

REPRODUCTIVE TBACXINFECTIONS IN KARGIL:
A COMMUNITY BASED STUDY

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ABSTRACT

Reproductive tract infections (RTIs) are widely prevalent among married women. Though RTIs severely affect the health and well being of women; these are rarely reported because of various socio natural reasons. Gross under reporting is also common especially from under-privileged areas because of illiteracy, lack of awareness and a complacent approach towards women's health in general and their reproductive health in particular. As a part of a comprehensive health survey, Regional Institute of Health and Family Welfare (RIHFW), Dhobiwan, Kashmir, surveyed 1,835 women in the reproductive age from 955 households in Kargil, considered as the most backward district of J&K state, to find out the prevalence of RTIs through self-reporting. The study revealed that, when specifically asked, more than 38 per cent of women have reportedly admitted to suffer from at least one sign or symptom of RTIs. Further, a 26 per cent of the respondents showed positive signs or symptoms for the presence of inflammatory disease (PID). Women suffering from any kind of RTI or PID preferred to consult only the government doctor for treatment, while the nurse, multi-purpose worker (MPW) or lady health volunteer (LHV) were not at all approached. Dissatisfaction was widespread (67%) over the advice/treatment received, which probably indicates the unmet need for more female doctors in order to ensure increased consultation, in the lines of the WHO-recommended syndromic approach, the study recommends convergence of activities by all categories of health workers to such a common yet grossly ignored women's health issue for a fast and appropriate redressal.

Keywords: Reproductive tract infection, Health-seeking behavior, Community based study, Conservative society, and Orientation programme.

Reproductive tract infection (RTI) is a common problem in women which poses a serious threat to women's health and well-being. The prevalence rate for RTI, however, is often not known since women either don't consider it as a

significant health problem or they are hesitant to talk about it. Illiteracy, ignorance, gender discrimination and poor social status further complicate the problem, especially in women from socially and economically backward areas. Keeping this in mind, the current study was undertaken to assess the reproductive tract morbidity and related health-seeking behaviour of married women in Kargil, the most backward district of Jammu and Kashmir state.

METHODOLOGY

To study the prevalence of reproductive tract infection and the attitudes and treatment-seeking practices of RTI infected patients, a total of 955 households in the three most populous blocks namely - Kargil, Sankoo and Drass was randomly selected. Lady medical officers accompanied by local female interpreters visited 1,835 married women in the reproductive age (15 - 45 years) in the selected households. (Table 1) –The symptoms suggestive of the presence of a reproductive tract infection included abnormal vaginal discharge accompanied by itching, irritation, bad odour, painful.coitus, severe lower abdominal pain.or fever. These symptoms were as reported in the NFHS-2,1998 - 99.

FINDINGS AND DISCUSSION

Out of the 1,534 rural women, as many as 40.4 per cent were found to have at least one symptom of RTI against 26.9 per cent of the 301 urban women. Ninety seven per cent the sample women were more than 20 years of age. On an average, it was found that 35 per cent of the women in both rural as well as In **urban** areas had four to six children with no significant difference in between them (Table 1). Abnormal vaginal discharge during the last three months was revealed by 18.6 per cent of the rural compared to 11.9 per cent of the urban women. While 8.9 per cent of the sample subjects complained of itching, 7.3 per cent of them reported to have had fever with discharge. More than one-fourth (26.4%) of the patients complained of experiencing pain in lower abdomen or vagina during intercourse (Table 2).

TABLE 1**AGE-WISE BREAK-UP AND PARITY OF WOMEN IN REPRODUCTIVE AGE**

S. No.	Characteristics	Total	Rural	Urban
1.	Females in reproductive age group (n)	1835	1534	301
2.	Age break-up of married women (%):			
	<15yrs.	1.1	1.2	0.7
	15 -19 yrs.	1.9	1.2	2.9
	> 20 yrs.	97.0	97.6	96.4
3.	Parity of women in reproductive age group -[Number of living children: ho and %]			
	1 - 3	851 (46.4)	722 (47.1)	129(42.8)
	4 -6	643 (35.0)	534(34.8).	109 (36.2)
	7 - 9	200(10.9)	170(11.1)	30 (9.8)
	10 -12	20(1.1)	18(1.2)	2 (0.7)
	> 12	121 (6.6)	90(5.8)	31 (10.5)

(Figures in parentheses indicate percentage)

TABLE 2**PREVALENCE OF RTI IN WOMEN OF REPRODUCTIVE AGE**

S. No	Presence of RTI	Total Sample	Rural	Urban
1.	Women experiencing pain in lower abdomen or vagina during intercourse	484 (26.4)	423 (27.6)	61 (20.4)
2.	Women with abnormal vaginal discharge during last 3 months	217 (17.7)	197 (18.6)	20 (11.9)
3.	Women who had itching with vaginal discharge	110 (8.9)	98 (9.3)	12 (7.1)
4.	Women who had fever with discharge	90 (7.3)	83 (5.4)	7 (4.2)
5.	Total number of females aged 15-45 yrs	1835	1534	301
6.	Women with any sign and symptom of RTI	701 (38.2)	620 (40.4)	81 (26.9)

(Figures in parentheses indicate percentage)

In India, community-based studies on the prevalence of RTI among women have been few but all have revealed a very high prevalence rate, ranging from 19 to as high as 86 per cent. In Kashmir, no such survey has been reported till date. Hospital-based studies, in Kashmir, had revealed a very, high prevalence rate (51%-68%) for clinically or bacteriologically detectable RTI. The second National Family Health Survey in 1998-99 reported an average prevalence rate of RTIs as 39.2 per cent for the country as a whole. The current study shows the prevalence rate of RTIs as 38.2 per cent in Kargil which is close to the national average but much lower than that reported for rest of Kashmir (72.5%).

Clinical categorization or bacteriological differentiation .by various Indian investigators has revealed an alarmingly high prevalence of more serious forms of RTIs in the form of cervicitis (ranging from 48.7% to 86%) and PID (24.2% to 45.1%). More than 26 per cent of the total subjects in the present study revealed symptoms of PID only. This figure was consistent with the 25.8 per cent reported by the NFHS-II for the state of Jammu and Kashmir.

The present study revealed, that 77.3 per cent of the women with symptoms of RTI did not seek any treatment for it (Table 3). NFHS-II findings also show that among women who reported for any reproductive tract problem, 64 per cent did not seek any kind of treatment or consult anyone for advice or treatment. An exception to this was reported in some studies in which a majority of women sought treatment for their reproductive tract problems.

The NFHS-II reported that only 38 per cent of women in J&K who sought advice or treatment for reproductive problems, went to government health care professionals. Similarly, the Rapid Household Survey under RCH project revealed a high percentage (46.6%) of patients consulting government doctors. Both, the National Family Health Survey and the Rapid Household Survey were conducted in parts of the State where private health care had a reasonable performance; Table 3 clearly shows that in and around Kargil, the only source of seeking treatment for RTIs by the .women has been a government doctor. Many other studies in India also suggested that the majority of such patients avail of the government health care facilities mainly because of low cost and easy availability of services. Unlike in other studies, none of the patients in this study consulted an LHV, nurse or MPW for advice or treatment.

S. No.	Characteristics.	Total	Rural	Urban
1.	Women with signs and symptoms of RTI	701	620	81
2.	Women who sought no advice/ treatment	542 (77.3)	503 (81.2)	39 (48.1)
3.	Women who sought treatment for RTI	159 (22.7)	117 (18.8)	42 (51.9)
4.	Health worker consulted for treatment			
	- Government doctor	138 (86.79)	102 (87.18)	36 (85.72)
	- Private practitioner	13 (8.18)	9 (7.69)	4 (9.52)
	- Local chemist	6 (3.77)	4 (3.42)	2 (4.76)
	- Dai (Midwife)	2 (1.26);	2 (1.71)	- (0)
5.	% of women who improved with treatment		35.2	20.5

(Figures in parentheses indicate percentage)

CONCLUSION

The study reveals that RTI is a common problem in Kargil. The high prevalence rate of RTI among women in the reproductive age in Kargil district has serious implications on mother as well as children's health. A majority of women did not seek advice or treatment for RTI and where it was sought, the government doctor was the most preferred for advice and treatment. Reproductive tract infections account for at least 40 per cent of all gynaecological OPD cases in India and in a more conservative society, male doctors are culturally not

considered appropriate to address the health needs of women. This highlights the need for training and induction of more female doctors in rural health services. Merely, 33.5 per cent of patients expressed satisfaction with the RTI treatment; The finding emphasizes the need to improve the service delivery system so as to include services for treating RTI patients. A comparative figure for the satisfaction level among the East Delhi slum women quotes as high as 82.5 per cent¹². In order to bring down this disparity, it is strongly recommended that doctors and service providers may be reoriented to a syndromic approach so as to deliver a speedy, accurate and affordable treatment for reproductive tract infections.

