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**Faculty of Deptt. of**  
**Community Medicine**  
G.S.V.M. Medical College  
KANPUR

## EDITORIAL

### AWARENESS : THE MAJOR PREVENTIVE TOOLS AGAINST AIDS

AIDS might have started as a bush fire but is now spreading across the world like a forest conflagration that we are finding difficult to extinguish. In a matter of decades the HIV has reached a high level with about 40.3 million affected globally. The year 2005 alone saw an addition of 5 millions with over all estimated adult population below one percent. According WHO and UNAIDS estimates, despite improved access to anti-Retroviral treatment and the care in many region of the world, the acquired immune deficiency syndrome (AIDS) claimed 3.1 million lives in the year 2005, more than a million of them are children.

The AIDS epidemic in India is marked by heterogeneity. The epidemic shift from high risk population to bridge population (Clients of Sex workers, STD patients and partners of drug Users) and then to general population. There is timelag of 2-3 years between the shift from one group to another. Currently, the estimated HIV INFECTION RATE among adult population between 15-19 years of age is 0.7%

Although the levels of prevalence appear to have stabilised in TAMIL NADU, Andhra Pradesh, Karnataka and Maharashtra, it is still increasing among high risk population groups in several other states. This is on account of poor awareness, unsafe behaviour and lackness in health care system.

The WHO/UNAID reported features of the AIDS epidemics in few region of the country. The prevalence of HIV observed over one (1) percent in pregnant women in favour of the industrialised western and southern states, as Maharashtra, Karnataka, Andhra Pradesh and

Tamil Nadu along with Manipur and Nagaland, transmitted mainly through unprotected Sex in the South and Maharashtra. In the Northern States transmission reported through the use of infected needles used during drugs induction. The prevalence of the injecting drug users in Manipur State increased rapidly from 2-3 percent in 1989 to over 50 percent in 1991 and has been estimated to be above 75% at present. They are primarily young males, using drugs for five years. A study among women also done in Manipur in 1997 revealed a high HIV prevalence of 57% percent among drug Users compared to 20 percent among non-drug users.

The commercial Sex is important causative factors in the spread of HIV, is certainly a matter of worry for those related of the national AIDS control programme. Commercial sex (along with drug abuse in Nagaland and Tamil Nadu) serve as a Major driver of the epidemic in most parts of the Country. Surveillance in 2003 found that 14 percent of commercial Sex workers in Karnataka and 19 percent in Andhra Pradesh were infected with the HIV.

A recent estimates indicate that 26 percent of Sex workers in Mysore (Karnataka) were HIV positive is not surprising given the fact, that just 14% of the women used condoms with clients and 91 percent never used Condoms with their regular partners.

In Kalkatas Sonagachhi red light Area has curbed the spread of HIV, the use of protective measures by the Sex Workers. The

study reported the condom Use of 85% at Sonagachhi reduced the prevalence of HIV infection below 4 percent. But in contrast in Mumbai (Maharashtra) the use of Condom was not effective. The National AIDS control Organisation data suggest that in Mumbai the HIV prevalence rate among sex workers could be as high as 52 percent.

During the beginning of the African epidemic, Uganda faced a severe crisis in the almost 30 percent of the adult Population infected with HIV/AIDS in 1980 and 1990, Uganda responded through a mix of rationalist and creative policy approaches and after a decade of intervention a decline in HIV prevalence was noted. Similarly with limited resources the national programme for preventing mother to child HIV transmission in Thailand was successful due to focusing attention on counselling, communication, training and monitoring in the programme and behavioural intervention comprising of consistent condom use, reducing alcohol consumption and brothel patronage improving sexual negotiation and condom skills among conscripts in the Royal Thai Army for 15 months substantially reduced the risk of incident STI and HIV.

The undermining factor HIV stigma and the resulting actual or feared discrimination have proven to be perhaps the most difficult obstacles to effective HIV prevention, Stigma and discrimination simultaneously reduce the effectiveness of efforts to control the global epidemic and create an ideal climate for its further growth.

HIV Stigma stems from fear as well as association of AIDS with Sex, disease and death

and with behaviours that may be illegal, forbidden or taboo such as pre and extramarital Sex, Sex Work, Sex between men and injecting drug use, Stigma also stems from lack of awareness and knowledge about HIV. Such Stigma can fuel the urge to make scapegoats and blame and punish, certain people and groups. Fear of Stigma can also dissuade people living with HIV from playing a vital front role in HIV prevention. Stigma prompts people to act in ways that directly harm others. Stigma prevents many people from negotiating safer sex, taking on HIV test, disclosing their status to their partners or seeking treatment even when prevention services are made available.

A large number of women in India are affected with no risk behaviour of their own. Community gender norms have a sanction for domestic violence that interferes while adopting and negotiating HIV preventive behaviour by women that may increase their risk of HIV acquisition. It is therefore important to be sensitive about the gender related issues while designing strategies and intervention for AIDS prevention. Young women are often detected as HIV infected during their first pregnancy, majority of them within the first two years of marriage. Due to social and family pressures girls agree to early and timely marriages, because delayed wedding among girls carries social stigma and young males often aware of their risk behaviour and possibly also of their HIV related counselling services are still not readily available. Systematic efforts to eliminate stigma should be continued through awareness and establishment of voluntary counselling and testing (VCT) centers at district level are expected to play a major role in this direction.

The National AIDS control Programme (NACP) I and II have not taken as any where. The NACP 1 was launched in 1992, a control programme founded by the world Bank. The Programme ended in 1997, NACP II began in 1999 is in the last leg, and NACP III would be lunched in June 2006 and would focus on the rural areas where the incidence of HIV reported about 59 percent against 41 percent in the urban area. In NACP III would be more centralised and district level programmes would be organised to strenghten HIV prevention, control and care activities.

Though like many other developing countries, the main barrier to effective control of AIDS are reported to be insufficient resourcess, illiteracy and Stigma, there is a need to assess if the prevention and control efforts are directed to the right populations and if appropriate programmes are in place are working optimally. AIDS is less of Medical problem but more of Social cultural, and developmental problem. Short term strategies like aggressive case detection and mangement of STD's, condom promotion, blood safety and drug deaddiction programmes might yield quick results. However they should be effectively complemented by multi disciplinary approach and long term strategies for HIV prevention and control.

