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EDITORIAL ARTICLE

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Communication Skills of Doctors and the Satisfaction of Patients as Assessed by Undergraduate Medical Students

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ABSTRACT

Objective: To measure the level of communication and satisfaction among patients attending outpatient clinic of urban health centre. **Methodology:** A cross sectional study was conducted among patients attending the Urban Health Centre, Rajah Muthiah Medical College, Annamalai Nagar, Chidambaram, on Doctor Patient Relationship by the undergraduate students. An exit interview was conducted on the patients attending outpatient department of Urban Health Centre. The first part of the interview includes the socio-demographic detail of the patients. The second part of interview includes the questions pertaining to assessment of effective communication between doctor and patients. **Results:** Out of 891 patients, the level of communication between doctor and patient was effective in 61.5% of patients, moderate in 30.2% and communication gap in 8.3% of patients. The communication was effective in 63.7% of males and 60.4% of females and the difference was not statistically significant. On the assessment of the level of satisfaction of the patients, 69% of males and 67.7% of females were satisfied with the consultations and the difference was not statistically significant.**Conclusion:** Our medical education should emphasise the importance of communication between doctor and patient and start to include the teaching of communication skills in undergraduate programmes taking into account of our unique culture and social settings.

Key words: *effective communication, patient satisfaction*

Introduction

In the field of Medicine the Patient-Physician communication is an integral part of clinical practice and is essential for the delivery of high quality health care in the patient management. Realising the importance of communication skills, the Medical Council of India has in its Vision 2015 documented , To starts in the first year with a foundation course, for undergraduates focusing on communication, basic clinical skills and professionalism[1]. Rapport building via the use of empathy and effective communication skills is critical to forming effective and trusting relationships with patients.[2] With the increase in demand from patients who value doctors who are patient centred (who spend time and listen to them), together with the rise of consumerism in medicine, health service research on doctor patient relationship has become an important area of interest for both medical researchers and administrators alike.[3] The objective of this study was to assess the level of communication and satisfaction among patients attending outpatient clinic of Urban Health Centre.

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Methodology:

A cross sectional study was conducted at the Urban Health Centre, Rajah Muthaiah Medical College on doctor patient relationship by the undergraduate students. The undergraduate students just after completion of pre-clinical subjects are posted in the department of Community Medicine. During this Block posting they are trained in developing communication skills and in basic research activities, to enable them to get first-hand experience on art of communication and the importance of doctor patient relationship. An exit interview was conducted among the patients attending outpatient department of Urban Health Centre between 9.30 am and 11.30 am. The first part of the interview includes the socio-demographic detail of the patients. The second part of interview includes the questions which are important for effective communication. The questions includes the details related to history taking and complaints, eliciting signs and symptoms, conveying diagnosis, informing about drug intake, prognosis and follow up. Scoring was assigned to all eight survey questions related to effective communication. If answer to the questions were 'yes' a score of two was given, for 'to some extent' a score of one and for 'no' a score of zero was awarded. Thus a patient can obtain a maximum score of 16 and minimum score of zero. If a patient's scores were between12-16, it was considered that the expected information has reached the patient, i.e, Effective communication/ interaction. If the scores were between 8- 11, it was considered as Moderate or partial communication/interaction and if the scores were between 0- 7, it was considered as no interaction or poor interaction or communication gap.

Results:

The study was conducted among patients attending the urban health centre. 891 patients who were willing to participate on days of students visit to urban health centre were included in the study. 591(66.3%) were females and 300(33.7%) were males. 26% of patients were in the age group of 16-30 years, 33.5% were in the age group of 31-45 years, 25.7% were in the age group of 31-45 and 14.8% were above the age of 60 years.

Table 1: Sex and Level of communication

Level of communication	Male		Female		Total	
	No	%	No	%	No	%
Effective	191	63.7	357	60.4	548	61.5
Moderate	85	28.3	184	31.1	269	30.2
Communication gap	24	08.0	50	08.5	74	08.3
Total	**300**	**33.7**	**591**	**66.3**	**891**	**100**

$\chi^2 = 0.912$ $df = 2$ $p\ value = 0.634$

Table 1 shows sex wise level of communication. 191(63.7%) of male and 357 (60.4%) females had effective communication but the difference was not statistically significant.

Table 2: Age &Level of communication

Age	Effective		Moderate		Gap		Total	
	No	%	No	%	No	%	No	%
16-30	133	57.3	79	34.2	20	8.7	232	26.0
31-45	196	65.7	80	26.8	22	7.4	298	33.5
46-60	130	56.7	79	34.5	20	8.8	229	25.7
>60	89	67.3	31	23.5	12	9.1	132	14.8
Total	**548**	**61.5**	**269**	**30.2**	**74**	**8.3**	**891**	**100**

$\chi^2 = 9.23$ $df = 6$ $p\ value = 0.161$

Table 2 shows age wise levels of communication. The level of communication between doctor and patient was effective in 548 (61.5%), moderate in 269 (30.2%) and communication gap in 74(08.3%).The highest level of the effective communication (67.4%) was observed in the age group of above 60 years but it was not statistically significant compared to other age group.

Table 3 shows literacy status and level of communication. Among the illiterates, 196 (60.1%) level of communication was effective, 102(31.3%) were moderate and 28(8.6%) communication gap was noted. The effective communication was seen in 352(64.2%) literate and 196(60.1%) illiterate and there was no statistically significant difference. On the assessment of level of communication and occupational status of the patients communication

was effective in 72.3% of unskilled workers and 62.8% of the skilled worker. Communication gap was observed among 11.1% of working women 5.1% of skilled and 5.4% of unskilled workers.

Table 3: Literacy and level of communication

Age	Effective		Moderate		Gap		Total	
	No	%	No	%	No	%	No	%
Illiterate	196	60.0	102	31.1	28	8.6	326	36.6
Primary	125	62.5	58	29.0	17	8.5	200	22.5
Secondary	183	61.8	89	30.0	24	8.1	296	33.2
HSC & collage	44	63.7	20	28.9	5	7.2	69	7.7
Total	**548**	**61.5**	**269**	**30.2**	**74**	**8.3**	**891**	**100**

χ^2=0.602df= 6 p value = 0.996

Table 4: Satisfactory level of patients

Level of satisfaction	Male		Female		Total	
	No	%	No	%	No	%
Satisfied	207	69.0	400	67.7	607	68.2
Somewhat satisfied	63	21.0	141	23.9	204	22.9
dissatisfied	30	10.0	50	08.4	80	8.9
Total	**300**	**33.7**	**591**	**66.3**	**891**	**100**

χ^2= 1.29 df = 2 p value = 0.526

Table 4shows the level of satisfactions of the patients, 61.87 % of patients reported that they were satisfied. 204(22.9%) of the patients reported that they were somewhat satisfied and remaining 80(8.9%) of the patients reported that they were not satisfied.207 (69%) of male and 400(67.7%) of females were satisfied with the consultation

Discussion:

The present study on the level of communication and satisfaction among patient attending the urban health centre revealed that two third of them were females. More number of females was attributed to increased number of housewives attending the outpatient clinic. In the present study effective communication was noted in above the age of 60 years, similar findings noted by others were older respondents and were more satisfied than the younger respondents [5, 6, 7]. In the present study, 61.9% of the respondents told that they were satisfied with the interaction. Similar finding were reported byAniza I, where the satisfaction level of 78.8%. respondents were remarkable (5).Ali BonakdarTehrani had said in his study that great majority of patients reporting their satisfaction online are highly satisfied with their outpatient medical care.[4] Effective communication was noted among elderly above the age of 60 compared to other age group. There was no much difference level of effective communication between literate and illiterates. In the present study effective communication and level of satisfaction was higher for males compared to females but it was not statistically significant. But in the study conducted by Bandar BaruBangi clinic the female respondents were more satisfied with the level of 79.1%[5]. In our study effective communication was higher among unskilled workers compared to other occupation but it was not statistically significant. The communication gap was much higher among working women compared to other occupation. In our study effective communication was observed in less than two third (61.50%) of the respondents.

Conclusion

An effective doctor patient communication is important and has impacts on the level of satisfaction. In our study two third of the patient were satisfied and another one third where the communication between doctor patient has to be improved. Our medical education should emphasise the importance of communication between doctor and patient and start to include the teaching of communication skills in undergraduate programmes taking into account of our unique culture and social settings.

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Cross-sectional study of unmet need for spacing and limiting method of contraception among rural married women

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ABSTRACT

Introduction: Though the fertility rate has decreased to 2.76 from six since 1960, it is still above the replacement level but this still leaves fertility about 50 percent above the replacement level .To develop a strategy to respond to the concerns of women unmet need, we need to understand the various reasons. **Aims &Objectives:** It was planned to calculate the unmet need of contraception among nonusers and to find out the factors associated with the non usage of contraception. **Materials and methods**: An interview schedule was prepared based on the model survey questionnaire recommended by the WHO. Based on the sample size, 600 married women of reproductive age were selected from eligible couple register and unmet need was calculated based on the method adopted in DHS.**Results**: The prevalence of unmet need of contraception use was found to be 18.7% (113/600). Unmet need for spacing was found to be 11.1% and unmet need for limiting is found to be 7.6%. There was no significant difference between met need and unmet need with age at marriage (x^2=0.4435, P=0.8011).There was significant difference between met need and unmet need with educational status (x^2=10.49, P=0.03288), number of children in the family(x^2=41.47, P= 0.000), presence of male child in the family (x^2=5.971, P= 0.01454) and with perceived availability.

Key words: Met need, unmet need, spacing

Introduction:

Contraceptive behavior in the developing world has changed markedly over the Past three decades. Around 1960, only a tiny fraction of couples practiced contraception and knowledge of methods was very limited[1]. In contrast, contraceptive knowledge is now widespread and more than half of married women in the developing world are current users of contraception.

Though the fertility rate has decreased to 2.76 from six since 1960, it is still above the replacement level but this still leaves fertility about 50 percent above the replacement level. These further fertility declines will almost certainly be achieved by additional increases in the practice of contraception. Unmet need for family planning refers to a discrepancy between expressed fertility goals and contraceptive practice.[2] To develop a strategy to respond to the concerns of women unmet need, to serve more people with better programs and to identify distinct audience, we need to understand the various reasons for unmet need, based on qualitative and survey data, to determine the size and composition of this group, to identify the high priority subgroups and deliver information and services to meet the specific needs of each selected subgroup. Though 42.3% of eligible couple uses one or other method of family planning,

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they discontinue them. The reason for which has to be identified, so that, remedial measures taken to stop discontinuance.[3] Rural area has higher unmet need (14.1%) when compared to their urban counterpart, i.e. (9.7%) due to various factors, resulting in large family size. Finding factors which lead to unmet need in rural population and addressing those helps achieve the national goal.[3] Unmet need of contraception can lead to unintended pregnancies, which poses risk for women, family, and societies. Reducing which can prevent 20-35 per cent of all maternal deaths. In most developing countries, rural, uneducated and poor married women are more likely to be at risk for unplanned pregnancy than are urban, educated or non poor married women. Those who want to have no more children are considered to have an unmet need for *limiting* births, while those who want more children but not for at least two more years are considered to have an unmet need for *spacing* births.[4] By contrast, with the complicated links between fertility, population growth, and poverty, the benefits of family planning for the survival and health of mothers and children are fairly straightforward. In 2000, about 90% of global abortion-related and 20% of obstetric-related mortality and morbidity could have been averted by use of effective contraception by women wishing to postpone or cease further childbearing.[5] When a couple discontinues contraception for method-related reasons a rapid switch to a new method is essential to prevent unintended pregnancy. Although about 60% of people do start another type of contraceptive within 3 months, the choice of alternatives is sometimes limited and restricted access or unfamiliarity with other choices (on the part of both the user and provider) can delay the uptake of a new method, thereby increasing the risk of unintended pregnancy. However, contraceptive avoidance, or non-use, remains the dominant cause of unintended births, accounting for 71% of such births in 14 developing countries.[6] Meeting the unmet need for family planning could prevent an additional 29% of maternal deaths (104 000) per year. If voluntary family planning had been used to its fullest potential and met this unmet need, contraceptive use could have averted well over half of the maternal deaths that could have occurred without any access to family planning. This finding has profound implications for our approach to maternal survival.[6, 7, 8]

Materials and methods:

Sample size:

Is considered for calculation of sample size at 95% CI (Z=1.96) and limit of accuracy kept at 20% of 14.1% (the rate of prevalence of unmet need for contraception based on **NFHS-3 (2005--2006)** $N = Z^2 pq/d^2$ and has been rounded off to 600.

Sampling procedure:

Initially Tirunindravoor PHC was randomly selected in Thiruvallur HUD. It has five sub centers namely Kosavanpalayam, Thirunindravoor, Lakshmipuram, Nemilicherry, Dasapuram. Among these, Lakshmipuram HSC was randomly selected by lottery method. List of all married women of reproductive age with their register no (Lakshmipuram HSC) was obtained from eligible couple register from VHN. It had 1933 married women of reproductive age. Based on the sample size, 600 married women of reproductive age were selected from eligible couple register by random selection and unmet need was calculated based on the method adopted in DHS. An interview schedule was prepared based on the model survey questionnaire recommended by the WHO. The developed schedule had four parts comprising of the background characteristics of the respondent, marital status and fertility, knowledge and attitude to contraception and use of contraceptives and perceived availability and accessibility of contraceptives. The questionnaire was pretested among 40 married women in HSC Nemilicherry. Based on observations made during the pre testing, the questionnaire was modified. Data collection was done by house-to-house visit. The investigator along with a VHN approached at least 15 respondents every day. Mostly the women who were to be interviewed had been informed previously. Even then unable to find a woman, she was revisited at the

next possible time and interviewed. After obtaining their informed consent orally, relevant information was obtained from the respondent using the pretested, structured questionnaire. Questions were asked in the local language and the questionnaire filled on the spot. At the end, any misconception or queries were clarified and the respondent was thanked for sparing the time.

Standard formulation of unmet need:

In this formulation the unmet need group included all fecund women who are married or living in union—and thus presumed to be sexually active—who were not using any method of contraception and who either did not want to have any more children or wanted to postpone their next birth for at least two more years. Those who wanted to have no more children are considered to have an unmet need for *limiting* births, while those who wanted more children but not for at least two more years are considered to have an unmet need for *spacing* births.[10]

Results:

Among the study population of 600, prevalence of unmet need of contraception use was found to be 18.7 %(113/600). Unmet need for spacing was found to be 11.1% and unmet need for limiting was found to be 7.6%. Reasons for unmet need: lack of knowledge-36%, low perceived risk-24%, fear of side effects- 20%, lack of choice- 9%, opposition from partner- 8%, religious belief -2%, others-1%.

Reasons for stopping:

Among the 33 respondents who had reported to have used contraceptives and have now stopped, the reasons were to become pregnant in 20 among them, 12 for health reasons and 1 due to non-approval of husband.

Reasons for non usage:

Among the 173 respondents who were never users, the reasons attributed to non-usage were as followed. Breast feeding/postpartum- 22, Want to become pregnant- 46, Lack of knowledge-26, Opposition from partner- 15, Fear of side effect-59, Religious Belief- 3, Donor know-2. There was no significant difference between met need and unmet need with age at marriage(x^2=0.4435, P=0.8011). It was seen that greater proportion of unmet need for spacing (59/67) was seen in age group 20-29. In the age group 30-39, only 30 respondents had unmet need for limiting. There was significant difference between met need and unmet need (p=0.0000) and also between unmet need for spacing and limiting (p =0.0000) among different age groups **(fig.1)**.

Figure 1: unmet need for spacing and limiting

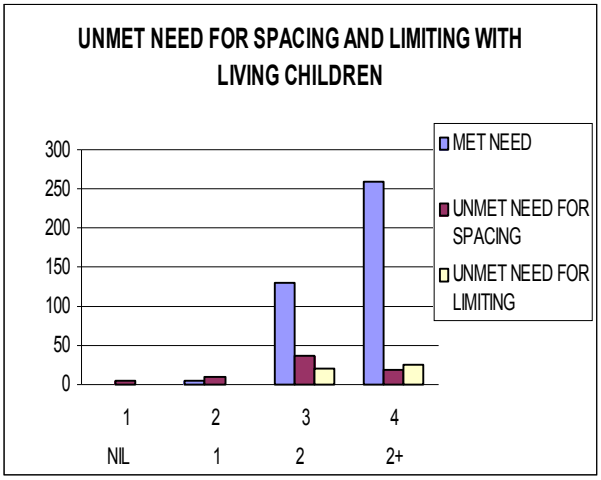

Table 1: Factors affecting unmet need

Parameters	Met Need N =394	Unmet Need N =113	D.F	P - value
1.Age in years	x^2 = 74.10		6	HS
2.Age at marriage	x^2 = 0.4435		2	NS
3.No of living children in the family	x^2 = 41.477		3	HS
4.Presence of male child in the family	x^2 =5.971		1	HS
5. Educational status of the participants	x^2 =7.580		4	S
6. Perceived availability	x^2=130.49		1	HS

HS- Highly Significant NS- Not Significant
S- Significant

In a non-contraception society, the individual women's need to limit reproduction increases with age and parity level, while birth-spacing needs generally occur early in her reproductive career. Women who had achieved their desired family size had a need for curtailing additional births. Such women were usually older. Biological sub-fecundity and at later ages infecundity reduced and eliminated their risk of pregnancy. Accordingly, there existed a nonlinear association between unmet need and age of women (Tauseef et al 1993).There was significant difference between met need and unmet need with educational status(x^2=10.49, P=0.03288), number of children in the family(x^2=41.47, P= 0.000), presence of male child in the family(x^2=5.971, P= 0.01454) and with perceived availability **(table 1)**.