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विवाहित महिलाओं में प्रजनन-मार्ग संक्रमण व्यापक स्तर पर व्याप्त है। यद्यपि, प्रजनन-मार्ग-संक्रमण के कारण महिलाओं का स्वास्थ्य और उनका रहन-सहन गम्भीर रूप से प्रभावित होता है फिर भी अनेक सामाजिक-सांस्कृतिक कारणों से ऐसे मामले कम ही प्रकाश में आते हैं। विशेषकर कम-सुविधा प्राप्त क्षेत्रों में अशिक्षा, जागरूकता के अभाव और महिलाओं के सामान्य स्वास्थ्य और विशेष रूप से उनके प्रजनन स्वास्थ्य के प्रति एक सही एप्रोच न होने के कारण ऐसे मामले कम ही प्रकाश में आते हैं। क्षेत्रीय स्वास्थ्य एवं परिवार कल्याण संस्थान, धोबीवान, कश्मीर द्वारा कारगिल (जिसे जम्मू-कश्मीर राज्य का सर्वाधिक पिछड़ा जिला माना जाता है) में 955 परिवारों की प्रजनन आयु वाली 1835 महिलाओं पर एक व्यापक स्वास्थ्य सर्वेक्षण किया गया था, जिसका उद्देश्य स्वतः रिपोर्टिंग के माध्यम से प्रजनन मार्ग-संक्रमण की व्यापकता का आंकलन करना था। अध्ययन से प्राप्त निष्कर्षों से पता चलता है कि जब खासतौर पर पूछ-ताछ की गई तो पता चला कि 38% महिलाओं द्वारा प्रजनन मार्ग संक्रमण संबंधी किसी न किसी लक्षण के होने की बात को स्वीकारा गया था। इसके अतिरिक्त, 26% उत्तरदाताओं में श्रोणि शोध रोग के लक्षण पाए गए थे प्रजनन मार्ग संक्रमण या श्रोणि शोध रोग से पीड़ित महिलाओं ने इस रोग के इलाज के लिए सरकारी डाक्टरों से परामर्श को ही वरीयता दी थी, जबकि नर्स बहु-उद्देशीय स्वास्थ्य कार्यकर्ता या महिला स्वास्थ्य कार्यकर्ता से परामर्श लेने के लिए कतई भी एप्रोच नहीं की थी। प्राप्त परामर्श/इलाज में असंतुष्टि स्तर अधिक (67%) पाया गया था, जिससे संभवतः परामर्श लेने के लिए अधिक महिला चिकित्सकों की अपूर्ण आवश्यकता का संकेत मिलता है। विश्व स्वास्थ्य संगठन द्वारा अनुशंसित संरूपक एप्रोच के अनुसार अध्ययन में महिलाओं के स्वास्थ्य संबंधी अभी तक अनदेखे आम मुद्दों के तीव्र एवं उचित निवारक हेतु सभी श्रेणियों के स्वास्थ्य कार्यकर्ताओं के कार्यों को समेकित किए जाने की सिफारिश की गई है।

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**CONTRACEPTIVE PRACTICE AMONG MARRIED WOMEN
IN A RESETTLEMENT COLONY OF DELHI**

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ABSTRACT

A cross-sectional community based study was conducted in a resettlement colony of Delhi to find out but the contraceptive usage among currently married women aged 15-49 years, and the factors influencing the use of such contraceptive practices. Out of 520 women interviewed, complete information could not be obtained from 60 and therefore data for 460 women were included in the final analysis. The findings revealed that about two-third (63.3 %) of the eligible couples were using a contraceptive method, and the effective couple protection rate (CPR) was 56.1 per cent. Majority (37%) of these women had undergone tubectomy. Among the users of temporary methods of contraception, condom (56%) was the most preferred method. Permanent methods of contraception were mainly availed from public sector hospitals. Decision regarding contraceptive use in the family was mostly taken jointly by the husband and wife (65.7%). Number of living children at the time of first contraceptive use was found to be more than two in 74.4 per cent of the cases. Socio-economic status (SES) of the family was seen significantly - associated with the use of contraceptive method. The reasons for-non-acceptance were either for an expectation of a male child (44%) or fear of side effects (29%). Despite their knowledge on different methods, one-third of the women was found not using any contraception because it was not available free of cost. The above findings indicated married women in the study population seemed to possess a reasonable knowledge about contraceptives as five per cent only expressed having not heard of any contraceptive method at all.

Keywords: Resettlement colony, Married women, Contraception, and Socio-economic status.

India was the first country in the world to launch the Family Planning Programme in 1951. Later, it was renamed as the Reproductive and Child Health (RCH) programme in 1997; A survey across the nation (National Family Health Survey-11, 1998-99) revealed that though 99 per cent of the women in the reproductive age group knew at least one method of

contraception, only less than half (48%) of the currently married women were using some method of contraception. The prevalence of contraceptive use has shown geographic variations. Even within the same geographic area, contraceptive practices may vary among, different communities. Keeping the regional differences in mind, the National Population Policy (2000) recommended decentralized planning and implementation of contraceptive services." The access to health services and therefore, the contraceptive practices, are likely to be poor among disadvantaged communities e.g. those living in slums or resettlement colonies. Community specific data are therefore essential plan and implement efficient and effective family planning services.

OBJECTIVES

The present study was therefore initiated to determine:

- a. The contraceptive use, among the currently married women aged 15-49 years; and
- b. The factors associated with the use of contraceptive methods.

METHODOLOGY

A cross-sectional community based household survey was conducted in Dr. Ambedkar Nagar resettlement colony in South Delhi established in 1976. Out of 520 women interviewed, 460 were included in the final analysis as 60 subjects failed to provide complete information. The colony consisted, of 14 blocks out of which six blocks were identified as the field practice area of the All India Institute of Medical Sciences. Domiciliary services are provided free of cost in the field practice area. Three blocks each approximately with a population of 10,000 are covered by a male and a female multipurpose health worker (MPWs). MPWs made fortnightly domiciliary visits to provide counselling, treatment, of minor ailments and referral services. Residents of this colony were mainly migrants from the neighbouring states. Multiple agencies provided health care services in the study area. The study was carried out between February and April 2003. All currently-married women in the age group of 15-49 years in the study area were included. Children below 15 years and women older than 49 years, and those Widowed, divorced and separated were excluded from the study. Women who refused to participate in the study were also excluded. If there were more than one eligible women in the household, then the youngest eligible women was included in the study. If the house was found locked, two additional visits were made on separate days. The house was then labelled as "non-contactable" and excluded if it was found locked on the third visit.

Sample Size and Sampling Technique

According to the NFHS-11 data the prevalence rate of contraceptive use among the currently married women who have ever used any contraceptive method was 55 per cent. The present sample calculated-for the relative precision of 10 per cent was 327. Taking-into account the 10-per cent non-response rate, the minimum sample size was calculated as 360. Two/out of the six field practice blocks were randomly -selected for the study. All the currently married women living in the selected blocks were included in the study. Since the randomization was done at the block level rather than the household level, considering the design effect as 1.5 per cent, a-final, sample size of 540 (360×1.5) was considered for analysis.

Study Instrument

A close-ended structured interview schedule was prepared. The interview schedule was pre-tested in a nearby area not included in the study and the revised version of the interview schedule was administered to the study samples. Interviewers were trained to minimize the inter-observer variations. Modified Kuppaswamy socio-economic scale was used to ascertain the socio-economic status of the family. Current use of different contraceptive methods among subjects was defined as use of any contraceptive method in the past one year preceding the study period. If more than one method was used, then the latest contraceptive method used was taken into account. Reasons for contraceptive use by the women were assessed, by an open-ended question.

Data Collection

Household visits, were made by the undergraduate medical students to identify the eligible women subjects. The women were explained about the objectives of the study and an informal verbal-consent was obtained. All women, both participants as well as non-participants in the study were offered health education, counselling, contraceptive and referral services.

Analysis

Data were entered into MS Excel spread sheet and analyzed by SPSS version 10.0.

FINDINGS

A total number of 577 houses was visited. The number of non-contactable houses was 23 and an additional 34 women refused to participate in the study. Therefore, 57 (9.9%) out of 577 houses were excluded. Out of 520 women, interviewed, 60 (11.5%) provided only partial answers who were also excluded. Hence data from 460 women only were included in the final analysis.

Majority of the women (85.4%) were in the age group of 20-39 years. Only 1.6 per cent of the women were 15 to 19 years old. The remaining 13 per cent was in between 40 and 49 years of age. Most of the women (95.7%) belonged to upper lower and lower middle socio-economic class. Almost all (98%) of the women were Hindus by religion.

About two-third (65%) of the women had heard and used any type of modern contraceptive method at least once. Another 30 per cent of women had heard of but had never used any contraceptive method. The rest 5 per cent of the women was neither aware of nor used any contraceptive method at all.

It was seen that 291 eligible couples (63.3%) were currently using a contraceptive method and the effective couple protection rate (CPR) was 56 per cent. Out of the current users (291) majority 157 (53.9%) had undergone tubectomy. Among the 132 users of temporary methods of contraception condom was the preferred method for more than half (52.3%) of the users. Use of oral pills (26.5%) and intra-uterine contraceptive device (IUCD) (21.2 %) was marginal among the study participants. The study found that only two of the women's spouses had undergone vasectomy (Table 1),

TABLE 1
CURRENT USE OF DIFFERENT CONTRACEPTIVE METHODS

Methods	Number	Percentage (%)
Condoms	69	23.7
OC pills	35	12.1
IUCD	28	9.6
Tubectomy	157	53.9
Vasectomy	2	0.7
Total	291	100

It was observed that women availed of different kinds of services in relation to contraception from the service providers. Services for permanent methods of contraception were mostly availed from the public sector hospitals (100% for vasectomy and 89% for tubectomy). However, with the exception of IUCD, temporary contraceptive methods were mostly obtained from the private health care providers. Among those who used condoms, 72 per cent obtained them from, private suppliers like chemist shops, and only 28 per cent from government sources. Similarly, the source of oral pills in about two-third (65%) of users was from private and the rest (35 %) from government sources. Significantly, 90 per cent of the IUCD users had their IUCD inserted in government hospitals and the rest (10 %) from private providers.