The world have served for HIV/AIDS had mankind invented vaccine that could save, humanity from the scourage of AIDS. While speaking Christian Medical College, (CMC), Vellore in Tamil Nadu on 1st December of 2005, the AIDS Day, Hon'ble President Dr. A.P.J. Abdul Kalam asked the CMC to develop a Vaccine for HIV/AIDS. in the absence of vaccine, education

and awareness are the only weapons available with us to prevent AIDS. To Prevent AIDS is to spread awareness about safe Sex, abstinence, sticking to one partner or the use of Condoms for the other partners.

There is increasing political will and commitment to HIV prevention and control efforts in india. A recently constituted National parliamentary Forum has stressed support for additional HIV prevention Programmes including a large School based adolescent education programme and a national campaign to raise awareness about STD's and treatments<sup>5</sup>.

1. Godbole Sheela and Sanjay Mehendale, "HIV/AIDS epidemic in India, risk factors, risk behaviour and strategies for prevention and control" Indian J. Med. Res., 121, April 2005.
2. Sarkar S., Das N., Panda's, Naik T.N. Sarkant K., Singh B.C. etal Rapid spread of HIV and injective drug use in north-eastern states of India. Bull, Narc 1993; 45:91-105.
3. Mohammed S.K. the ugandan response of HIV/AIDS:Some lessons for India. Noti. Med. J India 2003;16:262-9.
4. Prasada Rao JVR; gangully N.K. Mehendala S.M. bollingcr R.C. India response to HIV epidemic Lancet 2004;264, 1296-7.

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## A STUDY ON MATERNAL FACTORS AND PREGNANCY OUTCOME IN MEDICAL COLLEGE HOSPITAL OF JHANSI CITY

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### Abstret :

*Research Question : What are the maternal factors which affect the pregnancy outcome.*

*Objectives : To study the effects of maternal factors on the outcome of pregnancy in terms of pregnancy wastage as abortions or stillbirths and to assess the magnitude of low birth babies.*

*Study Design: Cross-sectional study*

*Study Area: maternity wards of department of obstetrics & Gynecology of M.L.B. Medical college.Jhansi (U.P.)*

*Participants : 1350 pregnant women, who were admitted in the maternity wards & their new born babies*

*Study variables : Age, parity, education, per capita income, inter pregnancy interval*

*Statistical analysis:Chi-square test*

*Results : Live born babies were 81.48% while pregnancy wastage was 18.52% Among the live born babies 44.36% had normal weight at birth & 55.64% were low birth weight. Out of total pregnancy wastage, 58.80% were terminated as abortions and 41.20% as still births.*

### Introduction :

Pregnancy and child birth are physiological phenomena yet pregnancy predisposes a women to several health hazards. Globally, some 585000 maternal deaths occur every year. About 99% of these deaths occur in developing countries<sup>1</sup>. India is among those countries which have a very high maternal mortality. A population based survey carried out in India which used longitudinal surveillance and complete coverage of vital events, showed a MMR of 5.9 per thousand live births in rural areas<sup>2</sup>. The estimated maternal mortality ratio is 4.07 per thousand live birth<sup>3</sup>. Child health is closely related to

maternal health. A healthy mother brings forth a healthy baby. Overall, risk of death to the mother and baby increases in the following situation i.e. low socio-economic status, high and low maternal age (35 years or more and below 16 years), high parity (5<sup>th</sup> and subsequent pregnancies), maternal short stature, malnutrition, multiple pregnancy and severe anemia. These factors may lead to unfavourable outcome of pregnancy such as high incidence of abortions, intra-uterine deaths, pre and post term deliveries and low birth weight babies. Similar study on low birth weight and associated maternal factors in urban area concluded that

the maternal factors significantly associated with low birth weight were, anemia, low socio-economic status, short birth interval, maternal age and body mass index<sup>4</sup>. Keeping in this view, present study was carried out on pregnant mothers to know the outcome in the form of pregnancy wastage (abortion or still birth) and live birth normal birth weight or low birth weight

### Material and Methods :

Present study was carried out at the department of community medicine, M.L.B. Medical college & Hospital, Jhansi (U.P.) during a period extending from August 2001 to July 2002. It was a hospital based cross sectional study. Pregnant women who were admitted in the

maternity wards of the department of Obs. & Gynae. of these hospital and their newborn babies were taken as subjects of study. Various informations gathered and observations made were recorded on a pretested schedule. The schedule consisted of 2 sections. Section 1 included data on family along with socio demographic variables. Section 2 consisted of mothers schedule and included questions pertaining to mother's age, parity, education, period of gestation, bed rest, intake of IFA tablets, inter birth spacing and antenatal check ups. the pregnancy out come were assessed in the form of wastage (abortions or still births ) and live births (normal birth weight or low birth weight).

**TABLE-1**  
**Pregnancy outcome according to per capita income**

| Percapita income (Rs.) | Pregnancy Wastage |       | Live births      |       |                     |       |       |       | Grand Total |       |
|------------------------|-------------------|-------|------------------|-------|---------------------|-------|-------|-------|-------------|-------|
|                        |                   |       | Low Birth Weight |       | Normal Birth Weight |       | Total |       |             |       |
|                        | No.               | %     | No.              | %     | No.                 | %     | No.   | %     | No.         | %     |
|                        | >1000             | 31    | 13.60            | 72    | 36.55               | 125   | 63.45 | 197   | 86.40       | 228   |
| 500-999                | 18                | 8.82  | 86               | 46.26 | 100                 | 53.76 | 186   | 91.18 | 204         | 15.11 |
| 300-499                | 58                | 21.42 | 119              | 56.13 | 93                  | 43.87 | 212   | 78.52 | 270         | 20.00 |
| 150-299                | 45                | 16.01 | 148              | 62.71 | 88                  | 37.29 | 236   | 88.99 | 281         | 20.82 |
| <150                   | 98                | 26.70 | 187              | 69.52 | 82                  | 30.48 | 269   | 73.30 | 367         | 27.18 |

Pregnancy wastage and live births- $X^2=21, p<0.001$

LBW & Normal birth weight-  $X^2=55.59, d.f.=2, p<0.001$

**TABLE-2**

**Pregnancy outcome according to maternal age**

| Maternal age<br>(Years) | Pregnancy Wastage |       | Live births      |       |                     |       |       |       | Grand Total |       |
|-------------------------|-------------------|-------|------------------|-------|---------------------|-------|-------|-------|-------------|-------|
|                         |                   |       | Low Birth Weight |       | Normal Birth Weight |       | Total |       |             |       |
|                         | No.               | %     | No.              | %     | No.                 | %     | No.   | %     | No.         | %     |
| <=18                    | 98                | 45.37 | 87               | 73.72 | 31                  | 26.28 | 118   | 54.63 | 216         | 16.00 |
| 19-35                   | 133               | 13.75 | 421              | 50.48 | 413                 | 49.52 | 834   | 86.25 | 967         | 71.63 |
| >35                     | 19                | 11.38 | 104              | 70.27 | 44                  | 29.73 | 148   | 88.62 | 167         | 12.37 |