Discussion:

India had the largest number of married women with unmet need, 14.1%. The unmet need for contraception in Tamilnadu was 9.1% (NFHS-3). In this study, the unmet need of contraception was 18.1 %, which was higher than that of state data. Unmet need for spacing was found to be 11.1% and unmet need for limiting was found to be 7.6%.This showed that there was greater demand for family planning, which has to be targeted to achieve a higher contraceptive usage to decrease the net reproduction rate to less than 1.The overall awareness for any contraceptive was 92.3% among the respondents. There was significant difference between the contraceptive users and non users with the knowledge status. Many studies indicated that lack of sufficient knowledge contribute to more than two-third of all unmet need[11, 12, 13]. In this study also we found 43 women with unmet need attributed lack of knowledge as a reason, while 33 said fear of side effects/ health reasons. Lack of choice as a reason was also noted, the reason for which has to be identified. Opposition from husband was also found to be a reason for unmet need[14, 15]. This showed the influence of husbands in decision making regarding the fertility of their wives. It was noted 12% of mothers, the reason for unmet need was opposition from husband, families and communities. Only 2% of women in ICRW study said they could leave home to obtain contraceptives without consultation or approval from others in the household. There was no significant difference among met need and unmet need with age at marriage.

Conclusion:

In general, data on unmet need provide the way forward by helping to pick up the obstacles in society and weakness in services that need to be overcome. Women need to be counseled on the full range of available methods/side effects, so that, they can choose the method that best matches their individual circumstances and intentions and can change methods when they need to[16, 17]. Anxiety and apprehension over the use of spacing method of contraception must be attended to. Rural women in this study wanted to finish of the family as quick as possible and wanted to have permanent method of contraception, as they were keen on getting the maternity benefits provided by the government. This leads to decrease in the interval between first and second order birth, complicating maternal anaemia. Women who are post partum, breastfeeding or approaching menopause need counseling on their likelihood of becoming pregnant and on the family planning methods that might be appropriate for them. Programs should be planned so as to improve interpersonal relations between clients and providers and to ensure periodic follow-up of clients to reduce the number of women who stop using contraception. Programs should focus on men as well as women, creating an environment in which both sexes can seek services and encouraging men to discuss family planning with their wives.

Conflict of Interest: Nil

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Why become a Doctor? Exploring the Career Aspirations and Apprehensions among Interns in South India

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ABSTRACT

Background: The vision of Universal Health Coverage for the nation envisages a lot of primary care physicians working in underserved rural areas. Yet, very few of the current generation of doctors seem to be inclined or equipped for practicing in a primary care setting. While the healthcare need for the country has been clearly charted out, the wants of young medical graduates have seldom been documented. The current study aims to document the career aspirations and apprehensions among interns graduating from a private medical college in south India. **Methods:** A questionnaire based survey was carried out among 147 medical graduates undergoing their internship. The interns' career aspirations, apprehensions and choices of postgraduation were documented. Proportions and Fisher's exact test were used for statistical analysis. **Results:** Personal interest & passion for the profession (45.3%), financial stability (43.5%) and parents' wish (35.8%) were the primary factors quoted by the interns for choosing medicine as a career. Majority of the interns (73.7%) wish to join one or other post-graduation course while only around 10% were inclined towards general practice and/or working in a primary care setting under government service. **Conclusions:** The wants of the current generation of doctors need to factored-in in the action plan towards achieving Universal Health Coverage. Incentives and perks that appeal to the young medicos would attract them to join government service in underserved rural areas.

Key words: Career aspirations, Career choices, MBBS, Undergraduates, Medical education, Post-graduation, Universal Health Coverage

Introduction:

Becoming a doctor is one of the highest aspirations of many school-going students and their parents in India. The high preference for the medical profession is probably based on the social status associated with the profession and the prospect of financial security. Those with the highest scores in the higher secondary school examinations and another set of very competitive 'entrance examination' get selected for the undergraduate medical course – MBBS – Bachelor of Medicine and Bachelor of Surgery. This involves four and a half years study in a medical college followed by one year of internship. Upon completion of the undergraduate degree, one is expected to be a competent primary care physician.The relatively recent but ever-increasing trend towards specialization has made post-graduation highly desirable among medical graduates who want to practice medicine in India.

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As on date, there are 355 Medical colleges in the country approved by the Medical Council of India (MCI), with 43,890 MBBS graduates passing out every year.[1] Despite such high numbers, the distribution of healthcare personnel and services across the country has been highly skewed, with a disproportionately high concentration in urban areas and low penetration in rural regions. The concentration of health workers in urban areas is not a problem that is unique to India;indeed, both industrialized and developing countries around the world face disparities in the distribution of health personnel.[2] There are several reasons for the scarcity of qualified health workers in rural areas. The opportunity to earn a better income, to utilize skills, good living conditions, education opportunities for children and safe working and living environments are important job attributes which tilt the balance in favour of urban location.[3] To ensure equity and quality in health care, a comprehensive review and redesign of the Indian health system has been recommended.[4]

The Union Government has been trying various means to address the issue of healthcare inequality – including compulsory rural postings upon completion of graduation and reservation of post-graduate seats for those who have undergone such rural postings. But most of the schemes have not achieved the desired end result – the geographic maldistribution of healthcare personnel still persists.[5] We believe that the major factor behind the failure to attract the current generation of doctors towards rural primary care service is that the career aspirations and needs of these medicos have been poorly understood. Understanding this would lead to designing of appropriate packages of monetary and non-monetary incentives to encourage qualified health workers to work in rural and remote areas.

In the current study, we have attempted to document the career aspirations and apprehensions of a group of medical graduates undergoing their internship in a private medical college in south India.

2. Objectives:

1. To explore the career aspirations of the interns - why they took medicine as a career and what they are planning to do after graduation.
2. To document the apprehensions of the interns during the medical college life and during their future career as a doctor.
3. To explore the perceptions of the interns about working in government services and practicing in a primary care setting.

3. Methodology:

A Cross-sectional questionnaire based descriptive study was planned. 147 interns (batch of 2006 admission) of SRM Medical College & Research Centre near Chennai, South India constituted the study subjects. A semi-structured questionnaire was developed, pre-tested among a small group of interns (who were not part of the actual study) and necessary modifications were made. The final questionnaire was self-administered over a week's time during February 2012 – a month before completion of the one year of internship training. This was to ensure that the interns have had exposure to all their clinical rotations and would be better prepared to answer the questionnaire. All the 147 interns consented, participated and completed the survey. Statistical analysis was done using Microsoft Excel and SPSS13 statistical package. Fisher's exact test was used to assess statistical significance and the "exact" two-tailed P values were computed by summing up small P values. P values less than 0.05 were considered statistically significant.

4. Results:

The mean age of interns was 22.56 ($\pm$0.63) years. 57.1% were females and 51.7% were hostellers. Table 1 depicts the socio-demographic profile of the study population. Overall, 48.3% of the interns were from an urban background while 14.3% were from

rural areas. 60.7% of the female interns hailed from cities, whereas 50.8% of the male interns were from smaller towns (p=0.0008 and p=0.0056). 42.2% of the interns reported that at least one of their parents was a doctor. Male interns reported significantly higher proportions of doctor parents (p=0.0178). Majority (68.7%) of the interns were receiving between Rs.2000-Rs.5000 from their family, towards monthly expenses.

Table 1 Profile of Study Subjects (n=147)

Variable	Male (N=63) n (%)	Female (N=84) n (%)	Total (N=147) n (%)
Age (in years)			
< 21	6 (9.5)	8 (9.5)	14 (9.5)
22	33 (52.4)	47 (55.9)	80 (54.4)
23	19 (30.2)	26 (30.9)	45 (30.6)
> 24	5 (7.9)	3 (3.6)	8 (5.4)
Place of upbringing			
City	20 (31.7)	51 (60.7)	71 (48.3)
Town	32 (50.8)	23 (27.4)	55 (37.4)
Village	11 (17.5)	10 (11.9)	21 (14.3)
Father's Education			
School education	11 (17.1)	26 (31.0)	37 (25.2)
Graduate	28 (43.9)	28 (33.3)	56 (38.1)
Post graduate	24 (38.1)	30 (35.7)	54 (36.7)
Mother's Education			
School education	21 (34.1)	39 (46.4)	60 (40.8)
Graduate	22 (34.1)	26 (30.9)	48 (32.7)
Post graduate	20 (31.7)	19 (22.6)	39 (26.5)
Father's Occupation			
Business	18 (29.3)	38 (45.2)	56 (38.9)
Doctor	28 (43.9)	14 (16.7)	42 (28.6)
Engineer / Advocate	6 (9.8)	20 (23.8)	26 (17.7)
Others	11 (17.1)	12 (14.3)	23 (15.7)
Mother's Occupation			
Doctor	9 (14.6)	11 (13.1)	20 (13.6)
Housewife	43 (68.3)	64 (76.2)	107 (72.8)
Others	11 (17.1)	9 (10.7)	20 (13.6)
Doctors in the family			
At least one parent is doctor	34 (54.0)	28 (33.3)	62 (42.2)
Own a nursing home / hospital	23 (36.5)	20 (23.8)	43 (29.2)
Financial support from family (per month)			
≤Rs.2000	7 (11.1)	8 (9.5)	15 (10.2)
Rs.2000 – Rs.5000	38 (60.3)	63 (75.0)	101 (68.7)
Rs.5000 – Rs.10000	12 (19.1)	6 (7.1)	18 (12.2)
> Rs.10000	6 (9.5)	7 (8.3)	13 (8.8)

Table 2 Reasons for choosing medicine as a career (n=147)

Reason #	Male n (%)	Female n (%)	Total (%)
Self-interest / passion for the profession	27 (42.9)	40 (47.6)	67 (45.3)
Stable income / financial security	34 (54.0)	30 (35.7)	64 (43.5)
Parents & family wish / social pressure	27 (42.9)	26 (30.9)	53 (35.8)
Prestige associated with the profession	22 (34.9)	26 (30.9)	48 (32.7)
Influence of role models	13 (20.6)	15 (17.9)	28 (19.0)
Service to the needy	9 (14.3)	16 (19.1)	25 (16.8)
Others*	2 (3.2)	4 (4.8)	6 (4.1)

- Multiple choices elicited.
* - Include 'means to settle abroad', 'not sure myself' and 'God's wish'.

Passion for the profession & self-interest (45.3%) and financial security (43.5%) were the top reasons interns cited for choosing medicine as a career. Parents wish (35.8%) and the prestige associated with being a doctor (32.7%) also played a role in their decision making. The differences between male and female interns were not statistically significant except in case of 'financial security' (p=0.0300). The mean satisfactory monthly income interns would like to earn as a doctor was Rs.60000 (±7840). The difference between the male and female interns in this regard was not statistically significant.

Table 3 Qualities of a 'good doctor' (n=147)

Traits for a 'good' doctor #	Male n (%)	Female n (%)	Total n (%)
Academic interest	54 (85.7)	77 (91.7)	131 (89.1)
Clinical acumen	51 (80.9)	73 (86.9)	124 (84.4)
Patience	38 (60.3)	64 (76.2)	102 (69.4)
Communication skills	36 (57.1)	51 (60.7)	87 (59.2)
Desire to serve the needy	23 (36.5)	45 (53.6)	68 (46.3)
Others	14 (22.2)	18 (21.4)	32 (21.8)

- Multiple choices elicited.

Academic interest (89.1%) and clinical skills (84.4%) were the most frequently quoted trait for becoming a 'good doctor'. The difference between male and female interns were not statistically significant expect for the trait about 'desire to serve the needy' (p=0.0463).

Table 4 Plans for the future (n=147)

Plans after graduation	Male n (%)	Female n (%)	Total n (%)
Join Post Graduation	40 (63.4)	68 (81.5)	108 (73.7)
Go abroad	12 (19.5)	9 (10.7)	21 (14.5)
Practice medicine	5 (7.3)	3 (3.6)	8 (5.2)
Undecided	6 (9.7)	3 (3.6)	9 (6.2)
Currently undergoing 'coaching' for post-graduate entrance examination	57 (90.5)	76 (90.5)	133 (90.5)

More than 90% of the interns were currently enrolled in some form of training course for the post-graduate entrance examination they are planning to take, upon graduation. Majority (73.7%) of the interns have plans to join one or other post-graduation course immediately after graduation. Female interns (81.5%) seem to be significantly more likely (p=0.0233) to join post-graduation, compared to male interns. 14.5% of the interns have plans to go abroad. Only 5.2% have plans of actually practicing medicine after their graduation. This is something serious and the reasons behind this needs to be explored.

Table 5 Preferred choice of post-graduation (n=147)

Post-graduation of choice	Male n (%)	Female n (%)	Total n (%)
Clinical Sciences	**48 (76.2)**	**64 (76.2)**	**112 (76.2)**
Surgery and sub specialties	24 (38.1)	10 (11.9)	34 (23.1)
Medicine and sub specialties	18 (28.6)	20 (23.8)	38 (25.9)
Obstetrics & Gynaecaology	1 (1.6)	23 (27.4)	24 (16.3)
Undecided; but clinical	5 (7.9)	11 (13.1)	16 (10.9)
Basic Sciences (Anatomy, Physiology, Pharmacology)	**3 (4.8)**	**3 (3.6)**	**6 (4.1)**
Laboratory Medicine (Biochemistry, Microbiology, Pathology)	**5 (7.9)**	**10 (11.9)**	**15 (10.2)**
Others *	**4 (6.3)**	**3 (3.6)**	**7 (4.8)**
Undecided	**3 (4.8)**	**4 (4.8)**	**7 (4.8)**
TOTAL	**63 (100)**	**84 (100)**	**147 (100)**

* - Include Community Medicine, Physical Medicine & Rehabilitation, Forensic Medicine, Nuclear Medicine, Hospital Administration and Sports Medicine

Clinical sciences were still the first choice of majority (76.2%) of the interns. Significant gender differences were noted in choices of surgery (p=0.0003) and Obstetrics & Gynaecology (p<0.0001).

Table 6 Career apprehensions (n=147)

Apprehensions #	Male n (%)	Female n (%)	Total n (%)
During college life& internship			
Academic stress / passing the examinations	48 (76.2)	76 (90.5)	124 (84.3)
Getting a post-graduation seat of choice	54 (85.7)	49 (58.3)	103 (70.1)
Work load during clinical rotations	22 (34.9)	32 (38.1)	54 (36.7)
Lack / want of recreational facilities	32 (50.8)	13 (15.5)	45 (30.6)
Communication / language problems	13 (20.6)	17 (20.2)	30 (20.4)
After graduation – life as a doctor			
Prolonged duration to get established / settle down	58 (92.1)	76 (90.5)	134 (91.2)
Long / odd hours of work	34 (54.0)	63 (75.0)	97 (66.0)
Working in remote areas	31 (49.2)	48 (57.1)	80 (54.4)

- Multiple choices elicited.

Interns were questioned about common apprehensions – both during their student life / internship and during their future life as a doctor. With regard to college life, academic stress was the most commonly cited (84.3%) cause of apprehension, followed by the prospect of getting a post-graduation seat of choice (70.1%). Male interns seem to be significantly less troubled by academic stress (p=0.0224), but more worried about lack of recreational facilities (p<0.0001) and getting in to post-graduation (p=0.0005), when compared to female interns.

With regard to their future life as a doctor, a vast majority (91.2%) were apprehensive about the long years it takes to get established as a doctor. They were also concerned about the working at odd hours and working in remote areas, especially the female interns (p=0.0088)

Table 7 Plans for public sector & primary care (n=147)

Plan	Positive Response		
	Male n (%)	Female n (%)	Total n (%)
Planning to join Govt services after MBBS	10 (15.9)	5 (6.0)	15 (10.2)
Planning to join Govt services after Post Graduation	3 (4.8)	3 (3.6)	6 (4.1)
Willing to work *for a few years* in Govt services	16 (25.4)	14 (16.7)	30 (20.4)
Willing to work in a primary care / rural setting	5 (7.9)	3 (3.6)	8 (5.4)

Only 10.2% of the interns were planning to join the public sector (government service) after graduation and even lesser (4.1%) after post-graduation. 20.4% were willing to work temporarily (one to two years) in the public sector.

Table 8: Why not work in public sector? (n=147)

Apprehension #	Male n (%)	Female n (%)	Total N (%)
Low scope for career development	58 (92.1)	79 (94.5)	137 (93.2)
Lack of infrastructure facilities	54 (85.7)	78 (92.9)	132 (89.8)
Low pay scales	60 (95.2)	64 (76.2)	124 (84.4)
Need to work in remote areas	39 (61.9)	64 (76.2)	103 (70.1)
Inadequate training in primary care during MBBS	43 (68.2)	54 (64.3)	97 (66.0)
Others	38 (60.3)	40 (47.6)	78 (53.1)

- Multiple choices elicited.

Table 8 explores the reasons as to why the interns were reluctant to join government service / work in the public sector. The most common reasons stated were lack of infrastructure facilities (89.8%), low pay (84.4%). Interestingly, 66% of the interns thought that the training they receive during the undergraduate years was not suitable for working in a primary care setting. There was no statistically significant gender difference noticed, for any of the above responses.

5. Discussion:

'Self-interest' and 'passion for the profession' were the most common reason why the subjects chose medicine as a career. 'Financial security', 'parental wish' and 'the prestige associated with the profession' were the other common reasons cited for their career choice. Earlier studies from India and abroad[6-8] have elicited similar responses. In a study among first year medical students in Delhi,[9] 'to serve the needy' was the most common reason quoted for becoming a doctor. In contrast, only 16.8% of the interns in the current study had listed 'to serve the needy' as a reason for choosing medicine as a career. Similarly, 'desire to serve the needy' had been pushed to the bottom of the list of traits for being a good doctor. These findings probably point towards the attitudinal shift among the current generation of doctors vis-à-vis earning money and serving the needy.