Temporary methods were mostly used for spacing the pregnancies. For postponing the first pregnancy, equal proportions of women used condoms, and oral pills. Table- 2 shows the number of living children at the time of first contraceptive use. It was observed in the current study that almost three-fourth (74.4%) of the women had two children when they first used a contraceptive method. Use of contraception for the first time after having one live birth was found to be 21.7 per cent. Only less than 2 per cent of the women used contraceptive methods prior to childbirth.

TABLE 2
NUMBER OF LIVING CHILDREN AT THE TIME OF FIRST USE OF
CONTRACEPTIVE METHODS

Contraceptive	Nil	One	Two	Three or more	Total
Condoms	3 (3.4)	43 (48.9)	28 (31.8)	14 (15.9)	88(100)
Oral pills	4 (5.8)	22(31.9)	25(36.2)	18(26)	69(100)
IUCD	0	16 (30.8)	25(48.1)	11(21.1)	52(100)
Tubectomy	0	0	43 (27.4)	114(72.6)	157 (100)
Vasectomy	0	0	0	2(100)	2(100)
Total	7(1.9)	81 (21.7)	121 (32.4)	159(42)	378* (100)

(*n=378, since some of the users had used more than one method.)

It was observed from the study that decision regarding contraceptive use in the family was mostly (65.7%) taken jointly by the husband and wife. It was also observed that in 14.8 per cent of cases, husbands were the sole decision makers regarding the use of contraception; women were the sole decision makers in 13.3 per cent of cases. Meanwhile, it was found that parents of the spouses took decisions in a small proportion of cases (6.3%) with regard to contraceptive use by the spouses.

Socio-economic status (SES) of the family was found to be significantly associated with the use of a contraceptive method. It was observed that there was an increased use of contraceptive methods among families with the increase in SES ($p < 0.05$). When the reasons for non-acceptance of contraceptive methods were inquired, most of the women reasoned that they were not allowed to use any contraceptive method either due to the desire for a male child (44%) or because of the suspected fear of side effects of contraception (29%).

DISCUSSION

The present study has revealed that the contraceptive prevalence among married women in the study area was as high as 63.3, per cent similar to that of NFHS II for Delhi (64%). However, another study conducted among the slum dwellers in Delhi reported that only 25 per cent of the eligible couples are currently using any contraceptive method, and amongst the current users, the commonest method was tubectomy (59 %) ² The discrepancy could be due to the difference in socio-economic status among slum dwellers, and inadequate availability of facilities. In the present study too, the most commonly used method for contraception amongst all the eligible couples was the permanent method, tubectomy 157/460 (34.1%), This is of course lower than that reported for the rest of Delhi (41%). The purpose of contraception is to limit the family size rather than to space the births in majority of the families. This was reflected in the pattern of use of contraceptive methods where it was seen that only 2 per cent of women used contraceptive methods to delay the first child, while 21 per cent used any method to delay the second child. The study found that the most common source of contraceptive method for the subjects was the public sector. Since tubectomy, or insertion of IUCD can only be done in a hospital setting, most of the women belonging to the low socio-economic stratum, were more inclined to opt for government health care facilities rather than private health care facilities. The study showed that with increasing SES there was an increased trend for the use of contraceptive methods within the family. This is similar to the findings of a study conducted in South Delhi where socio-economic status was found to be directly proportional to contraceptive prevalence ³. The reasons for non-acceptance in a majority of women were either due to an expectation of a male child (44%) or fear of side effects (29%). A study in Pakistan also cited the desire for a male child and husband's disapproval as the main reasons for non-acceptance of contraceptive methods ⁴. A study in Chandigarh also reported that desire to have a male child was the main reason for non-acceptance of family planning methods followed by fear of side effects ⁵.

CONCLUSION

About two-thirds of the women in this study used some form of contraceptive method but most of them preferred a permanent method. The women in a relatively higher socio-economic status were found more inclined to practice contraception. One-third of the women were not using contraception in spite of knowledge of different methods and expressed their willingness to use if provided free of cost. However, there are a small fraction of women (5%) who have not heard of any contraceptive method at all.

In conclusion, the findings support the contention that there is still a need to intensify IEC activities and motivate the population to practice contraception. Women should be advised to use temporary methods to space births so as to reduce the number of unwanted births and induced abortions. Male participation in the contraceptive use among couples continues to be poor and efforts should be made to encourage male participation in family planning. There is also an unmet need for contraception in about half of the population in the study area. What is more important at this moment is to find out the reasons for non-utilization of available contraceptive choices and remove the myths and beliefs associated with their usage.

Lkkjk'k

15-49 वर्ष की आयु वाली विवाहित महिलाओं में गर्भनिरोधकों के उपयोग और इनके प्रयोग को प्रभावित करने वाले कारकों का पता लगाने के लिए दिल्ली की एक पुर्नवास बस्ती में समुदाय पर आधारित एक क्रॉस-सैक्शनल अध्ययन किया गया था। साक्षात्कार में सम्मिलित कुल 520 महिलाओं में से 60 महिलाओं के बारे में पूरी-पूरी जानकारी प्राप्त नहीं की जा सकी थी, इसलिए 460 महिलाओं से प्राप्त आंकड़ों को ही फाइनल विश्लेषण में शामिल किया गया था। अध्ययन से प्राप्त निष्कर्षों से पता चलता है कि पात्र दम्पतियों में केवल दो-तिहाई (63.3%) दम्पति ही गर्भ निरोधक उपायों का प्रयोग कर रहे थे और प्रभावी दम्पति संरक्षण दर 56.1% थी। इनमें से अधिकांश (37%) ने नसबन्दी करा रखी थी। गर्भनिरोध के अस्थायी उपायों के प्रयोगकर्ताओं (56%) द्वारा निरोध को अत्याधिक वरीयता दी जाती थी। गर्भ-निरोधक स्थायी तरीकों का लाभ मुख्यतः सार्वजनिक क्षेत्र के अस्पतालों से लिया जा रहा था। गर्भनिरोधक उपायों के प्रयोग के बारे में निर्णय अधिकतर (65.7%) परिवार में पति-पत्नी द्वारा संयुक्त रूप से लिया गया था। 74.4% मामलों में पहली बार गर्भनिरोधक उपाय अपनाते समय परिवार में जीवित बच्चों की संख्या दो से अधिक पाई गई थी। गर्भनिरोधक उपाय के प्रयोग परिवार के सामाजिक-आर्थिक स्तर का सहसंबंध उल्लेखनीय रूप से गर्भनिरोध उपाय से जुड़ा हुआ पाया गया था। गर्भनिरोधक उपाय न अपनाए जाने का कारण प्रमुख रूप से लड़का होने की इच्छा (44%) से

अथवा गर्भनिरोध उपाय से होने वाले गौण प्रभाव के डर (29%) से जुड़ा पाया गया था। यद्यपि उन्हें गर्भनिरोध के विभिन्न तरीकों के बारे में जानकारी थी किन्तु एक-तिहाई महिलाएं कोई भी गर्भ-निरोधक उपाय इसलिए प्रयोग नहीं कर रही थीं, क्योंकि ये निशुल्क उपलब्ध नहीं थे। अध्ययन से प्राप्त उपरोक्त निष्कर्षों से ज्ञात होता है कि अध्ययन में शामिल जनसंख्या में विवाहित महिलाओं को गर्भनिरोधक उपायों के बारे में पर्याप्त जानकारी थी, केवल पांच प्रतिशत महिलाओं ने बताया था कि उन्होंने किसी भी गर्भनिरोधक उपाय के बारे में कभी भी कुछ भी नहीं सुना है।

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HEALTH AND NUTRITIONAL STATUS OF SCHOOL GOING CHILDREN IN PATNA

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ABSTRACT

The present study relates to a survey of daily nutritional intake (total calories, protein, iron and vitamin A) in 700 school going children belonged to different income groups in Patna. The growth status of children was evaluated by applying anthropometric parameters.

The result showed that children of low-income group (LIG) families were deficient in all categories of daily supply of nutrients. The most pronounced deficiency was vitamin A in which 61.80 per cent of male and 59.78 per cent of female children of LIG families received less than 55 per cent of the recommended daily allowance (RDA). Under each category of nutrient, children belonging to HIG families also showed varying degree of deficiencies. The average height among children was found to be slightly less than the standard recommended by the National Centre for Health Statistics (NCHS). Average weight was observed to be slightly higher in comparison to the NCHS standards which may be probably due to altered food habits among children. Nutritional deficiencies in children of HIG families indicated that there was a lack of awareness of a balanced and nutritious diet independent of the economic factor among families.

Keywords: Nutritional status, NCHS standard, RDA, and Deficiency.

Health and nutrition in early stages of human life determine, to a great extent, the physical and mental well being of a person. In a developing country like India, poverty undoubtedly constitutes a major factor for malnutrition in children, but lack of awareness of what constitutes a balanced diet is also a factor, which needs to be considered.

School going children of different age groups form a vulnerable population where studies in respect of nutritional deficiencies could be done with respect to the income groups of the parents. The study would reveal the kind of nutritional

deficiencies prevalent among the children and would also provide a comparative picture whether these deficiencies were, confined only to children belonging to families with low income. Earlier studies, have shown that the most commonly encountered deficiency is related to protein-calorie malnutrition. The percentage of children in 4-13 years with protein-calorie deficiency was less compared to total calorie (energy) deficiency, which ranged from 26.6 to 57.6 per cent. Similar trends have been reported by the Nutritional Monitoring Bureau, National Institute Nutrition. The manifestations of malnutrition were evident with widespread incidence of anemia and nutritional blindness among children. The present study was therefore undertaken to determine nutritional status of children attending schools of Patna and from families with varying socio-economic status.