Pregnancy wastage and live births-  $X^2=123.52$ , d.f.=2,  $p<0.001$

LBW & Normal birth weight-  $X^2 37.5$ , d.f.=2,  $p<0.001$

**TABLE-3**

**Pregnancy outcome according to Parity**

| Parity | Pregnancy Wastage |       | Live births      |       |                     |       |       |       | Grand Total |       |
|--------|-------------------|-------|------------------|-------|---------------------|-------|-------|-------|-------------|-------|
|        |                   |       | Low Birth Weight |       | Normal Birth Weight |       | Total |       |             |       |
|        | No.               | %     | No.              | %     | No.                 | %     | No.   | %     | No.         | %     |
| 1      | 11                | 24.40 | 191              | 55.52 | 153                 | 44.48 | 344   | 75.60 | 455         | 33.70 |
| 2-4    | 71                | 15.92 | 148              | 39.47 | 227                 | 66.53 | 375   | 84.08 | 446         | 33.04 |
| >4     | 68                | 15.15 | 273              | 71.65 | 108                 | 28.35 | 381   | 84.85 | 449         | 33.26 |

Pregnancy wastage and live births- $X^2=15.81$ , d.f.=2,  $p<0.001$

LBW & Normal birth weight- $X^2=79.41$ , d.f.=2,  $p<0.001$

**TABLE-4**  
Pregnancy outcome according to inter-pregnancy interval

| Inter-<br>pregnancy<br>(Years) | Pregnancy |       | Live births      |       |                     |       |       |       | Grand Total |       |
|--------------------------------|-----------|-------|------------------|-------|---------------------|-------|-------|-------|-------------|-------|
|                                | Wastage   |       | Low Birth Weight |       | Normal Birth Weight |       | Total |       |             |       |
|                                | No.       | %     | No.              | %     | No.                 | %     | No.   | %     | No.         | %     |
| <2                             | 56        | 16.67 | 185              | 66.07 | 95                  | 33.93 | 280   | 83.33 | 336         | 37.54 |
| 2-3                            | 51        | 13.70 | 173              | 53.90 | 148                 | 46.10 | 321   | 86.30 | 372         | 41.57 |
| >3                             | 32        | 17.11 | 63               | 40.65 | 92                  | 59.35 | 155   | 82.89 | 187         | 20.89 |

Pregnancy wastage and live births- $X^2=1.62$ , d.f.=2,  $p>0.05$

LBW & Normal birth weight- $X^2=26.73$ , d.f.=,  $p<0.001$

### Results :

Out of 1350 women studied live born babies were 1100 (81.48%) while pregnancy wastage was 250 (18.52%). Among the live born, 488 (44.36%) had normal weight at birth and 612 (55.64%) were low birth weight babies. Among pregnancy wastage, 147 (58.80%) terminated as abortions and 103 (41.20%) as still births.

Tables-1 shows that maximum number i.e. 367 (27.18%) of mothers belonged to socio-economic classes V with per capita income of less than Rs. 150 per months. It was seen that with the increase in per capita income, there was an increase in the percent of babies born with normal weight.

Table-2 shows that maximum number i.e. 967 (71.63%) of mothers belonged to the age group between 19 & 35 years. Frequency of Low birth weight babies was 73.72% in the age group

of  $\leq 18$  years. Most favourable age for pregnancy outcome came out to be 19-35 years.

Table-3 shows the association between pregnancy outcome and parity. It was found that 455 (33.70%) mothers were having para 1, followed by para 4 or more i.e. 449 (33.26%). Pregnancy wastage and frequency of LBW babies were 24.40% and 55.52% respectively in para 1 mothers. Wastage being highest in mothers of para 1 and LBW being highest in the mothers of para 4 or more. This table also shows that there were 455 mothers as primipara. Out of remaining 895 mothers, 372 (41.57%) had an inter pregnancy interval of 2-3 years. It was observed that mothers having an inter pregnancy interval of less than 2 years had more number of LBW babies (Table-4).

### Discussion :

In the present study, the prevalence of LBW babies was 55.63%. It was more than the prevalence of the LBW babies in our

country(26%). Perhaps, it is because of most of the mothers were of low socio-economic status ultimately reflecting their poor antenatal care, nutrition and lack of rest during the day hours.

Socio-economic status showed a highly significant association with pregnancy wastage and LBW babies. It was seen that with an increased in per capita income, pregnancy outcome improved. Gawande UH et al (1994)<sup>5</sup> Deshmukh Js et al (1998)<sup>4</sup> and Anand K et al (2000)<sup>6</sup> also revealed same results. Young age ( $\leq 18$  years) of mothers was found to be significantly associated with pregnancy wastage and increased incidence of LBW babies. Similar results were also observed by Gawande UH et al (1994)<sup>5</sup>. Poorest outcome of pregnancy was observed in primi and mothers who had parity of more than 4 were associated with more number of LBW babies. Gawande UH et al<sup>5</sup> and Maitra N et al (1995)<sup>7</sup> found a statistically significant association between primiparity and low birth weight. Mothers having an inter pregnancy interval of less than 2 years had more number of low birth weight babies as compared to those having an inter pregnancy interval of  $\geq 2$  years.

Increase in the incidence of low birth weight babies with grand multipara can be due to the fact that a large number of children are

born with out adequate spacing, leading to depletion in the woman's nutritional status and health, leaving her incapable of giving a healthy baby.

### References:

- (1) WHO/UNICEF Revised 1990 estimates of maternal mortality, April 1996.
- (2) Dutta K K et al : Health and Population; perspective and Issues, (1980),3; 282.
- (3) Government of India (1997) : health Information of India 1996, DGHS, New Delhi.
- (4) deshmkh JS, Motghara DD, Zodpey SP, Wadhwa SK: Low birth weight and associated maternal factors in an urban area. Ind Pedia, 1998, 35 (1); 33-36.
- (5) Gawande UH, Pinpalgoankar MS, Bethriya SH: Biosocial determinants of birth weight in rural urban Nagpur: Ind J Comm. Med, Apr-Dec. 1994,19;64-67.
- (6) Anand K, Garg BS: A study of factors affecting LBW: Ind J Comm. Med, Apr-June, 2000,25 (2);57-62.
- (7) Maitra N, Patel B, Hazra M: Birth outcomes by birth order and maternal nutritional status. Ind J Maternal and Child health: 1995, 6 (2) 43-45.