More than 90% of the interns were enrolled in some form of 'coaching classes' or training course to prepare for the post-graduate entrance examinations. This is similar to the findings from a recent study in Uttar Pradesh.[10] Majority (73.7%) of the interns want to join one or other post-graduation course immediately after graduation, 14.5% want to go abroad and only 5.2% plan to practice medicine. This reluctance to practice medicine with the undergraduate (MBBS) degree is a particularly worrisome trend and is being documented in several[10-13] recent Indian studies. In the study[11] from Bangalore, not a single intern was planning to practice with their MBBS degree. 66% of the interns in the current study felt that the training they receive during the undergraduate years did not adequately qualify them for general practice. Similar apprehensions have been documented in earlier Focus Group Discussions.[10] Since much of the internship period (during which much of the clinical experience is expected to be gained) is spent studying for the post-graduate entrance examinations, they feel unprepared to practice medicine with only an MBBS degree.

With regard to the interns'choices of post-graduation, majority seem to conform to the traditionally preferred choices. 76.2% of the interns wish to pursue a post-graduate degree in one of the clinical sciences. Very few interns were inclined towards taking up one of the non-clinical fields as a career choice. Statistically significant gender differences were noted in the choices of surgery, orthopaedics (more males) and Obstetrics & Gynaecaology (more females). Similar trends have been reported in various earlier studies from India,[11,12] Pakistan,[14] Japan,[15] Jordon,[16] Trinidad[17] and Turkey.[18] However, a recent study from China[19] has shown evidence of changing patterns in the traditional gender based choices in post-graduation.

The major apprehensions reported during medical college life were about the academic stress of passing exams and getting in to a post-graduation course of choice.Beyond college life, 91.2% of the interns were apprehensive about the long duration it takes for a medical graduate to 'settle down'. Female interns in particular were wary about working in remote areas; at odd hours. Similar findings have been documented in the study on career apprehensions[9] from Delhi.

Very few of the interns studied had plans to join the public sector / government service (10.2% after MBBS; 4.1% after PG). 20.4% of the interns though, were willing to work temporarily in the public sector. We presume these interns were probably attracted to the incentive of 'service quota' – a proportion of post-graduation seats that are reserved for those who work in rural areas. Such low levels of willingness to work in the public sector have been a common finding in many of the earlier Indian studies[9-12] too. It was evident from the students' responses that they considered working in the public sector as significantly less attractive than the private sector. The interns seem to have made a strong association between 'primary care setting' and the 'public sector' - because when a fresh medical graduate joins government service, they would most certainly be posted in a rural primary care setting. Another common presumption seems to be that 'General Practice' (GP) would most likely be in a rural setting and an urban job implies a multi-speciality tertiary-care setup.

Low scope for professional career development, lack of infrastructure facilities and low pay scales were the most commonly quoted reasons for reluctance to work in the public sector. Similar apprehensions have earlier been reported in studies from India,[4,6,10] Australia,[20] Ethiopia,[21] Ghana[22] and Greece.[23] 66% of the interns thought that the undergraduate training they receive was not suitable for working in a primary care setting. This perception has been documented in earlier studies done both in India[4,10] and abroad.[5,24] It has been widely reported[25,26,27,28] that the content and methods of training in undergraduate medical education in India are not tailor-made for the country's healthcare needs. Different countries have adopted various strategies to retain healthcare personnel in rural and remote areas, but have met with limited success.[29]

6. Limitations of the study:

The primary limitation of the current study is that it was carried out in a 'private medical college' and hence the findings may not be generalizable to graduates from 'government medical colleges'. As of today, out of the 355 MCI approved medical colleges in the country, 161 are state-run 'government medical colleges' and 194 are privately institutions. Studying in a 'private medical college' can cost anywhere between 5-25 times more money than studying in a government medical college. 23,905 MBBS graduates (more than half of the country's annual output) graduate from such private institutions and the current study was carried out in one such private medical college. Simple logic implies that doctors who graduate from private medical colleges are bound to expect to earn more money during their career. It must also be stressed that the widespread reluctance to work in government services and rural primary care settings, as observed in the current study, may not be generalizable to graduates from government medical colleges.

7. Conclusion:

Career aspirations and apprehensions were explored using a semi-structured questionnaire among147 interns in private medical college in south India. Almost everyone wants to do a postgraduate degree, mostly in a clinical field. Interns feel that they are not provided appropriate training to work in a primary care setting. Despite the great demand, General Practice (GP) in a primary care setting is currently not a popular career option among undergraduate medical students and is held in low esteem. Working in the public sector is also considered as a second-grade option - with regard to infrastructure,scope of career development and pay scales. Having understood the wants of the current generation of medical graduates, appropriate packages of monetary and non-monetary incentives need to be designed, to encourage them to work in rural and remote areas. Only then, the goal of Universal Health Coverage may be achieved.

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ORIGINAL RESEARCH ARTICLE

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Assessment of patient care and health facility indicators among urban and rural private practitioners in Kancheepuram district of Tamil Nadu, India.

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ABSTRACT

Objectives: To assess the patient care and health facility indicators among the private medical practitioners in the rural and urban areas of Kancheepuram district in Tamil Nadu. **Materials and methods**: A comparative cross-sectional study was conducted among 20 private practitioners, 10 from urban and 10 from rural catchment areas of the training centres of a medical college in Kancheepuram district of Tamil Nadu. WHO core drug use indicators questionnaire was used for the assessment which comprises of 5 patient care indicators and 2 facility indicators. Thirty exit interviews from patients in each practitioner's clinic were carried out to assess the quality of the services rendered. **Results**: The study revealed that average consulting time was 4 minutes, average dispensing time was 2.19 minutes, percentage of drugs actually dispensed was 43% and all the drugs dispensed was adequately labelled, only 22% percentage of patients had knowledge of correct dosage of drugs, the copy of essential drugs lists was not available in any facility and about 73% of the key drugs were available in the health facilities. The average time spent by a patient in the health facility was 18.39 minutes and 93% of the patients expressed satisfaction over the services they received. **Conclusion:** The study outcome reflects irrational patient care practices among private practitioners in both urban and rural areas. Even though the concept of essential drugs and the benefits of rational use of medicines are being popularized in the country, the importance of these was not recognized by the doctors and the pharmacists.

Key **words:** Health facility, Patient care, Primary care, Private practitioners, Rational use of drugs

Introduction

An efficient Health Care Delivery system is a pre-requisite to achieve "Better Health for All" in the 21st century. The quality of service in health means an inexpensive type of service with minimum side effects that can cure or relieve the health problems of the patients.[1]

Appropriate treatment of commonly occurring diseases and injuries and the provision of essential drugs are the two vital components of the primary health care concept as per the Alma-Ata declaration of 1978.[2]

Essential drugs offer a cost-effective solution to many health problems in a developing country. They should be selected with due regard to the disease prevalence, be affordable, with assured quality and available in the appropriate dosage forms.[3] Essential drugs are required for the management of 90% of commonly occurring medical

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conditions in the area. It is found that there are more than 60,000 drug formulations available in the Indian drug market.[4] But 90% of the commonly prevalent diseases can be treated with about 10% of the drugs available in the market. There are many medical, economical, social and administrative advantages over the concept of essential drugs. [5]

It is well documented that safe and effective drug therapy is possible only when patients are well informed about the medications and their use.[6] Essential drugs should be used only when it is really needed. Rational use of drugs means reasonable or sensible use of drugs. Rational use of drugs is defined as appropriate use of drugs, when it is really needed, in appropriate strength, dosage and duration which will have a beneficial effect on the individual.[7] The five important criteria for rational drug use are accurate diagnosis, proper prescribing, correct dispensing, suitable packing and patient adherence. The prescribers should make an accurate diagnosis and prescribe rationally and the pharmacist should ensure that effective form of the drug reaches the right patient in prescribed dosage and quantity, with clear instructions on its appropriate use.[8]

Bad Prescription Practices leads to ineffective and unsafe treatment, exacerbation or prolongation of illness, distress and harm to the patient and higher costs. Worldwide more than 50% of all medicines are prescribed, dispensed, or sold inappropriately, while 50% of patients fail to take them correctly.[7] Lack of access to medicines and inappropriate doses result in serious morbidity and mortality

Studying the drug use pattern including the patient care and health facility aspect of the health centres in relation to the rational use of drugs concept among the private practitioners is of vital importance in the present scenario where irrational drug use is rampant. So far the impact and effects of the drug use pattern practiced in the catchment areas around the urban and rural health training centres in the Kattankulathur block in Tamil Nadu is not evaluated. The periodic evaluation of drug use indicators can be a good tool to evaluate the rational use of drugs in terms of prescribing and dispensing and to evaluate patient understanding regarding drug usage.[8] With this rationale issues, this study was conducted with the objectives of assessing the patient care and health facility indicators among the medical practitioners in the rural and urban areas of Tamil Nadu

Materials and Methods

This comparative cross-sectional study was conducted among private practitioners in Kancheepuram district of Tamilnadu in and around the rural and urban health training centres of SRM Medical College Hospital & Research Centre. The study was conducted among 20 private practitioners [10 from urban and 10 from rural] identified in the catchment area of training centres over a period of three months. WHO core drug use indicators questionnaire was used to assess the drug use pattern among the private practitioners which comprises of 7 indicators in 2 parts (Patient Care and Facility indicators). [9] The practitioners were identified and prior informed consent was obtained after explaining the aims and objectives of the study. Thirty exit interviews from patients in each practitioner's clinic were included in the study. Data thus collected was tabulated and appropriate statistical analysis was done to demonstrate the findings.

Results

Following observations were made during the study to describe about the drug use patterns and the indicators in explaining the quality of service rendered by them. WHO manual of drug use indicators was used to calculate the patient care and health facility indicators. Exit interviews were conducted to calculate the patient care indicators and the observations were tabulated in table 1.

It was observed that urban practitioners spent more time (5.7 minutes) than the rural practitioners (2.3 minutes) with the patients during the consultation. In the pharmacy attached with their clinic, the average time taken to dispense drugs were seen to be more in rural than urban practitioners, however overall the average time taken to dispense drugs was found to be 2.19 minutes. In both urban and rural private

practitioners clinics all the drugs were adequately labelled and dispensed in strips/blister packs. It was seen that only 28% of the urban and 16.4% of the rural private practitioner's patients were having the knowledge of the correct dosage of the drugs given to them.

Table 1.Distribution of the Core drug use indicators based on the patient care and health facility indicators of the private practitioners

Core indicators	Indicators	Urban Practitioner Clinic	Rural Practitioner Clinic	Overall
Patient Care Indicators	Average consulting time (in minutes)	5.7	2.3	4
	Average dispensing time (in minutes)	2.03	2.33	2.19
	Percentage of drugs actually dispensed	44%	42%	43%
	Percentage of drugs adequately labelled	100%	100%	100%
	Percentage knowledge of correct dosage	28%	16.4%	22%
Health Facility Indicators	Availability of copy of essential drugs lists	No	No	No
	Availability of key drugs	74%	71%	73%

On assessing the health facility indicators, it is seen from the table 1 that essential drug list was not available in both urban and rural private practitioners and nearly 71% and 74% of the essential drugs were available among both rural and urban private practitioners pharmacy.

Table -2 Numbers of visits by patients to health facility for the same illness

No	No. of visit (Last 6 Months)	Urban practitioners No	%	Rural practitioners No	%	Overall No	%
1	Once	140	46.67	100	33.33	240	40.00
2	Twice	51	17.00	60	20.00	111	18.50
3	Thrice	60	20.00	50	16.67	110	18.33
4	More than 3	49	16.33	90	30.0	139	23.17
	Total	300	100	300	100	600	100

The table 2 shows the frequency of visits to the health facility by the patients in the past six months. In the urban health centre's 46.6% were first time visitors while it is 33.33% in the rural health centre. On average 18.50 % patients visited twice and 18.33% thrice a week and 23.17% visited the health centre more than three times for the same illness. This study also revealed the fact that the prescription counseling by the doctors regarding the illness or the dosage, administration, frequency of the drug intake and their side effects were not at all done both in the urban and rural health centres by the private practitioners. The pharmacists give instructions regarding the mode of administration and the frequency of the drug intake to the patients to an extent.

Table 3: Patients response to quality of services rendered in Health facility

No	Response	Urban No.	%	Rural No.	%	Total No.	%
	Good	170	56.66	117	38.89	287	47.78
2	Satisfactory	120	40.00	153	51.11	273	45.56
3	Unsatisfactory	10	3.34	30	10.00	40	6.66
	Total	300	100	300	100	600	100

Nearly 56.66% of the patients visiting the Urban health facility and 38.89% of the patients visiting the rural facility felt that the services rendered by them was very satisfactory, while40% visiting the urban and 51.11% visiting the rural facility felt the services rendered were satisfactory and about 3.34% urban and 10% rural patients felt the services rendered were unsatisfactory. (Table 3) Thus an overall 93%

of the patients attending the urban and rural health facilities expressed satisfaction positively over the services they received. [Combining the very satisfactory and satisfactory responses together]

Table -4 Average times spent in the health facility

No	Location	Urban inutes]	Rural [minutes]	Average [minutes]
1	At OP Counter	2.93	7.66	5.30
2	Outside Doctor's Room	5.10	8.70	6.90
3	With the doctor	5.70	2.33	4.00
4	At the Pharmacy	2.03	2.33	2.18
	Average times spent in the health facility	15.76	21.02	18.39

The patients spent an average of 15.76 minutes to get treatment in the urban health centres while the time spent in the rural health centres was 21 minute. The urban health centre doctors spent an average of 5.7 minutes with their patients while the rural health centre doctors spent only 2.33 minutes with their patients. (Table 4)

Discussion

The main objective of the present study using the standard World Health Organization core drug use indicators was to find out the rational use of medicines based on the current patient care indicator and health facility indicators among the urban and rural private practitioners in the field practice area of SRM Medical College Hospital & Research Centre, in Kancheepuram district of Tamil Nadu.

In this study, the average consulting time was found to be 4 minutes [Rural 2.3 and Urban 5.7 minutes]. In a study in South Ethiopia, the average consultation time in facilities was 6.14 minute, which was almost similar with the study conducted in North West of Ethiopia which was 5.8 minute.[10] In another study conducted in Niger it was 5.75 minutes [11] and in Jordan it was 3.90 minutes.[12] This results is not in accordance with other studies conducted in six European countries where the average consultation time was estimated to be 10.7 minutes and in United Arab Emirates it was 10 minutes but it was shorter in another study conducted in Jordan (3.9 minutes).[13].[14],[15] During the consultation, the physician has to make a complete patient evaluation, select the appropriate medications, and enable for proper patient- physicians interaction The consultation time is too short to enable physicians to communicate with their patients regarding their therapy and illness.

The average dispensing time in this study was found to be 1.4 minutes [Rural 1.7 and Urban 1.1 minutes]. In the South Ethiopia study, the average dispensing time was 1.28 minutes, while in North West of Ethiopia it was 1.9 minute.[10] In the study conducted in Niger it was 3.25 minutes on an average and in Jordan it was 28.80 seconds(0.48 minutes).[11],[12] A descriptive study in UAE observed an aaverage dispensing time of 68 seconds (1.1 minute) and in Sharjah it was 89 seconds, i.e. 1.5 min.[14],[15] A study conducted in Nepal observed 52 seconds (0.9 min) as the average dispensing time [16] which was longer than another study conducted in India which is 14.1 seconds i.e. 0.2 min,[17] The dispensing time observed in these studies is found to be very low. A pharmacist can hardly explain about the dosage regimen, any side effect of drug therapy and precautions to be taken along with appropriate labelling of envelope in such a short period of time. As per the WHO recommendation the pharmacist should spend at least 3 minutes in orienting each patient which was found to be lacking in our study.
This study shows that the average percentage of drugs, which were adequately labelled, was 100% both in the rural and urban areas since they are supplied in strips and blister packs. This in turn means that most patients know which drug they were taking for their illness. The percentage of correctly labelled prescriptions in a study by Otoom S et al was 91.4%, and in some instances as high as 100%.[12] Bounxou Keohavong et al [18] revealed that 67% of dispensed drugs were adequately labelled. A study conducted in Islamic republic of Iran showed that 60% of the drugs were adequately labelled.[19] A study in Southwest Ethiopia also revealed that 70.05% of dispensed drugs were adequately

labelled.[10] A similar study conducted in India showed that the adequate labeling was only 18.5% [20] while in another study 43.8% of dispensed products were inadequately labelled.[21] Providing adequate information to patients about their drugs is an essential principle of rational pharmacotherapy, since a patient's level of knowledge about his/her medication is highly associated with a favourable outcome of the therapy. Inadequate labelling may not only result in poor information on drug use but also in poor compliance.[18]

Dispensing is the end point of contact between pharmacist and patient or the patient's attendant. At this point it is the duty and responsibility of pharmacist to provide adequate information on proper use of drug. In this study the average percentage of patients with correct knowledge of dosage, time period or duration for taking the medicines was, found to be 22% [rural 16.4% and urban 28%]. A prospective cross-sectional descriptive study in a teaching hospital, Western Nepal, the patient's knowledge on correct drug dosage was found to be 81%. Similar study revealed 52.8% in Chennai, India, 55% in Combodia, 70% in Brazil and 80.8% in paediatric patients in India.[16] In South 24 Parganas district of West Bengal, 64.5% of the patients knew the correct mode of use of dispensed drugs.[21]

In this study availability of key essential drugs was found to be nearly 73% (74% and 71% in urban and rural private practitioner's pharmacy respectively.). An average of 80% of key drugs was available at PHC's in a drug use study in Jordan [15] while it was 82.6% in a study done the Gaza Strip, Palestine.[22] In the outpatient paediatric department in Mumbai, the availability of key drugs was found to be 85%. This study also quotes a figure of 86.6% availability of key drugs from Cambodia, a lower figure of 54% from Bangladesh, and an optimal figure of 100% from Ethiopia.[20] Another study conducted in West Bengal shows that the proportion of prescribed drugs (45.7%) included in the WHO model list of essential drugs fell short of the 50% level.[21]

It was also observed in this study that the average percentage of drugs actually dispensed based on the prescription were 43% [42% in the rural area and 44% in the urban area] even though it is desirable to dispense all the drugs prescribed A study in Mumbai in paediatric OPD revealed that 76.9% of prescribed drugs were dispensed, which is higher than figures reported in other Indian studies but lower than those from Burkina Faso, Cambodia, and Ethiopia (82% to 100%) [20] In the West Bengal study, all the prescribed drugs were supplied [dispensed] for only 11.6% of prescriptions.[21]

The copy of essential drugs lists [EDL] was not availability at both urban and rural areas health centres. This has been the scenario in most of the other studies conducted in India and elsewhere.[20] But a study conducted in six medical college hospitals in North India showed that 28.6% of the doctors interviewed had a copy of the EDL which was also available at their hospitals.[23] Regarding the numbers of visits by patients to health facility in the past six months for the same illness, it was mainly for getting medical assistance for their chronic illnesses. Not much detailed data was available to go into details of this repeat visit to the health facility.

