), Directors, Joint Directors and State level officers, officers in the city areas in charge of bureaus, and all such officers who have near or distant control over the field level workers and have administrative responsibilities for supervising and managing these workers.

Trainers: There are several institutions that are involved in training different types of workers. The trainees in these institutions should be equipped in relation to the

information that is being passed on to some of the above categories of workers. Therefore, as far as possible the information that reaches the above categories of workers should also reach the trainers of these workers and officers. The workers in this category include trainers from RFPTCs, ANM training centers, training colleges, and other such institutions.

Teachers in medical colleges: Teachers in medical colleges play a great role in socializing the medical students who are, in turn, carriers of information to the Clients after they graduate. Therefore, the teachers of medical colleges should be prepared to provide the necessary instruction to the medical students.

Researchers: There are several researches continuously going on in the area of motivation, education and communication. There are also researches on community sciences, educational technology, etc. These researches are done by universities, national, and regional institutions, specialized research centers and other voluntary organisations. In order to do research that is of use to the client groups mentioned above; the researcher should know the problems of the various activities that are going on in the different parts of the country. Thus there is a communication requirement between the researchers and the users.

Workers covered under this category include all behavioral science researchers working in institutions like the above, communication researchers, researchers in the area of educational methods, adult education, community behavior, rural development, etc. areas. The researchers also include doctoral students and students working for their diploma, theses, etc.

Information Needs of Different Categories of Workers

As stated earlier, different categories of people need different types of information. The purpose for which this information may be used and the level of sophistication which can be comprehended by them differs. However, some possible information needs to the different categories of workers discussed above are presented in Table 1. Thus, while in communication, mass-communication techniques may be useful to all categories of workers, they are critical to those

TABLE 1

BROAD CLASSIFICATION OF INFORMATIONAL NEEDS OF HEALTH AND FAMILY WELFARE WORKERS IN RELATION TO MOTIVATION, EDUCATION AND COMMUNICATION

Informational need area	Category of workers@ 1	2	3	4	5	6	7	8	9
Motivation									
Motives in human behaviour	-	**	**	*	*	*	**	*	**
Adoption behaviour	-	**	**	*	*	*	**	*	**
Motivation techniques	-	**	**	*	*	*	**	*	*
Employee motivation	-	-	-	-	**	**	**	-	**
Education									
Population education	*	**	**	*	*	-	**	-	*
Health education	*	**	**	*	*	-	**	-	*
Development	*	**	*	*	*	*	**	-	*
Fertility regulation methods	*	**	*	**	*	**	**	**	**
Family welfare planning	*	**	*	*	*	-	**	-	*
Continuing education	-	**	*	**	**	**	**	-	*
Managerial practices	-	-	-	-	*	**	**	-	*
Education methods	-	**	**	*	*	-	**	*	*
Communication									
Interpersonal communication with clients	-	**	**	*	**	-	**	*	*
Mass communication	-	*	*	-	*	**	**	-	-
Organisational communication	-	-	-	*	**	**	**	-	*

*indicates an informational need in that area for that category of workers

**indicates it as important

@ 1 = People in general; 2 = Paramedical field workers; 3 = Non-medical field workers; 4 = Medical practitioners; 5 = Clinic level medical managers; 6 = Officers; 7 = Trainers; 8 = Teachers in medical colleges; and 9 = Researchers

officers who are in charge of designing mass-communication programmes, organizing campaigns, and using mass media for the promotion of health and family welfare practices.

Similarly, the table indicates that while an understanding of the dynamics of human motivation, adoption process behavior and techniques of motivating people may be useful to all categories of workers they are of critical value to those who actually interact with people (categories 2 and 3) and those who train such workers. Researchers should also have information so that they can improve upon the existing knowledge in any area. Similarly information on employee's motivation is critical to all those involved in supervisory positions and have to manage employees. Trainers are one category who should have all types of information.

The informational needs indicated in Table 1 are based on utilitarian criteria and only reflect the author's opinions. In fact, a research study to ascertain the critical and preferred informational needs of different categories of employees on random samples may help any central documentation agency immensely in designing a strategy of information supply.

It may be noted that although the type of information needed by different categories of workers may be same, the level of sophistication at which they can receive this is likely to be different. Any organizer or disseminator of such information should take into account the differences. Available knowledge from educational psychology on the comprehensive capabilities of people may be utilized while transmitting information. If the available knowledge is inadequate, it may be worthwhile finding out the level of sophistication of concepts which the workers of different educational socioeconomic, etc. backgrounds can receive.

Sources of Information

The information in each area may be conceived of at two levels: basic and advanced. The basic level information is that which is fundamental to that area, tested out, scientifically accepted and is text book like. These may be concepts, theories, observations and factors. For example, in the area of employee motivation basic information may deal with topics like the need for security, economic motivation,

need for affiliation, etc. Harzberg's concepts of Hygienes and Motivators, how to make work more interesting for employees, etc

The advanced information may be that which is based on current researches, current experiences, innovative ideas and experiments, etc. Such advanced level information is generally available from research journals. For example, if collective decision making at PHC level is used as mechanism of gaining increased employee commitment in a PHC, then sharing these details with other officers through special articles is providing, advanced information.

To cite an example, basic materials, text books, self-instructional materials etc. available on topics like reproductive processes, rhythm method, condom, IUCD, sterilization, pills, etc, are basic information materials in the area of fertility regulation methods. Results of researches on new contraceptives developed, Ayurvedic pill, side-effects of a particular pill in a particular area, incidence of side-effects in relation to a particular method in a given area during certain period of time, etc. fall under the category of advanced information.

Basic information in different areas is available from the respective discipline bases through text books. However, in many cases this information is not in the form that it could be presented straight to the workers. The existing information in the discipline based text books is more academic in nature, and is meant for students of those disciplines. There is a great need to simplify these materials and re-write them orienting them towards, the needs of the respective categories of workers. There is also need to prepare these materials in regional languages.

Advanced information is available from journals. Relevant information published in these journals needs to be processed further by the documentation centre and transmitted to the workers through appropriate channels.

Motivation In the area of motivation, there are special books in psychology that provide an understanding of human motivation. However, these books are not geared towards an understanding of motivation of rural people. There have been a few researches conducted on rural behavior, aspirations -

and apprehensions of rural people, etc. These are available from the disciplines of Psychology, Sociology, Community Development, etc. Survey conducted by the Indian Council of Social Science Research of research in various disciplines provides this information. There is a need to integrate all these and write brief self-instructional or simple text book materials on human motivation for various categories of workers outlined in Table 1. Compiling these relevant researches and making the bibliographies available may also help the researcher to plan and conduct future researches.

For adoption process models, agricultural extension provides a good amount of literature. The book by Rogers and Shoemaker, works like the one by Pareek and Singh and Bhatnagar present such models. A detailed bibliography on agricultural extension has been presented by Singh, Pareek, and Arora. These need to be re-written for the different workers in simplified language.

In relation to employee motivation also there are basic books and articles in management sciences. Recent attempts at presenting such material through cases and self-learning books have been made by Korten and Korten and Rao and Satia. These types of basic material may be useful if further work is done to improve on these types of materials.

Education Basic materials on Population Education and Health Education are already available from the efforts made by agencies like UNESCO which has published population education kits, NCERT, CHEB, etc. However, there is probably no such booklet on development education available. The development education should deal with developmental schemes of the government, agricultural loans, fertilizers, land laws, taxation systems etc. as required by rural people. In order to establish credibility, health workers should be able to answer the queries raised by villagers in relation to their daily needs. Generally, their queries center round topics like the above. The workers, therefore, should be equipped with this information. In the rest of the areas of education (except continuing education) also there is a need for such basic materials. In continuing education there may be no basic books as it is generally advanced level and is based on new discoveries.

Communication In the areas of interpersonal communication

tion and organizational communication there is a need to prepare basic books. For mass communication the inputs provided by the Indian Institute of Mass Communication and the experiences gained through SITE programmes are likely to be useful.

Same Points for Organizing and Disseminating Information

The following are some points that should be kept in mind while disseminating information to different categories of workers.

1. Information should continuously flow to the masses so that they are enabled to make wise decisions in relation to their health and family welfare activities.

2. Since the health and family welfare workers like MOs, ANMs, FPHAs, HIs, SIs, etc. are in direct contact with masses and they are the main disseminators of information, the information should reach to them all.

3. Information of experiences relating to the innovative management of workers, staff, etc. should reach all officers.

4. Wherever possible, to avoid delays, information should reach all the people concerned at the same time and should not pass through hierarchy.

5. Information should not only be educative about new issues, methods, technology, etc. and directed towards workers, but it should be educative to researchers, communicating field level problems so that their researches are more usable, and practical.

