

**SOME ASPECTS OF THE LEGALISATION OF ABORTION:
FINDINGS FROM A SAMPLE SURVEY IN KARNATAKA**

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ABSTRACT

It was asserted that the legalisation of abortion does not necessarily mean that it is always available to every pregnant woman and it will take sometime before this information 'abortion is now legal and available' reaches all the needy mothers in India. The present study has shown that this assertion has been true and still a lot is desirable both in terms of the knowledge regarding the legalisation and the facilities provided in the rural and urban service centres. This enquiry also gives a clarion call for the health workers to put concerted efforts to disseminate knowledge on the said aspects.

A little more than a century ago, abortion in India was considered to be a crime for which the mother as well as the abortionist were punished in all cases except where the abortion had to be induced so as to save the life of the mother'. Since in late 1960's, the abortion has been given a different position from an illicit, clandestine activity to one which is legal and open². The liberalised abortion law in India was passed in July 1971. However, it came into force in March 1973³ and India has the most liberal abortion laws in the world⁴.

Law is the vehicle of society. Therefore, the question of how far permitted abortions can serve the wider purposes of society and of family should be examined⁵. It is imperative because the law deals with the human body and encompasses basic social values. Its improper implementation may throw up problems which the government as also the society might find intricate to tackle at a later stage⁶.

There is hardly any religious group in the world most of whose members are in agreement on the moral issue of abortion. The rapidity with which the laws of different nations have changed in recent years in either a conservative or a liberal direction vouchsafe the worldwide uncertainty and flux⁷.

It has been argued that in India there is a total lack of interest at all levels to discuss the new law openly and subtly⁸. Further, it is stated that no steps have been

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taken to inform the lay women of the new facility available. Even government and municipal health centres like hospitals, dispensaries and family planning clinics have not made any attempt to publicise the measure.

Findings of other studies also revealed that legalisation of abortion do not necessarily mean that it is always available to every pregnant woman who would like to terminate her early pregnancy⁹. The reason given for this is that the majority of the population, being in rural areas and far away from government hospitals and clinics, has no access to the facilities promised by the government. And also equally important is the fact that it will take sometime before this information *abortion is now legal and available* reaches all the needy mothers in India.

Therefore, a need to investigate some aspects of the medical termination of pregnancy was felt.

OBJECTIVES

The present investigation basically aims at assessing the levels of awareness of the legalisation of abortion in both rural and urban areas as well as the knowledge about the facilities made available at the primary health centre and urban family welfare centre. Further, the study also attempts to know from both the rural and urban communities whether people would take advantage of these facilities if they are provided in the PHC and UFWC

STUDY SETTING AND SAMPLE DESIGN

The data used in this study were collected in the first round of a Longitudinal Sample Survey (LSS) conducted during May-December 1975, by the Population Centre, Bangalore. The Bangalore Revenue Division in Karnataka formed the study setting? The said Division consists of five districts, namely, Bangalore including Bangalore city, Chitradurga, Kolar, Shimoga and Tumkur,

The Longitudinal Sample Survey adopted a Multi-Stage Stratified-Systematic Random Sample Design. The sample included 5200 households, out of which 3200 were from rural and 2000 from urban areas. The rural sample was composed of the households selected from sample villages of four PHCs each in all the five districts listed above. Bangalore city and the district headquarter towns constituted the urban sample¹⁰.

The interview schedule used in the survey consisted of three sections. The first section, called 'Household Section' elicited information on age, sex, relationship with the head of the household, education, occupation, etc., of every member of the household. The second section entitled 'Reproductive History and Child Mortality' sought information from all ever married women aged 15-49 years in the selected households on fertility and child mortality. The third section christened 'Structure of Demand for Family Planning Services' obtained information on KAP of family

planning among couples with wives in the age group of 15-49. The third section was administered to all currently married women aged 15-49 in fifty per cent of the selected households and to the husbands of such women in the other fifty per cent of the selected households. The research reported in this paper is based on the data (excluding Bangalore City) obtained through the third section, where certain questions on the knowledge about various other things such as incentives, MTP Act, utilisation of the existing health facilities, whether there is homophily in the preference for field workers etc., were also asked. However, for the present study, questions on MTP only were considered.

FINDINGS

Knowledge about the Legalisation of Abortion

It is evident from Table 1 that about 15.2 per cent of males and 8.4 per cent of females in rural areas and 40.5 per cent of males and 24.0 per cent of females in urban areas were aware of legalisation of abortion. These proportions indicate a big void in the media efforts to publicise the legalisation of abortion.

i. Age of the Respondent

Amongst rural males the awareness of the legalisation of abortion is relatively more in the age group 20-29 as shown in Table 2. It was found in an earlier study that 90 per cent of acceptors were in this age group². However, a lower proportion seems to know about the legalisation in the age group of 40 and more but no one was found in the age group of less than 20 years. The urban data present a different picture. Maximum knowledge amongst males is in the age group of 40 and above, while only 21 per cent of males in the age group of 20-29 and 41 per cent in age group of 30-39 are aware of the legalisation of abortion.

As regards females in urban areas relatively higher proportion (30.3 per cent) in the age group 30-39 are aware of the legalisation of abortion. Knowledge is least among those who are less than 20 years. In rural areas about 6 to 9 per cent only in different age groups are aware of the abortion law. Better levels of education and exposure to various mass media have given the urban people a better orientation.

ii. Religion

As can be seen from Table 3, comparatively a higher proportion of Muslim males in rural areas (31.4 per cent) than Hindus (14.6 per cent) are aware of the legalisation of abortion. On the contrary in urban areas the knowledge seems to be better amongst the Hindus (42.2 per cent), followed by 'others' (37.4 per cent). In urban, about 34 per cent of Muslims have reported that they were aware of the abortion legalisation. It has been reported in a study conducted in Karnataka that the incidence of MTP among Muslims had increased from 7.6 per cent in 1977-78 to 10.2 per cent in 1980-81³.

Amongst- rural females, about 8 per cent from Hindus and 6 per cent from

Table 1

THE PROPORTION OF MALE AND FEMALE RESPONDENTS HAVING
KNOWLEDGE ON THE LEGALISATION OF ABORTION

	Yes		No		No Answer		Total	
	Male	Female	Male	Female	Male	Female	Male	Female
Rural	15.2	8.4	82.7	90.6	2.1	1.0	100.0	100.0
Urban	40.5	24.0	57.9	74.8	1.6	1.2	100.0	100.0

TABLE 2

THE PROPORTION OF RESPONDENTS KNOWLEDGE ON THE LEGALISATION OF
HAVING ABORTION BY AGE OF THE RESPONDENT

Age of Respondents		Yes		No		No Answer		Total	
		Male	Female	Male	Female	Male	Female	Male	Female
Less than 20	Rural	0.0	6.0	*	91.6	*	2.4	100.0	100.0
	Urban	0.0	11.5	*	88.5	0.0	0.0	100.0	100.0
20 - 29	Rural	17.0	9.0	81.5	90.3	1.5	0.7	100.0	100.0
	Urban	29.6	19.9	68.5	79.6	1.9	0.5	100.0	100.0
30 - 39	Rural	16.6	9.1	81.8	90.0	1.6	0.9	100.0	100.0
	Urban	40.9	30.3	59.1	67.2	0.0	2.5	100.0	100.0
40 +	Rural	13.5	7.1	83.8	91.9	2.7	1.0	100.0	100.0
	Urban	44.2	29.8	53.4	68.4	2.4	1.8	100.0	100.0

◆Percentages are not calculated for the cell frequency is less than 10

Muslims are aware of the legalisation. In urban, only 4 per cent of Muslim women have admitted their knowing about the legalisation of abortion, while 30 per cent of females from Hindus and 'others' admitted having such knowledge. The urban data on Muslim females are really intriguing for it is less than what has been found in rural proportions of being not aware are 91.9 per cent in rural and 93.5 per cent in urban. Resistance to interview could have been the reason for this.

iii. Caste

It is evident from Table 4 that male respondents who belong to higher castes have relatively better knowledge of legalisation of abortion than those belonging to scheduled castes. In urban areas, higher caste males have professed in more proportion the knowledge on abortion and those belonging to backward castes a lower level of awareness. About 42 per cent from scheduled castes have expressed their knowledge about the legalisation of abortion in urban areas.

The female situation in rural areas is that from 5 to 10 per cent are aware of the legalisation and amongst those from higher castes it is slightly more and less amongst scheduled caste females. In urban also higher caste women in more proportion are aware while relatively less backward caste women have heard about the abortion legalisation.

iv. Type of Family

In rural areas the type of family has not exerted any influence on the knowledge about the legalisation of abortion. About 15 per cent of males in both the nuclear and joint families, and 7 per cent of females in joint families are found to know about the law. In urban also, by and large, a similar picture is seen where 37 to 42 per cent of males and about 23 to 24 per cent of females are aware of the abortion legalisation as given in Table 5. However, in urban both males and females having knowledge are found in larger proportion. This might be consequent of a better inter-spouse communication facilitating free exchange of views on various matters. Further, better literacy might have contributed to such a level of awareness.

AVAILABILITY OF MTP FACILITIES IN THE PHC/UFWC*

About 11 per cent of males and 6.7 per cent of females in rural areas have said 'yes' while 28 per cent of males and 22 per cent of females in urban areas have affirmed that such facilities are not available in the PHC/UFWC respectively as shown in Table 6. It is also noteworthy that 63.7 per cent of males and 81.7 per cent of females in rural areas do not know whether such facilities are accorded in PHC. The corresponding figures for the urban for males and females are 33.9 and 59.8 per cent respectively. A marked variation in terms of rural-urban differential is rather obvious for reasons of better literacy and media exposure. About 23.6 per cent of

*At the time of the conduct of this survey UFWC was called UFPC

TABLE 3

THE PROPORTION OF RESPONDENTS HAVING KNOWLEDGE ON THE
LEGALISATION OF ABORTION BY RELIGION

Religion		Yes		No		No Answer		Total	
		Male	Female	Male	Female	Male	Female	Male	Female
Hindu	Rural	14.6	8.5	83.2	90.5	2.3	1.0	100.0	100.0
	Urban	42.2	30.0	56.1	70.0	1.7	1.0	100.0	100.0
Muslim	Rural	31.4	6.5	68.6	91.9	0.0	1.6	100.0	100.0
	Urban	34.4	4.3	64.1	93.5	1.5	2.2	100.0	100.0
Others	Rural	0.0	0.0	100.0	100.0	0.0	0.0	100.0	100.0
	Urban	37.4	30.8	58.4	69.2	4.2	0.0	100.0	100.0

TABLE 4

THE PROPORTION OF RESPONDENTS HAVING KNOWLEDGE ON THE
LEGALISATION OF ABORTION BY CASTE

Caste		Yes		No		No Answer		Total	
		Male	Female	Male	Female	Male	Female	Male	Female
High Caste	Rural	19.0	10.4	79.9	88.9	2.1	0.7	100.0	100.0
	Urban	53.1	41.9	44.2	57.3	2.7	0.8	100.0	100.0
Backward	Rural	17.1	7.8	78.5	90.6	4.4	1.6	100.0	100.0
	Urban	30.8	15.8	66.7	84.2	2.5	0.0	100.0	100.0
Scheduled Caste	Rural	9.0	5.0	90.3	93.8	0.7	1.2	100.0	100.0
	Urban	42.1	24.2	57.9	72.7	0.0	3.1	100.0	100.0
Others	Rural	12.3	8.1	85.1	90.9	2.6	1.0	100.0	100.0
	Urban	31.5	23.7	68.5	75.0	0.0	1.3	100.0	100.0
Total	Rural	14.6	8.5	83.2	90.5	2.2	1.0	100.0	100.0
	Urban	42.2	30.0	56.1	68.9	1.7	1.1	100.0	100.0

TABLE 5

THE PROPORTION OF RESPONDENTS HAVING KNOWLEDGE ON THE
LEGALISATION OF ABORTION BY TYPE OF FAMILY

		Yes		No		No Answer		Total	
		Male	Female	Male	Female	Male	Female	Male	Female
Nuclear	Rural	15.1	9.1	82.9	90.1	2.0	0.8	100.0	100.0
	Urban	42.2	24.6	55.7	74.2	2.1	1.2	100.0	100.0
Joint	Rural	15.3	7.4	82.5	91.3	2.2	1.3	100.0	100.0
	Urban	37.0	23.0	61.6	75.7	1.4	1.3	100.0	100.0

TABLE 6

THE PROPORTION OF RESPONDENTS HAVING KNOWLEDGE WHETHER
THE FACILITIES ARE AVAILABLE IN PHC/UFWC

		Yes		No		Don' 't know		No Answer		Total	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Rural		10.8	6.7	23.6	10.6	63.7	81.7	1.9	1.0	100.0	100.0
Urban		27.7	21.7	31.1	16.9	39.9	59.8	1.3	1.6	100.0	100.0

males and 10.6 per cent of females in rural areas as well as 31.1 per cent of males and 16.9 per cent of females in urban areas have stated to have no MTP facilities were available either in the PHC or the UFWC.

i. Age of the Respondent

Age of the male respondents has not affected the knowledge of such facilities as furnished in Table 7.1 in rural areas about 10 to 11 per cent have confirmed that these facilities are available in the PHC. The corresponding figures for males in urban areas are about 26 to 29 per cent. However, slightly more proportion of males in the age group 30-39 in rural and about 40+ in urban are aware of these facilities available in the PHC/UFWC.