Patient's response to quality of services rendered in Health facility shows that overall 93% of the patients attending the urban (96.6%) and rural (90%) health facilities expressed satisfaction over the services they received. [Combining the very satisfactory and satisfactory responses together] A study comparing patient satisfaction with primary health care services in two health districts in Egypt showed that the overall satisfaction of the patients regarding the health care services provided at primary health care level was about 98% in both study sites.[24] The same study also quoted other studies which also reported a satisfaction rate of 95.9% for patients attending the outpatient clinics of university hospitals and an overall satisfaction rate of 90.5% among patients attending rural health units. In another study in India the overall satisfaction of the patient's attending primary care centres in Lucknow district was found

to be 60%.[25] But Only less than half of the patients expressed satisfaction with their visit to health facility in different healthcare services of West Bengal.[26]

In this study the average time spent in the health facility by a patient is 18.39 minutes [urban health facility 15.76 minutes, rural health facility 21.02 minutes]. A cross-sectional study conducted in twenty-one hospitals in Malaysia shows that the average contact time increases from small hospitals (8 minutes) to bigger hospitals (15 minutes). The contact time also varies between the clinics of various disciplines. This might be due to the fact that in smaller hospitals, the cases seen are usually less complicated than that in bigger or tertiary hospitals.[27]

A study conducted in Lucknow in India shows that the waiting time was less than 30 minutes for the patients attending the primary level health facilities. The same study also refers to the registration time and waiting time at the primary level in Malaysia where the patients waited for 52 minutes on an average and with long waiting time as compared to other studies.[25] Patients attending primary health centres in Davangere district revealed that the major client dissatisfaction was with waiting time >30 minutes.[28] Reduction of the waiting time should be achieved as much as possible while providing with appropriate treatment. The waiting time and waiting area could be utilized to provide health education to the people.

Conclusion

Even though the concept of essential drugs and the benefits of rational use of medicines are being popularized in the country, the importance of these was not recognized by the doctors and the pharmacists. The outcome of this study reflects irrational patient care practices among the private practitioners in both urban and rural areas. The quality of the services rendered to the patient in this study was also unsatisfactory. The practitioners are legally bound to give a proper patient care and health facility services, which is intended to serve as guidance for the dispensers and patients for effective use of medicines. Otherwise it will create unnecessary confusions among the health seeking behaviour of the patient who will be ill advised and will be confused regarding the knowledge about their illness and the correct treatment to be administered. Though the short term effects of such irrational prescriptions are overlooked by the professional community, the long term effect can lead to serious public health problems. Therefore all sorts of interventions need to be tried to improve the rational use of medicines by medical practitioners. It is hoped that the lessons learnt from this study shall pave way for more studies in the primary care sector to further evaluate the factors involved in irrational use of medicines.

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ORIGINAL RESEARCH ARTICLE

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Immunization Coverage Among Children Aged 12-23 Completed Months In Nellore City – A.P

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ABSTRACT

Background: The World Health Organization launched the Global Programe of Immunization in 1974 and Government of India launched the same in India on 1st January, 1978, with a view to provide protection to the children against disease and to reduce infant mortality rate.[2,1] The Government of India launched Universal Immunization Program on 19th November, 1985, with the main objective of covering at least eighty-five percent of all infants against the six preventable diseases by 1990.The present study is conducted in Nellore city of Andhra Pradesh to assess primary immunization coverage. **Materials and methods:** 500 children were studied with 10 children selected from each of the 50 wards present in city. For assessment of immunization status immunization card verification and recall method was used. The information was taken mostly mothers followed by fathers. **Results:** Out of 500 children studied 303(60.6%) were fully immunized, 190(38.0%) were partially immunized and 7(1.4 %) were non-immunized. **Conclusion:** It is concluded that immunization coverage poor and is far away from the Universal Immunization Programme's objective of 85% coverage.

Key words: Immunization, Immunization coverage, Fully immunized children, Partially immunized children and Non-immunized children.

Introduction

Childhood immunization has been an outstanding public health success in many developing countries, and for the last three decades the Programme on Immunization has been promoted as one of the most important key elements of child health intervention in developing countries.[1]

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The aim of an immunization programme is to prevent and control vaccine preventable diseases in the community. The World Health Organization launched the Global Programe of Immunization in 1974 and Government of India launched the same in India on 1st January, 1978, with a view to provide protection to the children against disease and to reduce infant mortality rate.[2,1] The main focus of the program is on tackling six major childhood diseases namely measles, tuberculosis, pertussis, diphtheria, tetanus and poliomyelitis. The programme aims at ensuring universal immunization of children against all the above mentioned diseases. The Government of India launched Universal Immunization Program on 19th November, 1985, with the main objective of covering at least eighty-five percent of all infants against the six

preventable diseases by 1990.[3] Hepatitis B vaccine was added to the programme later in 2002 as a pilot programme and later extended to all the districts in 10 states including Andhra Pradesh.

As per the National Family Health Survey-III (2005-06) only 43.5 percent of eligible children were fully vaccinated and five percent have not received any vaccination at the national level.[4] in the above context this study is conducted in Nellore city of Andhra Pradesh to assess primary immunization coverage.

Materials and methods

This is a community based study conducted in Nellore city, A.P. from February to July 2011 in a sample of 500 children of 12-23 months age. . Children whose informants were not found, Who's Informants did not give reliable data, who's houses locked and children of relatives and visitors were excluded from study. There are 50 municipal wards in the city and the study was done in all the wards . After reaching each ward, all the lanes were numbered and out of them one lane was selected randomly using currency note method. Within the selected lane all the houses were numbered. The first household was selected randomly using the currency note method. From this house subsequent houses were visited following right hand rule. The same procedure was followed till the desired sample of 10 children is obtained in each ward. The total children studied in all the wards together were 500. When more than one child in the same age group was present in the same house, the younger one was included in the study to have better recall. In the houses having twins, only one of them was selected randomly. The data was collected from the respondents using a pre-tested structured questionnaire after obtaining oral consent. The method used for the determination of the vaccination status was 'the vaccination card and the recall' method. BCG scar was also examined. The primary respondent was the mother of the child and in case of her absence, the father acted as the next respondent. In case of absence of both of them, an adult in the household who remained with the child for most of the time or had taken the child for immunization on at least one occasion was interviewed. A Fully immunized infant was defined as one who has received one dose of BCG, three doses of DPT, Hepatitis-B and OPV each and one dose of Measles before one year of age.[6] Partially Immunized child was defined as the child who has missed even a single dose of vaccine mentioned in the immunization schedule. Non Immunized child was defined as the child who has not received even a single dose of any vaccine. The data was analysed using percentages.

Results

Out of 500 study subjects, 252 (50.4%) were males and 248 (49.6%) were females. 175(35%) children were in the age group of 12- 14 months,114 were in 15-17months,104 were in 18-20months and 107 were in 21-23 months age group. 75% of the informants were mothers, 13% were fathers and 12% were close blood relatives. 334 (66.8%) were Hindus, 121(24.2%) were Muslims ands 39 (7.8%) were Christians and 6(1.2%) were others. 260 (52 %) were 1st born and 210 (42%) were 2nd born and 6% were 3rd or 4th born.

Table 1: Distribution of children based on immunization coverage (Hepatitis B is included)

SI. No.	STATUS OF IMMUNIZATION	TOTAL	PERCENTAGE
1.	FULLY IMMUNIZED	303	60.6
2.	PARTIALLY IMMUNIZED	190	38.0
3.	NON IMMUNIZED	7	1.4
4.	TOTAL	500	100.0

Table1 shows that, of the 500 children studied 303(60.6%) were fully immunized, 190(38.0%) were partially immunized and 7(1.4 %) were non-immunized.

Table2 portrays immunization coverage, when hepatitis B not included for assessment of

immunization coverage, in 500 children studied, 342(68.4%) were fully immunized, 151(30.2%) were partially immunized i.e. the child has received at least one but not all the vaccines mentioned in the UIP and 7(1.4 %) of them were non-immunized i.e., they had not received even a single immunization.

Table 2: Distribution of children based on immunization coverage (Hepatitis B not included)

SI. No.	STATUS OF IMMUNIZATION	TOTAL	PERCENTAGE
1.	FULLY IMMUNIZED	342	68.4
2.	PARTIALLY IMMUNIZED	151	30.2
3.	NON IMMUNIZED	7	1.4
4.	TOTAL	500	100.0

Table 3 shows that 493 (98.6%) children were immunized with BCG, 433(86.6%)children were immunized with all the 3 doses of OPV and DPT, 357 (71.4%) were immunized with measles. Hepatitis B1, Hepatitis B2 and Hepatitis B3 doses were received by 391(78.2%), 367(73.4%) and 353 (70.6%) children respectively.

Table 3: Distribution of children based on vaccines received

VACCINE	No.	PERCENTAGE
BCG	493	98.6
OPV 1/ DPT 1	476	95.2
OPV 2/ DPT 2	452	90.4
OPV 3/ DPT 3	433	86.6
HEP B1	391	78.2
HEP B2	367	73.4
HEP B3	353	70.6
MEASLES	357	71.4

Table 4 shows that the drop-out rates were about 27.58 % from BCG to measles, 9.0% from OPV1/DPT1 to OPV3/DPT 3, 25% from OPV1/DPT 1 to measles, 17.5 % from OPV 3/DPT 3 to measles, 12.1 % from BCG to OPV3/DPT3.The drop out from 1st to 3rd dose of Hepatitis B was 9.7 %.This shows that the drop-out rate was progressive with subsequent immunizations.

Table no. 4 Drop-out rates for different vaccines

VACCINE	DROP OUT PERCENTAGE
BCG – OPV1/DPT 1	3.4
OPV1/DPT1 – OPV2/ DPT2	5.0
OPV2/ DPT2 – OPV3/ DPT3	4.2
OPV1/DPT1– OPV3/ DPT3	9.0
OPV1/DPT1 - Measles	25.0
OPV3/ DPT3 - Measles	17.5
BCG – OPV3/DPT 3	12.1
BCG- Measles	27.58
Hepatitis 1 – Hepatitis 2	6.1
Hepatitis 2 - Hepatitis 3	3.8
Hepatitis 1 – Hepatitis 3	9.7

Among children vaccinated with BCG, 99.5% are having BCG scar.87.2 % of children were vaccinated in time according to schedule without delay. Only12.8% of children got delayed vaccination.

Discussion:

Coverage along with Hepatitis - B vaccine:

In our study, 60.6% of children were fully immunized including hepatitis B, 38% were partially immunized and only 1.4% were not immunized. Nazish Siddiqi, et al, reported as 44.8% children fully immunized.[7] Basaleem HO et al, in their study conducted in Aden, Yemen showed that 83.1% had

complete, 10.4% had partial, and 6.5% were never immunized.[8]

Coverage with out Hepatitis – B vaccine:

In our study, 68.4% of children were fully immunized without Hep B, 30.2% were partially immunized and only 1.4% of children were not immunized with any antigen. Coverage evaluation survey in 2009 conducted by UNICEF in India (n=22,604) reported that in our country, 67.4% of urban children were fully immunized.[9] Kar M, et al, in their study among 100 children of South Delhi reported 69.3% of the children as fully immunized, 15.7% as partially immunized and 15.1% as non-immunized. [10] Yadav RJ, Singh P reported complete immunization in 61 % of children. [11] The findings of our study are similar to many of the above studies.

ANTIGEN WISE COVERAGE:

BCG: In the present study 98.6% of children were vaccinated with BCG.

Coverage evaluation survey in 2009 conducted by UNICEF in India (n=22,604) reported 86.9% of children at all India level and 98.6% of children in A.P were immunized with BCG.[9] Balraj V, et al, in their study among 7300 children in the North Arcot District, Tamil Nadu reported that the coverage in towns ranged for BCG from 65 - 91% . [12] Sokhey J, et al, in their study in East Delhi reported that 83% of children were vaccinated with BCG.[13]

OPV / DPT:

In our study the coverage of OPV and DPT were same and are as follows: OPV 0- 98.6%, OPV1/ DPT1 - 95.2%, OPV2/DPT2 - 90.4% and OPV3/DPT3- 86.6%. In the other studies in India the coverage of 3 doses of DPT/OPV varied from 62.69% to 91%, 60.00% to 86.8% and 48.11% to 79% respectively, for the three doses. Lower coverages were from Sugali tribal area, Ananthapur (1993), [14] and higher figures were from Surat (2006). [15]

Coverage evaluation survey in 2009 conducted by UNICEF in India (n=22,604) reported that the specific vaccine coverage was 66.0% for OPV0, 82.7%for OPV1, 77.9%forOPV2 , 70.4%forOPV3, 82.6%forDPT1,78.2% for DPT2, and 71.5% for DPT3. [9]

HEPATITIS B:

In our study the coverage of Hepatitis B vaccine was as follows:

Hepatitis B 1 – 78.2 %, Hepatitis B 2 – 73.4% and Hepatitis B 3 -70.6%.

Coverage evaluation survey in 2009 conducted by UNICEF in India reported that 70.7 %, 66.7% and 58.9% of children received the 1st 2nd and 3rd doses of Hepatitis B respectively.[9] Sokhey J, et al, in their study in East Delhi reported that 14% of children immunized with Hepatitis B. [13]

MEASLES:

In our study the coverage for measles vaccine was 71.4%. Coverage evaluation survey in 2009 conducted by UNICEF in India reported that 74.1% of children were immunized with measles.[9] Kadri AM, et al, in their study among 138 children in urban slums of Ahmadabad city reported that 71.7% of children were immunized with measles vaccine.[16] Trivedi SS, et al, in their study in Surat reported that 69% of children were immunized with measles. [15]

Drop -out rate of different vaccines

The drop-out rates were about 27.58 % from BCG to measles, 3.4% from BCG to DPT 1, 12.1 % from BCG to DPT3, 9.0% from DPT1 to DPT 3, 17.5 % from DPT 3 to measles and 25% from DPT 1 to measles. This shows that the drop-out rate was progressive with subsequent immunizations.

Coverage evaluation survey in 2009 conducted by UNICEF in India reported that the drop-out rates

as 14.7%from BCG-measles , 17.7%from BCG to DPT3 ,10.3% from DPT1 to Measles , and 13.3% from DPT1 to DPT3 . [9]

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ORIGINAL RESEARCH ARTICLE

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Breastfeeding Practices in Periurban Area of Aligarh- A Community Based Study

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ABSTRACT

Background: Breastfeeding is universal in India – both in urban and rural areas – and continues into early childhood years; and plays an important role in the context of child health. **Objective:** To assess the knowledge and practices of pregnant women regarding breastfeeding practices. **Study design:** A community based study. **Setting**: Field practice areas of Urban Health Training Center Department of Community Medicine, JNMCH, AMU Aligarh. **Participants:** 200 pregnant women. **Sampling method:** Purposive sampling . **Study period:** one year. **Statistical analysis:** Data analysed with Epi Info version 3.5.1. Percentages, and Chi Square Test used. **Results:** Majority of pregnant women (90%) delivered at home. Initiation of breastfeeding within 1 hour was done only in 16% of babies. Colostrum was given by 41% mothers. 20% babies were exclusively breastfed. 14% mothers had induced burping most of the time in their babies after breastfeeding. Prelacteal feeds were given in 80% and pacifiers in 72 % babies.

Conclusion: It was concluded that late Initiation of breastfeeding, rejection of colostrums, and use of prelacteal feed and pacifiers, declined trend of exclusive breastfeeding were prevalent among peri-urban area of Aligarh.

Keywords: Prelacteal feeds, Colostrum, Exclusively breastfeeding, Pacifiers, Burping.

Introduction

Breastfeeding is the fundamental right of child[1]. Promotion of breastfeeding has been advocated as one of the initiatives by WHO and UNICEF.[2] though breastfeeding has been traditionally encouraged in India but over the years, modernization and various social factors have brought changes in the centuries old healthy traditions. Breast fed infants experience less morbidity like diarrhea and respiratory infections due to presence of anti infective agents and immunoglobulin.[3, 4.5]

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Initiation of breastfeeding after birth is considerably delayed in India, and in most cases the valuable colostrums is discarded before putting the child to the breast.[6, 7] Colostrum is regarded as a yellowish coloured fluid that is harmful to the child's health; hence it is not fed.[6] Whereas, current evidence shows that colostrums contains immunoglobulins, lactoferrin and lysozyme which may help reduce and protect against neonatal septicaemia, diarrhoea, and acute respiratory infections, thus reducing infant mortality rates.[8] Though the advantages of breastfeeding are significant, the duration and patterns of breastfeeding vary a great deal within India. Studies indicate exclusive breastfeeding until four-to-six months of age to be beneficial to infant survival, but globally exclusive breastfeeding rates are still too low in early infancy. [9, 10, 11] The present study was carried out to assess the knowledge and practices of pregnant women regarding breastfeeding practices.