6. Any information dissemination should give an opportunity for people to express their doubts, ask questions, seek clarifications, etc. and it should clarify beliefs that exist in different communities.

7. Information should have a general component as well as a specific component. The general component should

aim at everyone in the population or category of workers. The specific component could aim at specific segments of the population.

8. It should be presented in simple language and should be understandable even by persons with low educational standards.

9. It should be designed and presented by using principles of learning. Information that is imposed on people may have negative values. Instead, people should be helped to seek information. It is possible through built-in devises to motivate the readers. Self-tastes, stories, reports of rare events etc. are some mechanisms of keeping people interested.

Role of National Documentation Centre

In the areas of motivation, education and communication there are no bulletins that reach all categories of workers and particularly those at the field level. Therefore, there is a need to start a bulletin or a newsletter that reaches every field-worker. In this context an excellent example is the publications of the Rajasthan State Department of Education. Their monthly journal *Sivira* gives news about all new developments in education, methods of teaching, educational administration, innovations, curricula etc. and reaches almost every school teacher in Rajasthan. Innovative experiments and experiences of innovative teachers are published. Thus, teachers of Rajasthan are very much up to— date in educational matters. Their journal *Teacher Today* reaches almost every headmaster and many teachers in Rajasthan have acquired a national value. A similar information service to the field workers may go a long way in helping them.

Such a bulletin or newsletter could be published by the National Documentation Centre. This may be translated by regional centers into regional languages. It should reach every field worker of health and family planning. This should also reach other categories of workers in development education etc. departments so that people possess enough knowledge about health and family welfare and the scope for rumors in family planning reduced.

Such a bulletin or newsletter should be simple in language, should report any research results that are comprehensible by field workers with as low as education background as possible. It should also provide an opportunity to field workers to express their problems at the field level.

An important aspect to be remembered in this context is the value of freedom of expression. A danger of such a periodical being organized by the government departments is to inhibit freedom of expression. This is done by procedures that insist employees writing or contributing to such periodicals that they should send their writings after due approval of their superiors or through proper channel. Such a requirement can kill all creative expression and sharing of worthwhile experiences and build frustration. Therefore, such a periodical should ensure that the State Government should allow any employee to directly send their contributions to the editor. It should ensure that materials published in this area used for productive purposes than for nonproductive purposes like taking disciplinary action on those expressing their experiences and frustrations freely.

The information published in the periodical may deal with innovative methods used by workers, new developments in contraceptive methodology, case-histories of people with good health and family welfare behavior patterns, interviews with effective workers, advice to clients or patients, answering questions by workers, etc. Such an information service is likely to go a long way in helping workers to be effective.

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Health and Population
- Perspectives & Issues 1(3):220-229, 1978

STUDY OF SOME ASPECTS OF ADMINISTRATION OF MEDICAL EDUCATION IN INDIA

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ABSTRACT

A study was carried out during the period 1976-1977 to find out some of the aspects in administrative set up of different medical colleges, namely, admission capacity, procedure of admissions, system of examinations, staffing pattern of departments with designations and pay scales of the medical teachers and experience and qualifications required of teachers at the time of appointment.

Information was received from 30 medical colleges. The most characteristic finding of the study is that no uniformity is maintained in any one sphere of the administrative set up in medical colleges run by two different States or administrative organisations. The differences are more striking in admission procedures, designations, pay structure of the medical teachers, provision of non-practicing allowance and marks allotted for different subjects in examinations. A uniform system of administration of medical education on the pattern of University Grants Commission has been suggested.

There were 27 medical colleges in India at the time of Independence. The Bhore Committee recommended 55 medical colleges, and later on the Mudaliar Committee recommended one medical college for every 5 million population l,2. Today, we have 107 medical colleges in the country and about 13,000 medical students graduate every year. Majority of the medical colleges are administered by State Governments. Only four medical colleges are administered by the Central Government,

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three by the University Grants Commission and about 13 by private agencies.

The Medical Council of India has laid down some minimum requirements regarding the administration of the medical college. These relate to the staffing pattern, syllabus, bed strength of the attached medical college hospitals and facilities in regard to the library, laboratories, students hostel, and residential accommodation for staff, as also the pay scales of the teachers of the medical colleges. These have been stipulated with a view to achieve uniformity in the functioning of different medical colleges and to maintain uniform standard of medical education in the country.

The Study

Keeping in view of the above, a study to find out some aspects in the administrative set-up of different medical colleges was taken up by the author at the University College of Medical Sciences, New Delhi. A set of questionnaire was sent to the Principals/Deans of all the medical colleges and the post-graduate medical institutions in May, 1976, followed by a reminder to medical colleges who did not respond to the initial request. At the end of six months, 30 medical colleges including post-graduate institutions representing 16 different States/organisations administering the medical colleges replied. Some of the findings are also taken from the data collected by the author from his previous study entitled "Profile of Rural Field Practice Areas Attached to Medical Colleges in India"[5].

Observations

Admissions in the medical colleges vary between 50 and 250. About 25 per cent of the medical colleges admit 75 and a lesser number of students, 25 per cent admit 150 and more and, the remaining 50 per cent admit between 76 and 149 students. The criteria for admissions in the medical colleges differ from State to State. In some States these are based on merit in the entrance examination, in others on the basis of combination of both merit in entrance examination and interview, while in some others it is based totally on capitation fees with merit in the qualifying examination. The pre-qualifying examination before admission to M.B.B.S. in

most of the States is after 12 years of education (Pre-medical/Intermediate/B.Sc. 1st year etc.), while in some States (Andhra Pradesh, Tamil Nadu, Assam) the admission is made after 11 years of initial education.

Duration of teaching for different subjects varies from one college to another. Subjects like Anatomy, Physiology and Bio-chemistry are taught for different durations *(i.e.* 1-1/2 years to 2 years) in different medical colleges. In some medical colleges, subjects like Bio-chemistry and Microbiology are taught separately. For this purpose separate examinations are held, while in others, these subjects are coupled with Physiology and Pathology respectively. Marks allotted for different subjects also vary between 100-400 in different medical colleges.

The staffing pattern of different departments of the medical colleges varies and does not adhere to the recommendations of the Medical Council of India. However, the qualifications and experience required for the appointment of different categories of teachers in medical colleges in all the States conform to the recommendations of the Medical Council of India *i.e.* all teachers from lecturers upwards have post-graduate qualifications in their subject specialty.

As shown in Table 1, no two States have similar scales of pay and non-practicing allowance for teachers of the medical colleges. Further, the pay scales and non-practicing allowance of teachers differ even within the same State when the colleges are administered by different authorities. For example, in Greater Bombay, pay scales of teachers of Government medical colleges are different than those administered by the Municipal Corporation. A lecturer in Maharashtra is appointed on a pay scale of Rs.325-850 which is much below the pay scales offered to fresh medical graduates in some other States. In Delhi, there are three different sets of pay scales for the teachers of four medical colleges and a lecturer in one of these colleges gets Rs.850 p.m. basic pay while his/her counterpart in the other three colleges gets Rs.1,400 p.m. This difference in the pay scales and non-practicing allowance of the medical teachers in different parts of the country does not seem rational as the subjects taught in all the medical colleges are strictly the same with similar contents. There is, therefore, no justification for

TABLE 1

DISTRIBUTION OF MEDICAL COLLEGES (STATES) ACCORDING TO SCALES OF PAY AND NPA AND DESIGNATIONS OF THE TEACHERS OF THE MEDICAL COLLEGES

S. No.	Name of the States	Number of medical colleges	Professor		Associate Prof.		Reader		Asstt. Prof.		Lecturer		Demonstrator		Remarks
			B.P.	N.P.A.	B.P.	N.P.A.	B.P.	N.P.A.	B.P.	N.P.A.	B.P.	N.P.A.	B.P.	N.P.A.	
1.	Assam	3 (Govt.)	1300-1800	200.00	1150-1675	200.00	Post does not exist		900-1525	150.00	Post does not exist		500-1225	125.00	NPA is only for non-clinical teachers. PP is allowed to Clinical teachers.
2.	Andhra Pradesh	3 (Govt.)	1000-1350	100.00	1000-1350	100.00	Post does not exist		600-1100	125.00	Post does not exist		600-1100	125.00	Practice allowed for clinical teachers. NPA to non-clinical. Rs.30.00 p.m. as teaching allowance.
3.	Bihar	1 (Pvt.)	1300-2000	Nil	1000-1500	Nil	Post does not exist		700-1200	Nil	Post does not exist		550-1000	Nil	No NPA is given. PP is allowed to all teachers.
4.	Gujarat	1 (Govt.)	1600-2000	Nil*	Post does not exist		Post does not exist		900-1500	Nil*	Post does not exist		700-1300	Nil*	*Information is not provided. PP is not allowed.
5.	Himachal Pradesh	1 (Govt.)	1300-1800	600.00	900-1300 + 100 sp. pay	50% of pay	Post does not exist		900-1300	50% of pay	Post does not exist		350-900	50% of pay	NPA maximum Rs.600 p.m.
6.	Jammu & Kashmir	1 (Govt.)	1500-1900	400.00	1000-1500	200.00	Post does not exist		750-1350	200.00	650-1000	150.00	540-950	100.00	PP is allowed to clinical teachers. NPA to non-clinical teachers.