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## "DOES CHEST CIRCUMFERENCE AFFECT PULMONARY FUNCTION TESTS? A COMPARATIVE STUDY OF MALE AND FEMALE SUBJECTS"

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### Abstract :

### Objective :

*The values of Pulmonary Function Tests PFTs help in the diagnosis of restrictive and obstructive diseases. There are various studies on various physical parameters evaluating PFTs. The present study had been planned to correlate the chest circumference in adults with PFTs, as this type of study are lesser in number.*

**Methods :** The young subjects comprised of 119 males (18-27 years) and 49 females (18-23 years) of first professional M.B.B.S. of G.S.V.M. medical College, Kanpur. The Parameters recorded were Tidal volume (T.V.), Forced Expiratory volume in first second (FEV1), Forced vital capacity (F.V.C.), Forced Expiratory Ratio (F.E.R.) and Peak Expiratory Flow Rate (P.E.F.R.). The chest circumference of all the subjects was measured and subjects were divided in to 3 groups according to it. The statistical evaluation was done by 'Students's 't'-test and  $p < 0.05$  was taken as significant.

**Results :** The mean T.V., FEV1, F.V.C., F.E.R. and P.E.F.R were  $437.56 \pm 65.83$  ml,  $3.26 \pm 0.41$ L,  $3.82 \pm 0.48$ L,  $85.09 \pm 2.42\%$  and  $495.42 \pm 101.82$  L/min respectively in North Indian male subjects, between mean age of 18 - 27 years.

The average T.V., FEV1, F.V.C., F.E.R. and P.E.F.R, were  $386.12 \pm 37.90$  ml,  $2.39 \pm 0.38$ L,  $2.79 \pm 0.43$ L,  $85.38 \pm 2.57\%$  and  $307.12 \pm 75.74$  L/min respectively in North Indian Female subjects, between mean age of 18 - 23 years.

### Conclusion :

*The chest circumference in the same sex in all the three subgroups do not affect the values of PFTs after adulthood i.e. more than 18 years of age. The Gender variation between males and females do affect the various values of PFTs.*

**Key words :** Pulmonary fuction tests (PFT), Chest circumference

### Introduction :

The Pulmonary fuction tests substantiate the diagnosis of various diseases of restrictive and obstructive nature producing abnormal changes or unchanged structure of lung in X-ray chest.

There are various studies which give pulmonary function tests with relation to Age, Sex, Body mass index, Surface area etc. but there are lesser reports of changes in the values of Pulmonary function tests with relation to the circumference of the chest. Hence, the present

study has been planned to evaluate the changes in pulmonary function test values, if at all with the change in chest circumference after adulthood (>18 years).

The expected norms for the forced vital capacity, maximal Breathing Capacity and Expiratory Peak flow for Indians of various age group are widely studied in Indians of both sexes<sup>1</sup>. Mean Vital Capacity values were higher in Western subjects than the Indian Subjects. Maximum Values seem to have been attained by 19 years and after that they stay nearly constant up to the age of 40 years<sup>2</sup>. The mean FEV1 and F.V.C. of Africans of both sex were significantly greater than those of Indians<sup>3</sup>. Ethnic variation in ventilatory lung function appear to be due to differences in lung size of full inspiration and normal standard for each measurement must be obtained on the population concerned<sup>4</sup>. The maximal values for F.V.C. and FEV1 should be used for interpretation as standardization of spirometry<sup>5</sup>. Women have much lower values than men<sup>6</sup>. It is also opined that height and chest circumference were the best predictor of F.V.C. and F.E.V1<sup>7</sup>.

The difference in British and Indian data was reportedly not due to change in thoracic size but it was genetic factors rather than environmental which were responsible for the ethnic differences in various comparative studies.

The indices representing airway caliber do not differ between the ethnic groups<sup>8</sup>. The comparison of caucasian, Chinese and Indian subjects suggested that Indians had lower total lung capacity and vital capacity than the two other groups. It was related to longer chests in the other two groups but larger chest was not the sole factor as such responsible for more values. It may be due to increased number of alveoli in the other two groups due to ethnic variation.<sup>9</sup> The various Pulmonary function tests amongst Chinese, Malay and Indians are studied thoroughly and the ethnic difference with Chinese having the largest lung volume and flow rate and Indians the smallest, was reported.<sup>10</sup> Higher values in Men than those of women except FEV1 are also reported.<sup>11</sup>

### **Material and Methods :**

In the present study, the Pulmonary function tests were calculated on 119 male and 49 female students of First Professional M.B.B.S. at G.S.V.M. Medical College, Kanpur, U.P. (India). The male students were 18-27 yrs old while female students were 18-23 yrs respectively. All the students had their home town in the Northern State of India, Uttar Pradesh. The students were fully healthy and had no signs or family history of Pulmonary disease were not included at all in the study.

The Parameters recorded were Tidal

Volume (T.V.) by Benedict Roth Spirometer, forced Expirator Volume in First Second (FEV<sub>1</sub>) and Peak Expiratory Flow Rate (P.E.F.R.) by Digital Microspirometer in the sitting posture.

The chest circumference of all the students was measured in Male and Female students. Both the male and female students were then divided into 3 groups as C<sub>1</sub>, C<sub>2</sub>, and C<sub>3</sub>. The C<sub>1</sub> group had chest circumference of <80 cms, C<sub>2</sub> with 81-90 cms and C<sub>3</sub> group had >91 cms.

#### Statistical Analysis :

The mean and standard deviation was

calculated in both male and female subjects and significance of difference was calculated by "Student 't' test" and  $p < 0.05$  was taken as significant.

#### Observation & Results :

The average age of male students was  $20.74 \pm 1.83$  years while that of female students was  $19.15 \pm 1.05$  Years. The variation in the various pulmonary function tests were as per expectations between male and female subjects. The various values of T.V., FEV<sub>1</sub>, F.V.C, F.E.R. and P.E.F.R. in group C<sub>1</sub>, C<sub>2</sub> and C<sub>3</sub> in male and female subjects are depicted in Table 1 and Table 2.