Materials & Methods:

The present study was a part of community based intervention study conducted in the field practice area of the Urban Health Training Centre, Department of Community Medicine, Jawaharlal Nehru Medical College, Aligarh Muslim University, Aligarh, Uttar Pradesh. The subjects included in the study were residents of four registered areas of the urban health training center. Urban Health Training Centre caters a total population of 11199 at the start of the study. There were four slums i.e. Firdaus Nagar, Nagla Qila, Patwari ka Nagla, and Shahanshabad under UHTC. Out of these 4 areas, 2 areas (Firdaus Nagar, Nagla Qila) were chosen for group A and the other 2 areas (Patwari ka Nagla, Shahanshabad) served as group B. Group A and group B were separated so that there was no transfer of BCC Package information from group A to group B.The population in this area was relatively stable and allowed for follow up visits. Approval for study was passed from the institutional board of study meeting. Purposive sampling i.e. nonrandom sampling to include subjects that serve the specific purpose was used. Two hundred pregnant women as observed from the previous records were chosen for the study. The study was carried out from one year i.e. from September no 2008 to August 2009 which included the development of study tools, collection of data, analysis, tabulation of findings, and interpretation of results. Exclusion criteria were primigravida, high-risk pregnant women, pregnant women who opted to deliver outside Aligarh. Ethical considerations were local cultural values and ideas respected. Confidentiality was assured. All pregnant women were approached individually and an informed consent was taken before collecting data. Proper management or referral was given to women who were found to have any health problem. A house to house visit was made to get the information about pregnant women till 200 pregnant women were enrolled in the study (purposive sampling).The data were collected by using pre-designed and pre-tested semi structured questionnaire. It included information regarding identification, socioeconomic status, and breastfeeding practices. Socioeconomic status was assessed using Modified Kuppuswami Scale.[12] Data entry and statistical analysis were carried out using software Epi Info version 3.5.1.Epi Info is a series of freely distributable programs for use by public health professionals in conducting outbreak investigations, general database and statistics applications. Significant difference was determined using Chi- square test. Chi- square test is a non-parametric test, tell about whether it significant or not P-value was calculated using chi-square test and difference was accepted significant at more than 95% (p-value <0.05).

Results:

Table1: Demographic profile of pregnant women

Variables	Group B	Group A	χ^2, df, p-value-
	N=100	N=100	
Age Group			
15-30	86	80	1.3, 1, >0.05
31-45	14	20	
Religion			
Hindu	02	17	13.08, 1, <0.05
Muslim	98	83	
Education of pregnant women			
Illiterate	78	72	0.97, 2, >0.05
Up to high school	16	20	
Above high school	06	08	
Education of husband			
Illiterate	59	49	3.70, 2, >0.05
Up to high school	37	41	
Above high school	04	10	
Occupation of pregnant women			
Housewife	100	98	
Unskilled	00	02	
Occupation of husband			
Unemployed	58	55	0.59, 3, >0.05
Semiskilled	25	24	
Skilled	09	12	
Clerical/shop	08	09	
Type of family			
Nuclear	67	62	0.54, 1, >0.05
Joint	33	38	
Social class			
Upper	00	02	5.79, 4, >0.05
Upper middle	14	16	
Lower middle	30	35	
Upper lower	51	46	
Lower	05	01	

83% pregnant women were in the age group of 15-30 years 17% in the age group of 31-45 years (χ^2=1.3, p-value->0.05). Most of the pregnant women (90%) were Muslim and rest of them belonged to Hindu community (χ^2=13.08, p-value-<0.05). 75% of pregnant women were illiterate (χ^2=0.97, p-value->0.05). Education of husbands of pregnant women was also low i.e. 54% illiterate (χ^2=3.70, p-value>0.05). Majority of the families (64.5 %) were nuclear. 99% pregnant women were housewives. 48.5% pregnant women were belonged to upper lower class according to Modified Kuppuswami Scale of socio-economic status (Table1).

Table 2: **Place of delivery during last pregnancy**

Place of delivery	**Group B**	**Group A**	,
	N=100	**N=100**	
Home	92	91	χ^2=0.06, df=1, p-value >0.05
Institutional	08	09	

Table 3:Breastfeeding practices during previous child

Variables		**Group B**	**Group A**	χ^2, df, p-value
		N=100	**N=100**	
Breastfeeding initiation within 1 hr	Yes	17	15	1.49, 1, >0.05
	No	83	85	
Colostrum given	Yes	39	43	0.33, 1, >0.05
	No	61	57	
Exclusive Breastfeeding	Yes	19	21	0.13, 1, >0.05
	No	81	79	
Induction of burping Most of the time	Yes	16	13	0.36, 1, >0.05
	No	84	87	
Prelacteal feeds given	Yes	81	79	0.12, 1, >0.05
	No	19	21	
Pacifiers given	Yes	75	70	0.62, 1, >0.05
	No	25	30	

Majority of pregnant women (90%) delivered at home during last pregnancy. Initiation of breastfeeding within 1 hour was done only in 16% of babies. Colostrum was given by 41% mothers. 20% babies were exclusively breastfed. 14.5 % mothers had induced burping most of the time in their babies after breastfeeding. Prelacteal feeds were given in 80% and pacifiers in 72.5 % babies.

Discussion:

In the present study, initiation of breastfeeding within 1 hour was done in 16% of babies. Lower percentage initiation of breastfeeding within 1 hour was reported by other researcher Banapurmath[13], Mandal[14]. Higher rates of initiation of breastfeeding within 1 hour (63%, 57.9%) were presented by Osrine [15] and Sreeramareddy[16] respectively. Zodpey[17] reported that 69.69% of the children received their first breastfeed after 24 hrs of birth; however none of the children was breastfed within 2 hrs of birth. This difference between two studies was due to different time period used for initiation of breastfeeding.

In the present study, colostrum was given by 41% mothers. Ganjoo[18] reported that 57% of mothers believed colostrum to be unhygienic and did not give it to their infants and these findings are comparable to present study.

In the present study 20% babies had been exclusively breastfed. Higher percentage of exclusive breastfeeding was reported (72.2% and 60.5%) by Kulkarni[1] and Subba[19].

In the present community based study, pre-lacteal feed was given by 80 % of mothers or family members. Higher percentage (100%) of prelacteal feed was reported by Banapurmath[13]. Lower percentage of practicing prelacteal feed was reported by Singhania[20] 51.7later on BCC Package was implemented and impact was assessed. %.

Pacifiers were given to babies in 72.5 % cases. Other researcher from Brazil Ledo Alves da Cunha[21] reported that 60% of the children were using pacifier by the 1st month. Children using pacifier

were 1.9 more likely to have stopped exclusive breastfeeding by the 6th month compared to non users. Their findings were lower than the present study.

Conclusion:

Undoubtedly breastfeeding is invaluable in the developing world, particularly amongst the lower socioeconomic and disadvantaged groups. This is baseline data of BCC intervention study and impact of BCC package among pregnant women can not be assess without baseline data. The practice of withholding the breast after birth, discarding valuable colostrum, and giving prelacteal feeds to the newborn needs to be urgently addressed through programs and breastfeeding interventions that infiltrate to the urban slums across the country. The advice regarding infant feeding practices given in the immediate postnatal period and subsequent visits to the well-baby clinic are effective. Mothers should receive information regarding proper infant feeding practices during the antenatal period, the immediate postnatal period. It should be ensured that mothers understand the rationale of the practices that are being advised so that good feeding practices are sustained. Mothers need to be told that commercial weaning foods do not confer any advantages over less expensive supplements. There is an urgent need to educate adolescent girls, mothers and train health care providers including ANM, ASHA and CMC workers etc. about advantages of establishing early breastfeeding, use of colostrums, exclusive breastfeeding and avoidance of harmful practices like prelacteal feed, and use of pacifiers. .

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ORIGINAL RESEARCH ARTICLE

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Impact of Cataract Surgeries on ADL and Livelihood among Elders of BPL Families in Selected Panchayats of Gubbi Taluk, Tumkur District, Karnataka

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ABSTRACT

Objective: Impact of cataract surgeries on ADL and livelihood among the elders belonging to BPL families of Gubbi taluk, Tumkur district in rural Karnataka. **Study Period**: August 2012 – September 2012; **Type of Study:** Descriptive study. **Study setting:** Elderly among villages of 6 selected Panchayats of Kadaba Hobli of Gubbi Taluk, Tumkur district, Karnataka. **Participants:** Patients aged more than 60 yrs who have undergone cataract surgeries during eye camps in the period of April 1st 2011 to March 30th 2012. 50 % of elders in each of 6 panchayats were randomly selected. 60 elders were studied**. Variables studied:** Demographic profile, ADL, livelihood activities and direct and indirect financial contribution to the household income. **Results:** 33 (55%) was males and 27 (55%) was females. 35 (58%) belonged to age group of years 65-70 yrs. Average increase in ADL score among the > 70 yrs was 2 points respectively. Average increase of Rs.2625 was observed in the total household income after the surgery. There was significant difference in the basic ADL score pre and post surgery among males and females and in the age groups of >75 yrs and 65-74 yrs. There was no significant difference between average contribution to the household income and age, gender. **Conclusion:** Cataract surgeries for the elderly belonging to BPL families improve their health and livelihood options, hence contributing to household income.

Keywords: Impact, livelihood, Health, Cataract surgery, rural area.

Introduction:

Cataract has been the most important and leading cause for preventable blindness in India where vision in the better eye on presentation is <6/60 is defined as blindness.(1) In various community based studies among elderly, the prevalence rate of low vision and cataract have been reported to range from 18 – 88%[2-5].

In a study done in rural India age related cataract among subjects aged 40-49 yrs, 50 -59 yrs, 60- 69yrs and >/=70 yrs were 55.7%, 81.3%, 79.4% and 47.5% respectively. (6) Many studies in India have shown that prevalence of cataract blindness increases with increase in age and decrease in socioeconomic status and high in rural areas as compared to urban population (7,8). Cataract blindness among elderly will not only affect the functionality and range of activities but also the quality of life that affect their social activities, livelihood options and financial independence leading to low self esteem and depression.

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Effective interventions for cataract include corrective glasses and cataract extraction. Many tertiary care institutions and medical colleges in collaboration with DBCS conduct camps in the rural areas with the help of local Non Governmental Organisations and Community Based Organisations and transport the selected patients to base hospital, perform surgery and do post operative follow up subsequently.

In India, there are very few studies that throw light on economic impact of free cataract surgery on the poor families. In this study we have tried to measure the impact of cataract surgery and hence improved vision on the household income of the family.

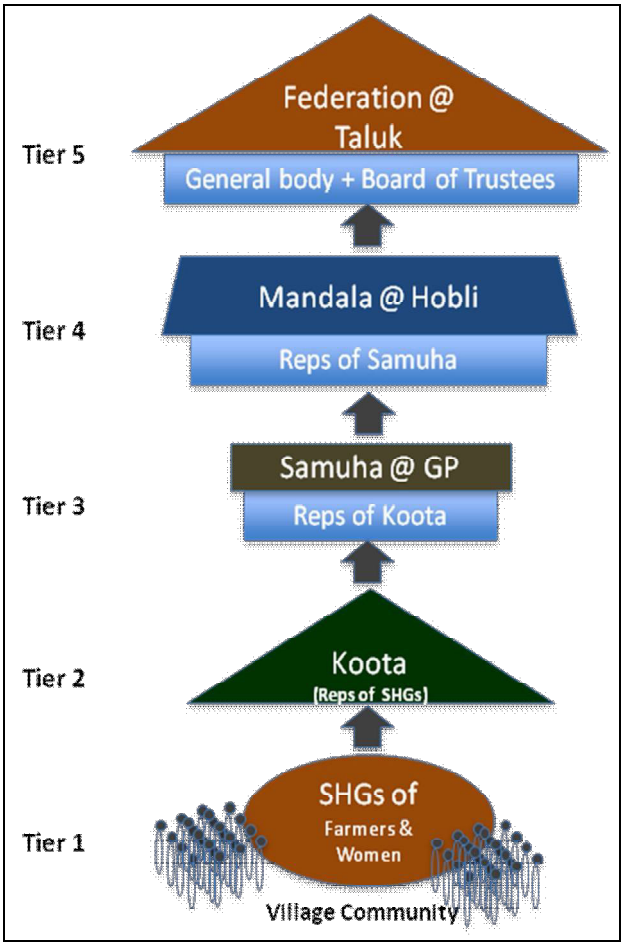
Material and Methods

It was a community based descriptive study conducted from August 2012 – September 2012 in 6 selected Panchayats of Kadaba Hobli, Gubbi Taluk of Tumkur District in Karnataka. These areas are field practice areas of Vattikuti Foundation, India (philanthropic organization funding for sustainable projects for Poverty alleviation in rural area) working at the grass root level organistion like IDF (Initiatives for Development Foundation) and planning, experimenting and efficiently executing holistic approaches involving innovative Health Programmes, social mobilization, financial inclusion of the excluded sections and, promotion of prudent financial practices & sustainable livelihoods.

Study area: Six panchayats namely Koppa, Chikka Kunala, Hindesgere, Kallur, Peddanahalli and Marashettihalli were selected. Our records showed that among 156 total cataract cases, operated in the tertiary centers through the camps organized by Vattikuti Foundation in the period of April 1st 2011 to March 30th 2012. 145 were elderly population (>60yrs) and among them 117 were from BPL families. Panchayat wise patients were enlisted and 50% of them were randomly selected in each panchayat.

The organization structure of IDF is as shown in the figure 1.

Figure1: Organization structure of Initiatives for Development Foundation (I.D.F.) and CBO (Community Based Organization) in Kunigal Taluk.



Reps- Representatives; SHGs- Self Help Groups,; GP- Gram Panchayat. The Gram Panchayat will be managed by the field officers and there will be 5 village facilitators under every field officer. The Village facilitators will be residents of the village and is the link between farmers and women groups and the field officer

Study tools: A standardized pre tested interview schedule was administered to the patient and his/her family member to and data recorded. The questionnaire captured demographic details, and questions relating to livelihood, social life and financial contribution to the family. Financial contribution was classified as direct and indirect

contribution to the family income. Direct contribution is the money earned by activities of the patients and indirect is by reliving a caretaker in their family. **Activities of Daily Living – the Katz ADL scale:** six questions based on self-care tasks like bathing, dressing, eating, transferring from bed to chair, voluntary control of bladder and bowel function and using the toilet was asked. At the end dependency for daily activities, completely or partially was assessed [9]. IDF field staff (Project coordinator, 6 field officer and 30 village facilitators of 6 field officers) was trained on administration of the interview schedule and ADL scale. Analysis was done using standard statistical packages. Qualitative data was collected by KI interviews with the head of the family and the spouse.

Results

A total of 60 patients and their families were interviewed. Among them were 33 (55%) males and 27 (45%) were females. The mean age of total patients was 67 years. Mean age of male and female were 67.7yrs and 66.3yrs respectively. Out of 60 studied 50 were married, 2 were separated and 8 of them were widow or widower. With respect to living arrangement 48 were living with spouse and or children and 12 were living alone. Among 60, 13 were Muslims and 47 were Hindus. Only 2 had education more than 5th standard. Table 1 shows panchayat wise distribution of patients and the number selected for the study. All the elders belong to below poverty line. 36 (60%) of the studied elderly were dependent on the family financially.

Table 1: Village wise distribution of patients attended the camp and patients with cataract

Name of the Panchayats	Total number of patients	Total interviewed
Chikka Kunala	28	14
Koppa	22	11
Kallur	18	9
Hindesgere	17	9
Yediyur	17	9
Nademavinapura	15	8
Total	**117**	**60**

Financial dependency was seen more among the elderly aged > 75 yrs (table 2).

Table 2: Dependency of the elderly on the family for financial help

Particulars of patients		No of patients	Number (Percentage)
Gender	M	27	13 (48.15%)
	F	33	23 (69.70%)
Age group (years)	>/=75	15	14 (93.33%)
	65-74	35	22 (62.86 %)
	60-64	09	00 (0%)
Total		60	36 (60%)

Table 3: Distribution of the Patients based on the effects of eye camps in their lives

Characteristic	No. (%)
No of patients felt that their vision improved	55 (91.6%)
No of patients with increased distance of mobility*	50 (83.3%)
No of patients with increased range of productive activities	47 (78%)
No of patients with improved Activities of Daily Living Score#	26 (43.3%)
No of patients said that their social life has improved after surgery	50 (83.3%)
No of patients said that they contribute financially to the family (directly or indirectly)	53 (88.3%)
No of families felt that health expenditure on surgeries was saved and gave opportunity to invest the money into other economic activities	57 (95%)

**increase in distance of mobility from their residence or travelling by bus, Bicycle and two wheeler*

 # include new income generating activities or reverting back to old activity restricted earlier due to visual impairment

55 (91.6%) felt that their vision has improved and helped them in doing daily activities. 43.3% of the elderly persons said that they became functionally independent after the surgery. and 78% of them had increased the range of activities when compared to before the surgery, earlier there was restriction in the activities due to improper vision (Table 3).

Table 4 and 5 gives the list of **productive activities that the female and male patients were involved after the surgery**. The females were involved in household activities and social activities.