Continued.

7. Kerala	1 (Govt.)	1050-1550	300.00	950-1450	265.00	Post does not exist		710-1200	225.00	510-995	Nil	510-995	150.00	PP allowed to Clinical Teachers. NPA to only non-clinical teachers.
8. Madhya Pradesh	1 (Govt.)	1000-1500	600.00	Post does not exist		720-1250	450.00	Post does not exist		500-1150	300.00	425-900	25% of pay	PP or NPA is optional.
9. Karnataka	1 (Govt.)	1300-1900	Nil*	Post does not exist		Post does not exist		1000-1825	Nil*	Post does not exist		900-1750	Nil*	*PP not allowed, no information of NPA.
	1 (Pvt.)	1500-2000	33-1/3%	1100-1600	33-1/3%	Post does not exist		800-1150	33-1/3%	Post does not exist		325-475	33-1/3%	Maximum NPA Rs.600 p.m.
10. Orissa	1 (Govt.)	1300-1800	Nil	1000-1530	Nil	Post does not exist		1000-1530	Nil	Post does not exist		525-1150	Nil	Plus increments and special pay of Rs.200 p.m. to non-clinical teachers. PP is is allowed to all.
11. Rajasthan	2 (Govt.)	1700-2000	400.00	Post does not exist		1250-1700	360.00	Post does not exist		1000-1600	250.00	750-1350	250.00	PP allowed through Pay Clinics after hospital hours.
12. Maharashtra	1 (Govt.)	1100-1450	40%	650-1200	40%	560-1010	40%	Post does not exist		325-880	40%	Post does not exist		NPA maximum Rs.600 p.m.
	2 (MC)	1200-1650	33-1/3%	900-1450	33-1/3%	750-1330	Nil	750-1350	33-1/3%	340-600	33-1/3%	280-525	33-1/3%	Maximum NPA is not mentioned.
	1 (Pvt.)	1100-1450	40%	650-1200	40%	560-1010	40%	Post does not exist		325-880	40%	625 as stipend		
13. Tamil Nadu	2 (Govt.)	800-1250(cl.)	100.00	Post does not exist		800-1250(cl.)	100.00	525-900(cl.)	75.00	Post does not exist		525-900(cl.)	75.00	PP allowed for clinical teachers.
		900-1300(non-clinical)	300.00	Post does not exist		900-1300(non-clinical)	300.00	575-1000(non-clinical)	100.00	Post does not exist		575-1000(non-clinical)	100.00	PP allowed for clinical teachers.
	1 (Pvt.)	1300-1900	Nil*	1200-1900	Nil*	1000-1600	Nil*	Post does not exist		650-1010	Nil*	450-800	Nil*	*NPA not mentioned. PP not allowed.

14. Centre	2	1800-2250	600.00	1100-1800 + Rs.200 teaching allowance	300-500	Post does not exist	1100-1800 + Rs.100 teaching allowance	300-500	1100-1800	300-500	650-710	150.00	
15. U.G.C.	1	1500-2500	500.00	Post does not exist		1200-1900	250.00	Post does not exist	700-1600	150.00	650-710*	150.00	* Plus Rs.100 for post-graduate allowance for demonstrators only.
16. Autonomous Bodies	1	2400-3000	Nil	2000-2525	Nil	Post does not exist		1700-2060	Nil	1400-1760	Nil	650-710	150.00	NPA is included in basic pay
	1	1800-2250	600.00	1100-1800	300-500	Post does not exist		1100-1800	300-500	Post does not exist		Post does not exist		

NOTE: BP = Basic Pay
NPA = Non-practising allowance
PP = Private practice
Govt. = Centre/State Government

at least the basic pay scales and non-practicing allowance to differ from one medical college to another. However, other allowances could differ based on some other national criteria.

The designations of different categories of teachers in different medical colleges are not the same. The most common set of designations used in medical colleges is that of Professor, Associate Professor, Assistant Professor and Lecturer (4-tier system), while in a few States namely, Madhya Pradesh, Rajasthan and University Grants Commission governed medical colleges, the set of designations used is that of Professor, Reader and Lecturer (3-tier system).

Private practice is permitted to teachers of only clinical subjects in some States. These are Assam, Andhra Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Orissa, Rajasthan and Tamil Nadu. In other States, namely, Gujarat, Himachal Pradesh, Karnataka, Maharashtra and medical colleges governed by University Grants Commission, Central Government and different autonomous bodies, private practice is not allowed to medical teachers.

Suggestions

It is essentially important that uniformity in every spheres of management of the medical colleges, especially in respect of admissions, syllabi, staffing pattern, duration of each subject taught, appointment of teachers and their pay scales and designations etc., is maintained. This can be achieved either by putting all the medical colleges under the control of one administrative authority, say the Central Government or by having one central organization of the type of University Grants Commission which could be named as All India Medical Education Organization (AIMEO). All the medical colleges in different States or under different administrative authorities should strictly adhere to the uniform policy of such an organization. The second alternative is suggested so that medical education and medical care could continue as the State subject as laid down in the Constitution of our country.

Functions of AIMEO The main function of this organization shall be to maintain uniformity in all the medical colleges in the country in different spheres of administration

of medical education i.e. centralized admissions for the under-graduate and post-graduate courses based on population of the State/region; uniform methods for admission based on either written test or merit in the pre-qualifying examinations; different subjects taught, their contents, duration of teaching and marks allotted in the examinations; number of admissions in each medical college depending upon the facilities available; system of examinations and staffing pattern of different departments in the medical colleges and the like.

TABLE 2

DISTRIBUTION OF MEDICAL COLLEGES AND STATES IN SIX DIFFERENT REGIONS IN THE COUNTRY

SI. No.	Regions	Names of the States (in bracket No. of medical colleges)	Total number of medical colleges
1.	Northern Region	Jammu & Kashmir (2) Punjab (5) Himachal Pradesh (l) Delhi (4) Haryana (1)	13
2.	Central Region	Madhya Pradesh (6) Uttar Pradesh (9)	15
3.	Eastern Region	Assam (3) Bihar (8) Manipur (1) Orissa (3) Vest Bengal (7)	22
4.	Western Region	Gujarat (5) Maharashtra (12) Rajasthan (5) Goa (1)	23
5.	South Central Region	Andhra Pradesh (8) Karnnatka (12)	20
6.	South Down Region	Kerala (4) Tamil Nadu (9) Pondicherry (1)	14

This body can award its own degrees of M.B.B.S. and M.Ds. Instead of attaching different medical colleges to different, universities, thereby avoiding variations in the standard of medical education in the country A uniform set of designations of the medical teachers; could be evolved by this body throughout the; country. A four-tier system of designations, i.e., Professor, Associate Professor, Assistant Professor- and. Lecturer-, would be" better than a three-tier system of; Professor; Reader and Lecturer*. .It can also arrange for transfers of teachers from one medical college to another within the State/region either on promotion or on mutual requests.

A separate cadre of medical teachers can also be developed. This will provide uniform facilities for departmental promotions to the medical teachers. Private practice should not be allowed to any category of the teachers whether clinical or non-clinical; instead non-practicing allowance be given to them.

There should be one" running pay scale for both clinical and non-clinical, medical and non-medical (except the difference of non-practicing allowance in the case of nonmedical) teachers throughout the country. Suggested pay scales and scale of non-practicing allowance for different categories of teachers are:

i.	Lecturer	Rsvll00-40-1300-50-1550-60-1850 -75-2150-100-2550-125/2-2925 + N.P.M.A. @ Rs.300 p.m.
ii.	Asst. Professor	Rs.1300-50-1550-60-1850-75-2150 -100-2550-125/2-2925+N.P.A. @
iii.	Associate Professor	Rs.1550-60-1850-75-2150-100- 2550-125/2-2925+ N.P.A @ Rs.500 p.m
iv.	Professor	Rs. 1850-75-2150-100-2550-125/2- *2925* + N.P.A @ Rs.600 p.m
v.	Principals Asst. Director (Med. Edu.)	Rs.2150-100-2550-125/2-2925 + N.P.A @ Rs.600 p.m.

vi.	Regional Directors or D.D.G. (Med. Edu.)	Rs.2550-125/2-2925 +" N.P.A. @ Rs.600 p.m.
vii.	Director General AIMEO	Rs.3500 p.m. Fixed + N.P.A. @ Rs.600 p.m.