Rural females also present an identical picture. About 5 to 7 per cent have said that such facilities are available in the PHC. In urban, it is only those who are above 30 years who have said in more proportion about the availability of these facilities in the UFWC. Relatively more women in the age group 30-39 are aware of these facilities. They are the ones who would need MTP and they may have had by then the required number of children.

ii. Religion

Data on the respondents' knowledge about the availability of MTP services in either PHC or UFWC, depending upon their place of residence has been given in Table 8. It can be noticed from the table that among rural respondents, Muslim men have demonstrated a better level of knowledge (17.6 per cent) regarding the availability of MTP services in PHC than their Hindu counterparts (10.6 per cent). In urban also, Muslim men have registered a better level of knowledge (35.9 per cent) than their urban Hindu counterparts (26.2 per cent).

Data on female respondents present a contrasting picture. Both in rural and urban areas relatively Muslim women have not shown a better level of knowledge about the availability of MTP facilities either in PHC or UFWC compared to their Hindu and 'other religion' counterparts. Among rural women, while Hindu women have registered a slightly better level of knowledge (6.8 per cent as against 6.5 per cent among Muslims) about the availability of MTP facilities in PHC in urban areas 'other religion' women have registered a higher level of knowledge about the availability of the MTP services in UFWC (30.8 per cent as against 24.8 per cent among Hindu and 10.8 per cent among Muslims).

Though some interesting results about Muslims have been shown in Table 8, the authors wish to concede the fact the Muslim sample was small and the observations since made may not be impeccable.

TABLE 7

THE PROPORTION OF RESPONDENTS HAVING KNOWLEDGE WHETHER
MTP FACILITIES ARE AVAILABLE IN THE PHC/UFWC BY AGE

		Yes		No		Don' t know		No Answer		Total	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Less than 20	Rural	25.0	5.4	0.0	9.0	50.0	83.2	25.0	2.4	100.0	100.0
	Urban	0.0	15.4	0.0	15.4	*	69.2	0.0	0.0	*	100.0
20 - 29	Rural	10.8	7.2	24.7	9.8	62.9	82.3	1.6	0.7	100.0	100.0
	Urban	29.6	18.8	38.9	16.2	31.5	64.4	0.0	0.6	100.0	100.0
30 - 39	Rural	11.3	6.7	23.3	11.6	64.3	80.9	1.1	0.8	100.0	100.0
	Urban	26.4	26.2	27.3	16.4	45.5	54.1	0.8	3.3	100.0	100.0
40 +	Rural	10.3	6.6	23.6	11.7	63.7	80.1	2.4	1.6	100.0	100.0
	Urban	28.2	24.6	31.3	21.0	38.7	52.6	1.8	1.8	100.0	100.0

◆Percentages are not calculated for the cell frequency is less than 10

TABLE 8

THE PROPORTION OF RESPONDENTS HAVING KNOWLEDGE WHETHER
MTP FACILITIES ARE AVAILABLE IN THE PHC/ •JFWC BY RELIGION

Religion		Yes		No		Don ' t know		No Answer		Total	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Hindu	Rural	10.6	6.8	23.8	10.5	63.7	81.7	1.9	1.0	100.0	100.0
	Urban	26.2	24.8	30.7	17.6	41.4	55.9	1.7	1.7	100.0	100.0
Muslim	Rural	17.6	6.5	21.6	11.3	60.8	80.6	0.0	1.6	100.0	100.0
	Urban	35.9	10.8	26.6	11.8	35.9	76.3	1.6	1.1	100.0	100.0
Others	Rural	0.0	0.0	0.0	14.3	100.0	85.7	0.0	0.0	100.0	100.0
	Urban	16.7	30.8	50.0	38.4	33.3	30.8	0.0	0.0	100.0	100.0

iii. Caste

It can be observed from Table 9 that in general about 11 per cent of males and 7 per cent of females in rural areas are aware of the MTP facilities available in the PHC. In the urban areas, the corresponding figures for both males and females in general are 26.2 per cent and 25 per cent respectively. About 64 per cent of males in rural and 41 per cent in urban do not know anything about the provision of these facilities in the PHC/UFWC. Similarly, 82 per cent of females in rural and 56 per cent in urban have expressed their ignorance about these provisions.

Among rural males, those from backward castes seem to have better knowledge about the availability of these facilities (13.3 per cent), while it is the least amongst those belonging to scheduled castes (6.1 per cent). As regards females, while it is relatively more amongst the higher caste women (8.5 per cent), it is the least among the scheduled caste women (4.2 per cent). This might be due to their lack of utilisation of the institutional health care facilities thus restricting their knowledge. It is possible that the scheduled caste people might still go to the traditional healers when some one is ill. That virtually makes the facilities available in the hospital oblivious.

iv. Type of Family

Although there is no marked variation between the responses of joint and nuclear families, nonetheless by a slender margin, the knowledge regarding the availability of MTP facilities is more among respondents hailing from nuclear families. The relative proportions are 11.4 for males and 6.7 for females in nuclear as against 10.2 for males and 6.5 for females in joint families.

In urban, it is interesting to find that 27.6 per cent of males from nuclear families as against 26.8 per cent of males from joint families have reported knowledge on the availability of MTP facilities in UFWC. Data on urban females present a contrasting picture. About twenty four per cent of females from joint families have reported having such knowledge as compared to about 21.0 per cent from nuclear families. The latter could be possibly due to sibling influence".

WILL PEOPLE TAKE ADVANTAGE OF THESE FACILITIES?

The respondents were also asked, if these facilities are made available, whether people would take advantage of them? A vast majority failed to predict what sort of response such a provision would deduce. Data pertinent to this aspect are furnished in Table 11. According to the table only about 11 per cent of males and 7 per cent of females in the rural areas have asserted that people will take advantage of such facilities. In urban areas, about one per cent of males and less than one per cent of females only have said that these facilities will be utilised by the urban folks. A great majority refrained from forecasting for want of intimacy, family background and the possible socio-cultural repercussions the legalisation of abortion would evoke.

TABLE 9
THE PRPORTION OF RESPONDENTS HAVING KNOWLEDGE WHETHER MTP
FACILITIES ARE AVAILABLE IN THE PHC/UFWC BY CASTE

Caste		Yes		No		Don't 't know		No Answer		Total	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Higher	Rural	12.8	8.5	23.9	11.5	61.8	79.5	1.5	0.5	100.0	100.0
	Urban	35.4	33.9	18.6	16.1	44.2	49.2	1.8	0.8	100.0	100.0
Backward	Rural	13.3	6.1	22.7	8.3 2	60.2	83.3	8.8	2.3	100.0	100.0
	Urban	23.1	22.8	41.0	6.3	30.8	50.9	5.1	0.0	100.0	100.0
Scheduled	Rural	6.1	4.2	20.5	10.4	72.7	84.2	0.7	1.2	100.0	100.0
	Urban	21.1	12.1	31.6	15.2	47.3	66.7	0.0	6.0	100.0	100.0
Others	Rural	8.9	6.0	27.9	10.2	60.6	82.7	2.6	1.1	100.0	100.0
	Urban	15.1	17.1	43.8	14.5	41.1	65.8	0.0	2.6	100.0	100.0
Total	Rural	10.6	6.8	23.8	10.6	63.7	81.6	1.9	1.0	100.0	100.0
	Urban	26.2	24.8	30.7	17.6	41.4	55.9	1.7	1.7	100.0	100.0

TABLE 10

THE PROPORTION OF RESPONDENTS HAVING KNOWLEDGE WHETHER
MTP FACILITIES ARE AVAILABLE IN THE PHC/UFWC BY TYPE OF FAMILY

Type of Family		Yes		No		Don't know		No answer		Total	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Nuclear	Rural	11.4	6.7	24.8	11.1	62.2	81.5	1.6	0.7	100.0	100.0
	Urban	27.6	20.6	28.1	16.5	42.7	60.9	1.6	2.0	100.0	100.0
Joint	Rural	10.2	6.5	22.3	10.1	65.4	82.1	2.1	1.3	100.0	100.0
	Urban	26.8	23.6	36.2	17.6	35.5	58.1	1.5	0.7	100.0	100.0

TABLE 11

THE RESPONDENT'S OPINION WHETHER PEOPLE WILL TAKE ADVANTAGE
OF THESE FACILITIES

Type of Residence		Yes		No		Don' ' t know		NO answer		Total	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Rural		10.8	6.7	23.6	10.6	63.7	81.7	1.9	1.0	100.0	100.0
Urban		1.3	0.5	15.5	13.4	76.5	77.3	6.7	8.8	100.0	100.0

SUMMARY

The timing of the present enquiry was four years after the promulgation of the MTP Act of 1971. The study, however, purported to investigate to what extent the legalisation of abortion has gained awareness amongst people and what proportion really knew about the facilities accorded in government centres for conducting MTPs. The findings revealed that in rural areas about 15 per cent of males and 8 per cent of females only were aware of the legalisation of abortion while in urban about 41 per cent of males and 24 per cent of females were aware of the legalisation of abortion. The effect of age, religion, caste and type of family was not found much on the level of awareness. Rural-urban differential, however, has drawn wide variations consequent of the natural virtues of an urban set up such as education, modernisation and better exposure to mass media. Similarly, knowledge about the facilities provided for conducting the medical termination of pregnancy in the PHC/UFWC drew a rather poor positive response in both rural and urban areas. In rural areas, about 11 per cent of males and 7 per cent of females said that they were aware of the facilities available in the PHC. In urban, about 28 per cent of males and 22 per cent of females only said that these facilities were available at the UFWC. The rural lack of awareness might be an account of not finding the necessity to know, or that they may still prefer quacks to scientific abortion or for economic reasons. The latter might be due to urban people's lack of awareness about the existence of an UFWC. This is not something uncouth for urbanities prefer to go to either major hospitals or nursing homes.

Whether people will take advantage of MTP facilities are made available in PHC/UFWC, both the rural and urban folks have refrained from making a forecast. A vast majority of these have taken shelter in saying 'don't know' which certainly makes their stance easy. In urban a neighbour does not attempt at predicting another neighbour's behaviour for they would not be all that intimate and knowing each other's family well. Though rural community is a close-knit one perhaps in matters of sex, abortion etc., people do not want to give opinion for they are highly esoteric and clandestine.