TABLE-1

Mean chest circumference (C.C.) and respiratory parameters in male subjects

| Chest circumference<br>Groups | Mean<br>C.C.(cms) | MeanTV(ml)   | Mean FEV <sub>1</sub> (l) | Mean FVC (l) | MeanT1(%)  | Mean PEFR<br>(L/min) |
|-------------------------------|-------------------|--------------|---------------------------|--------------|------------|----------------------|
| C1(n 43)<br>(-80cms)          | 77.06±2.32        | 425.81± 6081 | 3.21±0.40                 | 3.75±0.49    | 85.09±2.46 | 484.72±100.10        |
| Range                         | 72.80             | 250.600      | 2.22.4.09                 | 2.66.5.03    | 79.89      | 308.670              |
| C2(n64)<br>(81-90cms)         | 85.68±2.69        | 441.87±6601  | 3.30±0.43                 | 3.84±0.49    | 85.23±2.37 | 500.82±101.71        |
| Range                         | 81-90             | 250-600      | 2.12.4.36                 | 2.57.4.90    | 81.90      | 230-670              |
| C1(n 12)<br>(-91cms)          | 96.08± 3.98       | 440.00±58.15 | 3.30±0.33                 | 3.89±>45     | 84.33±2.60 | 488.66±128.75        |
| Range                         | 91-102            | 300-500      | 2.99-4.59                 | 81-89        | 296-406    |                      |

In Table 1 of Male subjects, the average chest circumference in C1 group was  $77.06 \pm 2.32$  cms having mean values of T.V. as  $425.81 \pm 66.81$  ml,  $FeV_1$   $3.21 \pm 0.41$ , F.V.C.  $3.75 \pm 0.49$  L, F.E.R.  $85.09 \pm 2.46$  and P.E.F.R.  $484.72 \pm 100.10$  L/min. In C<sub>2</sub>, average chest circumference was  $85.68 \pm 2.69$  cms having mean values of T.V. as  $441.87 \pm 66.01$ ml,  $FeV_1$

$3.30 \pm 0.43$  L, F.V.C.  $3.84 \pm 0.49$  L, F.E.R.  $85.23 \pm 2.37\%$  and P.E.F.R  $500.82 \pm 101.71$  L/min. In C<sub>3</sub> group, the average chest circumference was  $96.08 \pm 3.98$  cms having mean values of T.V. as  $440.00 \pm$  ml,  $FeV_1$   $3.30 \pm 0.33$ L, F.V.C.  $3.89 \pm 0.45$  L, F.E.R.  $84.33 \pm 2.60\%$  and P.E.F.R.  $488.66 \pm 128.75$  L/min.

TABLE-2

Mean chest circumference (C.C.) and respiratory parameters in females subjects

| Chest circumference Groups | Mean C.C.(cms)   | MeanTV(ml)         | Mean $FeV_1$ (l) | Mean FVC (l)    | Mean11(%)        | Mean PEFR (L/min)  |
|----------------------------|------------------|--------------------|------------------|-----------------|------------------|--------------------|
| C1(n 23)<br>(-80cms)       | $77.26 \pm 2.61$ | $391.30 \pm 38.88$ | $2.43 \pm 0.39$  | $2.82 \pm 0.39$ | $85.65 \pm 2.56$ | $321.17 \pm 75.27$ |
| Range                      | 72-80            | 350-450            | 1.87-2.97        | 1.98-3.50       | 79-89            | 202-449            |
| C2(n-21)<br>(81-90cms)     | $84.76 \pm 2.79$ | $379.52 \pm 40.05$ | $2.41 \pm 0.43$  | $2.81 \pm 0.05$ | $85.42 \pm 2.69$ | $289.57 \pm 78.25$ |
| Range                      | 81-90            | 300-500            | 1.51-3.02        | 1.85-3.45       | 81-89            | 126-411            |
| C4 (n 5)<br>(-91 cms)      | $98.0 \pm 7.34$  | $390.0 \pm 22.36$  | $2.15 \pm 0.20$  | $2.55 \pm 0.22$ | $84.0 \pm 20$    | $3162 \pm 64.92$   |
| Range                      | 92-107           | 350-400            | 1.96-2.40        | 2.31-2.81       | 81-86            | 213-374            |

In table 2 of female subjects, the average chest circumference in C1 group was  $77.26 \pm 2.61$  cms having mean values of T.V. as  $391.30 \pm 38.88$  ml,  $FeV_1$   $2.43 \pm 0.35$  L, F.V.C.  $2.82 \pm 0.39$  L, F.E.R.  $85.65 \pm 2.56$  % and P.E.F.R  $321.17 \pm 75.27$  L/min.

In C<sub>2</sub> group, the average chest circumference was  $85.76 \pm 2.79$  cms having mean values of T.V. as  $379.52 \pm 40.05$  ml,  $FeV_1$   $2.41 \pm 0.43$  L, F.V.C.  $2.81 \pm 0.05$  L, F.E.R.  $85.42 \pm 2.69\%$  and P.E.F.R  $289.57 \pm 78.25$  L/min. In C<sub>3</sub> group, the average chest

circumference was  $98.0 \pm 7.34$  cms. having mean values of T.V. as  $390.0 \pm 22.36$  ml,  $FEV_1$   $2.15 \pm 0.20$  L, F.V.C.  $2.55 \pm 0.22$  L, F.E.R.  $84.0 \pm 2.0\%$  and P.E.F.R.  $316.2 \pm 64.92$  L/min.

The above values suggest that Pulmonary Function Tests do not show any appreciable difference between the 3 subgroups of  $C_1$ ,  $C_2$  and  $C_3$  in both Males and Females. The p value was insignificant. The comparison of different values of Pulmonary Function tests of males and females showed significant difference ( $p < 0.05$ ) in all the 3 subgroups of  $C_1$ ,  $C_2$ , or  $C_3$ .

### **Discussion :**

The observation and results show insignificant difference with changing chest circumference values of Pulmonary function tests after adulthood i.e.  $>18$  years of age when the chest size is fully developed. There were significant differences in the values when compared between Males and Females. All the values in the same chest size subgroup showed increased values in Males and decreased values in females.

Thus, it is evident that chest size in the same gender does not affect the values of various Pulmonary function tests after adulthood, while at the same time, it is noted that gender variation between male or female can change the values of Pulmonary Function Tests.