MATERIALS AND METHOD

A survey of the nutritional status of 700 school going children comprising 444 boys and 256 girls in the age group of 6-11 years was undertaken. Applying random sampling method; the subjects were drawn from different schools of Patna municipal area. Relevant data were collected with respect to, children coming from different income groups. Classification of various income groups viz. HIG, MIG and LIG was done based on the schedule adopted by the HUDCO Regional office, Patna, assigning a monthly income of Rs. 1,251 to 2,650 to LIG, Rs. 2,651 to 4,450 to MIG and Rs. 4,450 and above to HIG respectively. Using standard procedures of anthropometry, height, weight and arm circumference were recorded. Taking into account the anthropometric observations, growth status of the study samples was evaluated and compared with standards adopted by National Centre for Health Statistics (NCHS).

To assess the food intake of the children, a 24 hour recall method of diet survey was adopted. The mother and the respective children were asked to give an account of the quantity and corresponding ingredients of food items consumed. From the data, the total intake of protein, iron, vitamin A and overall calorie was calculated with the help of food guide in meal planning and evaluation as described by Mudambi and Rajgopal, and the food table prepared by Gopalan et al. The dietary intake of nutrients was compared with the recommended daily allowance (RDA) given by the Indian Council of Medical Research (ICMR). The data were analyzed by applying appropriate statistical tools.

FINDINGS AND DISCUSSION

The distribution of children in terms of nutritional intake versus the recommended dietary allowance (RDA) is summarized in Table 1. The results showed that regardless of the income group to which the children belong, there was a marked deficiency in the intake of different nutrient categories. Out of 700 children, the distribution for various nutrient groups where the children fulfilled or exceeded the RDA (100%) was in the category of calories with respect to 26 children (5 males and 21 females), protein with respect to 34 (28 males, 6 females), vitamin A with respect to 174 (109 males, 65 females) and iron with respect to 244 children (83 males, 161 females). The survey revealed that the children belonging to the low-income group were the most affected in all categories of nutrients. In terms of daily intake of calories, the majority under each category fell within 75-100 per cent of the RDA which can be further classified as males 91.1 percent and females 93.48 percent for LIG, males 95.78 per cent and females 88.46 per cent for MIG, and males 93 percent, and females 83.33 per cent for HIG. The highest caloric adequacy was found in the females of HIG (15%) as compared with their counterparts in LIG (4.35%). The study shows that the males in the LIG were not receiving the caloric level of RDA. Protein deficiency was also found among children from LIG families. The survey found that 2.81 per cent of males and 8.7 per cent of females in the LIG were receiving less than 55 per cent RDA of protein. Vitamin A deficiency was quite high in the children from LIG households in which 61.8 per cent of the males and 59.78 per cent of the females received less than 55 per cent of the RDA. Compared to the males, iron deficiency was significantly high in the females in the category of 75 - 100 per cent of RDA. Females were better off in the category of ≥ 100 where the daily intake of iron was as per the level of the RDA or even higher.

As depicted in Table 1, the study reveals that as far as caloric nutrition is concerned, the majority of the income groups were in the range of 70-100 level, which includes 83.33 percent to 95.78 per cent of children. It is only here that the female nutrition level is found to be higher than that of the males. However, this is represented by children (4.35, 7.69 and 15 per cent of children from LIG, MIG, HIG families respectively), which constitute a low percentage in the whole study. The study observed that as the income level of the parents increases, affordability leads to much higher caloric intake in children. The marginal increase for females (93.48% females versus 91.01% males) in the intake of calories for the 70-100 group is probably indicative of such increase in affordability. However, this difference in between sexes was observed not significant.

Based on the dietary intake, children from MIG and HIG were found to be beyond >55 of RDA protein. Only a little over 1 per cent of children for LIG families were found in the category of ≥ 100 of RDA protein.

Table 1 further reveals that males are not deficient in vitamin A in the <55 per cent RDA category as compared to their female counterparts (61.80% males versus 59.78% females in LIG category 46.99% males versus 33.65% females in the MIG category, and 27% males versus 25% females in the HIG category). The income status is very well correlated with the intake of RDA of vitamin A as 41.67 per cent of females in the HIG qualify, for >100 category; Both higher awareness of vitamin supplements and affordability may be responsible for this upward trend. It is also heartening to see a comparatively better compliance for girls (41.67 % females compared to 38 % of males), which is probably a positive indication towards removal of discrimination between sexes in the society.

It was observed that 50 percent of girls in all income groups received more than 100 per cent RDA in the iron intake. This could be explained by the fact that the bodily needs of females are tuned to motherhood and the body prepares itself for the same. Therefore a full-fledged diet rich in is very much helpful in this direction.

The results confirmed that the children belonging to the low income group families were getting diets below the level recommended by the Indian Council of Medical Research (ICMR). Consequently these children suffered from malnutrition. Reddy also demonstrated that the diets of children, from lower income families were far lower than the recommended allowances.

Height and weight are important criteria to judge the nutritional level of an individual. In the 700 subjects of both the sexes, heights in centimeter were measured to ascertain their state of growth and its correlation with the nutritional level. On an average, the boys were 118.67 cm tall at the age of six and 135.57 cm at the age of 11 whereas the average height for girls was 113.67 cm at the age of 6 and 137.55 cm tall at the age of 11 (Table 2). The results showed that the height of the boys under the age of 10 increased slightly better than girls in the same age group. However, in the 11th year, the height of female children significantly increased in comparison to their male counterparts. The same variation in the heights of male and female children has been reported in the NCHS standard too.

TABLE 1
DISTRIBUTION OF CHILDREN BELONGING TO DIFFERENT INCOME GROUPS
BY NUTRIENT INTAKE VERSUS RDA

NUTRIENT	LOW INCOME GROUP		MIDDLE INCOME GROUP		HIGH INCOME GROUP	
	Male	Female	Male	Female	Male	Female
	%	%	%	%	%	%
% RDA CALORIES						
<70	8.99	2.17	3.61	3.85	3.0	1.67
70 – 100	91.01	93.48	95.78	88.46	93.0	83.33
>= 100	-	4.35	0.60	7.69	4.0	15.0
% RDA PROTEIN						
< 55	2.81	8.70	-	-	-	-
55 – 75	67.42	69.57	25.30	44.23	10.0	21.67
75 – 100	28.65	21.74	68.67	53.85	74.0	71.67
>= 100	1.12	-	6.02	1.92	16.0	6.67
% RDA VITAMIN A						
< 55	61.80	59.78	46.99	33.65	27.0	23.33
55 – 75	11.24	7.61	7.83	17.31	12.0	10.0
75 – 100	11.80	17.39	18.67	24.04	23.0	25.0
>= 100	15.17	15.22	26.51	25.0	38.0	41.67
% RDA Iron						
<55	2.15	-	-	1.92	-	-
55 – 75	16.29	10.87	5.42	3.85	4.0	3.33
75 – 100	74.72	35.87	70.48	25.0	65.0	30.0
>= 100	6.74	53.26	24.09	69.23	31.0	66.67

Singh et al⁵ reported a similar finding in school going children of Vidharbha region. In the present study while comparing the data with the NCHS standard of measurement, it was found that the findings were slightly lower than the standard indices. The mean height of the children was compared with the NCHS standard but a significant difference was found at the age of 6 and in the age group of 8-11 years for both the sexes.

TABLE 2
DISTRIBUTION OF CHILDREN BY HEIGHT VERSUS
AGE AND SEX

Age in Years	Male Children.				Female Children			
	No of Cases	Mean (in cm)	S. D.	t-Value	No of Cases	Mean (in cm)	S. D.	t-Value
6	3	118.67	5.03	7.7858	3	113.67	14.36	2.285015
7	13	122.23	5.00	0.68777	9	121.00	4.30	0.8564022
8	39	123.79	7.87	4.485257*	23	121.87	8.58	3.89964*
9	68	130.53	7.02	3.611329*	42	125.95	5.30	7.052235*
10	160	131.74	9.09	12.43803*	74	131.57	8.35	9.933177*
11	161	135.57	9.13	13.67029*	105	137.55	8.70	10.25742*

(*Significant at 5 per cent level)

It was observed in the present study that the mean weight of the children increased with age in both the sexes (Table 3). The average weight of boys at the age of 6 was 20 kg which grew to 28.88 kg till the age of 11. It is thus adding on 8.88 kg to the weight only during a span of 5 years. The average weight of the girls at the age of 6 years was 18.33 kg. There was a substantial gain of 10.67 Kg in their weight during the same 5 year period. Thus, at the age of 11 the mean weight of girls was 29 kg compared to 28.88 Kg for boys. The findings show that the boys in the age group of 6-10 years weighed more than the girls in the same age group.

Data when compared with the NCHS standards were observed to be higher in each group and for both the sexes. These differences may be due to climatic variations economic condition and food habits in children. The analysis holds that from seven year onwards the average weight was found to be less than the respective standard weight and the difference was significant at 5 per cent level of significance.

It may be inferred from above data (Table 2) that the boys remained taller than the girls till the ninth year and the adolescent spurt was significant in girls at the age of ten. However, the growth pattern in girls is more than the boys at 13 years of age. Easwarari and Devdas have also reported similar results.