Organization of AIMEO It should be headed by a Director General/Secretary General assisted by different Deputy Director Generals/Deputy Secretary Generals at the headquarters and at different regions.

It should have six regions as shown in Table 2. Each region should be headed by a Deputy "Director General/Deputy Secretary General to exercise control on medical colleges in the region;'

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Health and Population
- Perspectives & Issues 1(3):230-242, 1978

INTEGRATION OF HEALTH EDUCATION AND MEDICAL CARE

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ABSTRACT

Method and mode of delivering health education has been a lively issue. Some experts feel that health education efforts are most effective when integrated with medical care services, while others feel that it should be a separate activity. Though this issue is crucial for the practice of health education, yet little substantial work has been done in this direction. An attempt has been made in this paper to study as to how far health education is being conducted in study hospitals and to what extent health education is being imparted with medical care. In all 356 patients and 229 workers attached to two teaching hospitals and two health centers formed the effective sample. The data so collected and analyzed show that 49 per cent workers felt that health education could be best rendered, if integrated with medical care services. Further, an analysis of the content of communication between workers and patients indicated that most of the communication was instructional, directional, and routine in nature and was individually motivated in an unplanned manner. The study indicates that better integration of both (health education and medical care) can be achieved by strengthening the workers ' training in health education.

Health education is now recognized as an important component in providing quality medical care. The quality of medical care can certainly be enriched by inclusion of an element of health education, though its method of implementation may be subject of controversy. Health \education can be

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Integrated with medical care or it can be organized as a separate activity. The advantages of integrating health education with medical care are many. According to Amy M. Illiot some of the advantages of such an integration are: (i) Increase in effectiveness of both health education and health services; (ii) Receptiveness of the individual receiving the health services to new information at that moment and ready acceptance of information/education from the person delivering services; and (iii) Providing of opportunities for continuous education and evaluation. The frequent contacts between the services given and the patient-provide sufficient opportunities for repetition and reinforcement of educational components.

Psychologically, a ready captive audience provides a multitude of opportunities for patient-worker interaction. The fact that several opportunities are available in hospitals has been recognized by several authorities2. In spite of such an appreciation, little substantial work has been done in the direction of integrating health education with medical care. This necessitates careful examination of the scope for integration of health education and medical care.

Few systematic efforts have been made to study how far health education is being conducted in the hospitals and what scope it has in the modern medical care system. The present paper is a part of a larger study entitled "Health Education Status in Teaching Hospitals and Associated Health Centers set up". The specific objectives of this part of the study were:

1. To ascertain the opinions of workers of hospitals and health centers regarding the integration of health education with medical care;

2. To ascertain the views of the workers regarding suitable opportunities for patient education in hospitals/health centers;

3. To assess the extent to which attempts are being made in the hospitals/health/ centers to integrate health, education and medical care; and

4. To explore the scope for the integration of health education with medical care.

Methodology

Study area: - The study was conducted in two teaching hospitals attached, to two medical colleges, one in a metropolitan city and the other at a district headquarter-and two health centers one attached -to- each of the two medical college. In the hospitals Both Outpatient and inpatient sections of medical and pediatric departments were covered; In health centers, however, only the-outpatient sections were covered because one of the health centers did not have an inpatient/section.

Sample: Both patients and hospital workers formed the study population. A total of 218 patients in the outpatient section of the four Institutions "were selected for the study. From the - registration counter, the first patient in the queue for outpatient service was selected. After the follow-up of this' selected patient was completed the next person in the queue was picked up for follow-up V' Therefore, to the extent no deliberate' selection' was exercised in choosing the cases and there was no systematic ordering of the patients in the queue; a certain amount of randomness of the sample, was however, ensured. In the inpatient sections of the "two hospitals 138 beds were selected by systematic random sampling and patients 'occupying every fifth bed constituted the sample.

All the workers who came in contact with the sample patients during the period of observation were covered" in this study. This resulted in a total of 311workers' from' the four institutions. The categories of workers included were doctors, nurses, technicians, ancillary staff and registration clerks. Of these only 229 workers who answered the—checklist"" formed the effective sample of workers. The remaining 82 workers left the" institution due to" transfer or after completion of training.

Procedure: The sample patients in the selected departments of the inpatient sections were observed during the peak period 7.30 a.m. to 12.30 p.m. when all types of medical services are being provided in the ward .Each interaction or contact occurring between hospital workers and, the sample patients during this period was recorded in detail, who talked, to whom, what did they, talk (content of. communication) and the time spent on each of these interactions. In the

outpatient section, however, the patients were observed from the time of registration till they left the hospital.

A checklist was used to obtain the workers view regarding various situations in inpatient and outpatient sections which, according to them, offered suitable opportunities for patient education. Their views on integration of health education with medical care were also ascertained.

Data analysis plan: Data for workers was analyzed by comparing their opinions with the occupational categories.

Although, opinion of five categories of workers (i.e. doctors, nurses, technicians, ancillary and other staff like, registration clerks) was obtained, yet *for the purpose of this paper opinion of only three professional categories i.e.* doctors, nurses and technicians are compared because the frequencies in other categories were found to be too low.

Findings

Opinion regarding integration of health education with medical care: A total of 229 workers responded to the checklist item on integration of health education with medical care. Forty-nine per cent of the sample felt that health education could be best rendered, if integrated with medical care services. Of the remaining 51 per cent, 42 per cent were of the opinion that health education should be integrated as well as organized separately. The rest of them opined that health education ought to be organized separately.

More of the doctors (60%) than nurses (39%) and technicians (22%) were in favor of combining health education with medical care. This difference between the professional categories was found to be significant at .05 level (x2 - 23,69) (Table 1)

Suitable opportunities for patient education: Although, most of the workers felt that health education would be best if integrated with medical care, the different categories of workers had varied views on the situations and opportunities when health education should be provided.

More than 85 per cent of the doctors felt that doctors' round is a suitable opportunity for patient education, where-

as only 51 per cent of the nurses thought so. Technicians agreed with the doctors. A significantly higher number of nurses mentioned various nursing activities ('sponging and bath', 'bed making', 'temperature taking' and 'food serving') as opportunities for patient education. All these differences were significant at 0.05 levels (Table 2).

TABLE 1

OPINION OF HOSPITAL WORKERS REGARDING INTEGRATION OF HEALTH EDUCATION WITH HOSPITAL SERVICES

Category	With medical care %	Organised separately %	Both %
Medical staff	59.60	2.02	38.38
Nursing staff	39.24	11.39	49.37
Technicians	22.23	25.92	51.85

TABLE 2

OPINION OF HOSPITAL WORKERS REGARDING THE SUITABLE OPPORTUNITIES FOR PATIENT EDUCATION IN THE INPATIENT SECTION*

Opportunities	Multiple Responses		
	Medical staff N - 99 (%)	nursing staff N - 80 (%)	Technicians N - 26 (%)
Doctors' round/Examination	85.86	51.25	76 92
Nurses' round	53.54	68.75	50.00
Sponging and bath	51.52	88.75	26.92
Bed making	34.34	73.75	15.38
Serving food	34.34	62.50	34.62
Temperature taking	23.73	63.75	26.92
Laboratory	13.13	22.25	15.38

*Percentages exceed 100.00 due to multiple responses.

In the general outpatient section, more than 60 per cent workers of all the three categories expressed the possibility of utilizing examination and waiting time for patient education.

Comparatively higher number of technicians (19%) than doctors (8%) felt that laboratory and X-ray services could be utilized for providing patient education. The difference was significant at .05 levels (Table 2a).

There appears to be a tendency on the part of workers to own the responsibility for health education only in those services in which they are more directly involved. This indicates their appreciation of their own possible role in health education.

Time spent on services: All the interactions of the patients with the hospital workers and time spent on each interaction were recorded during observation by the research team. This has revealed that the time spent on service's to be considered as suitable opportunities for health education by the workers will leave little scope for health education.

Eighty-six per cent of the doctors expressed doctors round, in the inpatient section as the suitable opportunity for conducting health education but only on 14 per cent of the examination services more than 5 minutes were spent. About 50 per cent of the doctors' rounds were conducted in 2-3 minutes. Only one minute was spent on as many as 36 per cent of the doctors' rounds (Table 3). In the outpatient section, on 51 per cent of the examination services, 2-5 minutes were spent and on more than 40 per cent examinations conducted more than 6 minutes were spent.