However, it is evident from this study that knowledge regarding the legalisation of abortion has not been encouraging and still a lot is desired to be done for the dissemination of information. A similar observation was made by the author of another study¹⁴. The failure of the various mass media is also evident from the proportion who are aware of this law and the facilities made available to the public at large. One can recall here how relevant was the prediction made by Chandrashekar¹⁵, which is mentioned in the early paragraphs. Therefore, concerted efforts are imperative to make people aware of this statute so that they could take advantage of it. That will in part solve the problem of population and health hazards consequent of women till resorting to quacks.

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यह कहा गया था कि गर्भपात का वैधीकरण हो जाने से यह जरूरी नहीं हो जाता कि यह सुविधा प्रत्येक गर्भवती महिला को सदैव उपलब्ध हो सकेगी तथा यह भी कहा गया था कि जब तक यह सूचना (अर्थात् "गर्भपात अब कानूनी हो गया है और यह सेवाएं उपलब्ध है) देश को सभी जरूरतमंद माताओं तक पहुंचेगी तब तक इसमें कुछ और समय लगेगा। वर्तमान अध्ययन से यह सिद्ध हो गया है कि उपरोक्त कथन पुरी तरह से सही था तथा इस दिशा में –अर्थात् गर्भपात के वैधीकरण के बारे में जानकारी प्रदान करने तथा ग्रामीण एवं शहरी सेवा केन्द्रों में करने की जरूरत है। इस अध्ययन द्वारा स्वास्थ्य कार्यकर्ताओं को यह भी आह्वान किया गया है कि गर्भपात संबंधी उपरोक्त पक्षों के बारे में महिलाओं तक सूचनायें प्रसारित करने के लिए उन्हें ठोस प्रयास करने की आवश्यकता है।

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**MARRIAGE PATTERNS, AGE AT MARRIAGE AND FERTILITY
BEHAVIOUR AMONG YANADIS - A STUDY OF TRIBAL
COMMUNITY IN ANDHRA PRADESH**

G. Gurumurthy*

ABSTRACT

This paper deals with the marriage patterns, age at marriage and fertility behaviour of a tribal community known as 'Yanadis' from Andhra Pradesh. Marriage among Yanadis is not a stable union. Very often they remarry in succession. They practised elopement and are treated as husband and wife at their destination. Women who married twice or more had slightly a higher fertility. Age at marriage of women has a negative association with the fertility behaviour for the population as a whole.

We come across different systems of marriages which vary from religion to religion and culture to culture. Arranged marriages and love marriages are the most common types of marriages prevailing in most of the communities. However, in case of tribals, they adopt the following customs and practices including the sample population in Andhra Pradesh, which are unique in their characteristics.

Paying bride price is a common practice among tribals. Another feature among them is that the proposal should begin from boy's side'. Generally the marriage alliance is made with near relatives or sub-tribes. Separation and divorce are very common among them. Frequently the couple get themselves separated for various reasons, since the marriage among them is not a stable union. In case of divorce, the alliance is dissolved with the permission of a tribal panchayat. Premarital sexual relations are rarely practised in tribals and are tolerated among Yerukulas, Jatapus, Lambadis and Yanadis of Andhra Pradesh and Soligar of Mysore State^{2,3,4}. In case of mate selection they enjoy much freedom to select their partners as they have ample opportunity to meet during the course of their socio-economic activities and such contacts may lead to marriage or elopement. Among the Konds of Orissa, they built two dormitories for this purpose⁵.

Among the types of marriages, polygamy is the common form of marriage prevalent both in modern and traditional societies and also in the sample population. Polyandry is a rare type of marriage now-a-days and it is still prevalent in some of the Indian tribes^{*}. Further, the practice of widow remarriage is very common among tribal women including the sample population. It may be the custom in some tribes while in others it is obligatory. In some cases, they involve in elopement and confirm

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with the tribal panchayat but it varies from tribe to tribe¹ The other types of marriages namely Sororate, Levirate, Cross-cousin and marriage by exchange are common in different tribal communities in India⁷. The tribal marriages are accompanied with certain unique customs and practices as compared to Hindus and Muslims. Hence, an attempt has been made to study the marriage systems among Yanadis in Andhra Pradesh as it is the most backward community with the second largest tribal population.

Yanadis are a tribal community inhabiting the hilly areas mostly in Chittoor and Nellore districts of Rayalaseema region and spread over the rest of Andhra Pradesh as well. Among the tribal groups of Andhra Pradesh they are the second largest group with the population of 2, 39,406. Yanadis are comparatively a backward tribe and have many complex features.

OBJECTIVES AND METHODOLOGY

The main objective of this study is to obtain information regarding marriage patterns that are prevalent among Yanadis and also to find out the age at marriage, ideal age at marriage for boys and girls and its relationship with their fertility behaviour.

A simple random sampling procedure was adopted for selection of sample and the size of the sample was fixed as 600 couples. The sample was selected from a list of households of all Yanadis from all villages belonging to Srikalahasthi and Thottambedu taluks in Chittoor district. For selection of sample at the first instance all villages where Yanadis are living were listed out. Subsequently, their households were enumerated. From every household only one eligible couple is included in the sample. Further, eligible couple with 2 or more live births alone was considered. An appropriate interview schedule which was prepared for the purpose was applied for the collection of data from the respondents.

RESULTS AND DISCUSSION

Marital status is one of the basic factors that influence fertility. About one-fourth of Yanadis generally marries twice and even more. Marriage among Yanadis is not associated with any kind of legal involvement *i.e.* if one of the spouses is not interested to continue with the partner, either he or she elope's with some other person and choose him as partner. In the destination of their elopement they are treated as couple. Therefore, marriage among Yanadis is a peculiar system *i.e.* very often they remarry in succession. It is so flexible that they leave the spouse, and arrange their union with another partner as and when they like. Hence, in this community, permissibility (the social sanction) to change the spouse according to one's own liking is extensively observed.

As regards the type of marriage among Yanadis, the first marriage in this community is mostly an arranged one. While 60 per cent of the first marriages are

arranged by parents, the remaining 40 per cent of marriages are arranged by the couples themselves. It is fascinating to note that the arranged marriage is not universal in this community, while it is more universal in most of the Hindu castes in the neighbouring places.

However, there is a certain amount of inhibition on the part of the female to confess about her earlier marriages when she is staying with the current (new) husband. This reservation of reporting about earlier marriages was noticed during data collection. Hence, there was some difficulty in obtaining the relevant information. Nevertheless, all possible care was taken to probe and get as much accurate information as possible on its remarriage pattern.

It is found from Table 1, that Yanadis, over one-fourth (26 per cent) of husbands married twice, which is a general practice in this community. As expected, remarriage goes up correspondingly with the **increase** in the duration of married life.

TABLE 1
PERCENTAGE DISTRIBUTION OF HUSBANDS AND WIVES BY NUMBER OF
TIMES THEY MARRIED

Number of times they married'	Duration of married life in years			
	Upto 10	11 to 20	21 +	Total
Husbands				
Once only	84.1 (169)	71.4 (177)	64.9 (98)	74.0 (444)
Twice and above	15.9 (32)	28.6 (71)	35.1 (53)	26.0 (156)
Total	100.0 (201)	100.0 (241)	100.0 (158)	100.0 (600)
Wives				
Once only	95.0 (191)	87.9 (218)	79.5 (120)	88.2 (529)
Twice and above	5.0 (10)	12.1 (30)	20.5 (30)	11.8 (71)
Total	100.0 (201)	100.0 (248)	100.0 (151)	100.0 (600)

Figures in the brackets indicate the number.

'Since sample size is small it is difficult to stretch this variable further

in the case of men. While it was 16 per cent for couples with ten years of duration of married life, the percentage went up to 35 per cent for the older couples with 21 + years of married life. Therefore, the incidence of remarriage increases, as years pass. When the duration of marriage is controlled, a comparatively higher proportion of husbands is found in the middle and older age cohorts who married twice or more as against younger age groups. Similarly, over one-tenth (12 per cent) of the wives among Yanadis married twice and above. As in the case of men for women also remarriage increases with the advance in age after the marriage.

When the duration of marriage is controlled, a slightly higher proportion of women in middle and older age cohorts, married twice or more as against younger women. The practice of remarriage is widely practised in the community, because negligible expenditure is involved, and cultural permissiveness also exists.

When the extent of remarriage by men and women is compared, it is interesting to note that uniformly more men reported about the remarriage at all age groups; at the duration of marriage 21+ years and above nearly 35 per cent men remarried as against only 21 per cent of women.

It is seen from Table 2 that statistically a significant difference is not found between the women married once and twice and more.

TABLE 2
MEAN NUMBER OF LIVE BIRTHS BY NUMBER OF TIMES THAT SHE
MARRIED"

Number of times that she married	Duration of married in Life in years				SD
	Upto 10	11 to 20	21 +	Total	
1 Once only	2.4 (191)	3.8 (218)	5.5 (120)	3.7 (529)	1.7
M Twice and above	2.5 (10)	3.5 (30)	5.0 (31)	4.0 (71)	2.1
Total	2.4 (201)	3.8 (248)	5.4 (151)	3.7 (600)	1.8

*The mean number of children of the women were computed taking into consideration of all the children that she had in all the marriages together

t' cal. value between I & II = 1.15 It indicated that there is no significant difference, as 't' cal value is lower than 't' cri. value at 0.05 LOS

While an attempt is made to study the practice of remarriage, it is observed that sexual gratification is reported as a major factor. Another reason is that their kinship network is not enduring. For example, parents have very little control over the children, ever since they become adults. There are several instances where older men and women elope with young persons*.

After studying the marital status of Yanadis, an attempt is made to know the opinions of the respondents regarding what should be the ideal age at marriage for girls and boys. The information thus obtained has been given in Table 3.

Generally, people in tribal communities prefer to arrange marriage at early ages which is true of this community also. Here the mean ideal age at marriage as reported by the parents, is 16 for girls and 20 for boys. However, it can be seen from the Table 3 that an overwhelming proportion of the parents (75 per cent) would like

TABLE 3
PERCENTAGE DISTRIBUTION OF RESPONDENTS BY THE IDEAL
AGE AT MARRIAGE FOR GIRLS AND BOYS

Ideal age for marriage in years	Girls	Boys
Upto 13	1.8 (11)	-
14 to 15	38.8 (233)	-
16 to 17	36.5 (219)	3.6 (22)
18 to 19	20.7 (124)	43.0 (258)
20 to 21	2.2 (13)	26.9 (161)
22 to 23	-	18.5 (111)
24 to 25	-	8.0 (48)
	100.0 (600)	100.0 (600)

- The author himself collected the said information for the question, 'if married more than once, give reason'. But due to certain amount of inhibitions the correct answers could not be elicited from them. However, the author ascertained the reasons by means of observational study and in consultation with local leaders.

to arrange the marriage of daughters at the ages of 14 to 17 years. In the case of boys over two-thirds of the respondents (70 per cent) have expressed their ideal age at marriage as 18 to 21 years.

Hence, it may be concluded that Yanadis prefer to arrange early marriages both for girls and boys. For example, the mean ideal age at marriage was above 21 years for boys and above 16 years for girls among the caste Hindus in Chittoor district⁸. Similarly, it was 23.8 years for men and 17.9 years for women among the non-slum dwellers of Hyderabad city⁹. Further, none of them is also aware of the legal age at marriage as enacted by the Government of India. Therefore, concerted efforts have to be made to educate the youngsters and their parents to postpone the age at marriage.

AGE AT MARRIAGE

Age at marriage is an important variable which is generally influenced by many social and cultural factors viz. education, occupation, residence, kinship, family type, customs, social control, bride price etc. Since, age at marriage is taken here as an independent variable, several determinants of age at marriage are not discussed here. As an independent variable, it influences first duration of reproductive period, and, through it, influences fertility behaviour. Of course, it has other influences too on fertility behaviour viz. the development of a sense of planning, opportunity to learn several things before marriage, which may directly influence family size norm, contraception and fertility itself^{10,8}.