TABLE 3
AVERAGE WEIGHT OF CHILDREN BY AGE AND SEX

Age in Years	Male Children				Female Children			
	No of Cases	Mean (in kg)	S.D.	t- Value	No of Cases	Mean (in kg)	S. D.	t-Value
6	3	20.00	0.00	1.1232	3	18.33	2.52	1.624654
7	13	22.31	1.55	1.8699*	9	21.33	3.20	2.12*
8	39	22.59	4.28	5.399597*	23	21.83	4.34	4.0807*
9	68	24.76	5.80	7.695435*	42	23.33	4.28	6.86905*
10	160	26.55	5.69	12.43616*	74	25.32	4.91	14.82635*
11	161	28.88	4.95	12.12671*	105	29.04	6.05	13.31105*

(*Significant at 5% per cent level)

The mean value of arm circumference of- the children of both sexes increased with age (Table 4). For boys at the age of 6, it was 16.33 cm and 18.74 cm.at the age of 11 In case of girls, the mean value was 14.33 cm at the age of 6 , and 19.89 cm.at the age of 11. It was found that the arm circumference of the male children was in accordance with the NCHS standard value whereas the arm circumference value for females between the ages of 6 and 10 years differed with the NCHS standard values. Statistical analysis revealed no significant difference in the arm circumference of male children up to 10 years of age and female children up to 9 years of age. However, in males of 11 years and females of 10 years, the difference was observed to be significant. Surprisingly, no significant variation was noted in the standard circumference of arm in case of female children of 11 years old.

TABLE 4
AVERAGE ARM CIRCUMFERENCE OF CHILDREN VERSUS AGE AND SEX

Age in Years	Male Children				Female Children			
	No of Cases	Mean (in cm)	S. D.	t-Value	No of Cases	Mean (in cm)	S. D.	t-Value
6	3	16.33	2.52	0.38742	3	14.33	1.15	2.84346
7	13	17.15	1.68	0.413039	9	18.67	2.65	1.3551
8	39	17.41	2.25	0.9527468	23	17.74	2.82	0.5819
9	68	18.84	5.98	1.0378	42	18.05	1.91	1.8656
10	160	18.63	2.65	1.863248	74	17.96	2.12	5.02627*
11	161	18.74	2.21	8.274337*	105	19.89	3.65	0.46887

(*Significant at 5 per cent level)

CONCLUSION

Correlation of height, weight and arm circumference with nutritional intake of school going children was analysed in the present study. Associated factors like nutrient intake to the percentage of the RDA in children belonging to different income groups were also included. Results indicated that regardless of the income group there was a marked deficiency in nutritional levels among different categories. Children from low income group families were found to be suffering from malnutrition as they were getting less diet as compared to doses recommended by ICMR. The height of male children increased with age and they were slightly taller than the girls up to the age of 10 years. The study found a significant difference in height and weight between boys and girls at the 11th year age. However, in the 11th year, girls weigh slightly more than the boys.

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प्रस्तुत अध्ययन, पटना के विभिन्न आय वर्गों के परिवारों के 700 स्कूली बच्चों के पोषणात्मक आहार (कुल कैलोरी, प्रोटीन और विटामिन ए) के बारे में किए एक सर्वेक्षण से संबंधित है।

अध्ययन से प्राप्त निष्कर्ष दर्शाते हैं कि अल्प आय-वर्गों के परिवारों के बच्चों को प्रतिदिन आहार में दिए जाने वाले पौष्टिक तत्वों की कमी होती थी। विटामिन 'ए' की कमी सबसे अधिक देखने में पाई गई थी। निम्न आय वर्ग के

परिवारों के 61.80% लड़कों और 59.78% लड़कियों को प्रतिदिन आहार में 55% से भी कम मात्रा में मिलती थी तथा यह संस्तुत मात्रा से कम थी। पौष्टिक तत्वों की प्रत्येक श्रेणी के अंतर्गत उच्च आय वर्ग के परिवारों के बच्चों में भी पोषण की मात्रा में भिन्न-भिन्न मात्रा में कमी पाई गई थी। बच्चों का औसत कद नेशनल सेंटर फॉर हैल्थ द्वारा अनुशंसित मानक कद से थोड़ा कम पाया गया था। नेशनल सेंटर फार हैल्थ स्टैटिस्टिक्स के मानकों की तुलना में औसत भार थोड़ा अधिक पाया गया था। जो संभवतः बच्चों में खान-पान संबंधी आदतों में परिवर्तन के कारण था। उच्च आय वर्ग के परिवारों के भोजन में पौष्टिक तत्वों के संतुलन के बारे में जागरूकता की कमी पाई गई थी।

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**POOR INTAKE OF SELECTED NUTRIENTS
BY WOMEN WORKERS IN A GARMENT FACTORY**

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ABSTRACT

Poor nutritional status was observed among garment industry workers in this study. Taking into account the WHO recommended criteria of BMI <18.5, general physical examination of the employees in the factory revealed that more than 25 per cent of women were undernourished. The study analysis revealed that a large proportion of the workers were consuming a diet which was below the recommended intake of calories in carbohydrates and proteins; and surprisingly, their intake of fat was more than the recommended level. The findings of the study show gross anomalies in the dietary pattern of women workers in the garment industry and calls for a more detailed investigation into the same. Attempts were also made in the present study to identify methods by which dietary intake of the female workers can be improved both in terms of quantity and quality.

Keywords: Garment industry, Women workers, Dietary intake, and Nutritional status.

It is suspected that women--in the garment factory do not consume adequate dietary requirement due to various factors like low socio-economic status, long distance between the work place and home, low salary and other domestic problems including the care of children. A number of studies have reported the health status and safety of the workers but none of- these has analysed the nutritional status of the employees working in a garment industry.

A study among cotton mill workers in China revealed that production efficiency increased significantly in a group of workers treated with iron. The intervention was made drily after under-nutrition was found in nearly 25 per cent of the factory employees.

OBJECTIVES

The present study was undertaken to:

- assess the nutritional, intake of the workers, in terms of calories, proteins, fats and specific minerals;
- determine the relationship, if any, between the dietary intake and the nutritional status of the workers; and
- to make suitable recommendations to the factory management on the nutritional status of the women employees.

METHODOLOGY

The annual medical check

up (unpublished report submitted, to the factory management) conducted; for the employees: of this factory revealed that 81 (24.69%) out of the 328 women examined, had a Body Mass Index (BMI) of less than 18.5 and therefore, classified as undernourished as per WHO criteria. The study was then followed up with a 24-hour recall method for semi-quantitative dietary intake in which 111 women were interviewed. The women were selected on the basis of the free time they had during the investigators visit to the factory.

The details of the diet obtained by this method were fed into the computer and analysed using approved nutritional analysis; A software program called Annapurna, which calculated the intake energy, protein, fat and iron among other nutrients against the recommended intake for each woman was utilised. The BMI classification is based on the cut-offs suggested by the World Health Organisation.

FINDINGS AND DISCUSSION

Using the WHO classification, it was found that out of the 111 workers, 29 (26.13%) were undernourished, 61 (54.95) normal, 11 (9.91%) overweight and 10 (9.01%) obese (Table I).

Energy: Out of the 111 workers, only six (5.4%) consumed calories in excess than what is recommended. However, of the 29 who were malnourished, 23 (79.31%) consumed calories less than that recommended. Similarly, even among those who were of normal BMI, 49 (80.33%) consumed low calorie than the required amount. This probably demonstrates that the under nutrition in this group of workers is more likely due the inherently deficient calorie intake among them.

Protein: it was observed that 19 (17.12%) out of the 111 workers consumed normal amount of protein or more. 13 of those undernourished (44.83%) and 27 of those who were normal (44.26%), consumed less protein than the recommended level (Table 1). This indicates that the food consumed by the women didn't have the required amount of protein.

Fat: The analysis of the proportion of fat consumption by the individuals belonging to all categories of BMI was far in excess of what is prescribed. 96 women (86.48%) consumed fat in excess. This demonstrates that the quality of food consumed by many workers was not appropriate.

Iron: The study considered an intake of 30 mg of iron by an individual per day to be adequate. But it was found that none of the 111 workers interviewed consumed adequate amount of iron. Incidentally, 35 of these workers had clinical signs of anaemia.

Given the socio-economic background of the workers, it is not surprising that the calorie and protein intake of the workers is deficient. It is surprising that there is excessive consumption of fat in spite of a deficient diet for other nutrients. An excess of fat in the diet to the proportion of the total calorie intake represents a very poor quality of diet. Thus the need and benefit of nutrition education among workers cannot be therefore, over-emphasized. It is suggested that the factory management should try all the means at their disposal to improve the diet of the workers both in terms of quality and quantity.

TABLE 1
NUTRIENT INTAKE VERSUS BODY MASS INDEX OF WOMEN WORKERS

		Body Mass Index			
		<18.50	18.50 - 24.99	25.00 - 29.99	>29.99
Energy	N or > N	0	4	0	2
	75-100%	6	8	4	3
	< 75%	23	49	7	5
Protein	N or > N	2	9	4	6
	75-100%	14	25	4	2
	<75%	13	27	3	2
Fat	> 110%	26	51	11	8
	N -110%	3	6	0	1
	75 - 100%	0	1	0	1
	< 75%	0	3	0	0

The need for iron supplementation is also very evident. In addition, the above mentioned nutrition education programme must also include the importance of iron in the diet and factors that inhibit and enhance its absorption.

Some studies have revealed that the productivity and nutritional status of workers improved significantly with supplementary diet that was provided at the work spot. Any effort in this direction on the part of the managements will go a long way in ensuring a healthy and productive workforce in the garment factory.