TABLE 2 (a)

OPPORTUNITIES FOR PATIENT EDUCATION IN THE OUT-PATIENT SECTION

Opportunities	Medical staff N - 99	Nursing staff N - 80	Technicians N - 26
Registration	20.20	25.00	26.92
Waiting time	60.61	67.50	65.39
Examination	69.70	62.50	65.39
Dispensing	13.13	32.35	34.62
Laboratory	8.08	16.25	19.23
X-ray	4.04	11.25	23.08

Communication between patients and workers: Since most of the workers were in favor of integrating patient education with medical care, an analysis of the various medical care services in the outpatient and inpatient sections was made with a view to find out the present status of communication between the hospital workers and the patients while they delivered medical care to the patients. The data reveal that there was quite a lot of communication between the worker and the beneficiaries. In the inpatient section, during the doctors round and nurses round in about 80 per cent of the services there was communication. Only 60 per cent of the services of medicine giving were with communication but during other nursing activities, i.e., sponging and bath*, 'bed making, and 'temperature taking', communication was limited (.46%, 25% and 19% respectively). There was communication in 89 per cent of the investigation services. In the outpatient section there was considerable communication, 97 per cent of the examination services, 78 per cent of the dispensing services and 79 per cent of the investigation services were with communication (Table 4). These data

TABLE 3

TIME SPENT ON SERVICES IN INPATIENT SECTION

Type of services	Total activities	Up to 1 minutes %	Up to 2-3 minutes %	6 minutes & above %
Doctors round/Examination	148	36	50	14
Treatment	171	73	23	4
Bed making	91	31	68	1
Food distribution	87	67	31	2
Temperature taking	62	74	26	-
Sponging and bath	13	15	46	39
Investigations	37	38	49	13
Others	98	69	28	3

reflect frequent communication between the patient and the hospital workers of the three categories mentioned above. As majority of services were occupied by two way communication, it is logical to consider the integration of health education with the services.

Content of communication When the content of communication was analyzed with a view to study the component of education in the communication between workers and the patients, it was observed that mostly communications were related to instructions, direction and enquiry. In some service activities, however, the workers were observed providing information to the patients, mostly in the form of explanations. The content of communication when analyzed according to the service activities, revealed that of the 119 examination services conducted in inpatient in which there was some communication, only 24 per cent were such in which some information or explanation was given.

During the nursing care services also, very little communication related to the information giving, *e.g.* only 8 per cent of the nurses' rounds, 4 per cent of medicine giving

TABLE 3(a)
TIME SPENT ON SERVICES IN OUT-PATIENT SECTION

Type of services	Hospitals				Health centres			
	Total acti-vities	Upto 1 minute %	2 to 3 mts. %	6 mts. and above %	Total acti-vities	Upto 1 minute %	2 to 3 mts. %	6 mts. and above %
Examination	113	5	51	44	125	12	77	11
Dispensing	88	40	58	2	164	43	55	2
Investigation	16	19	62	19	4	-	100	-
Others	134	58	42	-	64	86	14	-

services were such in which some explanation was given to the patients. In the activity of temperature taking and sponging and bath, the patients were given some explanation (Table 5)_ Percentage of activities with information was more in outpatient section. Of the 87 examinations conducted in the outpatient section, 47 per cent were such in which the beneficiaries were provided some information. In only 11 per cent of the investigation services, some information was given. Maximum information was given in the special clinics. Fifty-eight per cent of the examination services and 56 per cent immunization services were characterized by information giving (Table 5a).

TABLE 4 ACTIVITIES WITH CCMMUNICATION

Activities	Inpatient		Outpatient		Health centres	
	Total activities	With communication %	Total activities	With communication %	Total activities	With communication %
Examination/						
Doctors' round	148	80	113	97	125	96
Nurses round	47	83	-	-	-	-
Sponging and bath	13	46	-	-	-	-
Medicine giving	171	60	88	78	164	78
Bed making	91	25	-	-	-	-
Temperature taking	62	19	-	-	-	-
Food distribution	87	49	-	-	-	-
Investigation	37	89	16	69	4	100

TABLE 5 CONTENT OF COMMUNICATION - INPATIENT

Activities	Total number of activities with communication	Percentage of activities in which information was given
Doctors' round/Examination	119	24.37
Nurses' round	39	7.69
Medicine giving	103	3.88
Temperature taking	12	8.33
Bed making	23	0.00
Sponging and bath	6	16.66
Food distribution	43	0.00
Investigation	33	15.15

In health centers also, 40 per cent of examination and 47 per cent of the dressing services were such in which information was given (Table 5a).

Discussion

An overall view of the opinions of the hospital workers, who come in close contact with the patients, reflects a positive attitude of the workers towards health education in medical care. As many as 49 per cent of the workers felt that health education could be best provided, if integrated with medical care and another 42 per cent of the workers stated that it would be best, if given with medical care as well as organized separately. In the same study other data collected indicated that 226 out of the 229 workers felt the need for educating patients about their health.

The data also point out that the workers of all the three categories tend to own the responsibility of health education as reflected by their checking more of those services opportunities for health education in which they are exclusively involved. Doctors have shown obvious preferences for their own opportunities and nurses have also marked their own nursing care activities as opportunities for education. Even technicians feel that they can play some role in the task of health education. Some other data collected during the same study, relating to the workers preference for the

TABLE 5 (a)

CONTENT OF COMMUNICATION - OUTPATIENT

Activities	Outpatient		Special clinic		Health centre	
	N	Information given	N	Information given	N	Information given
Examination	87	47.13	24	58.33	120	40.00
Investigation	11	11.11	15	00.00	4	00.00
Medicine giving	45	00.00	0	6.67	98] 11]	
Immunization	0	-	9	55.56	9	55.56
Dressing	0	-	0	00.00	19	47.36

appropriate worker for health education reflected that doctors felt that they are the most appropriate worker for educating the patient and nurses thought themselves best suited for patient education. Somewhat similar findings were obtained in another study, in which it was reported that 68 per cent of the nurses felt that the very nature of their work provided opportunities for health education.

The willingness of the hospital workers to take up the educational activities and their frequent communication with the patients suggest that hospitals have a favorable climate for health education, in case it is integrated with medical care.

On the other hand, some other facts reflect a lack of utilization of this opportunity. The content of communication between workers and patients when analyzed revealed that most of the communication was instructional, directional and routine. Comparatively very few attempts were made to provide detailed information to the patients who could approximate even a rudimentary form of health education. These efforts were individually motivated and unplanned. The effectiveness of such efforts is open to question. In an experimental study on approaches to communication, it was found that planned approach was more effective than the unplanned approach in bringing about the desired health action.

Nurses opinion about utilizing their own services seems to be only at conceptual level because in most of their services like bed making and temperature taking there was very little communication. Their communication with patients was more routine and instructional than educational. This may be due to a number of factors; one of the factors may be that student nurses who mostly provide these services are not so fully involved in patient care. Another factor may be the heavy workload on the nurses.

Time spent on activities reflects that very little time is spent even on major services like examination. This may again be due to the heavy rush of patients in the outpatient section and also due to the variety of tasks performed by the physicians in the inpatient section. But observation conducted during the lean period* in the inpatient section showed very little educational efforts being made towards the

education of patients. This leads to another question whether the workers are clear about the concept of health education. As reflected from the data of sampled workers background, only doctors and nurses had some exposure to health education and that too in the form of a couple of lectures on health education. Workers conception about health education is often molded by their own estimate of the needs of their patients. As pointed out by Amy. M. Elliot the assumption of the service giver is that health education of the patient is to train them so that they obey the doctor's orders-. In another informal observation conducted by some members of the Bureau of Maternal and Child Health during their efforts to set educational standards in the prenatal programme, it was reflected that although the physicians and nurses acknowledge the need for health education but they told the patients only what they thought the patients should know. Some orientation to the worker in this respect, keeping in mind the specific services rendered by them, may be useful.

The enthusiasm of technicians for educating the patients can be utilized by giving them some training in health education, appropriate to their role. Similarly X-ray and laboratory services could also be utilized for explanation and demonstration.

In spite of the frequent communication, dissatisfaction among the patients is prevalent reflecting a need for more systematic explanation. Explaining the patient about procedure and prescribed regimen is the most primitive form of health education. In the hospitals studied only this form of health education is available and that is limited. These hospitals being teaching hospitals, the need for better orientation of health education to the workers is well demonstrated by the findings of the study. The opinions expressed by the workers in terms of their willingness to practice health education and identifying opportunities in their own activities highlights the need for reinforcing the health education input in medical education and in the training of other health workers in order to cultivate necessary knowledge and skills for giving health education and develop adequate attitudes towards their own role in this task.