The postponement of marriage to ages beyond 20 tends biologically to reduce births, sociologically, it gives women time to get better education, acquire interest unrelated to the family, and develop a cautious attitude towards pregnancy¹¹. Higher age of marriage reduces the birth rate in two ways. First, through a shortening of the reproductive span by about five years and secondly, through the shifts in the fertility patterns towards fewer, children in a woman's later years, partly attributable to factors like education and modernization¹².

In this community, the mean age at first marriage of husbands is 19.47 years and the mean age at marriage for wives, is 15.87 years. The percentage distribution of women by age at first marriage has been shown in Table 4.

It is found from Table 4 that 60 per cent of women married between 15 and 16 years, whereas 13 per cent each married at age's upto 14 years and 18 and more years respectively.

When the duration of marriage is controlled in different age cohort's viz. upto 10, 11 to 20, 21 years and more, it is found that greater proportion of marriage took place at the ages of 15 and 16 for the recently married women; women married during the last twenty years and those married longer than 21 years of time.

TABLE 4
PERCENTAGE DISTRIBUTION OF WOMEN BY AGE AT FIRST MARRIAGE

Age at marriage (years)	Duration of. married life in years (years)			Total
	Upto 10	11 to 20	21*	
Upto 14	55 (11)	13.7 (34)	225 (34)	131 (79)
15	20.9 (42)	226 (56)	278 (42)	23.3 (140)
16	40.8 (82)	379 (94)	29.8 (45)	36.8 (221)
17	16.4 (33)	14.1 (35)	99 (15)	138 (83)
18*	164 (33)	11.7 (29)	9.9 (15)	12.8 (77)
Total	100.0 (201)	1000 (248)	100.0 (151)	100.0 (600)

Figures in parentheses indicate the number of women

Nevertheless, there have been certain changes in women, married at younger and older ages during the last 20 years time

Women marrying at the ages of 14 or less have been very negligible (5.5 per cent) during the last 10 years as compared to those who had 21 + years duration of married life (22.5 per cent). Similarly, there has been a steady increase in the age at marriage from 17 years and more during the last 10 years but not earlier. Wife's age at marriage and its relationship with fertility has been shown in Table 5.

Age at marriage generally has a negative association with the fertility behaviour in this community, which is fully confirmed for the population as a whole. However, when duration of marriage is controlled, the age at marriage shows pronounced relationship in the case of older age cohorts only. But in the case of the other two category of cohorts the association is not fully consistent with the trend noticed. Hence, the hypothesis that higher age at marriage progressively depresses the fertility even in traditional tribal community like Yanadis is confirmed. Only for high age groups with duration of married life more than 20 years. A similar relationship is also found in many studies conducted locally at district/State^{8,9} as well as in national and international studies^{0,13-15}. A small proportion of women in this community marry at higher ages; this tendency has to percolate among all sections of the society conspicuously in view of the fertility implications, the women who married at higher ages have only shown lower fertility as compared to others

TABLE 5

MEAN NUMBER OF LIVE BIRTHS ACCORDING TO AGE AT MARRIAGE OF WOMEN

Age at marriage in years	Duration of married life in years			Total	SD
	Upto 10	11 to 20	21 +		
I. Upto 14	2.4 (11)	3.7 (34)	6.1 (34)	4.6 (79)	2.7
II. 15	2.4 (42)	3.9 (56)	5.6 (42)	3.9 (140)	2.0
III. 16	2.5 (82)	3.8 (94)	5.4 (45)	3.6 (221)	1.6
IV. 17	2.4 (33)	3.7 (35)	4.2 (15)	3.3 (83)	1.3
V. 18+	2.4 (33)	3.8 (29)	4.2 (15)	3.3 (77)	1.4
Total	2.4 (201)	3.8 (248)	5.4 (151)	3.7 (600)	1.8

't' cal value between I & II 2.01 at 5.0 per cent LOS*

't' cal. value between I & III 9.63 at 1.0 per cent LOS*

't' cal value between I & IV 3.87 at 1.0 per cent LOS*

't' cal. valu - between I & V 3.79 at 1.0 per cent LOS*

"Indicated that the mean number of live births between the women who married at the age of 14 and 15 years and above had a statistically significant difference

NOTE t cal value is considered significant when it is greater than t critical value

Lastly, a study is made of the number of wives that a Yanadi person had at a time, and it is found that only 5.8 per cent of the respondents had two and more wives at a time, though they change the spouses often; which is known as the practice of polygamy, while the rest of 94.2 per cent are practising monogamy.

CONCLUSION

Marriage among Yanadis is not a stable union. Very often they remarry in succession. They practised elopement and are treated as couple in their destination. It is found that 26 per cent of Yanadi men and 12 per cent of Yanadi women married twice and above. Women who married twice or more had slightly a higher fertility (4.0 live births) as against those who married only once (3.7). The

men of ideal age for future marriage of boys and girls are reported to be as 20 and 16 • respectively. Moreover, the mean age at first marriage of husbands is 19.47 years and it is 15.87 years in case of wives. Further, it was found that the age marriage of women has a negative association with the fertility behaviour for the population as a whole.

इस लेख में, आन्ध्र प्रदेश के 'यनादी' नाम से जाने वाले आदिवासी समुदाय की वैवाहिक शैली, विवाह के समय आयु तथा प्रजनन व्यवहारों के बारे में चर्चा की गई है। 'यनादी' समुदाय के लोगों में विवाह कोई स्थाई गठबन्धन नहीं होता है। आमतौर से वह एक के बाद एक पुनर्विवाह करते हैं। उनमें विवाह की सहपलायन (अलोपमैन्ट) पद्धति का रिवाज है तथा वह डेस्टीनेशन पर पति पत्नी के रूप में माने जाते हैं। जो महिलाये दो या दो से अधिक बार विवाह करती हैं उनकी प्रजनन दर थोड़ी सी उच्च होती है। जहां तक विवाह के समय महिला की आयु का प्रश्न है व्यापक रूप से जनसंख्या की प्रजनन व्यवहार शैली से इसका नकारात्मक संबंध है।

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SOCIO-ECONOMIC DETERMINANTS OF PERSONAL EXPENDITURE ON HEALTH CARE

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ABSTRACT

The present study examines the personal expenditure on medical care as affected by both consumer characteristics as well as developmental status of an area. The findings of the study provide useful information for the identification of the vulnerable population and characteristics of the areas where they live in.

Various socio-economic variables affect demand for health services, as measured by personal expenditure on health care. Some of these relate to consumer characteristics like income, sex, age, education, price, quality of care, etc.¹⁻⁴. Among income variables, the effect of components related to transitory income and permanent income has also been studied⁵⁻⁶. Apart from personal factors, health expenditure is said to be affected by exogenous variables like place of residence⁷, number and types of physician's available, medical technology⁸, etc. Macro variables of the economy in this context has received little attention.

In the developing country like India, health care market is not well developed; purchasing power of people is low; sizeable population lives in below poverty-line; incidence of diseases is very high and there are pronounced spatial and regional differentials in the development, especially in respect of industrialisation, infrastructure, agriculture, health facilities; etc. In such case socio-economic variables both at regional as well as personal level affect the personal health expenditure. Information about these variables would provide necessary benchmarks for the identification of vulnerable clientele who due to either personal or specific factors of the regions of their residence, are deprived of availing of health services, whether personal or public. The present study is an attempt to provide the relevant information on the mix of personal and regional determinants, which could be used for necessary policy formulations.

OBJECTIVE

The main objective of the present investigation is to study the effect of various socio-economic variables, both at personal as well as district level, which affect personal expenditure on health care.

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DATA

Based on the requirements of the study, two sets of data have been collected. Firstly, primary data collected during an earlier study⁹ in respect of community survey in Western Uttar Pradesh have been utilised for the present purpose. Data were collected based on multi-stage random sampling. At the first stage, two districts, out of eighteen districts, were selected. Then two primary health centres (PHCs) each in the two districts were selected. In the third stage, four villages in each PHCs were selected. Finally, five per cent of households in the sixteen sampled villages were selected, subject to a minimum of five per village. At all the four stages, the sampled units were selected randomly. Information about the composition of family, religion, caste, education, income, ownership of implements and machinery, utilisation of health care; etc. was collected.

Secondly, district-wise information on various socio-economic variables pertaining to industrialisation, agriculture, infrastructure, health; etc. was collected from secondary data. The information on number of inpatients and outpatients was collected through records. As such information about fourteen socio-economic variables in respect of 54 districts of Uttar Pradesh was collected.

The area of study as on April 23, 1981 was 57 districts of Uttar Pradesh while there were nineteen districts in its Western region. The population of Uttar Pradesh was about 111 million whereas that of Western region was about 39.4 million¹⁰. Most of the secondary data were related to 1977-78. Three districts (one each from Western, Central and Bundelkhand region) could not be included and data collected from remaining 54 districts were used for the study purpose.

DATA ANALYSIS

In order to study the effect of socio-economic variables on the personal expenditure on health care, two models of demand have been studied using regression analysis. In the case of first model, consumer characteristics, religion, caste, number of family members, number of persons educated in the family, per capita annual income and PHC visit were taken to be independent variables. As three out of the six independent variables: viz. religion, caste and PHC-visit can be classified on nominal scale, it was decided to classify all the independent variables as well as the dependent variable in groups. The scheme of classification has been given in Table 1.

Per capita health expenditure per annum was taken to be a measure of personal expenditure on health. Similarly, in the case of second model which used district-wise aggregate data, per capita medical expenditure (rural) (1969-70) was taken as a measure of health expenditure. The effect of the fourteen independent variables has been studied in this respect.

Regression analysis yielded results in respect of (a) correlation coefficient (r)

TABLE 1
CODING SCHEME IN RESPECT OF VARIABLES: CLASS INTERVALS

Variable	Class intervals in respect of code No.				
	1	2	3	4	5
1. Family members (number)	1-3	4-5	6-7	8+	-
2. Per capita annual income (Rs)	0-275	276-550	551-730	731-1100	1100+
3. Religion	Others	Muslim	Hindu		
4. Caste	SC/ST	-	Caste Hindu/Muslims		
5. Persons educated in family (number)	0	1	2-3	4+	
6. PHC visit	None	No money for	Yes	-	- transport
7. Per capita annual health expenditure (Rs.)	0-25	26-50	51-75	76-100	101+

among pairs of the dependent variable with independent variables; (b) coefficient of multiple correlation (R) showing association among a set of variables; (c) coefficient of multiple determination (R²) showing the proportion of variation in the dependent variable explained by the set of independent variables studied; (d) partial regression coefficient (B) showing unit change in dependent variable associated with change in independent variables; (e) t-values in respect of independent variables; and (f) F-value showing the level of significance of the results in respect of the regression equation.

RESULTS

Consumer Characteristics

The results regarding consumer characteristics and results of the regression analysis have been given in Tables 2 and 3.