LIMITATIONS

This being a baseline study; it included a limited number of workers. Further studies may have to be undertaken in a large scale to determine the extent of malnutrition among women workers compared to the total work force.

The 24-hour recall has its inherent deficiencies. There are other validated methods of verifying the actual nutrient intake which could not be utilized in the present study.

Lkkjk'k

अध्ययन में वस्त्र उद्योग कर्मियों में निम्न पोषण स्तर देखा गया था विश्व स्वास्थ्य संगठन द्वारा अनुशंसित बीएमआई 18.5 को ध्यान में रखते हुए, फैक्ट्री के कर्मचारियों के सामान्य शारीरिक परीक्षण से पता चलता है कि 25% से अधिक महिला कर्मचारी कुपोषण से ग्रस्त थीं। अध्ययन से प्राप्त निष्कर्षों से पता चलता है कि अधिकांश कर्मचारियों के भोजन में कार्बोहाइड्रेट्स और प्रोटीन में कैलोरी की मात्रा अनुशंसित मात्रा से कम होती थी, किन्तु आश्चर्यजनक बात है कि उनके आहार में वसा की मात्रा अनुशंसित स्तर से कहीं अधिक होती थी। अध्ययन से प्राप्त निष्कर्ष वस्त्र उद्योग की महिला कर्मचारियों के भोजन में पोषण के बारे में अनेक कमियां दर्शाते हैं, और इस ओर संकेत करते हैं कि इस बारे में अन्वेषण की आवश्यकता है। प्रस्तुत अध्ययन में महिला कर्मचारियों के भोजन में पौष्टिक तत्वों की मात्रा एवं गुणवत्ता में सुधार लाने के लाने के लिए विभिन्न तरीकों को भी अभिचिन्हित करने का प्रयास किया गया है।

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**A STUDY OF NEONATAL HYPOTHERMIA
IN A MEDICAL COLLEGE HOSPITAL**

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ABSTRACT

Neonatal hypothermia was studied at the Talegaon General Hospital, Pune, in which the rectal temperature of newborns delivered during the period from 1 January to 31 December 2001, was recorded within a period of 24 hours of birth. Room air temperature and newborn care practices were also recorded. Of the 161 babies, 29 babies (18.6%) were found to be hypothermic (rectal temperature <36°C). The labour room practice ensured clean delivery and cord care-in a warm atmosphere: The service providers followed the procedure of immediate drying of newborn babies and keeping them in radiant warmer till the mothers were ready. The labour room temperature varied from 25°C in winter to 29°C in summer. A significant adverse relationship between jeciajtemperature end birth weight as well as rectal temperature and practice of giving bath to the infants was observed. Neonatal hypothermia, which is commonly encountered in developing countries, can be prevented if people are educated about its cause.

Keywords: Neonatal hypothermia, Labour room, and Rectal temperature.

Maintenance of proper thermal environment is crucial for survival and growth of the newborn babies as at the time of birth, thermo-regulatory mechanism of the child is not fully developed. Neonatal cold injuries has, been recognised as a significant problem in temperate regions of the world. A few hospital-based studies have suggested that hypothermia is also a common problem in developing countries in the tropics.

Studies on the incidence of hypothermia for home and institutional births are available. However, there is hardly any data on the number of newborn deaths occurring due to hypothermia. Existing evidences show that hypothermia contributes significantly to deaths of low birth and pre-term infants. Taboos

Discourage touching the baby before the delivery of the placenta and many do not make clothes/wraps ready-before delivery to keep the baby warm resulting in hypothermia. The present study was conducted to study the problem of neonatal hypothermia, if any, at the Talegaon General Hospital, Pune.

MATERIALS AND METHOD

The study was carried out during 1 January to 31 December 2001 in Talegaon General-Hospital, Talegaon, Pune. Talegaon is a small hill station located about 40 kms away from Pune at an altitude of 672 metres (2204 feet) above sea level. The skin temperature and the rectal temperature of the newborn infants were recorded by standard thermometers kept for three minutes in each place. The rectal thermometer was recorded to obtain the core temperature. Dry and wet temperatures by means of standardized dry and wet bulb thermometers were also recorded. Besides temperature, a pre-tested questionnaire was used to collect information on various other factors like the time baby was given first bath, whether the baby was wrapped with cloth, whether the head was also covered and whether the breast-feeding, started immediately following 24-hours of delivery or not. The paediatrician recorded all the relevant data like date and time of birth, birth weight and sex, nature of delivery, Apgar score and gestational age.

FINDINGS

681 deliveries including 17 stillborn cases were recorded in the hospital during the calendar year 2001. However, only 161 deliveries were studied for analysis.

Labour Room Temperature: The labour room practice ensured clean delivery and clean cord care in a warm atmosphere. Immediate drying or keeping the baby in a radiant warmer till the mother was ready to keep the baby for skin to skin contact was strictly followed. The dry temperature varied from 25°C in winter to 29°C in summer. Monthwise variations in dry and wet temperature is depicted in Table 1.

Mothers' Characteristics: Majority of the mothers (75.3%) were in the age group of 20 to 30 years. 26 (16.1%) mothers were below 18 and 14 (8.6%) were above 30 years of age. 67 (41.6 %) mothers were primigravida and the rest multipara.

TABLE 1
VARIATIONS IN DRY AND WET TEMPERATURE BETWEEN MONTHS

2001	Dry Temp. in °C	Wet Temp. in °C
January	25	18
February	27	18.5
March	29.5	18.5
April	31	19
May	30.5	21
June	27	23
July	25	23
August	25.5	23.5
September	26.5	23.5
October	26.5	25
November	29	25.5
December	26	19

Infants' Characteristics: The gestational age of 156 (96.9 %) infants were above 36 weeks and only 5 (3.1%) infants were below 36 weeks. There were male and female babies, 54 per cent and 46 per cent respectively.

Apgar Score: Apgar score was recorded after one minute of birth and again after 5 minutes. The findings show that all the infants improved within 5 minutes (Tables 2 and 3) of delivery.

TABLE2
APGAR SCORE AFTER ONE MINUTE OF BIRTH

Score	No. of Infants	%
3	4	0.6
4	4	2.5
5	9	5.6
6	11	6.8
7	23	14.3
8	50	31.1
10	63	39.1

TABLE 3
APGAR SCORE AFTER FIVE MINUTES OF BIRTH

Score	No. of Infants	%
7	1	0.6
8	31	19.3
9	58	36
10	71	44.1

Relationship between Body-Covered With; Cloth and Rectal Temperature: The relation between body covered with cloth and the rectal temperature is shown in Table 4. The rectal temperature was observed to be higher in the infants with body covered with cloth or where warmer was used. However, the difference was not statistically significant.

TABLE 4
RELATIONSHIP BETWEEN BABY COVERED WITH CLOTH/KEPT
IN A WARMER VERSUS RECTAL TEMPERATURE

Use of Cloth/Warmer	Mean Rectal Temp. in °C	S.D.	No. of Infants
Kept in warmer	36.57	0.65	9
Covered with cloth	36.49	0.57	45
Uncovered	36.42	0.66	107
Total	36.45	0.86	161

(F = 0.38, p= 0.68 not significant)

Breast Feeding:. All the infants were breastfed within 12 hours of birth. 94 (58.3 %) babies were breastfed within 4 hours of birth, 16 (9.9%) within 8 hours and the rest 51 (31.7%) within 12 hours.

Relation between Rectal Temperature and Bath: Table 5 shows that bathing had a direct effect on the mean rectal temperature of the newborn baby.

TABLE 5
RELATION BETWEEN RECTAL TEMPERATURE AND BATH

Bath	No. of Infants	Mean Rectal Temperature	SD
Kept in warmer	5	36.66	0.82
Bath within 24hrs	74	36.26	0.7
No bath within 24hrs	82	36.6	0.55
Total	161	36.45	0.66

(F = 5.86, p = 0.0035 significant)

Relationship between Rectal Temperature and Birth-weight of the Newborn:

The study found that there was a significant relationship between rectal temperature and, birth weight of the newborn. It was seen that higher the rectal temperature, higher the birth weight of infants. 29 infants (18.6 %) were found hypothermic in which the rectal temperature was below 36°C (Table 6).

TABLE 6
RELATIONSHIP BETWEEN RECTAL TEMPERATURE AND BIRTH WEIGHT
OF THE NEWBORN

Rectal Temp. in °C	No. of Infants	Mean Birth-weight in Kg	SD
35	29	2.33	0.42
36	94	2.58	0.44
37	38	2.87	0.29
Total	161	2.6	0.44

(F = 15.24, p = 0.00001, p<0.05 significant)

Relationship between Skin Temperature and Birth-weight: It was observed that there is a significant association between the skin temperature of the-infant and the birth-weight. Higher the skin temperature, the more was the birth-weight (Table 7).

TABLE 7
RELATIONSHIP BETWEEN SKIN TEMPERATURE AND BIRTHWEIGHT

Skin Temp, in °C	No. of Infants	Mean Birth-weight in Kg	SD
35	27	2.57	0.39
36	73	2.57	0.45
37	39	2.58	0.44
38	22	2.85	0.43
Total	161	2.6	0.44

(F=2.84, p = 0.04<0.05 significant)

Association between Rectal Temperature and Gestation: The investigators found no association between gestational age and rectal temperature as shown in Table 8.