Conclusions

Health education integrated with medical care has plenty of scope in a hospital setting. Better integration of health education and medical care can be achieved by strengthening the workers training in health education.

Acknowledgement

WHO for providing funds for this project

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Health and Population
- Perspectives & Issues 1(3):243-249, 1978

PSYCHIATRIC COMPLICATIONS OF VASECTOMY

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ABSTRACT

In this paper, an attempt has been made to study 107 oases with post-vasectomy psychiatrio symptoms of one of the medical colleges in the country. The cases were taken up during the period May, 1977 to April, 1978. On analysis, it was found that the commonest psychiatric diagnosis was sexual inadequacy. More than 80 per cent of the oases had some form of neurotic disorder. Few cases had reactive depression of psychotic proportions and schizophrenia soon after the operation without having being any hereditary or personality predisposition. It has further been found that pressure or force had been used in nearly 80 per cent cases to undergo vasectomy operation.

The need for population control in a country like ours cannot be over-emphasized. Ways and means are constantly being devised to prevent pregnancy without interfering with the health of the users. Vasectomy is perhaps one of the most certain methods that can be applied on a large scale in India[1].

However, several reports have appeared showing that there can be harmful physical, sexual and psychological effects, if the subjects are not properly motivated for the operation and followed up carefully1,2,3,4,5,6,7. The present paper deals with 107 cases with post-vasectomy psychiatric symptoms.

Materials and Methods

All the patients coming to the Psychiatric Clinic, M.L.B. Medical College, Jhansi, with symptoms following vasectomy between May, 1977 and April, 1978 were included in the study. In every case, a detailed psychiatric case history

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was taken and a thorough mental status examination was made. The findings were recorded on a schedule prepared for the study based on the scheme given by Slater and Roth. The diagnostic and statistical Manual-II of the American Psychiatric Association formed the basis for the psychiatric diagnosis.

The patients were given appropriate treatments consisting of supportive psychotherapy, psychotropic medications and electro-convulsive therapy (ECT). They were followed up at suitable intervals to assess their progress and make the necessary alterations in the therapeutic regimen.

In the end, the data were tabulated and the findings analyzed. The usual student's-t test was used to test the significance of difference of mean number of complaints between the groups.

Observations

Many patients were rather young, 3 (2.8%) being below 20 years and 31 (29.0%) in their thirties. More than half (60.7%) came from rural areas and majority of them were poorly educated. Sixty one (57.0%) had studied up to or below the primary school level, 34 (31.7%) up to Intermediate and only 12 (11.2%) had attended University.

Two (1.8%) patients were unmarried and 6 (5.6%) were widowers. Four (3.7%) of them had no children while 17 (15.9%) had. one or two living children. In many cases, the children died after the operation, leaving them childless.

Only 22 (20.6%) subjects had been properly persuaded and underwent the operation willingly (Table 1). Others had to undergo it either under pressure 60 (56.1%) or were physically forced 25 (23.3%). In one case, for example, the person was mischievously told that his brother had met an accident and was hospitalized. On reaching the hospital, the poor fellow was overpowered and vasectomies even though he had only one living child. Others were taken forcibly from homes, from streets while returning from a night film show or upon being caught travelling without tickets.

Table 2 shows the complaints of the patients. The commoner ones were: a feeling of weakness 82 (76.6%),

TABLE 1

SHOWING MEAN NUMBER OF COMPLAINTS IN DIFFERENT GROUPS BY METHOD OF MOTIVATION

Group	Method of motivation	Cases Studied		Complaints	Significance of difference of mean complaints between groups	
		No.	Per cent	Mean ± Standard Deviation	I and II	II and III
I	Persuaded	22	20.6	3.4±1.05	t=6.15	t=8.40
II	Underwent under pressure	60	56.1	5.5±1.48	d.f.=80	d.f.=83
III	Physically forced	25	23.3	9.0±2.42	P* <0.0001	P* < 0.0001

*Highly significant

TABLE 2

SHOWING COMPLAINTS OF THE CASES

Complaints	Number of cases	Per cent
Feeling of weakness	82	76.6
Disturbed sleep	75	70.1
Loss of appetite	69	64.5
Backache	56	52.3
Giddiness	37	34.6
Impotence	33	30.8
Pain in scrotum	33	30.8
Pain in abdomen	30	28.0
Dragging sensation in scrotum	27	25.2
Headache	26	24.3
Sadness	25	23.3
Altered shape of scrotum	22	20.6
Altered size and shape of penis	21	19.6
Knots in scrotum	19	17.7
Severe anxiety	18	16.9
Pain all over the body	15	14.0
Premature ejaculation	11	10.3
Palpitation	8	7.5
Hallucinations	7	6.5
Suicidal thoughts	6	5.6
Nihilistic delusions	4	3.7
Irrelevant/incoherent talks	2	1.8
Abnormal behaviour	2	1.8
Paranoid delusions	2	1.8

disturbed sleep 75 (70.1%), loss of appetite 69 (64.5%) and backache 56 (52.3%). Many had complaints relating to genitals, *viz.*, dragging sensation in scrotum 27 (25.2%), altered shape of scrotum 22 (20.6%), altered shape and size of penis 21 (19.6%), and knots in scrotum 19 (17.7%). Nearly, one-third 39 (36.6%) were totally incapacitated because of their symptoms. It is evident from Table 1 that the severity of post-vasectomy disability was directly associated to the degree of coercion or force used in motivating the case for the operation.

The commonest psychiatric diagnosis was sexual inadequacy 44 (41.1%), either in the form of impotence 33 (30.8%) or in the form of premature ejaculation 11 (10.3%). About four-fifths 86 (80.4%) of the cases had some form of neurotic disorder. Five (4.7%) had reactive depression of psychotic proportions and two (1.8%) had schizophrenia soon after the operation without there being any hereditary or personality predisposition (Table 3).

TABLE 3
SHOWING PSYCHIATRIC DIAGNOSIS OF THE CASES*

Diagnosis	Number of cases		Per cent	
Sexual inadequacy				
Impotence	33		30.8	
Premature ejaculation	11	44	10.3	41.1
Neuroses				
Hypochondriacal Neurosis	32		29.9	
Depressive Neurosis	20		18.7	
Anxiety Neurosis	18	86	16.9	80.4
Neurasthenic Neurosis	16		14.9	
Psychoses				
Psychotic Depressive Reaction	5		4.7	
Schizophrenia	2	7	1.8	6.5

*In many cases more than one diagnoses were made.

Discussion

With increasing social pressure to limit family size, adverse publicity given to the pill and the acknowledged unreliability of intra—uterine devices, diaphragms and foams; male sterilization by means of vasectomy is becoming popular. The increase in the number of vasectomies performed is related to the case of the procedure which can be carried out under local anesthesia within minutes.

The operation has many social and psychological aspects. People have a much greater regard for the man who insists that his wife use a contraceptive device than for one who meekly undergoes vasectomy 12, 13. In view of the poor chances of reversibility of the operation, an in-depth interview with both partners is essential before any such step is taken. Psychological readiness is very important ingredient of the motivational process. This is so because to a layman, vasectomy may be synonymous with castration and may have far reaching psychological and sexual repercussions.

The family planning drive, in the wake of national emergency, led to an over-zealous and rather indiscriminate wave of vasectomy as is apparent from the fact that, many cases, some of them unmarried, widowers or issueless were forcibly sterilized without even giving them a chance to understand what it was all about. The results are equally obvious, the degree and number of post-vasectomy symptoms being directly proportional to the extent of coercion or force used.

Nigam *et al,* followed up 1,131 cases after vasectomy and found that 156 (13.8%) of them had sexual disturbances. Of these, 101 (64.8%) had weakness of sex desire, 29 (25.0%) having developed impotence. Although their study was limited to sexual disturbances, they found 86 (55.1%) of the cases to be depressed, 31 (19.9%) to be anxious and 18 (11.5%) to be apathetic. Many of them had symptoms like body ache 102 (65.4%), irritability 96 (61.5%), diminished appetite 75 (48.1%), palpitation 46 (29.5%) and disturbed sleep 31 (19.9%). They concluded that most of the symptoms could be attributed to inadequate preparation of the cases for the operation. Similarly, Phadke reported impaired sexual functioning in persons who were not properly motivated or injudiciously select

Verma *et at.* In their population based follow up studies found psychiatric symptoms in 14.5 per cent of the urban and in 20 per cent of the rural cases6,7. However, these studies were carried out by non-psychiatric experts and as such they must have missed the minor psychiatric symptoms. They attributed the symptoms to lack of proper advice, irregular follow up and non-availability of the incentives pledged by the motivators.