The consumer characteristics analysis showed that on an average the per capita health expenditure per annum was found to be above class interval of Rs.26-50; family size was above 6-7 members, per capita income was more than Rs.551 -730 class, majority of people were either Hindus or Muslims. Only a few of them were

TABLE 2
CHARACTERISTICS OF VARIABLES IN RESPECT OF CONSUMERS

Variable	Mean	Standard deviation
<i>Dependent variables</i>		
Per capita health expenditure (Rs)	2.03	1 .16
<i>Independent variables</i>		
Family members	2 .64	1.14
Per capita annual income	3.15	1 .51
Religion	2 .84	0.42
Caste	1 .75	0 .97
Number educated in family	2.28	1.05
PHC visited	2 .11	0.99

TABLE 3
RESULTS OF REGRESSION ANALYSIS IN RESPECT OF CONSUMER
CHARACTERISTICS; DEPENDENT VARIABLE PER CAPITA HEALTH
EXPENDITURE

Independent variables	Correlation with dependent variable	Regression coefficient (B)
1. Family members	-.2007	-.1486**
2. Per capita annual income	.3640*	.252*
3. Religion	.0224	-.1121
4. Caste	.2583*	.1727"
5 Number educated in family	.0805	.0088
6. PHC visit constant	.1043	.0939 1.5783

F - value of equation 5.9375; d.f 6.171 (significant at 0.1 per cent level) R^2 17.24 per cent
 *Significant at 1 per cent level **Significant at 5 per cent level

belonging to other religions; more than one educated persons were found in the family and PHC utilisation was low.

Table 2 reveals that per capita annual income and caste were significantly correlated with the per capita consumer expenditure. The regression coefficient in respect of three independent variables was significant. The results suggest that health expenditure was (a) positively affected by income; *i.e.* it increased or decreased with income level; (b) negatively related to family size; *i.e.* small families spent more and *w'ce-versa*; (c) positively related to caste status; *i.e.* expenditure by scheduled castes/scheduled tribes people was less while that of caste Muslims/Hindus was more; (d) expenditure incurred decreased according to religion; *i.e.* highest by people belonging to other religions like Sikhs followed by Muslims and Hindus in that order; and (e) relatively indifferent to the number of educated persons in the family as well as utilisation of PHC.

The independent variables in the equation explain 17.24 per cent variation in the per capita medical expenditure. F-value of equation shows that it is significant at 0.1 per cent level.

District Level Aggregate Data

Table 4 gives characteristics about the dependent as well as independent

TABLE 4

CHARACTERISTICS OF VARIABLES IN RESPECT OF DISTRICT LEVEL DATA

Variable	Mean	Standard deviation	Coefficient Of variation
A. Dependent variable Per capita medical expenditure (rural) per annum (Rs)	6.25	5.87	93.92
B. Independent variables			
1. Urbanisation ratio	13.24	11.50	86.86
2. Percentage of worker engaged in secondary sector	63.3	3.88	61.30
3. Percentage of workers engaged in Tertiary Sector	14.82	9.06	61.11
4. Per capita consumption of electricity	71.63	127.03	177.34
5. Consumption of fertiliser per thousand hectare	28.98	17.82	61.49
6. Consumption of power per hectare	0.49	0.48	97.96
7. Literacy rate	20.32	6.69	32.92
8. Length of roads per thousand population	48.17	24.86	51.60
9. Number of villages(per thousand of villages) having piped water	0.58	1.12	193.10
10. Number of beds per thousand population	0.57	0.45	78.95
11. Number of IUD insertions per thousand population	13.12	4.71	35.90
12. Number of inpatients per thousand population	10.10	9.30	92.08
13. Number of outpatients per thousand population	340.95	269.55	79.06
14. Number of doctors (Govt) per thousand population	0.13	0.08	61.54

variables. Coefficient of variation shows that inter-district variations in respect of the most of the independent variables is not very wide, except for few variables; like consumption of electricity and number of villages with piped water.

Signs in respect of correlation of dependent variable with independent variables show that per capita medical expenditure is positively correlated with secondary and tertiary employment, fertiliser, availability of doctors of public sector while it is negatively associated with literacy rate, number of villages with piped water, beds, consumption of electricity (total) and roads. These results broadly suggest that per capita medical expenditure is positively affected by agricultural prosperity and type of employment while it is negatively associated with some of institutional factors. The results in respect of partial regression coefficients show that medical expenditure is significantly affected by use of fertiliser; literacy rate and tertiary employment. Thereby generally confirming the results of correlation analysis. The equation explains 47.02 per cent of variation only and is found to be significant as shown in Table 5.

TABLE 5
RESULTS OF REGRESSION ANALYSIS: DEPENDENT VARIABLES: PER
CAPITA MEDICAL EXPENDITURE (RURAL)

Independent variables	Simple correlation	Partial Regression coefficient (B)
1. fertiliser	.5281*	0.1503"
2. Doctors (public)	.2751"	13.6522
3. Literacy rate	-.1244	-0.4457"
4. Piped water	-.1507	0.8806
5. Tertiary employment	.2814"	0.5298
6. Beds	-.0879	-2.8739
7. Electricity (total)	-.0064	-0.0686
8. Inpatients	.0986	-0.0797
9. Electricity (agricultural)	.4000*	-1.8624
10. Urbanisation	.2729"	-0.0741
11. Outpatients	.0388	-0.0019
12. Roads	-.2905"	0.01592
13. Secondary employment	.4343*	0.0925
14. IUD insertions	1480	-
Constant		4 8245
•Significant at 1 per cent "Significant at 5 per cent		
Multiple correlation (R) 0.6860		
Coefficient of determination (R^2) 0.4702		
F value of equation 2.73*. d.f. 13.40		

The foregoing results in respect of the two models showing consumer characteristics and district level aggregate data, show that certain variables like number of educated persons in the family, literacy rate, utilisation of PHC, number of beds, inpatients, outpatients and IUD per thousand of population and consumption of electricity do not generally show significant associations. In a model, not all variables are expected to show strength of associations which is significant as models propose to study certain relationships, the outcome of which cannot be predetermined. However, the explanatory power of a regression equation would certainly go up if the form of the variables is changed. For example, education may be expressed in terms of number of years of schooling instead of literacy rate or number of persons educated in family. However, as a predictor of physicians and dental expenditure (using measured income and permanent income) and physicians use, this variable had shown mixed results¹. This implies that further research is needed in this area by varying the number of variables and using different sets of data, of course, depending upon the relevant assumptions and hypotheses.

DISCUSSION

The combined results in respect of both micro and macro aspects of personal health expenditure, in general, reveal that

- it is inversely related to certain institutional variables like roads, availability of piped water, beds; personal variables like size of family, literacy and inputs variable; viz. consumption of electricity;
- it is positively related to certain personal variables like income, type of employment, caste status; input variable related to agriculture; and some of institutional variables related to availability of doctors (public sector) in the area and utilisation of public services.

The above results indicate towards possible benchmarks for the identification of vulnerable population both in terms of development status of the area as well as personal characteristics. These may broadly be classified:

Institutional

- areas with unfavourable infrastructural facilities like roads, facility of piped water and beds;
- areas that are primarily agricultural;
- areas with low industrialisation as represented by consumption of electricity.

Personal

- families whose size is large, say consisting of more than 5 members;
- families whose income is low;
- families belonging to scheduled castes/scheduled tribes.

CONCLUSION

In the developing areas, where institutional facilities are unfavourable, availability of health services is not universal and people have low purchasing power, improvement in health situation will remain a difficult task. In order to alleviate this situation, priority should be given to larger families with low income, especially those belonging to scheduled castes/scheduled tribes and residing in areas where institutional facilities are less developed and industrialisation is low.

वर्तमान अध्ययन द्वारा यह पता लगाने का प्रयास किया गया है कि उपभोक्ता के व्यक्तिगत स्वभाव के कारण तथा क्षेत्र विशेष की विकासात्मक स्थिति के परिणाम स्वरूप उपभोक्ता द्वारा अपनी स्वास्थ्य देखरेख पर किया जाने वाला निजी-व्यय किस प्रकार प्रभावित होता है। अध्ययन के परिणामों से इस प्रकार जनसंख्या वर्ग की पहचान करने के लिए तथा जिस क्षेत्र में उक्त जनसंख्या वर्ग रहता है उस क्षेत्र की विकासात्मक-विशेषताओं के पता लगाने के लिए बहुत ही लाभदायक सूचनाएं प्राप्त होती हैं।

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PERCEPTION OF HEALTH AMONG RURAL POPULATION IN INDIA

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ABSTRACT

*This article examines the perception of health among rural population of Haryana. The perception has been measured in terms of three broad dimensions, i.e., the elements of health, the relationship between these elements and socio-economic status and caste respondents and the relationship of perceived health with * their aspirations. Further, an attempt has been made to assess the relationship of perceived health with dependency as well as with scepticism, using Suchman's scales. Dependency scale measures the degree of dependency on others while one is sick and the scepticism about modern medical care highlights the degree of reliance on other types of treatment when one falls sick.*

This study is based on 273 households drawn from three villages of Beri Block in Rohtak District. Out of 34 villages in the block, one village, named as PHC village, was selected having institutional facility of Primary Health Centre and from it 10 per cent of the total households were drawn on simple random sampling basis. The other two villages, named as non-PHC villages, were drawn from those villages which were around 10-15 kilometers away from any health facility and out of those villages 50 per cent of the households were selected. Information from all households were collected through interview schedules.

The study indicates that the caste and SES of the respondents play a significant part in determining the subjective evaluation of their own health.

THE DILEMMA OF HEALTH CONCEPT

When and where does a person from a given social milieu go for seeking medical-care services is primarily determined by his perception of 'what is health and sickness'. It is now known that the kind of cues that an individual is likely to

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respond to in making a judgement about his being healthy or sick are influenced by, and assessed against, the background of what is normal for him. These perceptions, being subjective in nature, are mostly normatively defined; for the norms provide standards of adequacy relevant to capacities, feeling states and biological functioning needed for the performance of those activities that are expected of the members of a society.

The concept of 'health' has remained an illusive term and therefore difficult to define. For many, 'health' is the opposite of 'illness'; for some, it means a well-developed and adequately nourished body capable of vigorous exercises and able to withstand physical strains. Still others look upon 'health' as something dispensed by physicians and restored by medication. There are still others who view 'health' as a condition to be preserved or guarded, while others equate it with wholeness or completeness. All these contemporary definitions have added new dimensions to the older concepts of health. From its narrow confines of physical well-being, certain qualitative and spiritual elements have been subsequently added. More recently, a particular condition of health has been seen as the resultant of various ecological interactions. These interpretations are varying either in content or emphasis and none covers all the elements which are taken as necessary for defining normal health in different socio-economic and cultural settings. Despite such variations, numerous attempts have been made to list important elements which are viewed as significant while one talks about 'health' in a given situation. After careful analysis of all such definitions, it is possible to draw the overlapping elements which people from diverse socio-cultural settings consider as important indicators while defining the health. The inventory of such elements is as follows:

(1) Positive state; (2) Unity of physical, mental and social aspects; (3) A condition which is conducive to personal satisfaction and social feelings; (4) An optimal rather than maximal quality of life; (5) A measure of functional ability; (6) The resultant of various interactions; (7) Changing phenomenon which is never static; (8) Quality of life which is continually consumed and used in pursuit of the goals of living, loving, learning, working, caring and meeting the challenges that confront us from the cradle to the grave.

Health has thus many facets and perfect health is a state towards which an individual in a given social structure is oriented rather than the one he expects to attain. In a broader context, being healthy is a goal that most people would define as desirable. However, it does not follow that people will always behave in similar and consistent ways for maintaining their good health.

The above analysis would establish that perceptions about health and sickness vary according to different considerations and that most of such considerations may at times be dissimilar. In view of these considerations, an attempt has been made in this paper to analyse the concept of normal health, as perceived by the villagers, with a view to take suitable measures for maintaining normal health. Recognising the wide variations in perceptions about health and sickness, it is necessary to carefully

develop an inventory of items which are associated with health. It is vital also for developing suitable strategies of health care delivery system. For attaining the above objective, two open-ended questions were initially asked from the rural respondents. The verbatim responses were subjected to content-analysis in order to identify the most frequent items to which high priority was attached by the villagers when they perceive a normal healthy person in their own setting. Although, it was recognised that there could be many other ways for measuring the concept of health, and keeping in view the low level of literacy, caste, different nature and lower clarity about measuring techniques among respondents, it was considered desirable to adopt a simpler approach by examining their perceptions about the concept of health.