Table 4: List of Productive activities that the female patients were involved after the surgery

List of productive activities	Number
Household work like washing clothes, cooking, wiping the floor	29 (87.9%)
Coolie work in the farm	08 (24.2%)
Live stock rearing (sheep, goat and cattle)	13 (39.4%)
Selling vegetables, Jaggery in the market	3 (9.1%)
Candle and agarabathi making	1 (3.0%)
Plucking flowers and selling them	2 (6.1%)
Taking care of the grand children, while their parents are out for work	12 (36.4%)

Table 5: List of Productive activities that the Male patients were involved after the surgery

Particulars	Number (Percentage)
Animal husbandry activities at home helping the other family members	22 (81.5%)
Farming activities in their own land	04 (14.8%)
Coolie work in the others farm	12 (44.4%)
Live stock rearing (sheep, goat and cattle)	15 (55.6%)
As an entrepreneur selling goods in the market on market day	02 (7.4%)
Taking care of the grand children, while their parents are out for work	05 (18.5%)
Independently travel by bus to town for business activities	12 (44.4%)

Activities of Daily Living: 43.3% of the elderly had improved ADL score after the surgery. Table 6 shows the age and gender wise distribution of the patients depending completely or partially for Activities of Daily living

Table 6 shows that mean scores of the ADL scale before and after the surgery. It was seen that there was significant difference between ADL before and after surgery among both male and female and also in the age groups of more than 75 years and between 65-75 yrs.When the economic contribution was quantified, there was an average increase of Rs. 2625 per family with the patient contributing Rs. 1284 through their activities and Rs. 1341 indirectly by relieving the caregivers. There was no statistical significant difference in the gender, age and number of family members and average direct contribution, indirect contribution of the elders after the surgery (Table 7).

Table 6: Gender wise and age wise distribution average scores before and after surgery

Particulars of patients		No of patients	Average ADL scores		P value
			Pre surgery	Post surgery	
Gender	M	27	4.85	5.71	0.047
	F	33	4.87	5.33	0.018
Age group (years)	>/= 75	15	2.27	4.20	<0.001
	65-74	35	5.69	6.00	0.02
	60-64	09	6.0	6.00	-
Total		60	4.85	5.54	0.002

Table 7: Gender wise and age wise distribution of increase in average monthly family income

Particulars		No	Average increase in monthly family income (Rupees)			Chi square (p value)
			Direct	Indirect	Total	
Gender	M	27	1148	1219	2367	
	F	33	1439	1482	2921	0.88
Age group (years)	>/=75	15	896	1800	2696	
	65-74	35	1141	1403	2544	
	60-64	09	1461	1100	1561	0.408
No of family member	1-2	9	1244	673	1917	
	3-5	38	1069	1210	2279	
	>5	12	1479	1153	2632	
Total		60	1284	1341	2625	0.374

Qualitative data:

During the Key Informants interviews with the spouse and family members they said that the patients have become independent and are able to take care of themselves.

The patients expressed that they were not able to climb the stairs, or get into the bus. Some even feared to go out in the night alone and even needed assistance to move to the field for defecation or micturation. They were not able to identify the person face near to them. One of the female patients also said that they had stopped sheep raring as she was not able to count the sheep and have lost track of them during grazing. After surgery, many women have started sheep grazing and some even bought new sheep through loan and are contributing to the economy of the family. Many of them also felt depressed and had not attended family functions and social activities for last one year and had feeling of low self esteem as they were financially depending upon the family and felt that they are burden to their family. The family members were happy that the camp, surgeries and care in hospital was free of cost and it has saved them money and also services were accessible to them at their Panchayat.

Discussion:

Many studies have been done to study the barriers of utilization of the cataract camps in India. The common barriers were cost of surgery, accessibility of the ophthalmology services, gender barriers (more women seek eye services but more men get operated). This study may be bias as the CBOs gave publicity to interior villages and most of the patients had mature cataract with less than 6/60 vision. The health camps owned and organized by the CBOs will in interior places of the panchayats and acceptability and accessibility barriers are broken [(11)]. These camps almost take care of entire cost of the surgery and also bring the elderly population into the mainstream of economic activities thus improved self confidence.

After the improvement in the vision, it was seen that ADL among the age group of more than 75 years improved by 2 points hence the importance of screening and extraction of cataract in functionality of the elderly is utmost priority.

Before the surgery the mobility was restricted only to their house and its surrounding. Now they are going to farm, market, temple, functions, and business places. These activities have opened up new opportunities for livelihood and have helped them to get back to the mainstream of economic and social activities and become financially independent. When the economic contribution was quantified, there was an average increase of Rs. 2625 per family with the patient contributing Rs. 1284 through their activities and Rs. 1341 indirectly by relieving the caregivers. The caregivers were able to free up their time and channelize into income earning activities. 95% of families felt that the health expenditure of the surgery was saved and has helped them in investing the saved money to other economic activities.

Lessons learnt:

Training the field staff and validation of the data collected: The major challenge felt initially for the public health expert was training the I.D.F. staff – Field Officer and CRPs who had very minimal orientation towards health activities. However they were involved in various non health activities and had very good rapport with the community which helped in fairly accurate estimation of the financial contribution.

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Study on immunization coverage in urban population in Tamilnadu

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Abstract:

Back ground: The immunization particularly complete immunization iscost effective method to prevent vaccine preventable diseases. Many areas complete immunization isnot achieved due to various reasons. The partial immunization can be converted into complete immunization if the situation is analyzed. O**bjectives:** 1. To find out the immunization status among the children in urban area 2. To find out the reasons for not having immunization or full immunization. **Methodology**: The urban area covered by the division of Community Medicine of Rajah MuthiahMedical College was selected. The children were selected in the urban area from all direction as North, South, East and West of urban area. Ten streets each, from all four directions, totally 40 streets were selected by lot method. House to house survey made to find out the status of immunization. **Result:** The total number of children was134.Nearly 47.77% and 52.23% were male and female children respectively. Around 55.97% were in the age group of 13-18 months. The immunization card was present with parents only in 55% of the children. The private institutions for immunization were used by 76% of the parents.97% of the children were given BCG and OPV at birth. Only 56% of the children were immunized completely. Most of the respondent mentioned the illness at the time of immunization of the child was reason for not giving complete immunization. **Conclusion:** The subsequent doses were not given due to various reasons that can be avoided with health education.

Key word: Polio, Immunization, Complete, Partial, Awareness.

INTRODUCTION:

The morbidity and mortality due to vaccine preventable diseases can be reduced by proper complete immunization among children in the age group of 0 to 24 months. It is obvious that Poliomyelitis in Tamilnadu has not been reported for past several years due to complete immunization.

It is known that the fully immunized status can only protect the children at maximum. The percentage of protection may be reduced in partly immunized children.

The efficacy of the vaccines particularly the killed vaccines are improved with regular repeated doses. Even live vaccines like yellow fever 17 D has been recommended every 10 years. The reasons, for not immunizing the children completely are many like, lack of awareness, illness of the children, fear of adverse effect, and non-availability. The eager, to immunize the children immediately after birth gradually reduces among the people due to their other commitments in the family. If the status of immunization and the reasons, for not immunizing completely are known then the remedy can be implemented. This study was made to know the status of immunization and reasons for not immunizing in urban area, and to encourage the complete immunization.

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OBJECTIVES:

1. To find out the status, of immunization among children in the age group of 12-24 months in urban areas
2. To find out various reasons for not immunizing the child and for incomplete immunization

METHODOLOGY:

Study Design: The cross sectional descriptive study
Study Area: Urban (Chidambaram Municipality)
Study population: The children age group of 12-24 months. Study period: October 2009.

The Chidambaram municipality area was selected as it comes under the service area of the Rajah Muthiah Medical College for the study. The study children were selected from all the direction North, South, East and West of the town from the centre. Ten streets from each direction were selected by lot method, and totally 40 streets covered to find out the study population. The house to house survey was made with pretested questionnaire about the age; sex, profile of the parents, and immunization status with the reasons for not immunizing properly were collected The immunization status was verified with immunization card along with the parent and by enquiring orally in the case of non availability of the card.. The data of primary doses and booster doses were collected and analyzed with suitable statistical methods.

The primary doses were defined as the National Immunization Schedule as follows:

At birth: BCG and Zero dose oral polio (Hospital deliveries.)
06 weeks : OPV, DPT and Hepatitis B Firstdose (BCG if not given at birth)
10 weeks: OPV, DPT and Hepatitis B Second dose
14 Weeks: OPV, DPT and Hepatitis B Third dose
09 Months: Measles

The fully immunized children were included, when the above schedule followed without any single dose has not been dropped when the child reached the age of 12 month and above.

Partly immunized were any one of the dose or vaccines were dropped.

Unimmunized were the children who had not been given any vaccine. The data of booster dose of OPV and DPT also was collected. Statistical analysis was done with Proportion.

RESULTS:

The house to house survey has found out 134 children in the age group of 12-24 in the selected area, for this study. Out of 134, 75 (55.97%) of the children were in the age group of 13-18 months and another 45(33.58%) were in the age group of 19-24 as shown in Table 1.

Table 1 Distribution of children by age and sex

Age in month	Male	Female	Total
12 months	05	09	14 (10.44%)
13-18 month	40	35	75 (55.97%)
19-24 months	19	26	45 (33.58%)
Total	64(42.76%)	70(57.53%)	134 (100%)

Nearly 78% of the mother have educated with secondary and above than secondary school education. About 55% of the parent only, have immunization card along with them. The place of immunization, for the children was around 77% in private institution, and only 23% in government institution. As the delivery of 97.70% children had been occurred in institution, BCG and OPV were given at birth for 97.70% of the children. The first dose of OPV, DPT and Hepatitis B was given in 83.58% of the children as shown Table 2.

Table 2 Distribution of immunization coverage among study population

Age of vaccination	Vaccines	Received	Not Received
At birth	BCG & OPV	131(97.70%)	03(02.30%)
6 weeks	I OPV, DPT&Hep B	112 (83.58%)	22 (16.42%)
10 weeks	II OPV, DPT&Hep B	108 (80.59%)	26(19.41%)
14 weeks	III OPV, DPT&Hep B	093 (69.40%)	41(30.60%)
9 month	Measles	075 (56.00%)	59 (44%)

The second dose of OPV, DPT and Hepatitis B was given to 80.60% of the children. The third dose of OPV, DPT and Hepatitis B, and Measles were given 69.40% and 56% respectively. Only 56% of the children were given complete primary doses of immunization as per schedule. Out of 45 children who were in the age group of 19-24 only 11.22% have received the secondary or booster doses of OPV and DPT.

Among those who have not given complete immunization, 56% of the children were not given, because of illness. The fear of adverse effect in 22% of the children has been prevented from the immunization. Another 22% of the children were not given complete immunization due to lack of awareness of complete immunization that was effective. The scar of the BCG vaccine was present in 88.80% of the children among immunized with BCG.

DISCUSSION

Among the methods of prevention of communicable disease, the immunization is very effective and also cost-effective method. The complete immunization only gives full protection to the children. The present study was conducted among urban children to find out the immunization coverage, complete immunization and to know the reasons for not immunizing the children with complete immunization. Among 134 children in the age group of 12-24months, only56%of the children were immunized fully with in 12 months as per schedule.

The coverage of full immunization is closely related the National coverage rate around 63%.A study by Nath[1] found out only 44.1% of the children were covered with full immunization.About 55% of the parent only, have immunization card along with them. It is relatively less, when compare with another study by S. Yadav[2]where it is 74.28%.

In partial immunization 55.73% were male and 44.23% were female children that show there is no gender factor influences the immunization. As the delivery of 97.70% children had been occurred in institution, BCG and OPV were given at birth for 97.70% of the children..A study by S.Yadav[2] and others found in their study around 94.7% children covered with BCG. The measles was given only in 56% of the children and this factor has been supported with a study by Dinesh Kumar[3] who has found in his study that 60.60% of the children were immunized with measles.

This study shows that the immunization rate gradually comes down in successive doses of immunization. The place of immunization in 77% of the children was private institution that shows the people believe in private institution.

The illness of the children at the time of vaccination was around 56%, the lack of awareness and fear of adverse effect was 22% and 22% respectively were reason for partial Immunization. Anita[4] in her study has found out nearly 18% were not immunized their children due to lack of awareness. The lack of awareness can be removed with proper health education. An important factor observed in this study was only 11.22% of the children had been given booster dose of OPV and DPT.The emphasis on booster is important factor to be noted.

CONCLUSION

This study has observed that the importance of complete immunization is not felt by the people even among urban population. The reasons for partial immunization may be rectified by awareness. A welcome factor also has been observed that almost 97% of the deliveries occurred in the institutions. The street level awareness campaign may be essential to remove false belief on immunization.

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A Clinico-Epidemiological Study of Pyoderma in Children

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ABSTRACT

BACKGROUND: Primary pyodermas are common in children. Environmental factors like overcrowding, hygiene, poverty, malnutrition etc. have been implicated to predispose to pyoderma, especially in children. **OBJECTIVES:** 1.To evaluate the epidemiological spectrum of pyoderma in children,2.To assess the role of predisposing factors 3.To determine the clinical profile of the cases and 4. To isolate the causative organism. **MATERIALS AND METHODS:** All new cases of primary pyoderma in children aged 0-12 yrs presenting to the outpatient department of Dermatology and STD, Gauhati Medical College and Hospital, Guwahati from August 2005 to July 2006 were taken up for this study. A detailed history was taken and clinical examination done with specific assessment of predisposing factors as per as standard proforma. **RESULTS:** A total of 160 cases were included. The incidence of primary pyoderma was 1.05% with maximum cases in July. Most common clinical type of primary pyoderma was bullous impetigo (29.4%) with face being the most common clinical site involved. Maximum number of bacterial isolates were Staphylococcous aureus (119), followed by Group A Streptococcus (19). Primary pyoderma was found more in girls, in preschool age group, among malnourished children living in overcrowded conditions with poor personal hygiene and among the lower socio economic class.

Key Words: Primary Pyoderma, Children, Predisposing factors, Bacterial isolate.

INTRODUCTION

Pyoderma is defined as any purulent skin disease and represents infections in the epidermis and dermis (eg. impetigo contagiosa, bullous impetigo, ecthyma, erysipelas, cellulitis, etc.) or in hair follicles (eg. folliculitis, furuculosis etc.). The majority of these skin infections are caused by Staphylococcus aureus (S. aureus) and Group A Streptococcus (GAS).

S. aureus pyodermas occur in individuals who are nasal cariers of the organisms, which, when translocated into the skin, is able to gain access via small breaks in the cutaneous integrity and cause superficial infections.[14] As many as 84% of healthy individuals have occasional carriage of S. aureus in their anterior nares.[15] GAS pyodermas occur following colonization of the skin either from the skin of another individual colonized with GAS or, less likely, from patients own nasopharynx.[14] So, nasal or skin carriage of S. aureus and/or GAS in children and their care givers may predispose them to pyodermas and at times, recurrent disease. Pyoderma is important not only because of its local effects as a skin infection, but more importantly

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because the primary pathogen underlying skin infection may be GAS. GAS infections of the skin are believed to be an important factor in acute post-streptococcal glomerulonephritis (APSGN) and acute rheumatic fever (ARF). [1,2] A variety of precipitating factors like hot humid climate, poverty, overcrowded living condition, malnutrition, poor hygiene have always been implicated in the development of pyoderma.

This study was an attempt to understand the epidemiological spectrum of pyoderma in children, especially to assess the role of the above mentioned environmental factors as predisposing factors, to determine the clinical profile of the cases and isolate the causative organism.

MATERIAL AND METHODS

TYPE OF STUDY: Hospital based cross sectional study. PLACE OF STUDY: Outpatient department of Dermatology and STD, Gauhati Medical College and Hospital, Guwahati. DURATION OF STUDY: One year. (August 2005 to July 2006). AGE GROUP: 0-12 years. STUDY ELIGIBILITY CRITERIA- Inclusion criteria: Patients having typical morphological lesions of primary pyoderma; informed consent from parents/guardians. Exclusion criteria: Children suffering from secondary bacterial infection over pre–existing dermatoses, children who had received prior topical or systemic treatment for the presenting skin lesions; cases whose parents refused consent.

METHODOLOGY: A detailed history was taken as per a standard proforma. A specific enquiry was made into the socioeconomic status, level of personal hygiene, overcrowded living condition as according to WHO guidelines,[3] seasonal variation and past history of similar skin problem or any family history of similar illness. Personal hygiene was assessed by taking a history of daily bathing, routine handwashing and toilet; care of nails, feet and teeth, personal appearance and clean clothing.

General physical examination with special emphasis to detect anemia, malnutrition and lymph node involvement was done along with systemic examination. The nutritional status was assessed by height and weight for age or weight for height, arm circumference and clinical signs.[4]

Cutaneous examination consisted of examining the morphology of the lesions, their distribution, and associated discharge, crusting or scaling. Routine examination of blood, urine and stool was done in all cases. Gram's stain and pus culture in Blood agar and Mac Conkey's Agar was done to isolate the causative organism.

RESULTS

The incidence of primary pyoderma among children aged 0 – 12 years was 1.05% . Maximum cases were seen in the month of July (35), followed by August (26) . Maximum patients (52%) belonged to the preschool age group (table 1) while girls constituted 52% of cases (table 1).

Table 1 : Distribution of cases by age and sex

AGE GROUP	MALE (%)	FEMALE (%)	TOTAL (%)
Neonate (0 – 28 days)	5 (3%)	1 (1%)	6 (4%)
Infant (28 days – 1 year)	5 (3%)	18 (10%)	23 (13%)
Preschool (1 – 5 years)	48 (30%)	31 (22%)	79 (52%)
School (5 – 12 years)	19 (12%)	33 (19%)	52 (31%)
TOTAL	77 (48%)	83 (52%)	160 (100%)

One hundred and twenty cases (75%) were from urban areas and maximum cases (63%) belonged to the lower socio-economic class (table 2). History of overcrowding was present in 53% patients while 52% of cases had poor levels of personal

hygiene (table 3). Almost half of the patients (46%), had poor nutritional status (table 3).