### **Conclusion :**

1. The mean T.V.,  $FEV_1$ , F.V.C., F.E.R. and P.E.F.R. were  $437.56 \pm 65.83$  ml,  $3.26 \pm 0.41$  L,  $3.82 \pm 0.48$  L,  $85.09 \pm 2.42\%$  and  $495.42 \pm 101.82$  L/min respectively in North Indian male subjects, between mean age of 18 - 27 years.
2. The average T.V.,  $FEV_1$ , F.V.C., F.E.R. and P.E.F.R. were  $386.12 \pm 37.90$  ml,  $2.39 \pm 0.38$  L,  $2.79 \pm 0.43$  L,  $85.38 \pm 2.57\%$  and  $307.12 \pm 75.74$  L/min. respectively in North Indian Female between mean age of 18 - 23 years.
3. The chest circumference in the same sex of males or females do not affect the values of Pulmonary Function Tests after the adulthood i.e. more than 18 years of age.
4. The Gender variation between males and females do affect the various pulmonary function tests.

### **References :**

1. KAMAT SR, Thiruvengodam KV and Roo TL: A Study of Pulmonary Function among Indians and assessment of wright's peak flow meter in relation to spirometry for field use. Am Rev. Respir. Dis., 1967; 96: 706 - 16.

2. Jain SK and Ramalh TJ : Normal standards of Pulmonary function tests for healthy Indian men 15 - 40 years old; comparison of regression equation (prediction formula). *Ind. J. med. Res.*, 1969;57 : 1453.
3. Miller FJ, Ashcroft MTAV and Swan Beadnell HMSG : Ethnic variation in forced expiratory volume and forced vital capacity of African and Indian Adults in Guyana. *Am. Rev. Respin Dis.*, 1970; 102 : 979 - 82
4. Dugdale AE. Betton JM and Ganedran A : Respiratory function among Malaysian Aborigines. *Thorax*, 1971;26 : 740 - 43.
5. Amercian Thoracis Society : Snowbird Workshop on Standaardization of Spirometry. *Am. Rev. Respir. Dis.*, 1979; 199: 881 - 82
6. Singh HD and Peri S : Peak expiratory flow rate in South Indian Adults. *Ind. J. Physiol. Pharmacol.*, 1979; 28 (4) : 315 - 20
7. Corel R.S., Greenstein A, Elender E, Millamed Y, and Kerem D : Fatiors affecting ventilatory lung function in young Navy Selectors. *Am. Rev. Respir. Dis.*, 1983; 128 : 249 - 52.
8. Patrick J. ME and Petel A : Ethnic differences in the growth of lung function in children. A cross sectional study in the inner city. Nottingham, *Annals of Human Biology.*, 1986 ; 13 307 -15,.
9. Donnelly PM, Yang TS, Peat JK and Woolcock AJ : What factor explain racial differences in lung volumes. *Eur. respir J*; 1991; 4 (7) : 829 - 38.
10. Chin NK, Ng TP, Hui KP and Tan WC : Population based standards for pulmonary fuction in non smoking adults in Singapore *Respirology*, 1997 ; 2(2) : 143 - 9.
11. Virani N, Shah B and Celly : Pulmonary Function studies in healthy non - smoking adults in Sri Aurbindo Ashram, Pondicherry. *Ind. J. Med. Res.*, 2001 ; 114; 177-184.

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## PREVALENCE OF 'RTI' AMONG EVER MARRIED WOMEN (15-49 years age group) IN RAJEEV NAGAR (Urban slum) OF DEHRA DUN.

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**Objective :-** To assess the prevalence of RTI among ever married women by using Syndromic approach.

**Study design :-** Cross- Sectional study.

**Setting :-** Cross- Sectional study.

**Setting :-** urban slum, Rajeev Nagar, Dehra Dun.

**Participants :-** Ever married women in 15 - 49 years age group.

**Study period :-** January- April 2003.

**Study variables :-** RTI, Occupation, S.E.S.

**Statistical analysis :-** Percentage.

**Result :-** Prevalence of RTIs was found to be 7%. It was found to be maximum (57.14%) in laborer's and in women belonging to the lower middle class (65.7%). Commonest symptoms of RTIs were pain lower abdomen (74.2%), burning micturition (17.14%) and vulval itching (17.14%).

### Introduction :

RTI is considered to be a major global public health problem with more than 330 million new cases being reported every year. Of these more than 80% are believed to occur in developing countries. They primarily affect reproductive section of the society (20-40 Years of age), thus causing loss of productive life, measured as, DALY'S lost. In India, very little data is available regarding pattern of RTI. This is primarily because of lack of comprehensive rational registry, inefficient reporting and data collection system and the fact that the patients

seek more help from the private sector, from where reporting is abysmal. Problem is compounded by the fact that the women are largely asymptomatic and even if symptomatic, refrain from visiting the health clinics for the same.

The undertaken study was carried out to identify the prevalence of RTI among the women of urban health center, Rajeev Nagar, Uttaranchal.

### Material and Methods :

The major segments of the population served by the Urban Health Center, Rajeev

Nagar, Were slum dwellers with a total population of 1521. The total population (males and females) within the age group 15-49 years was 899. In the present study the women within reproductive age group of 25-49 years were screened amounting to a total of 445 women. (49.6% of total population in the state of Uttaranchal as per 2001 census). It was a cross sectional study. A pre tested and pre designed questionnaire was given to all the screened women during a house-to-house survey and the accompanying female health worker made them understand the queries and noted their responses.

The diagnosis of RTI was made as per the "syndromic approach" including following criteria/symptoms:-

Pain lower abdomen, Foul smelling, vaginal discharge, purulent urethral discharge, Genital sore, swelling around genitalia, burning micturination and vulval itching. The socio-economic status was assigned as per modified prasad's classification.

#### **Observations :-**

Total, 35 cases of RTI were observed according to syndromic approach.

**TABLE -1**

**Distribution of respondents according to their Husband's occupation.**

| OCCUPATION | NO. OF WOMEN | PERCENTAGE WITH RTI |
|------------|--------------|---------------------|
| Laborer    | 20           | 57.1                |
| Shopkeeper | 3            | 8.6                 |
| Army       | 2            | 5.7                 |
| Driver     | 2            | 5.7                 |
| Others     | 8            | 22.9                |

The occupation of the husband in the women RTI was found to be as shown in above table. The Reproductive Tract Infection was reported maximum (57.1%) in the wives of laborers, followed by 22.9% in the wives of those whose husbands are categorized in other occupation (Chaat wala, Pheri Wala, or those working in pvt. Offices).