TABLE 8
RELATION BETWEEN RECTAL TEMPERATURE AND GESTATION

Rectal Temp in °C	No. of Infants	Mean Gestational Age In Weeks	SD
35	29	39.17	1.71
36	94	39.44	1.57
37	38	39.79	0.96
Total	161	39.5	1.48

(F = 1.50, p = 0.23>0.05 not significant)

DISCUSSION

The incidence of hypothermia (rectal temperature below 36°C) was found only in 29 infants (18.6%) in the current study. Another study from north India by Kumar and Agarwal shows the incidence of hypothermia (axillary temperature < 35.6°C) to be 11.1 per cent among infants delivered at home. 50 per cent of the babies delivered in health centres/hospitals in Zambia and Nepal were found to be hypothermic (rectal temperature, of < 36°C). The incidence of hypothermia varies in different regions and in different seasons.

In the present study, a significant relationship was observed between the rectal temperature and bath; and also between rectal temperature and birth weight (Tables 4 and 5). It is felt that the practice of giving bath to the newborn should be avoided as much as possible and every care should be taken to protect the low birth-weight babies against hypothermia.

Rectal temperature is a better-indicator of the core body temperature. However, since a good correlation has been reported between rectal and axillary temperature, some workers prefer to record axillary temperature for epidemiological studies in the community.

In the present study the set-up of the labour room, in relation to the variation of the environmental temperature was not extreme. However, since the relation between neonatal temperature and mortality is shown to be linear, effort should be made to prevent even mild degree of hypothermia in newborns.

Lkkjk'k

इस लेख में पुणे के ताले गांव जनरल अस्पताल के नवजात शिशुओं में अल्प-ताप जनवरी 1 से दिसम्बर 31, 2001 की अवधि में तथा नवजात शिशुओं के जन्म के 24 घण्टे के भीतर ही अल्प-ताप तथा मलाशय तापमान का रिकार्ड दर्ज किया गया था। अध्ययन के दौरान कमरे के तापमान और नवजात शिशु परिचर्या संबंधी अभ्यासों का रिकार्ड भी दर्ज किया गया था। 161 शिशुओं में से 29 शिशु (18.6%) अल्प-ताप से ग्रस्त पाये गये थे। मलाशय तापमान <36° सी था। प्रसूति कक्ष में अपनायी जाने वाली प्रक्रिया में सुरक्षित प्रसव कराना सुनिश्चित किया जाता था और नाभि परिचर्या उष्ण वातावरण में की जाती थी। सेवा प्रदाताओं

द्वारा शिशु को तत्काल साफ करने की प्रक्रिया अपनायी जाती थी तथा मां के होष में आने तक शिशु को रेडिएन्ट वार्मर में रखा जाता था। प्रसूति कक्ष तापमान सर्दियों में 25 सेल्सियस और गर्मियों में 29 सेल्सियस तक पाया गया था। शिशु के मलाशय तापमान और जन्म के समय शिशु के वनज में महत्वपूर्ण, प्रतिकूल सहसंबंध देखा गया था और इसके साथ साथ मलाशय तापमान और शिशु को स्नान कराने के अभ्यास का भी प्रेक्षण किया गया था। आमतौर पर विकासशील देशों पायी जाने वाली नवजात अल्प तापमान की समस्या की रोकथाम लोगों को इसके बारे में शिक्षित करके की जा सकती है।

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PROFILE AND PRACTICE OF PRIVATE MEDICAL PRACTITIONER IN RURAL INDIA

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ABSTRACT

India has a large number of private medical practitioners. (PMPs) spread all over the country. They are easily accessible as most of them live in the same village where they practice: Majority of the PMPs practise allopathy, though they are not trained in the modern system of medicine. Treatment for common diseases includes diarrhoea and pneumonia in children, leucorrhoea and anaemia in females, and malaria and diarrhoea in males. The study found that pyrexia of unknown origin (POU) was common among the subjects of all age groups. The common and general problems faced by the PMPs are the inability of subjects to pay for the treatment received, lack of adequate facilities for conducting pathological tests, non-availability of latest medicines and lack of chemist shops in the villages they practice. The government may consider allowing the laboratory facilities of PHCs accessible to the PMPs and providing them drugs and other supplies through various health programmes. This will improve the quality of care provided by the PMPs and facilitate their active involvement in the national health and family welfare programmes.

Keywords: Private medical practitioners, Rural areas, Chemist shops and Laboratory facilities.

Private Medical Practitioners (PMPs) constitute an important source of medical care in India, especially in the rural areas. They are the most preferred and considered to be the first contact person for medical care for the local community. Preference for the PMPs is observed even in the treatment of specific diseases like TB, acute respiratory tract infections⁷ and diarrhoeal diseases.

The Government of India (GOI) has advocated the involvement of PMPs in the implementation of the national health and family welfare programmes in the country. Some pilot studies have shown that the PMPs have interest to get involved in the national health and family welfare programmes and it is advocated that they can be involved in the delivery of MCH and family planning services too. It is in this background, the present study was undertaken to study in

depth, the profile and practices of PMPs in the rural areas so as to make a suitable recommendation for their involvement in many of the national health and family welfare programmes.

The profile and practices of PMPs analysed in this paper are based on an all India sample study. Data were collected from a total of 812 PMPs practising in 507 villages, spread all over the country. The zone-wise distribution of the sample population is shown in Table 1.

TABLE 1
SAMPLE SIZE AND ZONE-WISE DISTRIBUTION OF PMPs

ZONE	VILLAGES		PMPs	
	Number	%	Number	%
North	129	25.4	271	33.3
East	141	27.8	150	18.5
West	108	21.3	203	25.0
South	129	25.4	188	23.2
Total	507	99.9	812	100.0

As per the 1991 census, about 37 per cent of the sample villages had a population of 5,000 and above; 203 villages (40 %) had a population of 1,000 to 4,999 and the remaining 23 per cent of the villages had a population of below 1,000.

Profile of PMPs and Their Practices

Detailed data regarding the profile and practices of the PMPs in rural India revealed that less than 5 per cent of the PMPs in rural India were females with the south zone representing the highest proportion (about 11 %). About 60 per cent of the PMPs were in the age group of 26 to 40 years and about 30 per cent were in the 41 to 60 years age group. A higher proportion of PMPs in north and south zones had the experience of practising for a period of 11 to 20 years (Table 2).

Table 2 shows that south zone had the highest proportion (25 %) of PMPs with a qualification in allopathy, (MBBS and higher degree/diploma) compared to national average of only 11.1 per cent. North and west zones had comparatively higher proportion of PMPs, 30.3 and 31.5 per cent respectively, mainly trained in ayurvedic, system of medicine. Nearly one-third of the PMPs in the east had a

qualification in Homeopathy. Higher proportion of no-response of the PMPs with regard to professional qualification might be considered as an indicator of having no formal training in any of the systems of medicine.

TABLE 2
ZONE-WISE PROFILE OF THE PMPs IN RURAL INDIA

Characteristic	Zone				All India
	North	East	West	South	
Sex					
Male	98.2	99.3	96.6	89.4	95.9
Female	1.8	0.7	3.4	10.6	4.1
Age Group					
Up to 25	4.8	2.0	3.4	4.3	3.8
26-40	63.1	58.7	60.6	54.7	59.7
41-60	26.9	27.3	29.1	36.7	29.9
61 and above	5.2	12.0	6.4	4.3	6.5
No response	-	-	0.5	-	0.1
Experience in Years					
Up to 5	18.8	21.3	19.7	15.4	18.7
6-10	26.2	28	31	27.1	28.0
11-20	35.1	29.4	28.1	35.6	32.4
21 and above	19.9	21.3	21.2	21.8	20.9
Qualification					
MBBS	3.3	12.0	4.9	23.4	10.0
MBBS+PG qualification	0.2	2.8	-	4.3	2.1
BSAM/BAMS/Ayurveda	30.3	8.6	31.5	7.5	21.3
BHMS/DHMS	5.9	30.7	20.7	11.1	15.4
RMP & Others	36.5	22	17.8	33.5	28.5
No response	22.5	23.3	24.6	20.2	22.7
Total Number	271	150	203	188	812

It was found that irrespective of their qualifications, majority of the PMPs practised allopathy in all the four zones. Though only about 11 per cent had a formal degree in allopathy, almost 50 per cent of the PMPs were practising the modern system of medicine. Another 26.6 per cent was practicing allopathy in

addition to other system of medicines (Table 3). On an average, about 22 per cent of the PMPs treated 25 or; more patients daily and the highest was in the south zone with 31.3 per cent and the lowest was in east zone with only 12 per cent.

In the study, it was observed that 78 per cent of the PMPs lived in the same village where they were practicing. Among these, about 30 percent reported that they frequently visit other villages, other than the village where they are practicing, for providing medical care. Such practices were highest among PMPs in the west zone (45.2%) followed by 39.8 percent in east zone.

TABLE 3
PRACTICES OF THE PMPs IN RURAL INDIA

Characteristic	Zone				All
	North	East	West	South	India
System of Practice.					
Allopathy	43.5	51.3	37.4	65.4	48.5
Ayurveda	20.3	4.7	11.3	5.9	10.5
Homoeopathy	2.6	23.3	9.9	12.2	11.8
Allopathy+Ayurveda	24.0	4.7	25.6	10.6	17.7
Allopathy+Homoeopathy	4.8	12.7	2.5	3.7	5.4
Unani/Tibbi	1.1	-	-	-	0.4
Miscellaneous	-	-	-	-	2.2
No response	1.8	1.3	10.3		3.4
Average No. of Patients Per Day					
Less than 5	7.4	12.7	7.9	2.1	7.3
5 - 9	18.1	31.3	17.2	11.2	18.7
10 - 15	27.3	28.7	25.6	25.5	26.7
16 - 25	24.0	14.7	25.6	29.8	24.0
26 - 50	16.7	8.0	16.7	19.1	15.6
51 and above	5.2	4.0	6.4	12.2	6.9
No response	1.5	0.6	0.5	0.0	0.7
Lives in the same village of practice	76	78.7	81.8	77.2	78.2
Visits other villages also for practice	29.1	39.8	45.2	29.7	35.4
Total No. of PMPs	271	150	203	188	812

Diseases Frequently Treated by PMPs

The information was obtained separately for three groups viz. children, adult females and males. Relevant details for each group are given below.