Such an approach further required to provide self-assessment of their personal health status. This self-assessment status was measured on a five-point rating scale. In order to measure the aspirations of the respondents regarding their own health, Cantril's Pictorial Self-Anchoring Scale (1965) was utilised. The main intention of assessing aspirations by qualitative indication of one's health position in the *present*, the *past* and the *future* was to assess the relevance of this technique in the field of health as this technique has already been successfully employed in other fields, such as agricultural innovations in India, where it has demonstrated the predictability in assessing the most acceptable people who would adopt the innovations. In the case of health measures, since the seeking of medical care is a deliberate and guided behaviour, the assessment of aspirations becomes an important variables. In addition, such assessment may also throw considerable light on the nature and type of underutilisation of the existing health and medical institutional services in rural areas.

By adopting the three major approaches: viz. (a) developing an inventory of items having direct bearing on the concept of health; (b) the self-assessment of personal health and its relationship; and (c) the aspirational level of the respondents regarding their personal health, it was possible to draw an authentic perception of health in society as well as individual level. The devices employed in assessing the perception of health of the rural population are subjective, in which the first one provides the normative frame of reference to health of villagers on the basis of their socio-economic or caste consideration; and the other two yield a purely personal assessment based on the normative framework of health perception in general. It would, therefore, be worthwhile to examine each of these approaches in some detail.

PERCEIVED ELEMENTS OF HEALTH

The respondents were required to specify (a) indicators of good health; and (b) the mechanisms for maintaining their personal health. These two questions were open-ended so as to get maximum responses.

Each of the respondents gave one or more than one indicators for good health.

Each statement was broken into a number of items. In all, 124 respondents, from PHC villages gave 254 responses while 149 respondents gave 199 responses in the case of non-PHC villages. The responses put in different categories were not to be treated independently because most of the identified items were overlapped. Our purpose in the present context was to enlist elements which were most frequently taken into consideration while talking about 'good health'. Therefore, it was not desirable to specify all the categories alongwith their frequencies excepting the first nine items in order of maximum response frequencies given by the respondents. The weightage shown in Table 1 is only indication of the maximum frequencies given to the items enlisted.

In addition to most frequent elements mentioned in Table 1 there were a host of other overlapping items which broadly corresponded to one or the other category mentioned above. The table reveals that the perceptions of 'good health' in Haryana village are very close to the indicators given by the World Health Organisation', consisting of elements of physical, social, mental and emotional well-being and absence of disease in human body. Haryana villages, by and large, are Jat dominated. Culturally, this caste is known for the physical fitness of its members and ability to perform most arduous tasks both in agriculture and in army. Their overemphasis on physical fitness through such indicators as 'proper appetite', 'proper

TABLE 1
DISTRIBUTION OF RESPONDENTS ACCORDING TO THE WEIGHTAGE
GIVEN TO ELEMENTS OF GOOD HEALTH BY RESPONDENTS OF PHC AND
NON-PHC VILLAGES

Elements of Good Health	Weightage	
	PHC Village	Non-PHC Village
i. Can perform daily duties properly	1	IV
ii. No illness, disease or sickness in body	II	1
iii. Has physically well built body	III	II
iv. Never feels tired	IV	V
v. Has proper appetite	V	VI
vi. Has proper digestive system	VI	VIII
vii. Is able to perform more than normal activities	VII	III
viii. Is always happy and cheerful	VIII	VII
ix. Is glamorous and smart (<i>Chatkilapan aur Furtilapan</i>)	IX	IX

digestive system', 'well built body' point to the fact that broadly it is the physical get-up of the body followed by its ability to perform the expected tasks, which determine good health in villages.

Insofar as the second question was concerned, the responses were also varying. From PHC village, 267 responses were recorded and from non-PHC village 193 responses were recorded. For classifying the responses into eight meaningful categories, the similar approach was adopted as in the case of elements of good health.

In Haryana, villagers lay over-emphasis on taking of *ghee*, milk, butter oil, etc. for maintaining good health² It is pointed out that Haryana is the leading State in producing the best cattle. This supports their reliance on milk and *ghee* as a source for maintaining good health. The other dimension to this question stated by the respondents of all the three villages was regulated and controlled sex activities which help in maintaining good health. For maintaining good health an individual has to be *langot-ka-pacca* (devoted and faithful or celibat). Also performance of daily exercises and regularity in daily schedule of activities help in keeping the body in a fit condition to undertake all activities. Thus, these two questions, provide evidence to the fact that the villagers, while making reference to 'good and normal health' are essentially underlining the importance of a physically well developed and adequately nourished body capable of vigorous exercise and able to withstand physical strain. The mechanisms required for the maintenance of health were found to be in close proximity to what has been defined as normal health. The importance of rich food, taking of *ghee* and milk have been duly emphasised for maintaining good health.

TABLE 2

DISTRIBUTION OF RESPONDENTS ACCORDING TO WEIGHTAGE GIVEN TO ITEMS REQUIRED FOR MAINTENANCE OF GOOD HEALTH IN PHC AND NON-PHC VILLAGES

Hems essential for Good Health	PHC Village	Weightage Non-PHC Village
i. Good and Clean Fooa	1	III
ii. Personal cleanliness	IV	V
iii. Taking of milk and <i>ghee</i> (butter oil)	II	1
iv. Doing exercises	III	VII
v. Regulated ana controlled sex habits	V	IV
vi. Hard work	VII	II
Vii. Cleanliness of surroundings	VI	VII,
Viii Regularity in daily activities	VIII	VI

SELF-ASSESSMENT OF PERSONAL HEALTH

With this background of normal health, the respondents assessed their personal health on a five-point rating scale ranging from 'very good' to 'very weak', with 'can't say' as mid-point.

It can be noticed from Table 3 that in both the village settings 60.1 per cent have rated their health as 'good' whereas only 25 per cent of the respondents have rated their health as 'weak' or 'very weak'. The mean rating of health on a five-point scale is 2.8 which is very close to the rating of 'good'. This is, however, not true when the self-assessment rating is related to socio-economic status of the respondents. In case of the lower socio-economic status group, the mean score is 2.2 which signifies the rating as 'weak'. Contrary to this the upper socio-economic status respondents have rated their health as 'good' as their mean score is 3. It was found that 50 per cent from PHC and 64 per cent from non-PHC respondents belonging to lower socio-economic class perceived their personal health as 'weak', whereas more than 62 per cent of respondents of upper socio-economic class perceived it as 'good'. It can also be noticed that the respondents of non-PHC villages, have in most cases, assessed their health as comparatively lower in rank when compared to the PHC village. This could be attributed to lack of any health activity either by the Government or voluntary agencies in the area. In another study the self-assessment of personal health by urban dwellers was seen in relation to three points viz. *Tandrust* (well), *Bemar* (sick) and *Dheela* (neither well nor sick). The third category falls in-between the first two. They further go on to classify *Tandrust* (well not ill) into two categories i.e. *Tagra* (strong) and *Kamzor* (weak). Both of these conditions are attributed to the diet and physical constitution.

In villages, caste continues to be one of the important criteria for determining the social standing of a person. An attempt has been made to assess the relationship between self-assessment of personal health and caste, as depicted in Table 4. Scheduled caste respondents (2.4) have given low weightage to their health when compared to Jats and even artisan caste like *Lohars*, *Carpenters*, etc. The table also shows an almost uniform pattern of mean weightage of other caste groups on this scale which is nearing three or 'good' health. Caste may not be determining factor, but it does represent a social experience that influences an individual's perception of health.

According to the design of this study, the perceived state of health, scepticism about modern medicine and dependency in health are important intervening variables. It is expected that these variables, which are based on an individual's subjective orientation, have to be interrelated to each other. Respondents who are sceptic about modern medical care are also highly dependent on others for taking suitable decisions regarding the seeking of medical care³. Secondly, the lower socio-economic status respondents tend to be dependent as well as sceptical about modern medicine. In other words, it can be said that low score on dependency and scepticism about modern medical care is indication of higher self-assessment of personal health.

TABLE 3
DISTRIBUTION OF RESPONDENTS IN PHC AND NON-PHC VILLAGES AND
THEIR SELF-ASSESSMENT OF PERSONAL HEALTH BY SOCIO-ECONOMIC
STATUS

	Very Good		Good		Can't say		Weak		Very weak		Total		Mean	Score
	Non		Non		Non		Non		Non		Non			Non
	PHC	PHC	PHC	PHC	PHC	PHC	PHC	PHC	PHC	PHC	PHC	PHC	PHC	PHC
Low	-	4.0	35.7	24.0	7.1	4.0	50.0	64.1	7.1	4.0	14	25	(100.0)	2.2
Middle	21.0	5.5	59.3	71.4	-	2.2	16.0	20.9	3.7	-	81	91	3.0 (100.0)	2.8
Upper	24.1	12.1	62.1	66.7	-	-	6.9	21.1	6.9	-	29	33	3.0 (100.0)	2.9
Total	34(12.5)		164(60.1)		4(1.5)		64(23.4)		7(2.6)		273(100.0)		2.8	2.7

(Figures in parentheses indicate percentage of distribution)

TABLE 4
PERCENTAGE DISTRIBUTION OF RESPONDENTS AND THEIR SELF-
ASSESSMENT OF PERSONAL HEALTH BY CASTE

Caste	Very Good	Good	Can't say	Weak	Very Weak	Total	Mean Score	S.D.
Jat and Pandits	15.6	66.1	0.6	15.6	2.2	180 (100.0)	2.9	0.7
Baniya and Harijans	-	75.0	-	25.0	-	4 (100.0)	2.8	0.5
Artisan castes	15.0	55.0	-	25.0	5.0	20 (100.0)	2.8	0.8
Scheduled castes	4.3	44.9	4.3	43.5	2.9	69 (100.0)	2.4	0.8
Total	34 (12.5)	164 (60.1)	4 (1.5)	64 (23.4)	7 (2.6)	273 (100.0)	2.8	0.7

(Figures in parentheses indicate percentage of distribution)

The trend in both the villages is that increase in the scale score indicates higher scepticism about modern medical care and decline in the self-assessment of personal health as reflected in Table 5. In other words, higher sceptic respondents record lower score for their own state of health. The mean score of PHC village respondents is more or less higher than non-PHC respondents. Whereas the score on self-assessment shows differences between the PHC and non-PHC respondents. Such variations could be due to lack of proper water supply and many other non-health variables having a bearing on the status of health.

To delineate the influence of being dependent on others for decisions activities undertaken in case of illness which, in the present case, has been measured by dependency scale'. The relationship between dependency scale and self-assessment is given in Table 6.

The expected trend in the relationships between these two variables is quite clear and further the non-PHC respondents show that an increase in dependency score leads to decrease in their self-assessment of health. This signifies that dependent people tend to perceive their personal health on lower levels. However, there is not much difference in terms of PHC and non-PHC areas. This is due to the fact that dependency behaviour is more a personal attribute rather than a function of other variables like the availability of medical care facilities etc.

The proposed hypotheses that respondents who are sceptic about modern medical care may be expected to be dependent on others when they fall sick³. This relationship has been examined in this study and the results are shown in Table 7. There is a positive relationship between the two sets of scores, those who hold sceptic views about modern medical care are the respondents who would be dependent on others for determining the course of action to be taken in times of sickness. The group of people who are 'dependent' and score high on 'scepticism about modern medical care' are labelled as *traditional, shared effectual and closed social group* in contrast to other who are scientific, adopt an independent approach to sickness and towards medical care seeking behaviour. The latter is termed as *independent, progressive and open*.