Sethi in his study of psychological aspects of family planning stressed the need of taking the psychological, social and environmental background of the cases into account, while Kakkar emphasized the need of sex education as an integral part of any population programme, especially for the rural people who constitute the bulk of the population of India.

Summary

One hundred and seven cases with post-vasectomy psychiatric disturbances were studied. Many of them were? Young 34 (31.8%), unmarried 2 (1.8%), widowers 6 (5.6%) or issueless 4 (3.7%) Pressure or force had been used in 85 (79.4%) of the cases to make them undergo the operation. The commonest psychiatric diagnosis was sexual inadequacy 44 (41.1%) followed by the neuroses 86 (80.4%). Five cases (4.7%) had psychotic depression and 2 (1.8%) had schizophrenia. The severity of illness was directly related to the degree of force or coercion used. The need for proper selection, psychological preparation and follow up of the cases has been emphasized.

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Health and Population
- Perspectives & Issues 1(3): 250-261, 1978

REACTIONS OF TUBECTOMISED WOMEN TO STERILISATION

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ABSTRACT

In the present study 200 tubectomised women from two hospitals in Greater Bombay were investigated with the objectives to: (i) find out factors that made couples to accept tubectomy in comparison to vasectomy and other contraceptive methods, and (ii) find out the immediate post-operative psychological reactions of these tubectomised women.

This study has shown that larger proportion of people is accepting smaller families. Women accepting tubectomy did not have an opportunity to know what the operation involves and what its side-effects are, if there are any. This has reflected in the responses of a large number of women who suffered from anxiety before the operation and lacked full confidence in the method. Vasectomy, though a simple procedure, was not acceptable to them due to fears about side-effects in men - the sole earning member of the family. This study shows that there is a need for an educational programme to create greater confidence in vasectomy and tubectomy methods of family planning.

Biomedical investigations show that a properly conducted vasectomy and tubectomy is effective and has no side-effects. However, several other studies have shown that persons, who accept sterilization without adequate confidence in the effectiveness and harmlessness of the method, do suffer from psychological after-effects. These findings have great relevance in the context of situations such as those existing in Greater Bombay where couples have motivation for limitation of family size and majority of them expect to achieve the control of fertility through acceptance of sterilization. It is also common knowledge that unless authorities

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launched special programme, the number of tubectomies will not exceed more than those of vasectomies.

With this background knowledge, investigation of the reaction of women who accepted tubectomies from two hospitals in Greater Bombay was undertaken.

Objectives

The objectives of the study were as follows:

1. To find out the family size and sex composition of children born to acceptors of tubectomy.

2. To examine factors that made the couples decides in favor of: (i) tubectomy in comparison to other contraceptives; and (ii) tubectomy in comparison to vasectomy.

3. To find out whether the idea of undergoing tubectomy was premeditated or these women were motivated to undergo sterilization in the course of their visit to the hospital for some other services.

4. What were the psychological reactions of these women to tubectomy immediate to post-operation? Was there any change after the operation? and

5. What was the expected duration of abstinence from normal duties and resumption of sexual relations?

Socio-economic Characteristics

Religion: Majority, 170 of the women, was Hindus, 22 were Muslims, and 8 belonged to other communities. Among the 22 Muslims, 20 were from Government Cama Hospital for Women having mostly lady doctors and has thus been favored by Muslim women.

Education: Of the 200 respondents, 70 had no formal education, 79 respondents were educated up to primary level, 49 were educated upto secondary level and two respondents reported to have passed graduation. Majority of the women were, therefore, literates.

Occupation: Information on occupation of the respondents shows that all, excepting 17 women, were housewives. Husbands of majority of them were from working class, i.e., 158 of them were either skilled or unskilled workers. Of the remaining, 50 per cent were employed as clerical staff and the rest were engaged in some profession or small business.

Income: In a hospital situation, where charges for services are quite often linked with the income of the family, it is difficult to get reliable data on incomes. Average reported income, however, was Rs.400 per month. On the basis of reported occupation of husbands, we may conclude that this sample Is more representative of low income groups of Greater Bombay.

Family size and sex composition of children: It is often reported that an important factor in deciding the desired family size is the number of male children born to a couple. In this study, it was observed that the average number of male children born was 1, 96 per women. It was further observed that the number of women who had no male issue was only 4. These women had 'Large' families, three of them having 4 daughters and one had 5 daughters, whereas those having no female children were 30 in number. Similarly, women with only one male child were 49, whereas those with only one female child were 79,

The above observations about the sex of children show that before accepting tubectomy, the couples had made sure that they had at least one, preferably, two male children.

However, it may be interesting to note that the earlier reported study shows that women who accepted tubectomy in 1972 had 2, 42 male children, whereas those operated in 1973 had 2,21 male children. Women who were operated four years later in this sample reported 1.96 male children, leads to the conclusion that couples are accepting a terminal method, such as tubectomy, a little earlier with respect to male children in comparison to the earlier pattern.

Motivation for Tubectomy

The responses to motivational question indicate that these women had accepted tubectomy more out of their own decision rather than compulsion or pressure from outside

agencies. Of the 200 women, 165 said that they were not motivated by anyone in particular, and among these 113 reported that they had arrived at the decision after the subject was discussed with their husbands. In addition to these, 24 respondents said that they had taken the decision after the advice of the medical and paramedical staff of the hospital. Eleven respondents reported that they were influenced by their relatives or friends who had a favorable experience with tubectomy.

Above responses do indicate that these women had accepted tubectomy of their own and were not pressurized as is often claimed.

Time of Sterilization

Out of 200 women, 120 had undergone tubectomy immediately after their deliveries. Seventy-one had accepted it after MTP and nine during 'interval[1] period'.

The average age of the youngest living child of the women who underwent tubectomy after an MTP or in the interval period was 2.8 years.

Majority of the women who had accepted post-partum sterilization said that they had the desired number of children. In the MTP group, there were four women who had conceived despite tubectomised earlier. Further two women were such who reported conception after their husbands had undergone vasectomies. These six women said that though the sterilization was failure yet they preferred it because they believed that the efficacy of other contraceptives was under" greater doubt and side-effects were many.

Experience with Other Contraceptives Prior to Acceptance of Tubectomy

In case of 153 women, sterilization was the first method of contraception (this Includes four women who had accepted tubectomy earlier and other two whose husbands had accepted vasectomy) The remaining 47 women reported experience with contraceptives and that too only for a short duration. These women also reported experience with only one contraceptive each, eighteen of these had used IUD, husbands of 16 had used Nirodh, 12 respondents had used oral pills and one couple had used coitus interrupts.

Total period of use of a contraceptives showed that 18 women had experience with a contraceptive for a period of less than one year, 17 for a period one to three years; seven used it for three to five years and five for more than five years (Table. 1).

Findings relating to the reasons for non-use of contraceptives by majority of the women in this study were similar to those reported by another group of mothers of young children from Greater Bombay. Respondents of the present study gave the following reasons:

Nirodh: In all 34 respondents stated that they have problems with the use of Nirodh. Twenty-one of them had no trust in the method. They felt that it would tear off and lead to a pregnancy or that it would harm the husbands. Remaining 13 respondents said that in using Nirodh regularly, they need privacy and cooperation of the husbands. Some of the husbands had complained that they did not get sexual satisfaction with the use of Nirodh.

Oval Pills: About 45 respondents stated side-effects if they use pills. Fifteen of them had no trust in this method and had heard that it was harmful to health. Eleven of them said that if pills are not used regularly, then chances of getting pregnant are greater. One respondent said that it causes spontaneous abortion while 18 of them said that it

TABLE 1

RESPONDENTS' EXPERIENCE WITH OTHER CONTRACEPTIVES AND MONTHS OF USE

Contraceptives	Months of Use				
	Less than 1 year	1-3 years	3-5 years	5+ years	Total
Oral pills	5	6	1	-	12
IUD	4	8	3	3	18
Nirodh	9	2	3	2	16
Others		1	-	-	1
Total	18	17	7	5	47

causes giddiness, vomiting, weight gain, pain in the stomach and bleeding problem. These respondents also stated that it was a 'heaty' contraceptive. They added that it was difficult for them to remember to use it every day.

IUD: It was believed by 51 of the respondents that IUD leads to bleeding and expulsion.

Foam tablets'. One woman who had used vaginal tablets for a short period stated that she felt a burning sensation and as a result of that she became averse to having sexual relations with her husband. Hence, she discontinued to use it.