Table 2 : Distribution of cases by socioeconomic status

SOCIOECONOMIC GROUP	NUMBER	PERCENTAGE
Lower class	101	63%
Middle class	59	37%
Upper class	0	0%

Table 3: Distribution of cases by personal hygiene, malnutrition and overcrowding

	PRESENT (%)	ABSENT (%)
POOR PERSONAL HYGIENE	77 (48%)	83 (52%)
MALNUTRITION	86 (54%)	74 (46%)
VERCROWDING	85 (53%)	75 (47%)

Twenty two children (14%), had a positive past history of similar illness. Five cases gave concurrent history of periporitis and 6 cases gave concurrent history of impetigo in siblings. Maximum lesions were in the face followed by lower limb. Most common clinical type of primary pyoderma was bullous impetigo (29.4%). Impetigo contagiosa, bullous impetigo, periporitis, folliculitis and furunculosis all were common in the pre-school age group while majority of ecthyma were in the school going age group (table 4). Maximum number of bacterial isolates were S.aureus (119), followed by GAS (19). S. aureus was the most common bacterial isolate in bullous impetigo, impetigo contagiosa, periporitis, furunculosis and folliculitis. GAS was more commonly isolated from lesions of ecthyma. Out of the 3 cases of cellulitis, GAS was found in two cases and Pseudomonas aeroginosa was isolated in the third (table 5).

Table 4: Correlation between age group and clinical type of primary pyoderma

CLINICAL TYPE	AGE GROUP				TOTAL
	NEONATE (0 – 28 days)	**INFANT** (28 days-1 year)	**PRESCHOOL** (1 – 5) year	**SCHOOL** (5 – 12) year	
BULLOUS IMPETIGO	5	8	26	8	47(29.4%)
PERIPORITIS	0	7	16	10	33(20.6%)
FURUNCULOSIS	1	3	11	10	25(15.6%)
IMPETIGO CONTAGIOSA	0	3	12	6	21(13.1%)
FOLLICULITIS	0	1	11	6	18(11.3%)
ECTHYMA	0		3	9	12(7.5%)
CELLULITIS	0	1	0	2	3(1.9%)
ACUTE PARONYCHIA	0	0	0	1	1(0.6%)
TOTAL	6	23	79	52	160(100%)

Table 5: Correlation between clinical type of primary pyoderma and organisms isolated

CLINICAL TYPE	**TOTAL**	**STAPH. AUREUS**	**B.HEMOLYTIC STREP.**	**STAPH. + STREPT.**	**CONS**	**OTHERS**
BULLOUS IMPETIGO	47	39	2	6		
PERIPORITIS	33	24	4	2	3	
FURUNCULOSIS	25	22		2		NO GROWTH = 1
FOLLICULITIS	18	14	1	2	1	
IMPETIGO CONTAGIOSA	21	15	2	4		
ECTHYMA	12	4	8			
CELLULITIS	3		2			PSEUDOMONAS= 1
ACUTE PARONYCHIA	1		1			
TOTAL		119	19	16	4	2

DISCUSSION

Pyodermas in children constitute a sizeable proportion of cases in the dermatologic clinics worldwide. Incidences of bacterial infections reported by various workers in India vary from 8.5% [5] to 16.1%. [6]The relative low incidence of

primary pyoderma in the present study (1.05%) as compared to other studies may be due to the fact that majority of cases in the present study were from in and around Gauhati Medical College Hospital while very less children belonged to rural areas around Guwahati. Rural health services have improved in our state over the years and since pyoderma can be easily diagnosed and treated, very less children are brought to a tertiary care hospital like Gauhati Medical College Hospital. Also, due to the availability of many practicing dermatologists in and around Guwahati, parents often prefer to take their children to these dermatologists which is more convenient in consideration to their working hours.

In this study, most cases in the preschool age group (52%), followed by school going age group (31%). Various other studies reported 45% [7] to54.2% [8] cases, in the pre-school age group which correlates with our study. This study found boy to girl ratio of 1:1.08. Sex preponderance ratio is conflicting in various studies.[7,8]

Most cases of primary pyoderma come during the hot and humid season as conditions during this period, including micro trauma caused by biting insect, predispose the susceptible children to these infection.[9] Mathews MS et al[8] and Kakar N et al [10] observed maximum cases during June, July, August and September. A similar seasonal trend with maximum cases in July (35) and August (26) was noted in this study.

Seventy five percent of cases in this study belonged to the urban areas. Most of them came from slum areas in and around our hospital due to easy availability of free health care in the vicinity. The status of rural health care has improved in our state and since pyoderma can be easily managed in peripheral health centres, it can be assumed that very few rural cases came to our tertiary hospital.

Various factors like poverty, malnutrition, overcrowding and poor hygiene have been stated to be responsible for the higher incidence of pyoderma in the lower socio-economic strata.[12] Majority (63%) of caseson this study belonged to the lower socio-economic groups with poor personal hygiene in 52% cases. A history of overcrowding was elicited in 53% cases. Infectious diseases spread rapidly under condition of overcrowding. Children are said to be more affected.[13] Forty six percent of our cases were undernourished. Kakar N et al [10] found overcrowding in 87% cases and 82% of those children were undernourished.

Mathews MS et al noted that 45% of children had a past history of recurring pyoderma more in summer.[8]Twenty two (14%) of cases in this study gave history of recurrent periporitis, folliculitis, furunculosis and bullous impetigo. Taplin et al [16] and Dillon HC [17] stated that transmission of pyoderma readily occurs in household particularly between siblings. Family history of concomitant pyoderma varies from 21% to 27% cases. [7,8]. In this study, concomitant history of pyoderma in siblings was elicited in 5 cases of periporitis, 5 cases of bullous impetigo and 1 case of impetigo contagiosa.

Maximum cases in this study were suffering from impetigo (42.5%). Kar PK et al [18] also observed impetigo to be the commonest clinical type (47%) of pyoderma . In this study, more than one type of primary pyoderma was seen in 4 cases. There was 1 case each of bullous impetigo with periporitis and folliculitis, one case of impetigo contagiosa with folliculitis and another case of furunculosis with acute paronychia. Almost all our cases had involvement in multiple sites with commonest facial lesions (49) followed by legs (30), as was observed by Nagmoti JM et al [7], Mathwes MS et al [8], Kakar N et al [10]

S. aureus was the most frequent isolate in this study (74.3%), seconded by GAS. Previous studies have also shown similar preponderance of S. aureus among other bacterial isolates.[7,8,10,18] In this study, S. aureus was isolated in 79.4% cases of impetigo, 73% cases of periporitis, 88% cases of furunculosis and in 77.7% cases of folliculitis whereas GAS was isolated in 66.7% cases of ecthyma, similar to observations made by Mathews MS et al [8] and Kar PK et al.[18] GAS commonly causes cellulitis in children[19] while Pseudomonas aeruginosa can cause cellulitis particularly in the immunocompromised.[20] In this study, GAS was isolated in 2(66.7%) of cases of cellulitis while Pseudomonas aeroginosa was isolated in the third

case of cellulitis in a malnourished infant. Bacteria most often isolated from acute paronychia are S. aureus [21] which was seen in this study as well.

Contrary to the previously accepted theory that ARF follows GAS throat infection, recent evidence show that GAS strains obtained from pyoderma lesions may have the potential to cause ARF (either de novo or acquired by horizontal transfer of genetic material). [22] In New Zealand, where high incidence of rheumatic fever are found among in the Maori and Pacific Islanders, GAS isolates recovered from the throats of patients belonged largely to serotypes associated with skin infections rather than throat infection in that population.[23] GAS was the second most common bacterial isolate in our study which indicates that many of our cases were potential cases of ARF and APSGN, though we could not follow up the cases to see if indeed any of these serious complications developed in our patients following pyoderma.

CONCLUSION

Pyodermas cause significant morbidity in children and frequently cause much anxiety in parents. Environmental, socioeconomic and nutritional factors may have a compounding effect on development of pyoderma in children. However, futher studies are required to find out the statistical association between these factors and pyoderma. With the newly emerging concept that ARF can be caused by skin serotypes of GAS, all cases of pyoderma should be diligently treated in order to avoid such serious complications. This will also bring down the rates of APSGN.

People in slums, where most of the predisposing factors of pyoderma were commonly found, should be educated about the importance of hygiene, nutrition overcrowding to reduce pyoderma.

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ORIGINAL RESEARCH ARTICLE

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Prevalence of Chinese restaurant syndrome among medical students in Chennai

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ABSTRACT

Objectives: To measure the prevalence of Chinese restaurant syndrome among medical students and also to find the recipe-wise prevalence of CRS. **Materials & Methods:** A descriptive cross sectional study was conducted by using a self administered structured questionnaire with demographic information as the first part followed with dietary habits in the second part and the symptoms of CRS in the final part among 131 medical students in a private medical college at Chennai. **Results:** The Prevalence of CRS was 22.9%. We observed the prevalence of CRS was found to be high among the males (27.1%) than female. The prevalence of CRS was found to be significantly high among postgraduates than undergraduates (P=0.041). The home made 'Fish' recipe (with MSG) had 26.7% CRS and the Junk food with MSG taken from outside (Egg/Chicken/Mutton Puffs contributed 70.0% for CRS. **Conclusion:** The present study highlights high prevalence of CRS (22.9%) among medical students. In this study, it is also found some recipe with MSG above permissible limit triggered the characteristic CRS symptoms. Further research is required with larger sample size to confirm the association of Monosdium glutamate with CRS.

Keywords: Chinese restaurant syndrome, Monosodium Glutamate, Medical student

Introduction

Generally people are enjoying pleasant experience by eating fast food, junk food &Chinese food in the restaurant. There are four basic tastes - sweet, sour, salty, and bitter and there is also a fifth taste, called "umami". MSG has a long history of use in foods as a flavor enhancer[1-3].The flavor enhancing property of MSG was discovered by Dr. Kikunae Ikida[2, 4]. It is an important ingredient in Chinese food, junk food and fast food and is now used commercially worldwide in many types of foods.MSG is sold under the brand name Ajinomoto, Accent etc. Eating food seasoned with monosodium glutamate (MSG) stimulates the glutamate or "umami" receptors on our tongue, enhancing the savory flavor of this foods[5, 6]. A complex of symptoms such as numbness at the back of the neck, gradually radiating to both arms and the back, general weakness and palpitation after ingestion of a Chinese meal was first described in 1968 by Dr. Kwok who labeled as the "Chinese restaurant syndrome"(CRS).This syndrome consists of a characteristic triad of symptoms (facial pressure, chest pain, and a burning sensation or flushing), particularly of the head and upper trunk – following

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a Chinese food[2, 4,7-9]. MSG was suggested to trigger these symptoms[1]. The CRS symptoms will aggravate the pre-existing illness (Bronchial asthma, IHD etc.), Cardiac arrhythmias, extreme rise or drop in blood pressure, rapid heartbeat (tachycardia) and angina. Some studies linking MSG to vasoconstriction, even though stroke is on the rise in Asian countries - striking young adults now[5]. These symptoms occur within 15 to 30 minutes of eating foods with high concentrations of MSG. The symptoms usually go away without treatment in about 2 hours[1]. The recommended average daily intake of MSG according to Prevention of food adulteration act (PFA) is 0.3gm to 1 gm, but in a highly seasoned restaurant it is added as much as 5gm[1,3]. Because of fast food and junk food culture especially among student community is high , it is necessary to find the prevalence of Chinese restaurant syndrome among medical students and also to assess recipe wise prevalence of CRS using MSG at home and outside in this study.

Methods and materials

A descriptive cross-sectional study was conducted using a pre-tested structured questionnaire. The case definition of CRS has been clearly defined above. A detailed questionnaire was used to assess personal history, family history, diet history, dietary habits etc., among 131 medical students in a private medical college at Chennai. Additional questions were also included in the same questionnaire to assess the symptoms for CRS like tightness in the chest, burning sensation, palpitation, sweating etc.

Socio economic status was assessed by Standard of living index (SLI) which includes 11 items on housing details, basic amenities, ownership of land livestock and durable goods. The scoring ranges 0-67 classified as low, medium, and high[10]. Physical activity of woman was computed based on the International Physical Activity Questionnaire[11].

Sampling &Sample size

As the overall prevalence of CRS ranges from 0 to 50 %, hence assuming a prevalence of 50% with limit of accuracy of 20%, the minimum required sample size was worked out to be 115. Based on technical feasibility 131 students were selected by purposive sampling .The written informed consent was obtained from all participants. With approval of ethical committee, this study was conducted.

Statistical analysis:

The data was analyzed using SPSS 15.0, and the results are presented in descriptive statistics as frequency, percentage, mean, range etc and the inferential Statistics as Chi-Square at 5% level of Significance. The data within parenthesis represent percentages

Results:

The Demographic information of our participants is provided in Table 1. In 131 study participants 83 (63.4) were females and 48(36.6) males. Among them 17(20.5) females and 13 (27.1) males had CRS. The prevalence of CRS in this study which was one of the main objectives was estimated. It was around 22.9%.

Among 131 students 118 students were less than 25 years and 13students above 25 years of age .Twenty three out of 118 (19.5) and Seven out of 13(53.8) had CRS with a statistically significant difference of χ^2 =7 .828 (P=0.005). Around 108 students were from nuclear family, 15 students from joint family and 8 of them from others. It was observed twenty four out of 108(22.2), three out of 15(20.0) and three out of 8 (37.5) had CRS. It was observed in this study 87 students out of 131 were Hindus, 31 Christians and 13 Muslims. Nineteen out of 87(21.8) Hindus, Eight out of 31(25.8) Christians and Three out of 13(23.1) Muslims had CRS. Among 131 students ,114 were unmarried and 17 married .Twenty four out of 114 students (21.1) and six out of 17 (35.3) had CRS.

In this study 108 undergraduate and 23 post graduate students were there. A statistically significant difference observed among twenty one out of 108 (19.4) undergraduates and nine out of 23(39.1) postgraduates had CRS with a statistically significant difference of χ^2 =4 .162 (P=0.041). Regarding standard of living index, 76 students were from medium and 54 of them from high standard of living index. Eighteen out of 76(23) and Eleven out of 54(20.4) had CRS. Nineteen out of 70 (27.1) with

Table 1: Demographic information of the participants

S. No	Parameter	N (%)
1	**1. Age (years)**	
	< 25	118(90.1)
	≥ 25	13(9.9)
2	**2. Sex**	
	Male	48 (36.6)
	Female	83 (63.4)
3	**3. Family Type**	
	Nuclear family	108(82.4)
	Joint Family	15(11.5)
	Others	8(6.1)
4	**4.Religion**	
	Hindu	87(66.4)
	Christian	31(23.7)
	Muslim	13(9.9)
5	**5. Marital Status**	
	Unmarried	114(87.0)
	Married	17(13.0)
6	**6. Education**	
	Undergraduate	108(82.4)
	Post graduate	23(17.6)
7	**7.Standard of Living Index**	
	Low	0
	Medium	77(58.8)
	High	54(41.2)
8	8.**Family History of DM**	
	Yes	70(53.4)
	No	61(46.6)
9	**9. Family history of HT**	
	Yes	63(48.1)
	No	68(51.9)
10	**10. Family history of DM & HT**	
	Yes	44(33.6)
	No	87(66.4)
11	**11. Physical Activity**	
	Inactive	0(0)
	Minimally Active	117(89.3)
	HEPA active	14(10.7)
12	**12.Known HT**	
	Yes	5(3.8)
	No	126(96.2)
13	**13.Known DM**	
	Yes	4(3.1)
	No	127(96.9)
14	**14.Health problems**	
	Yes	10(7.6)
	No	121(92.4)

family history of diabetes and eleven out of 61 students (18.0) without family history of Diabetes had CRS. Eighteen out of 63(28.6) with family history of HT and twelve out of 68 students (17.6) without family history of Hypertension had CRS. Thirteen out of 44 students (29.5) with family history of Diabetes with hypertension and seventeen out of 87 students (19.5) without family history of Diabetes with hypertension had CRS. Twenty seven out of 117 students (23.1) among minimally active and three out of 14 students (21.4) among HEPA active had CRS.

Two out of 5 (40.0) known hypertensive and twenty eight out of 126 (22.2) of non-hypertensive had CRS. Thirty out of 127(23.6) who were all non-diabetic had CRS. Four out of 10(40.0) with health problems like asthma, heart related problems and twenty six out of 121 (21.5) without any health problems had CRS. Two out of 5 students (40.0) of them who do smoke and drink alcohol before having food had CRS. Twenty eight out of 30 students (93.3) who had CRS were on mixed diet as well, these people consumed food both at home and outside. Only five out of 16 (31.3) who did have the habit of adding MSG at home had CRS.

Table 2: Chinese restaurant syndrome for home made recipe with MSG

S.no.	Home made recipe	Frequency (N=30)	Prevalence (%)
1	Fish	8	26.7
2	Fried rice	4	13.3
3	Sambar, Curd Rice, Veg Curry, Biriyani, Rasam, Egg, Mutton/Turkey/Pork/ Beef Biriyani	3	10.0
4	Potato Fry, Mushroom, Dhal,Noodles, Icecream, Samosa, Non-Veg Curry, Chutneys,Vadai	2	6.7
5	Pulao, Sandwiches,Crab,Kit chadi, Cutlet, Pizza	1	3.3

The second objective of this study was the recipe-wise prevalence of CRS. Table 2, presents the Prevalence of CRS for the home made food in which MSG was used. The recipe 'Fish' contributed to a maximum prevalence of 8(26.7) followed by 'Fried Rice' in 4(13.3) and any one or in combinati on sambar, Curd Rice, Vegetarian curry, Biriyani, Rasam, Egg, (Mutton/Turkey/Pork/Beef) biriyani among 3 (10.0) students.

Table 3 presents the prevalence of CRS for the recipe with MSG taken outside home in the descending order. Among 30 Cases of CRS, 21(70.0) of them had taken egg/chicken/mutton puffs contributing to the highest prevalence. Chicken-65 was the second highest prevalent recipe with 20(66.7) followed by chicken/Beef/Pork/Mutton biriyani with 19(63.3). Omelet and fried rice were contributing above 50% of prevalence each.