LEVEL OF ASPIRATION REGARDING HEALTH

Aspirations play a dominant role in providing direction to human behaviour and measured with the help of the Self-anchoring Striving Scale which provides simple, widely applicable and adaptable techniques for tapping the unique reality world of an individual⁴. Although this scale has widely been applied in other fields like agriculture, life satisfactions, etc. Its application in the field of health has been done by Erdman Palmore and Clark Luikart (1972). In the context of this study, after having been acquainted with the factors which determine normal health, the requirements for maintaining good health and the self-assessment of health, it appears logical to visualise the perception of health in relation to the past, the present and the future of the respondents. It must be mentioned that the rating the respondents assign to

TABLE 5
PERCENTAGE DISTRIBUTION OF RESPONDENTS IN PHC AND NON-PHC VILLAGES AND SELF-ASSESSMENT OF THEIR PERSONAL HEALTH BY SCEPTICISM ABOUT MEDICAL CARE

Score Scepticism	SELF-ASSESSMENT OF PERSONAL HEALTH										Total	Respondents		
	Very good		Good		Cant say		Weak		Very weak				Mean	Score
	PHC	Non PHC	PHC	Non PHC	PHC	Non PHC	PHC	Non PHC	PHC	Non PHC			PHC	Non PHC
0	50.0	16.7	42.9	66.7	0.0	0.0	0.0	16.7	7.1	0.0	14	12	3.4	3.0
1	8.3	7.1	66.7	78.6	0.0	0.0	25.0	14.3	0.0	0.0	12	14	2.8	2.9
2	17.6	15.4	76.5	76.9	0.0	0.0	5.9	7.7	0.0	0.0	17	26	3.1	3.1
3	13.3	5.6	73.3	77.8	0.0	0.0	13.3	16.7	0.0	0.0	15	18	3.0	2.9
4	10.3	2.7	55.2	75.7	0.0	2.7	20.7	18.9	13.8	0.0	29	37	2.6	2.0
5	5.3	0.0	52.6	33.3	0.0	16.7	36.8	50.0	5.3	0.0	19	12	2.6	2.0
6	38.9	3.3	38.9	26.7	5.6	0.0	16.7	66.7	0.0	3.3	18	30	3.1	2.3
Total	24	10	71	93	1	3	22	62	6	1	124	149	2.9	2.7
PHC + Non-PHC	34(12.5)		164(60.1)		4(1.5)		64(23.4)		7(2.6)		273(100.0)		2.8	

TABLE 6
PERCENTAGE DISTRIBUTION OF RESPONDENTS IN PHC AND NON-PHC VILLAGES AND SELF-ASSESSMENT OF THEIR PERSONAL HEALTH BY DEPENDENCY IN SICKNESS

Score Dependency	SELF-ASSESSMENT OF PERSONAL HEALTH										Total Respondents	Mean	Score	
	Very good		Good		Can't say		Weak		Very weak					
	Non PHC	Non PHC	PHC	Non PHC	PHC	Non PHC	Non PHC	Non PHC	PHC	PHC				
0	25.0	25.0	60.0	62.5	0.0	0.0	10.0	12.5	5.0	0.0	20	8	3.1	3.1
1	45.5	14.3	27.3	71.4	0.0	0.0	18.2	14.3	9.1	0.0	11	14	3.1	3.0
2	44.3	5.7	.78.6	74.3	0.0	0.0	7.1	20.0	0.0	0.0	28	35	3.1	2.9
3	15.0	0.0	70.0	69.2	5.0	0.0	10.0	30.8	0.0	0.0	20	13	2.9	2.7
4	15.6	5.1	4.4	54.4	0.0	3.8	31.1	35.4	8.9	1.3	45	79	2.7	2.6
Total	24	10	71	93	1	3	22	42	6	1	124	149	2.9	2.7
PHC + Non-PHC	34(12.5)		164(60.1)		4(1.5)		64(23.4)		7(2.6)		273(100.0)		2.8	

TABLE 7

PERCENTAGE DISTRIBUTION OF RESPONDENTS AND THEIR
DEPENDENCY IN ILLNESS BY SCEPTICISM ABOUT MODERN MEDICAL
CARE

Scepticism Score	Dependency Score					Total	Mean Score
0	26.9	38.5	30.8	3.8	-	26(100.0)	1.1
1	30.8	26.9	34.6	38	3.8	26(100.0)	1.2
2	209	14.0	48.8	4.7	11.6	43(100.0)	1.7
3	3.0	3.0	27.3	27.3	39.4	33(100.0)	3.0
4	3.0	1.5	15.2	21.2	59.1	66(100.0)	3.3
5	-	-	9.7	6.5	839	31(100.0)	3.7
6	21	-	6.3	8.3	83.3	48(100.0)	3.7
Total	28 (10.3)	25 (92)	63 (23.1)	33 (12.1)	124 (45.4)	273 (100.0)	2.7

themselves are entirely subjective; hence a rating of say '5' given by one person by no means indicate the same as '5' rating given by another person. This is rather an obvious point and is mentioned here because the experience has shown that some people misunderstand the whole rationale of this technique by assuming that the scale is like an intelligence test where a given rating has a precise and somewhat universal connotation. This becomes all the more true in the case of perceptions of health and also the medical care seeking behaviour where seeking behaviour would have to be examined by personality as well as social factors. Similarly, the shifts in the ladder rating from past to present and present to future are equally subjective. All ratings are anchored within an individuals reality world.

The following trends have been indicated in Table 8.

- i. In both the settings the respondents have given higher score for past health status followed by present and least to future. This is consistent in both settings.
- ii. When compared between PHC and non-PHC set up, in former case the respondents have slightly rated higher than the latter although the trend in both the situations continues to be the same.
- iii. The overall change is indicative of the fact that past status of health has been rated higher than present as well as future. It would also mean that future has been seen to be very pessimistic.

TABLE 8

MEAN RATING DISTRIBUTION OF RESPONDENTS ON ASPIRATION
REGARDING HEALTH ON PRESENT, PAST AND FUTURE TIME DIMENSIONS
WITH DIRECTION OF CHANGE

Village setting	Past status	Present status	Future status	past to future	Present to past	Overall change
PHC village	7.26	6.12	4.99	-1.14	-1.13	-2.27
Non-PHC	5.49	5.06	4.10	-0.77	-0.97	-1.74
Combined	6.49	5.54	4.17	-0.95	-1.04	-1.99

Broadly, the table shows that people have a tendency to glorify their past status of health and be contented with their present state. The self-assessment of health by respondents is consistent to this finding where respondents have generally remained contented with their present status of health. But they do not seek and have hopes for future. It cannot be stated as to what precise factors would contribute to this finding; except relating the pessimism to the non-availability of proper health maintenance resources in or around villages. Most of the earlier studies attempting to assess the aspirations through ladder scale which showed that respondents tend to be usually optimistic about the future, but in the present case it has been found to be opposite. The above trend is maintained across socio-economic variable and accessibility.

The elements of good health recognised by the people bear an explicit reference to have a well-built body which should be able to undertake heavy tasks essential for producing from the soil and also for working under adequate physical strength. It has also been seen that their concept of health is closely related to their maintenance of health as well. In other words, preference for *ghee* (butter oil) and milk, nutritious and clean food, followed by daily exercises and routine schedules of work have been highlighted by them. These elements, both as a concept and maintenance mechanisms, are shared by all the villagers irrespective of variations in their caste, socio-economic status and age.

The variation has, however, been found in their self-assessment of personal health. For example, the respondents in the lower socio-economic status and/or scheduled caste respondents have rated their personal health as 'weak'. However, the variation in perception of self-assessment of health shows positive relationship with the dependency behaviour as well as with the scepticism about modern medical care. Upper socio-economic group respondents are less dependent and less sceptical about modern medical care. The middle and upper socio-economic groups have been found to rate their health as 'good'. Besides, the respondents do not seem to have any hopes for future with regard to their health. The apathy towards

future seems to be a general trend pronounced by most of the respondents in all the villages. The pattern of perceptions about health reflects a definite variation only in terms of self-assessment about personal health. The caste and the socio-economic status of the respondents appear to play a significant role in determining the subjective evaluation of their own health.

इस लेख के माध्यम से हरियाणा राज्य की ग्रामीण जनसंख्या की स्वास्थ्य संबंधी अवधारणाओं का पता लगाने का प्रयास किया गया है। उनकी स्वास्थ्य संबंधी अवधारणाओं का तीन प्रमुख आयामों के संदर्भ में आमापन किया गया है अर्थात् स्वास्थ्य संबंधी विभिन्न घटक तथा इन स्वास्थ्य घटकों में परस्पर सम्बन्ध, इन स्वास्थ्य घटकों और उत्तरदाताओं की सामाजिक-आर्थिक एवं जातीय स्थिति में परस्पर संबंध, तथा उनकी आकांक्षाओं और स्वास्थ्य के प्रति बनी उनकी अवधारणाओं में परस्पर सम्बन्ध। इसके अलावा 'सचमैन' माप प्रणाली के प्रयोग के माध्यम से उनकी स्वास्थ्य सम्बन्धी अवधारणा तथा पराश्रित होने की स्थिति के बीच परस्पर संबंधों का अनुमान लगाने के साथ-साथ संशयात्मकता की स्थिति से भी परस्पर संबंधों का अनुमान लगाने का प्रयास किया गया था। पराश्रित आमापन प्रणाली से यह अनुमान लगाया जाता है कि बीमारी की स्थिति में व्यक्ति किस हद तक दूसरों पर निर्भर करता है तथा उसमें आधुनिक चिकित्सा परिचर्या के प्रति किस हद तक संशय की स्थिति व्याप्त है, जिसके परिणाम स्वरूप यह अनुमान लगाया जा सकता है कि बीमारी की स्थिति में वह व्यक्ति किस हद तक अन्य प्रकार की उपचार पद्धतियों पर निर्भर करता है।

यह अध्ययन रोहतक जिले के बेरी विकास खण्ड के अन्तर्गत तीन गांवों के 273 परिवारों में किया गया था। इस विकास खण्ड के 34 गांवों में से एक ऐसे गांव को चुना गया था जिससे प्राथमिक स्वास्थ्य केन्द्र विद्यमान था तथा जहां उपचार के लिए संस्थागत सुविधाएं उपलब्ध थी। इस गांव में से रैंडम सैम्पलिंग प्रणाली के आधार पर गांव के 10 प्रतिशत परिवारों को अध्ययन के लिए चुना गया था। इनमें से दो अन्य ऐसे गांवों को चुना गया था जो गांव ऐसे केन्द्रों से लगभग 10-15 किलोमीटर की दूरी पर

स्थिति थे। इन दोनों गांवों में से 50 प्रतिशत परिवारों को अध्ययन के लिए चुना गया था। इन सभी परिवारों से सूचनाएं एकत्र करने के प्रयोग के लिए साक्षात्कार अनुसूचियों का प्रयोग किया गया था।

इस अध्ययन से प्राप्त परिणामों से यह संकेत मिलता है कि उत्तरदाताओं की जातीय-स्थिति तथा उनका सामाजिक-आर्थिक स्तर उनकी स्वास्थ्य स्थितियों को निश्चित करने में एक महत्वपूर्ण पक्ष के रूप में भूमिका प्रदान करता है।

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WIRELESS PAGING SYSTEM AS A MEAN OF COMMUNICATION

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ABSTRACT

The modes of communication in the hospital are written, oral, mechanical, electrical and electronical system. The recent advances made in the tele-communication provide substantial efficiency and economy. The hospitals are yet to have benefit from the development of electronics in the field of communication and need first-rate communication for effective services. This article deals with the wireless paging system, as a part of communication, used in the hospitals.

Management of a hospital is in no way different from any other organisation. The hospital services have to be prompt, accurate and available to all those who are in need, irrespective of caste and creed. The use of medicine has become highly technical and purposeful and has to be given appropriately. In the foodern hospitals, there are various departments having not only a large number of staff and beneficiaries but also there are problems in communication. Communication has been viewed as the means by which people are linked together in an organisation in order to achieve a common purpose. The group activity and critical patient care could be possible if there are arrangements for transfer of information and proper coordination between various departments of the hospital.