**TABLE-2**

**Distribution of respondents according to socio-economic status**

| CRITERIA     | INCOME/MONTH | RTICASES | %    |
|--------------|--------------|----------|------|
| Upper SES    | >2200        | 0        | 0    |
| Upper middle | 1100-2199    | 0        | 0    |
| Lower middle | 660-1099     | 23       | 65.7 |
| Upper lower  | 330-660      | 8        | 22.9 |
| Lowest       | <330         | 4        | 11.4 |

The Reproductive Tract Infection was

reported maximum (65.7%) in women belonging to lower middle class and was found to be minimum (11.4%) in the women belonging to lowest class category.

**TABLE -3**

**Distribution of respondents according to Syndromic case definition**

| Complaint                       | No. of women | Percentage |
|---------------------------------|--------------|------------|
| Pain lower abdomen              | 26           | 74.2       |
| Foul smelling vaginal discharge | 1            | 2.85       |
| Purulent urethral discharge     | 1            | 2.85       |
| Genital sore                    | 1            | 2.85       |
| Swelling around genitalia       | 2            | 5.71       |
| Burning micturination           | 6            | 17.14      |
| Vulval itching                  | 6            | 17.14      |

The most common complaint was found to be Lower abdominal pain in 74.2% of women, followed by burning micturination and vulval scabies in 17.14% women in each category. All women were having two or more complaints at the time of examination.

### **Discussion :**

Women in India face constraints not only in obtaining services but also in expressing their reproductive health needs. Lack of awareness, cultural barriers and economic factors prevent them from eliciting timely care. They are unlikely to consult for advice as there is a tendency to view morbidities such as 'white discharge' as

normal and also because this condition is associated with shame and guilt owing to its perceived link promiscuity.

Further, most women with RTI are asymptomatic hence neglected. Pelvic examinations are strongly resisted by all women, but more so if they are asymptomatic and especially if they are to be performed by a health service provider who is insensitive to their needs.

Their limited mobility and inability to take decision, unnecessarily delay their initiative in obtaining medical care for themselves.

In present study the incidence of RTI was reported maximum in laborers and that may be because these women were chiefly engaged in river side works and other menial jobs for daily wages.

Women with RTI are at an increased risk for chronic pelvic pain as reported by Holmes et al: STD case management, New York<sup>1</sup>. In present study, Lower abdominal pain was found to be the commonest complaint (74.2%), in women suffering of RTIs, although it may also include some psychosomatic causes leading to lower abdominal pain.

Till recently little data is available about the extent of RTIs among Indian women. The available data was limited to clinic based population or to high risk population like commercial sex workers.

In a community based study from Mumbai

slum, Parikh et al<sup>2</sup> observed a 15% prevalence of Chlamydia infection and 17% prevalence of Candida infection in symptomatic women. Present study reported a prevalence of 17.14% in vulval Scabies and 5.71% in Genital sore. The difference in data could be due to rampant practice of prostitution in the Mumbai slums and also the indiscriminate use of antibiotics leading to increased susceptibility to such infections.

Gogate<sup>3</sup> in a study conducted among women of reproductive age group from a slum colony at Mumbai, reported that 43.2% women attended hospital for vaginitis and 1/3 women for cervicitis. In present study only 2.85% women were reported for the complaints of vaginitis and cervicitis. This difference in data might be due to lack of clinical examination in our study. Moreover this study was largely in illiterate women those may not be aware of presenting these complaints to health provider.

Prevalence of RTI was studied in 302 women of low risk group attending family welfare clinic at Mumbai, using cytological, culture and serological test. An overall positivity was reported to be 29%, accounting 21.20% for BV and 18% for clamydia.

Thus in today's perspective, the reported cases of RTI in Indian women is only the tip of

iceberg; the actual depth still remains to be uncovered. If actual prevalence is known, it might emerge as a big challenge for healthcare system<sup>4</sup>. So, for the present day and future, it sincerely calls for :-

- Improving awareness of RTI in family and society.
- Improved, accessible and dedicated health system.
- Improving performance of health workers by improved management skills and by adapting local guidelines related to 'Integrated management of RTI'.

#### **Bibliography :**

1. Holmes KK, Ryan CA, STD Care Management in Sexually Transmitted Diseases, New York, 1999; 653-667.
2. Parikh I, Taskar V et al Gynecological Morbidity among women in a Mumbai slum 1996.
3. Gogate A. RTI in women of child bearing age group from Dharavi slums of Mumbai. Indian Journal Sex. Trans. Dis 1996;20:11-15.
4. Ind J Sex Trans Dis 2002;23:58-66

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## A STUDY OF KNOWLEDGE ABOUT CONDOM AMONGST MARGINALIZED WOMEN

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### Abstract :

#### Research Question :

(1) What is level of knowledge about condom amongst marginalized women.

**Objectives :** To assess the Knowledge of marginalized women.

- Whether they have just heard about condom or have seen it.
- Whether used by male/female.
- Proper use prevents HIV/AIDS/STI.
- Free govt. supply of condom.

**Design :-** Cross sectional community based study.

**Study period :** Sept 2003 to Feb 2004.

**Setting :** Slums of Kanpur city.

**Material amd method :** 10% of all the slums of Kanpur city having population less than 3000. (i.e. 160) were selected. All available females of 13-25 years age group were interviewed by house to house survey using predesigned and pretested questionnaire.

**Results :** Knowledge is poor in younger age group than in older age group. only 52.4% married women have seen condom and know that it is used by males. Except illiterate and primary educated women, other groups have good knowledge about condom. Overall knowledge about its free govt. supply was just 24.5%.

**Conclusion :** Over all knowledge about condom is poor among marginalized women and need further education.

### Introduction :

HIV/AIDS/STI is the major pandemic affecting Indian population as well and about 5.1 million people are estimated to be infected with it till the end of year 2004. There is no treatment as well as vaccine for HIV/AIDS/STI. Awareness about the disease and preventive measures is the only way to reduce the transmission. Hetero-sexual route is the major mode of transmission and condom is the major preventive measure.

Women of age group 13-25 yrs. age group are primary stake holder and that too living in slums are really marginalized They have very less access to health services and awareness campaigns. Thus this study is done, taking the marginalized women as respondents.