Table 3:Chinese restaurant syndrome for recipe with MSG taken outside home

Recipe	Frequency (N=30)	Prevalence %
1.Eggpuff/chicken puff/mutton puffs	21	70.0
2. Chicken – 65	20	66.7
3. Chicken/beef/ pork/mutton Biriyani	19	63.3
4. Samosa	18	60.0
5. Omelet	17	56.7
6. Fried Rice	16	53.3
7.Cutlet,Tandoori Chicken,Meals, Soups	14	46.7
8.Fried Crispy chicken	13	43.3
9.Pizza,Bread sandwiches, Noodles	11	36.7
10.Schezwann chicken noodles	10	33.3
11.Thalapakkatu Biriyani	9	30.0
12.Paneer mutter masala	7	23.3
13.Sandwiches,Idiyappam,Uthappam, Egg noodles , Egg roll	6	20.0
14.Chicken roll, Chettinad chicken curry	5	16.7
15.Veg Roll	4	13.3
16.Pulao,Mutton Balls	3	10.0

Table 4 presents the proportion of students who had symptoms within 2-3 hours after consumption of food with MSG. The major symptoms observed among 37(28.2) were gastritis & bloating followed by sweating among 22(16.8), Dyspepsia for 19(14.5) and 15(11.5) of them experienced diarrhoea, Light headedness & headache.

Table 4: Symptoms within 2-3 hours of consumption of MSG food

Symptoms	Frequency (N=131)	Proportion of students (%)
1.Gastritis, Bloating	37	28.2
2.Sweating	22	16.8
3.Dyspepsia	19	14.5
4.Diarrhoea, Light headedness, Headache	15	11.5
5.Nausea	14	10.7
6. Vomiting ,Dizziness Palpitation	9	6.9
7. Flushing,Decreased air entry into the lungs, Numbness or burning in or around Mouth, Constipation.	6	4.6
8.Chest Pain, Sense of facial pressure	5	3.8
9. Burning or tingling sensation all over the body	4	3.1
10. wheezing , Tightness of Jaw	1	0.8

Discussion:

The prevalence of CRS among medical students observed in this study was 22.9% with 95% CI of 15.7% to 30.1%. Reif-Lehrer et al found in his study among CRS-sensitive people was as high as 25%[1]. Kerr et al in his medical school community study assessed for "possible CRS" as 31%[12]. Another questionnaire survey on general adult population showed 43% associated unpleasant symptoms with specific foods and eating environments; however, only 1 to 2 per cent reported symptoms characteristic of the CRS[13].

The Increased proportion (63.4%) of female participants in our study shows their curiosity to know more about CRS compared to male. However only 20.5% had CRS compared to 27.1% males. The CRS symptom was high (53.8%) among students above 25 years of age. It was statistically significant. The married people had more prevalence (35.3%) than unmarried people. We observed a statistically

high prevalence (39.1%) among post graduates compared with undergraduates. We did not observe much difference of CRS between students from medium and high (SLI).A 10% difference of CRS was observed among students with and without family history of hypertension and diabetes. The physical activity of the students did not show any difference in CRS.

The present study highlighted a high prevalence of CRS among Students with health problems. Therefore they should be cautious about ill effect of MSG. It was observed among 30 students with CRS, 28 of them had mixed diet from home and outside. Only 16 students out of 131 had the habit of adding MSG at home.

The observed prevalence of this study had further motivated to look into the contributing recipe among those 30 students who experienced CRS. From the home made food with MSG, the fish curry was contributing high prevalence of 26.7%, followed by fried rice of 13.3%, and 10% from other recipe in their diet. An another interesting finding was observed among students having junk food (Mutton, Egg, &Chicken puff) outside in this study showed high prevalence of 70% followed by Samosa 60%,Fried food like chicken-65with 66.7%, Omlette& fried rice with 53%and Non-veg Briyani 63.3%.

The CRS symptoms were observed among 30 students in this study within 2-3 hrs. The similar observation was cited by kwok et all[14]. The frequent symptoms experienced were gastritis, bloating with 28.2%, sweating 16.8%, dyspepsia 14.5% followed by lightheadedness, diarrhea, nausea and headache around 11%.The symptoms slowly unnoticed without treatment in about 2 hrs.

Conclusion:

MSG has been used mainly in the food industry to enhance the food flavor, due to its special taste. Though these symptoms are unpleasant, however the symptoms are neither persistent nor serious. More labelling of food containing MSG are to be strictly adhered under PFA act. As the student community is so familiar with fast food restaurant, crazy for Pizza, Chinese food etc., which comes under the purview of Public health act, PFA act. The local food health authority has to monitor the permissible limit of Ajinomotto (MSG) under the prevention of food adulteration.

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REVIEW ARTICLE

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Caesarean Section; A new disease.

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A caesarean section is a surgical procedure in which incisions are made through a woman's abdomen and uterus to deliver her baby. Caesarean sections, also called c-sections or caesarean deliveries, are performed whenever abnormal conditions complicate labor and vaginal delivery, threatening the life or health of the mother or the baby.

Caesarean section is one of the most commonly performed major abdominal operations in women in both affluent and low-income countries. Global estimates indicate a caesarean section rate of 15% worldwide, ranging from 3.5% in Africa to 29.2% in Latin America and the Caribbean . Studies fromtheUnited States of America , the United Kingdom and China report rates between 20% and 25%.Before 1970, caesarean section rates in most middle- to high-income countries ranged between 3% and 5%.

There are many possible ways of performing a caesarean section. A study of obstetricians in the UK found a wide variation in techniques. For elective surgery more than 80% used the Pfannenstiel abdominal entry and double-layer uterine closure. For emergency surgery,more used the Joel-Cohen abdominal entry. A North American survey of Obstetric and Gynaecologic residents found that 77% use a Pfannenstiel incision for urgent or emergency caesarean sections, 55% use single-layer closure of the uterine incision, 37%use double-layer closure, while 11% use single-layer closure only in women undergoing concomitant sterilization.

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The techniques used may depend on many factors including the clinical situation and the preferences of the operator. Caesarean section is often performed as an emergency procedure after hours when senior staff may not be immediately available. It is important that all those who perform this operation use the most effective and safe techniques, as determined by a systematic review of randomised trials.[1]

India is also not excluded from this trend. Though the estimates of CS rates in India is7.1 per cent in the year 1998 and there is 16.7 per cent change in the rates annually in India. The high rate of caesarean section does not always suggest that there is a good health care utilization; rather it may suggest malpractice of the technique, which indirectly relates to the unnecessary maternal morbidity. DHS data showed that in developing countries, one in eight births were delivered by caesarean section, which accumulated to nearly about 14 million surgeries. It is also found that the urban rates are three times higher than the rural rates. High percent of births by caesarean section in the private sector is alarming and could implicate private sector care as the main contributing factor behind the high population caesarean section rates.[2]

These C-sections may be elective or emergency procedures (usually during labour). Common reasons for carrying out caesarean section include:

1. Failure to progress in labour
2. Suspected fetal distress
3. Previous uterine surgery
4. Very low birthweight
5. Fatal malpresentation (e.g. breech, transverse lie)
6. Placenta praevia
7. Placental abruption
8. Multiple pregnancy
9. Suspected fetopelvic disproportion
10. Cord prolapse

11. Severe pre-eclampsia, HELLP syndrome or eclampsia
12. Maternal infections (e.g. HIV, active Herpes simplex)
13. Mother's choice

Preoperative preparation includes clinical assessment; blood tests such as haemoglobin, Rhesus group and antibody screen, testing for syphilis and HIV, and blood compatibility testing in high risk cases; anaesthetic assessment; oral intake restriction when caesarean section is anticipated; antibiotic prophylaxis; and antiretroviral prophylaxis for HIV-positive women. Preparedness includes the ability to arrange emergency caesareansections within a limited time (e.g. 30 minutes). Regional analgesia (spinal and epidural) has largely replaced general anaesthesia in many services.

The skin incision may be vertical (midline or paramedian) or transverse lower abdominal (Pfannenstiel, Joel-Cohen, Pelosi, Maylard, Mouchel or Cherney). For very obese women, a transverseincision above the umbilicus has been suggested, but not shown to decrease morbidity.

Postoperative care includes regular checking of vital signs and urine output, and for signs of uterine relaxation and haemorrhage. Restricting oral intake has not been found to be of benefit. Analgesia, Early mobility, skin-to skin contact with the baby and breastfeeding are encouraged.

C-sections are relatively safe, but they are major surgery. So, by definition, they are riskier than vaginal deliveries. Apart from regular complications of surgery, spostpartum endomyometritis, ruptured uterus, ruptured uterus, neonatal respiratory distress may occur.

Unnecessary caesarean sections are those which are done without there being a medical indication. Consequences of unnecessary caesarean sections are of two types: (i) iatrogenic maternal and neonatal morbidity and mortality; and (ii) increased costs for the health system and for the household in settings where there is no social protection. The latter is of particular importance in middle- and low-income countries where catastrophic expenditures can occur following a caesarean section.[3]

There is worldwide debate about the appropriateness of caesarean sections performed without medical indications. Caesarean sections performed appropriately and following an appropriate medical indication are potentially life-saving procedures. In this context, the provision of timely and safe caesarean sections in high maternal mortality countries is a major challenge faced by local health systems. At the same time, in many settings, women are increasingly undergoing caesarean sections without any medical indication which may contribute to the worldwide secular trend towards higher rates of caesarean sections. Over the last two decades, there has been a debate about the appropriateness of caesarean sections performed due to maternal request or following the indication of health care professionals but without a clear medical reason for this surgical procedure. Safety, costs, women's rights and wishes, maternal and professional satisfaction have been elements of this debate. ne factor that certainly favoured the liberalization of caesarean section in clinical practice has been the perception of caesarean section as a generally safe procedure, despite the increased costs associated with it. However, the assessment of the intrinsic risk of caesarean sections is complicated by substantial limitations. In this context, the World Health Organization Global Survey on Maternal and Perinatal Health (WHOGS) provides evidence on the relationship between mode of delivery and maternal and perinatal outcomes. The WHOGS is a large cross-sectional study conducted in 24 countries around the world between 2004 and 2008. The objectives were to assess the risks and benefits associated with caesarean delivery compared with vaginal delivery. Women undergoing caesarean delivery had an increased risk of severe maternal morbidity compared with women undergoing vaginal delivery (odds ratio 2.0 (95% confidence interval 1.6 to 2.5) for intrapartum caesarean and 2.3 (1.7 to 3.1) for elective caesarean). The risk of antibiotic treatment after delivery for women having either type of caesarean was five times that of women having vaginal deliveries. With cephalic presentation, there was a trend towards a reduced odds ratio for fetal death with elective caesarean,

after adjustment for possible confounding variables and gestational age (0.7, 0.4 to 1.0). With breech presentation, caesarean delivery had a large protective effect for fetal death.[4] Caesarean sections were associated with an intrinsic risk for short-term severe maternal outcomes. Overall, this risk was higher in African countries than in Asia or Latin America.[5]

Second opinion has been proposed as an intervention to decrease CS rates. Second opinion refers to a doctor needing the agreement of another usually more senior second opinion before a decision for CS can be made[6]. Caesarean sections should be performed when a clear benefit is anticipated, a benefit that might compensate for the higher costs and additional risks in the context of the specific setting where the operation is taking place. This additional risk should be considered by health care professionals and patients when deciding the mode of delivery. In the end, the main challenge related to caesarean sections is making the best use of this procedure, which is certainly an important resource for the reduction of maternal mortality, but of which overuse may be associated with an increased risk of severe maternal outcomes.

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Specialty Medical Blogs: A tool to disseminate Health Information

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Abstract

Medical blogging has the potential to convey a provider's/ physician's sense of caring and knowledge about medicine. Medical blogs post contains discussion about clinical cases, information about diseases, treatments, images & videos relating to clinical trials, news, and information on current research or trials regarding a particular treatment or disease. The author highlights the evaluation of blogs; features and type of blogs are discussed. The article describes blogs under each medical specialty are discussed.

Key words: weblogs, Medical blogs, health information, health information literacy.

INTRODUCTION

The term ‘‘blog,’’ short for ‘‘Weblog,’’ was coined in 1997 to describe an online journal with dated entries and a mix of links, commentary and usually, reader responses[1].*Blogs* are alternatively called *web logs* or *weblogs*. Blogger is a person who maintains a blog. Blogs are the major contributors to the large increase of new websites created each year. Radzikowska, defined as “a web application that displays serial entries with date and time stamps (Thorne, S.L. and Payne, J.S. 2005)[2]”. Blogs often include a comments feature which allows the reader to engage in discussion with the blog's writer and other readers by directly attaching a posting to the daily or topical entry[3]. A medical blog was defined as a blog whose main topic was related to health or medicine. Medical Blogs have emerged as an important a growing part of the public face of the health profession.[4] Medical professionals and physicians represent the majority of the medical blogging community. They use blogs to share clinical knowledge and professional experiences[5].

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Medical blogs post contains discussion about clinical cases and images, information about diseases, treatments, news, and information on current research or trial regarding a particular treatment or disease[6]. This phenomenal growth may be due to the dynamic nature of blogs. While some blogs are updated weekly, many more are updated hourly (or even more frequently), with postings in reverse chronological order.

Medical blogs also give voice to clinicians whose points of view might never otherwise reach an audience. Medical blogs differ from traditional medical media because any person with Internet access can author a blog. In contrast, medical blogs are public documents written in a diary style typically used for private thoughts. Some of the medical blogs censor their thoughts and comments less than, we expect they would in traditional public settings. Medical blogging is a way for the medical professional to show their caring and knowledge about medicine. Medical blogs or Medblogs are important as a source to learn about diseases, treatments and prevention.

Medblogs derive their credibility from their relationship to the health professions, and therefore reflect on these fields. Medical blogs provide a new route for communicating substantial, evidence-based

health information to the public. Many blogs emphasize positive elements of the practice of health care.

TYPES OF BLOGS

A blog comprising videos is called a vlog, one comprising links is called a linklog, a site containing a portfolio of sketches is called a sketchblog or one comprising photos is called a photoblog), device they use (a blog written by a mobile device like a mobile phone or PDA could be called a moblog) and genre (art, travel, or music blog).

FEATURES OF BLOG

A blog is a small web site whose home page contains time-stamped user inputs called posts, usually in text format. Posts are usually listed on the blog in reverse chronological order with the latest at the top of the home page. Blogs also share many other features[7]A blog is a small Web site whose home page contains time-stamped user inputs called posts, usually in text format. Posts are usually listed on the blog in reverse chronological order with the latest at the top of the home page. Blogs also share many other features such as old posts often are archived periodically into separate web pages with links on the home page. Readers of a blog are able to comment on a specific post through a Web interface. All comments are accessible to other blog readers as well. Bloggers (people who write the blog) usually embed links to the original online information source about which they write the post. Sometimes other multimedia files—images, audio clips, or video clips—are also embedded in the posts. If a blogger writes a post regarding a post on another blog, an online Track Back mechanism can be used to notify the original blogger about the reference. Readers of the original blog, therefore, can follow the track back to read the concomitant blog[7]. Blogs can provide first person narratives from different communities such as patients and their lay cares who otherwise may be infrequently through some conventional methods.[8]

EVALUATION OF BLOGS

The evaluation criteria of blogs comprises of accuracy of content, bias, credibility of the sources, authority of the writers, attention to grammar and writing acumen, currency and updating of material, tone of contributors, and whether others link to the blog. Blogs can be considered a very useful and good source of information to find information about the trends and debates in specific field, although the evaluation of source should not be ignored. Scientific studies of medical blogs and their creators have so far been very scarce, although there is a great need for such research to help in the better utilization of blogs for the enhancement of teaching and learning productivity, advancements in scientific research, and support for continuing medical and patient education.[9]

DISADVANTAGES OF BLOGS

1. Bloggers sometime have a tendency to take themselves seriously, or to misinterpret, or to rush to judgment.
2. Some people have been fired from their jobs because of their weblogs.
3. Some blog writers conceal their name and writing the blogs with anonymous names.
4. Some people may lose friends, make enemies, and get into huge fights (mostly war of words, but that nevertheless have impact on both on and offline life).[10]

SPECIALISATION OF MEDICAL BLOGS

A search for blogs in specific field shows that there are many blogs on the Web offering news and trends in the specific fields of human knowledge.

Specialization of the blogs plays a crucial role in timeliness, perfection, and accuracy of blogs. Specialization saves the time of the users while searching through massive amount of uncontrolled information if every field is mixed up. Specialization is a best way to optimize the potential use of blogs if they are provided through non-conventional library

services and information delivery. Information therapy, patient education, patient guides in hospitalization, patient discharge information, as well as doctors time schedule, doctors list based on specialty, insurance and information about diseases caused by climate changes, common diseases, prevention of common diseases, seasonal diseases, can be presented and shared through medical hospital/library blogs. Some doctors are in specialties which help patients, even though patients rarely meet them in person. For example, surgeon will use an assisting anesthesiologist who you may only meet a few minutes before patients are rolled into the operating room. A radiologist may analyze your mammogram, X-ray, CT scan, or MRI, and send a report to your personal physician, all without ever meeting the patient. A pathologist performs a similar function, by analyzing tissues and specimens that have been removed by biopsy or surgery and testing them to see if they are diseased. The pathologist sends the results to your attending physician. Some patients may also choose to use physicians who are certified in specific specialties, such as sports medicine doctors, who can help the patients deal with specific issues they may be having.[11]Medical professionals perform a valuable service in diagnosing and/or treating illness, for those who specialize in certain practices, it's important to maintain an online presence so prospective patients can find you an arrange appointments. In order to keep visibility high, attaching a blog to your site should be at the top of your to-do. The more you blog about your practice and expertise, the more solidified your practice becomes among Internet users seeking treatment. Medical blogging has the potential to convey a provider's/ physician's sense of caring and knowledge about medicine. It is used as a tool to improve communication to the patients, medical blogging could be part of a plan to make you known as the most famous and friendly doctor in the community.

More will continue in forthcoming issue……


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