Yet in another definition of communication it has been defined as 'Shared understanding of shared purpose'. Thus the communication is the means by which an organised activity is unified in relation to the patient care. One of the objectives of communication is to influence action.

EFFECTIVE COMMUNICATION

The communication must stem from a need to have a purpose and must be transmitted in such a way that it accomplishes the desired objective.

Over the years, hospital services have become more complex, highly specialised and technical. The expectation of the beneficiaries of the service has grown out of proportion and patient satisfaction is becoming a difficult task to

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achieve. Consequently, the patient care activities in a modern hospital have become so complicated that the senior functionaries of the hospital are unable to ensure their availability at any place at the given time. Therefore, communication is needed for want of coordinated efforts, otherwise delayed action in the hospital context could mean loss of life or limb.

The subject of communication in a hospital cannot be studied in isolation since it is fundamental to all activities including the hospital. There is no single patient care activity of the hospital that does not require verbal comment, a form to be completed, an idea to be conveyed or some questions to be asked or answered. Coordination of activities of the hospital depends on the integration of a well developed communication system related to the patient care. The multidisciplinary nature of the present day hospital and various service departments are part of the hospital system which have a team of wide spectrum of doctors and para-medical staff from different categories who need to be communicated.

PATIENT CARE ACTIVITIES

The heart of a hospital is the patient care ward, a place where the basic work of the hospital is carried out. Patients are received, diagnosed, cared for, treated and discharged. Practically, all other facilities and activities are available to support the needs of the patients.

The recent advances made in telecommunication can provide substantial efficiency and economic benefits to health care institution¹. There is a considerable degree of development in the field of electronics but hospitals have so far failed to draw benefit from its development in the field of communication. Management of hospital needs a strong communication system for its effective functioning and paging system is one of the devices used by the doctors in the hospital².

PAGING SYSTEM

The basic requirements of the paging system are as follows: (1) operationally smooth and soundless; (2) calls should be clear; (3) coverage should be full and reliable throughout the hospital; and (4) the equipment should not cause interference to, or suffer interference from, other equipment used in the hospital or its environment.

THE BASIC VARIETIES OF PAGING SYSTEM

1. **Magnetic Loop:** This consists of one or more loops of cables which are arranged to encompass the buildings to be covered and are wired back to a central transmitting and control station. When a signal current from the call initiating unit is passed on through the loop, a magnetic field is produced within and around the loop. Pocket receiver carried by members are set to respond to a particular signal or combination of signals and the receiver who is within the areas covered by the

magnetic activity of the loop gets an intermittent or continuous hitch tone or 'bleep'. This is an indication for the receiver but he has a message to receive and should contact the central station through the nearest telephone group calling facilities could be included in the system (HTM No. 20, 1968).

It has certain inherent shortcomings: (1) the magnetic field gets weakens outside the building usually. It is effective upto 6-7 meters outside the building; (2) the metallic filaments of building affects the magnetic field and in turn the system; and (3) provides only one way speech.

2. *Radio System*: This is a better system which avoids magnetic loop and gives an increased range of coverage. Low frequency, very high frequency or ultra high frequency is available for use. Very high frequency system could provide tune and voice facility or only tune facilities and provide wide range with limitation to antenna capability, transmitting power and sensitivity of the receiver. This system costs less for installation and provides greater adaptability to the doctors call service.

Low frequency system uses loop antenna having a limited range of coverage, specially, when the several building or blocks are involved. This increases the cost of installation. This system guarantees cent per cent coverage within the area catered to and it could be contacted through dial interconnect procedure, when activated the system produces a tone specification followed by a voice message.

Paging a member of staff through the control station (Telephone Exchange) is considered advantageous since it regulates the traffic and enables the operator to over-ride in case of an emergency call. Thus, the dial interconnect is considered not appropriate in larger institution using more than 100 page receivers.

The components of paging system (HTM No. 20, 1968):

1. *Call Initiating Unit*: It is a desk mounted central unit with a set of keys or push buttons. Equipment can be added to enable 'Dial interconnect' facility to organise a call from a telephone.
2. *Transmitter*: This could be housed in the central unit station or separately, convenient to aerial feeding point. The range of transmitter and aerial can reduce by the presence of metallic structure or other obstruction which gives rise to dead areas' for radio communication.
3. *Fixed Receivers*: These are used to receive 'talk-back' from product transmitter.
4. *Pocket Receivers*: Commonly known as Page Boy, these vary in sizes, designs and performance. Receivers are transistorised, light weight (3.5 to 8

ozs.) and of different sizes (6" x 1" x 5/8" or 5" x 2" x 1"). These should be robust and shock resistant. Provision for clipping with the pocket is essential. Volume control can be incorporated. These are selective in receiving signals. Powered with small disposable dry batteries or alkaline rechargeable batteries which are charged daily on fixed chargers.

5. *Pocket Transmitters:* These are small, light weight and capable of being clipped on to the receiver, to make a combined unit. Power supply is similar to that of receivers.
6. *Aerials:* Separate aerials are required for transmitting and receiving message. The overall length of the aerial will depend on carrier frequency and will range from 5 meters for 27 NIC/s to 0.33 meter for 458 NIC/s -overall length is approximately half a wave length.
7. *Charging Racks:* Wall mounted racks with rows of numbered slots into which receivers are placed for charging.

These systems require clearance from the Government for its operation. The planned maintenance programme of equipment is essential to keep paging system serviceable at all times. To cope up with the possibility of damage to pocket receivers, it is necessary to hold a few spare receivers (HTM No. 20, 1967).

The need for a maintenance section to ensure proper upkeep of paging system has been emphasised. One of the latest developments in paging is on site two way speech facilities. Speech can be transmitted from control desk to each receiver, via an approved VHF facility allotted. For two way speech, the pocket receiver has to be fitted with a talk-back module for operation on an approved VHF facility. The use of speech with paging enables more detailed information and precise instruction given and enables the users to react faster in emergency.

Another new innovation in paging system is hand free talk-back facility. The person paged can talk-back without using a telephone or using hands and the person just responds by talking in the direction of the loudspeaker installed at the site area. It can also be used as 'all call' system to page entire hospital saving time and motion which are both non-productive.

Computer controlled paging system automatically screens all calls, can be programmed for automatic routine page request and eliminate page control operator. This is suitable for large hospital with more than 300 pages. Versatile radio paging system is currently available in the market³. The page receivers provide time, tune and voices or numeric or alphanumeric information, via LCD or LED display. Some receivers can store several messages until the user has a chance to respond. Improved circularity in the receiver extends the life of battery wrist worn Page Boy powered with battery or body heat is being developed.

OBSERVATION

The need to use paging system in the hospital was conceptualised in 1969. Due to economic and operational reasons, no progress was made till 1975. Initially, a twenty-line paging system was supplied by the Electronic Corporation of India (ECI) on a trial basis which was installed in 1978 which failed to satisfy the initial demand on the subject.

The other indigenous system developed by a local firm was installed in 1981 and functionally operated in December 1981 with 60 lines system increased to 80 lines system after a year. The system was named as 'Selective Paging' in which only concerned person to whom the message was meant receives the message.

It consists of (i) control units; and (ii) microphone. It has eleven buttons key board and generator paging signal as beep tone and speech. The duration of beep is 5 seconds and for speech, duration is for 30 seconds.

HIGH FREQUENCY TRANSMITTER AND 'ANTENNAS'

Four high frequency solid state transmitters operating on 36 - 36 MHz range controlled by a master frequency control unit have been installed. The use of four transmitters is necessary because the nature of building construction which creates 'Radio shadow areas' and needs re-enforced radio signals.

RECEIVERS

The page boy is 120 x 62 x 19 mm unit in a strong plastic container which can be carried by the page holder.

BATTERIES

The receivers are powered with leak proof carbon zinc AA size pen torch batteries which last 7-10 days on an average.

PROCEDURES

Each page boy receiving set is given a particular number for identification. On requirement of the particular page holder needed at a particular place/area, the person on telephone contacts the page control desk located adjacent to control room on the ground floor of private ward block. He gives the number of page boy and the message to be conveyed. The page operator commonly page girl at the page desk initiates the call by selecting the appropriate buttons on key board and makes the announcement of the requirement for 30 seconds after the beep call is over after which the receiver is automatically re-sets for next call. On receiving the message, the page holder is expected to take appropriate action like contact a particular person or reach a particular spot.

DISTRIBUTION OF PAGE BOY

A policy decision was taken in 1982 to issue page boys on the permanent basis to such persons who are generally required for critical patient care on emergency or in the event of disaster. The distribution of these page boy is again revised in January 1985. The present distribution is given as under:

1. Consultant on VVIP call	20
2. Top administrators	5
3. Essential administrative staff	2
4. Consultants/Residents/Para-medical staff like ECG Technicians etc.	54

The record reveals that right from the time of installation in December 1981, this page system has been having teaching problems. Initially, it was found that the page boys were not functioning properly. The page desk has frequent breakdown. The page girls are not well trained and acquainted with the gravity of the requirements and the role of the system.

The informal discussions with page holders, administrative staff and other functionaries of the hospital brought out that the performance of the system has not improved in spite of the corrective measures. The following were the main reasons identified: (1) The detail instructions on the system did not percolate to all persons connected with page system; (2) The significance of the system was not well understood by the junior staff and page desk operators; (3) The page boys were defective and receiving wrong calls; (4) Those page holders who received the call did not respond to call and there is no check whether the message was received or not; (5) The requirements on the frequent replacement of the battery of the page holders; and (6) The page holders include senior consultant defaulted in carrying the page.

A prospective study on the system brought out that 70.6 per cent page holders felt that the system is useful for emergency purposes but the satisfaction level on the system was only 32.2 per cent.

In view of the above, the page system was reorganised in January 1985. As stated, it was delinked from the telephone exchange of the institution and shifted in hospital complex. Special staff were employed and trained. The record of test calls and total actual calls were maintained. The issue of battery was organised centrally with page control room and issue was based on clean exchange. Further, frequent checks on the system were carried out on its performance.

By this, the overall performance increased to 74.0 per cent and satisfaction level to 68.0 per cent. Thus, the system became a little more dependable.

The investigation was carried out for 7 days and found that total of 61 page boys are in distribution out of which, on an average, 9 are under repairs with the firm concerned under rate contract. The class IV employees have been trained to attend the minor spot repair of page boys. The total calls per day are 95 on an average. The maximum load of calls was found during 3.00 p.m. to 8.00 p.m.

An efficient paging system is of vital importance for contacting essential hospital functionaries, especially in case of emergency. It is an unescapable requirement in patient care services and activities. Unsatisfactory functioning of the paging system has caused concern to the top administrators of the hospital the involvement of all functionaries connected with the functioning of system is a must for high level of efficiency.

The surprise mock trial conducted in January 1985 and 1986 evoked good response.

अस्पतालों में संचार माध्यम के रूप में जो प्रणालियां आज प्रचलित हैं उनमें लिखित, मौखिक, यांत्रिक, इलेक्ट्रीकल तथा इलेक्ट्रॉनिक संचार प्रणालियां प्रमुख हैं। दूर संचार के क्षेत्र में की गई वर्तमान प्रगति से जहां कार्यकुशलता बढ़ी है वहीं मितव्ययता भी आई है। इलेक्ट्रॉनिकी संचार क्षेत्र में जो विकास हुआ उसका पूरी तरह से लाभ अभी अस्पतालों द्वारा उठाया जाना है। अस्पतालीय सेवाओं को प्रभावी बनाने के लिए उन्हें प्रथम दर्जे की संचार व्यवस्था की जरूरत है। इस लेख में वायरलेस पेजिंग प्रणाली को अस्पतालों द्वारा संचार माध्यम के एक अंग के रूप में प्रयोग करने के बारे में चर्चा की गई है।

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