Children: Diarrhoea (505), pyrexia of unknown origin (POU, 354) and pneumonia (229) are the top three diseases treated by the PMPs in rural India. Leading ten diseases treated by a large number of PMPs in rural India are given in Table 4.

TABLE 4
FREQUENTLY TREATED DISEASES AMONG

Disease	Number of PMPs				All India
	North	East	West	South	
Diarrhoea	203	81	113	108	505
Fever (POU)	114	66	68	106	354
Pneumonia	128	23	72	6	229
Malaria	45	31	66	20	162
Cough and Cold	57	59	17	23	156
Dysentery	38	24	29	25	116
Measles	39	27	20	22	108
Cough	29	11	24	35	99
Scabies	33	17	18	24	92
Typhoid	31	16	35	9	91
Total Number	271	150	203	188	812

Adult Females: Leukorrhea, pyrexia of unknown origin (POU) and anaemia are the diseases for which women seek treatments from PMPs in rural India. Leading ten diseases among the adult females treated by the PMPs are shown in Table 5.

Adult Males: Similarly for the adult male, treatment for POU, malaria and diarrhoea were commonly provided by the PMPs (Table 6).

TABLE 5
FREQUENTLY TREATED DISEASES AMONG ADULT FEMALES

Disease	Number of PM			Ps	All India
	North	East	West	South	
Leukorrhea	204	76	128	74	482
Fever(POU)	90	52	49	84	275
Anaemia	106	22	84	39	251
Menstrual disorders	67	52	31	20	170
Malaria	18	26	55	16	115
Diarrhoea	20	25	24	29	98
Cough and Cold	33	35	5	16	89
Gastroenteritis	33	27	9	6	75
Back pain	22	3	29	11	65
Total Number	271	150	203	188	812

TABLE 6
FREQUENTLY TREATED DISEASES AMONG ADULT MALES

Disease	Number of PM			Ps	India
	North	East	West	South	
Fever (POU)	131	57	62	97	347
Malaria	37	35	97	21	190
Diarrhoea	60	40	40	33	173
TB	77	22	37	21	157
Malaria	18	26	55	16	115
Cough and Cold	56	39	15	17	127
Asthma	50	17	26	12	105
Dysentery	47	29	15	2	103
Gastritis	23	33	19	14	89
Typhoid	28	12	37	9	86
Total Number	271	150	203	188	812

Problems

"Patients not paying the money after availing the healthcare service", was commonly mentioned as a problem by a majority of the PMPs. They expressed that this resulted in extending credit to patients (Table 7). The second most frequently mentioned problem was/lack of adequate facilities for conducting pathological tests. Only 12 per cent of the villages had some facility for conducting

pathological tests. The fact that about half of these facilities are within the government institutions like the PHCs, limits their accessibility to PMPs (Table 8).

TABLE 7
PROBLEMS FACED BY THE PMPs

Problem	Number of PMPs				All
	North	East	West	South	India
People don't pay money due	86	39	42	23	190
Lack of facilities for pathological tests	59	11	35	14	119
Illiteracy/Ignorance	35	6	19	13	73
Non-availability of latest drugs	20	20	21	5	66
Patients don't follow medical advice	4	8	8	13	33
Lack of chemist shops	11	11	6	3	31
Never completes doses prescribed	2	7	11	5	25
TOTAL NUMBER	271	150	203	188	812

TABLE 8
AVAILABILITY OF CHEMISTS AND LABORATORY FACILITIES (%)

Infrastructure	Zone				All
	North	East	West	South	India
Chemist Shop	38.1	34.1	31.5	39.5	35.9
One	12.4	11.3	8.3	13.2	11.4
Two - Four	14.8	17.8	16.7	18.6	17.0
Five and above	10.9	4.9	6.4	7.8	7.5
Not Available	31.8	48.2	24.1	35.7	35.7
No response	30.2	17.7	44.4	24.8	28.4
Facility for Conducting Pathological Tests	11.6	14.9	10.2	26.4	16.0
Available-at PHC/SC.	5.4	4.9	3.7	10.9	6.3
Private sources	1.6	4.3	4.6	7.8	4.5
PMPs	0.8	2.1	0.0	1.6	1.2
Not Available	88.4	85.1	89.8	73.6	84.0
No response	2.3	2.1	2.8	1.6	2.2
Total No. of Sample Villages	129	141	108	129	507

Similarly, other cited problems by-PMPs are the non-availability of latest medicines and lack of chemist shops in the area. It was observed that only 36 per

cent of the sample villages had one or more chemist shops. About 20 per cent of the villages had a chemist shop within a distance of one to five kilometers, while in 10 per cent of the sample villages, people had to travel a distance of 6 to 10 kms to reach a chemist shop.

FINDINGS AND DISCUSSION

One of the common problems with the government health services in the rural areas was that the doctors in PHCs and ANMs in the sub-centres, often did not live in their place of posting. It is true even in places where staff quarters are also available. This adversely affects the utilization of the government health care services. As majority of the PMPs live in the village of their practice, they are easily accessible round the clock. As a result, they develop good rapport with the patients in the local community which positively influence the utilization of services they provide.

Majority of the PMPs in the rural areas were found to be males. This limits the type of treatment offered by the PMPs to women. Rural women usually feel shy to be examined by male doctors, especially for certain services, which are gender-specific.

PMPs in rural areas generally spend more time with their patients, this is supported by the fact that only less than 10 per cent of PMPs have a load of more than 50 patients per day. On the other hand, medical officers at the PHCs face an acute shortage of time, as they have to cater to a large number of patients every day.

Majority of the PMPs were found to be practising allopathy though they were not formally trained in the modern system of medicine. It is suggested that steps should be taken to include the PMPs for participation in national health and family welfare programmes. However, this needs to be preceded with appropriate training inputs to PMPs to improve their knowledge and skills for delivering quality services through national health and family welfare programmes. This seems absolutely necessary since more than 50 per cent of the PMPs have been practising in rural areas for 10 years or more with little or no formal training.

Lack of facilities for pathological testing was mentioned as a continuous problem. In order to solve the problem, government may consider making the facilities of PHCs etc. accessible to PMPs. This may also provide a motivating factor for greater involvement of PMPs in the health and family welfare programmes all over the country.

From the morbidity profile of the patients treated by the PMPs; diarrhoea, pneumonia and malaria in children, anaemia and malaria in women; malaria and TB in men were found to be the most prevalent diseases in the rural areas of our country. It is therefore suggested that PMPs may be provided with different kinds of drugs under various national health and family welfare programmes for distribution among the, needy patients. This may act as an incentive for greater commitment on the part, of the PMPs. Major obstacles like the non-availability of medicines and lack of chemist shops as mentioned, by the PMPs may also be taken into consideration to overcome the problems of delivering health care services in rural areas.

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भारत में निजी चिकित्सक पूरे देश में फैले हुए हैं। ये चिकित्सक जिस गांव में प्रैक्टिस करते हैं सामान्यतया: उसी गांव में रहते भी हैं, इसीलिए इन तक पहुंच आसान होती है। यद्यपि यह चिकित्सक आधुनिक चिकित्सा प्रणाली में प्रशिक्षित नहीं होते हैं, फिर भी इनमें से अधिकांश अतिसार रोग और निमोनिया, महिलाओं में ल्यूकोरिया और रक्ताल्पता तथा पुरुषों में मलेरिया एवं अतिसार आदि रोगों का उपचार शामिल है। अध्ययन से प्राप्त निष्कर्षों से पता चलता है कि अज्ञात मूल का ज्वर (पीओयू) सभी आयु वर्गों के रोगियों में आम बीमारी पाई गई थी। निजी चिकित्सकों के सामने आने वाली आम समस्याएँ हैं तथा रोगियों द्वारा प्राप्त इलाज के लिए भुगतान संबंधी अक्षमता, नैदानिक जांच करने के लिए पर्याप्त प्रयोगशालीय सुविधाओं का अभाव तथा जिन गांवों में वे प्रैक्टिस करते हैं वहां दवाई की दुकानों की कमी। प्राथमिक स्वास्थ्य केन्द्रों की प्रयोगशालीय सुविधाओं को निजी चिकित्सकों को भी उपलब्ध कराने की सुविधा देकर और विभिन्न स्वास्थ्य एवं परिवार कल्याण कार्यक्रमों के माध्यम से इन चिकित्सकों को भी उपलब्ध कराने की सुविधा देकर और विभिन्न स्वास्थ्य एवं परिवार कल्याण कार्यक्रमों के माध्यम से इन चिकित्सकों को दवाइयां तथा अन्य आपूर्तियां उपलब्ध कराने के बारे में सरकार द्वारा विचार किया जा सकता है। इस प्रकार निजी चिकित्सकों द्वारा दी जाने वाली परिचर्या की गुणवत्ता में सुधार होगा और राष्ट्रीय स्वास्थ्य एवं परिवार कल्याण कार्यक्रम में उनकी भागीदारी सुनिश्चित की जा सकेगी।

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