Reasons for Accepting Sterilization

Economic problems were the motivating factor for the majority of the respondents to undergo sterilization. In all 149 respondents felt that they had the number of children to whom they can economically support them also mentioned that they wanted to give better education and provide better living conditions for their children. The next major reason given by 31 respondents concerned the health of the mother. Only 12 respondents stated that they had economic and medical problems both of which motivated them to undergo sterilization. About six cases were reported as failure of sterilization (four tubectomy and two vasectomies). They were well motivated to control their fertility and had, therefore, accepted sterilization again.

Reasons for Accepting Tubectomy and not Vasectomy

The disadvantages of vasectomy mentioned by 150 respondents were weakness, impotency, failure, death and inability to do hard work, while 50 respondents said they did not know much about vasectomy. These 50 women were not confident of the harmlessness. of vasectomy and they said that their husbands were the only earning members in the family and the women did not want their husbands to do anything that would affect their health (Table 2).

On the whole, all the respondents believed that vasectomy was a serious operation. Forty—two of the respondents, in answering to the question about their opinion about vasectomy, said that their husbands had refused to accept

vasectomy since they too suspected that vasectomy would do physical harm to them.

The answers to the questions on reasons for accepting tubectomy and not vasectomy indicated that since those couples were strongly motivated for imitating family size, and they had no faith in the effectiveness and harmlessness of contraceptives, therefore, the couples had decided to accept sterilization.

Similar to the findings in our study are the findings of a collaborative study done by WHO on 'family formation, patterns and health', in which the investigators found that 'high among the reasons given for choosing the wife than the husband for sterilization were that the women should bear this responsibility, since the husband is the wage earner and the operation would make the husband physically weak3'. Other reasons were that woman is the child bearer.

TABLE 2

ADVANTAGES OF TUBECTOMY COMPARED TO VASECTOMY

Reasons	Total
No idea about disadvantages of vasectomy	50
After vasectomy stales do not have opportunity to Rest as they have to go out to work.	16
Vasectomy leads to physical weakness	96
Vasectomy leads to impotency	6
Vasectomy can fail	14
Vasectomy leads to death	10
Other reasons	8
Total	200

Advantages of Tubectomy in Comparison to other Contraceptives

1. Analysis of the answers of the respondents to this question showed that all the respondents thought that tubectomy was the best method of contraception.

2. Of the 47 respondents who had any experience with contraceptives, 24 said that tubectomy was the best method because chances of failure were less, 20 respondents said that tubectomy had lesser side-effects compared to other contraceptive and nine felt that it was an easier method to use than other contraceptives.

3. Out of the 150 non-user women, 80 said they felt that tubectomy was the best method among other method of contraception, for the other 36, tubectomy was a one-time decision, and next 23 felt that it had lesser side-effects and 8 felt it to be an easier method to use than other contraceptives. The desire for control of fertility being stronger, a permanent method like tubectomy was accepted without much hesitation.

Fears Felt Prior and After Operation

In this study majority of the respondents mentioned that they had some fears prior to the operation. Most of them are related to unknown fears. Others have stated fears related to surgical procedures and after-effects of operation (Table 3).

Of the 106 respondents who mentioned fears prior to the operation, 76 said that they had no fears afterwards as the operation was over and nothing had happened to them. The remaining 30 women were in dilemma as to what would happen. They were still not convinced that they were safe. The doubts that these women expressed showed that though they had accepted sterilization yet they lacked confidence in the efficacy and safety of the method they had chosen.

The respondents were also asked, if they had any anxieties or worries after the operation was over. In all 43 respondents expressed anxieties. Anxieties mentioned by 17 of them were about after-effects of the operation in terms of pain in the abdomens and legs, were worried that their

TABLE 3
FEAR MENTIONED BY RESPONDENT PRIOR *TO* AND AFTER THE TUBECTOMY

Fears felt by respondents prior to operation	No fears prior, or after tubectomy	Fear removed after tubectomy	Fear still present after tubectomy	Total
No fear at all	94	-	-	94
Fear of the unknown	-	11	2	13
Fear of pregnancy	-	2	2	4
Fear of dying	-	5	2	7
Fear of surgical procedure	-	3	3	6
Afraid of the size of incision and after effects of operation	-	1	-	1
Respondents having more than one fear				
Fear of injections, Fear of unknown and fear of surgical procedure	-	3	-	3
Fear of the unknown, Fear of surgical procedure and fear of after effects of operation	-	1	3	4
Fear of pregnancy and fear of surgical procedure	-	3	2	5
Fear of dying because of fear of surgical procedure and fear of unknown	-	45	16	61
Fear of unknown and fear of operation affecting sexual life	-	2	-	2
Total	94	76	30	200

incisions may give way while doing work and eight were anxious about the future as they did not know what would happen and were not able to define their anxiety. Among them there was one respondent who said that the doctors had told her that they had tried a new method of sterilization on her and so she was worried about the efficacy of this new method.

There were 120 respondents who were sterilized post partum. Of these 60 had no fears and 60 had mentioned fears. Of the 71 respondents who had undergone sterilization after MTP, 30 had no fears and 41 mentioned fears. Of those who were sterilized in the interval period, half of them mentioned fears while rest of them did not.

Resumption of Sexual Relations

To the question of when they would resume sexual relations, 67 respondents said they would abstain for 3 to 6 months, 52 said they would abstain for 6 to 12 months, 39 stated that their abstinence period would be 3 months or less. In addition to these there were 28 respondents who said that the period of abstinence depended on their husbands, while 14 did not give an answer. On the whole these women considered sterilisation operation to be a major one which required a long period of abstinence. They felt that if relations were resumed early the incision may open out, and some believed in chances of their getting pregnant. Though these women were keen to limit their family size yet they were not very sure about the effectiveness of the method chosen by them in preventing a further pregnancy. Hence, they were prepared to take extra precaution to ensure that nothing goes wrong.

Normal Duties

Forty-nine respondents stated that they would resume house work as soon as they went home, while the rest expected to take rest for a period of 15 days or more. Some of the respondents said that their husbands had even, assured them that they would get proper attention and rest, if they under-went sterilization.

Majority, *i.e.* 144 respondents stated that they would do cooking and light work at home. The rest, *i.e.* 56 respondents stated that they would have to do all types of household work

after their rest. All the respondents mentioned their community belief that after undergoing sterilization, one should not handle heavy weight items. Some even mentioned that washing clothes and staying for a long time in water was not considered desirable.

Motivation of Others for Sterilization

The women were asked, if they would advise other women to undergo sterilization, 120 respondents said they would definitely advise others to undergo sterilization. Seventy-one respondents said that it depends on the individual, as it was an individual decision whether to undergo sterilization or not and they would not take active part. Only nine respondents emphatically said 'no' because if anything happened to the women they would then be held responsible.

Conclusions and Suggestions

In Greater Bombay, a desire has been created among women for smaller family size. This study shows that larger proportions of people are accepting small family size fairly well and as a result of that the average desired family size by those who accept a terminal method, such as tubectomy, is showing a declining trend. It is also interesting to note that the desired number of male children before accepting sterilization is also showing a declining average.

Answers of all these respondents show that though these women were not 'coerced' to accept tubectomy, at the same time they did not have any opportunity to know what the operation involved and whether it would have any negative effect. It is seen that a substantial number of women did mention that they had fears and worries when they came for operation. The fact that some of them did mention that their fears and worries were gone after their operation need not be taken as an indication that these women have full confidence in the safety and efficacy of this method as rumors about the harmfulness and failures, can influence opinions of these women, if they are exposed to them later.

In the family planning programme, vasectomy is encouraged in comparison to tubectomy since it is simpler, requires no hospitalization and is cheaper. But the fear

that vasectomy is a castration still lurks in the minds of the people and it is quite often believed that the vasectomy operation will affect the libido of the man. When women mentioned that vasectomy causes weakness or that it affects health of the man, major emphasis of this answer was with reference to the influence on libido.

In the Indian cultural situation a woman is neither expected to take the initiative in sex nor is she expected to respond enthusiastically to her husband’s advances and more so after she has borne some children. Hence, the question of an operation affecting libido of the woman does not arise.

It can be seen that the husbands of the respondents, and society in general, had convinced majority of women that undergoing vasectomy was harmful to the man's normal requirements of life, which includes sexual activity. Thus, since the couple wanted to control fertility the women had no other alternative but to accept tubectomy.

The study indicates the need for educational programmes that will create a greater confidence in contraception among the young couples. To do this it may be worthwhile to investigate into the existing knowledge level, types of misconceptions and overall attitudes towards fertility regulation and fertility regulating methods.

Educational programmes needs careful planning for imparting correct information regarding, vasectomy and tubectomy besides investigation into the side-effects and failures of family plan methods when introduced in mass scale. Research indicates minimal or no side-effects when the services provided are of high quality, though these are of limited value for the masses, yet are of great importance from the point of view of scientific knowledge.

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