### Material and Method :

The sample population was selected according to the feasibility and hence 10% of all the slums of Kanpur city having population less than 3000 (i.e. 160) were selected. Out of 160

slums 10% slums(i.e.16) slums were selected by systematic sampling. All available females of 13-25 years age group were interviewed by house to house survey using predesigned and

pretested questionnaire. Therefore total of 1284 marginalized women of 13-25 yrs. age group residing in slums were interviewed.

### Observations :

**TABLE-1**  
Condom related responses according to age of the respondents

(Multiple Responses)

| S.No. | Responses                                  | 13-18 Yrs.<br>n=722 | 19-25 Yrs.<br>n=562 | Total<br>n=1284 |
|-------|--------------------------------------------|---------------------|---------------------|-----------------|
| 1.    | Heard about condom                         | 556<br>(77.0)       | 402<br>(71.5)       | 958<br>(74.6)   |
| *2.   | Have seen                                  | 103<br>(14.3)       | 294<br>(52.3)       | 397<br>(30.9)   |
| **3.  | Know that used by males                    | 188<br>(26.0)       | 302<br>(53.7)       | 490<br>(38.2)   |
| 4.    | Know that proper use Prevents HIV/AIDS/STI | 198<br>(27.4)       | 271<br>(48.2)       | 469<br>(36.5)   |
| 5.    | Know about free Govt. supply               | 181<br>(25.0)       | 134<br>(23.8)       | 315<br>(24.5)   |

**TABLE-2**  
Condom related responses according to marital status of the respondents

| S. No. | Responses                                  | Unmarried<br>n=607 | Married<br>n=524 | Widow<br>n=49 | Separated<br>n=104 | Total<br>n=1284 |
|--------|--------------------------------------------|--------------------|------------------|---------------|--------------------|-----------------|
| 1.     | Heard about condom                         | 502<br>(82.7)      | 378<br>(72.1)    | 36<br>(73.4)  | 42<br>(40.3)       | 958<br>(74.6)   |
| 2.     | Have seen                                  | 61<br>(10.0)       | 275<br>(52.4)    | 30<br>(61.2)  | 31<br>(29.8)       | 397<br>(30.9)   |
| 3.     | Know that used by males                    | 157<br>(25.8)      | 275<br>(52.4)    | 29<br>(59.1)  | 29<br>(27.8)       | 490<br>(38.2)   |
| 4.     | Know that proper use Prevents HIV/AIDS/STI | 269<br>(44.3)      | 172<br>(32.8)    | 24<br>(48.9)  | 13<br>(12.5)       | 469<br>(36.5)   |
| 5.     | Know about free Govt. supply               | 184<br>(30.3)      | 105<br>(20.0)    | 17<br>(34.6)  | 9<br>(8.6)         | 315<br>(24.5)   |

TABLE-3

Condom Related responses According to Literacy status of the respondents

(Multiple Responses)

| S.No. | Responses                                     | Illiterate<br>n=401 | Primary<br>n=298 | Jr. High<br>School<br>n=196 | High<br>School<br>n=180 | Interme<br>diate<br>n=128 | Graduate<br>& above<br>n=81 | Total<br>n=1284 |
|-------|-----------------------------------------------|---------------------|------------------|-----------------------------|-------------------------|---------------------------|-----------------------------|-----------------|
| 1.    | Heard about condom                            | 211<br>(52.6)       | 216<br>(72.4)    | 181<br>(92.3)               | 159<br>(88.3)           | 110<br>(85.9)             | 81<br>(100.0)               | 958<br>(74.6)   |
| 2.    | Have seen                                     | 72<br>(17.9)        | 51<br>(17.1)     | 71<br>(36.2)                | 71<br>(39.4)            | 61<br>(47.6)              | 71<br>(87.6)                | 397<br>(30.9)   |
| 3.    | Know that used by males                       | 77<br>(19.2)        | 59<br>(19.7)     | 93<br>(47.4)                | 99<br>(55.0)            | 81<br>(63.2)              | 81<br>(100.0)               | 490<br>(38.2)   |
| 4.    | Know that proper use prevents<br>HIV/AIDS/STI | 41<br>(10.2)        | 32<br>(10.7)     | 84<br>(42.9)                | 123<br>(68.3)           | 121<br>(94.5)             | 68<br>(83.9)                | 469<br>(36.5)   |
| 5.    | Know about free Govt. supply                  | 51<br>(12.7)        | 30<br>(10.0)     | 36<br>(18.3)                | 52<br>(28.8)            | 67<br>(52.3)              | 79<br>(97.5)                | 315<br>(24.5)   |

Percentage in parenthesis

**Result & Discussion :**

Condom related responses and knowledge observations show 74.6% respondents have heard about condom while only 30.9% have seen it. 38.2% knew that it is used by males and only 24.5% knew the supply is available from Govt. agencies free of cost<sup>1</sup>.

Comparatively 52.3% old age groups of respondents have seen the condom where as only 14.3% in younger age group of 13 - 18 yrs.

had knowledge that condoms are used by males. Its protective value against AIDS and free availability from Govt. institution was almost equally known to all the groups (Table-1)

Fairly large no. of unmarried respondents i.e. 82.7% have heard about the condom but nearly 10% have seen it, which is explainable due to their unmarried status. They also knew that condoms protects from HIV / AIDS / STI and is freely available Govt. supply in better proportion than married group<sup>2</sup>. Free availability

of condoms and its protective value against HIV was poorly known to separated group of women (8.6% & 12.5% respectively). This calls for better dissemination of condom related knowledge among slum women<sup>3</sup>. \*(Table2)

Except illiterate in whom only 52.6% had heard about condom, all other respondents of varying literacy level have heard about condom in better proportion<sup>4</sup>. Its protective value against AIDS is fairly known to junior high school level and above educated level ranging from 42.9% to 94.5% Only 52.3% intermediate level 97.5% graduate and above respondents knew about provision of free Govt. supply<sup>5</sup>. This indicates poor level of condom related awareness among illiterate or less educated females and call for action accordingly (Table-3).

**Conclusion** - Over all knowledge about condom is very poor and needs to be increased by awareness campaign. Publicity of free govt. supply of condom should be done extensively.

### **References :**

1. Fox L.J., Bailey P.E., Clarke - Martinez K.L., Coello M. Ordo nez F.N., Barabona : Condom use among high risk women in Honduras: evaluation of an prevention programme. AIDS Educ. Prev. 1993 Spring, 5<sup>(1)</sup> 1-10, 1994.
2. Ghosh Satyajit, Chowdhury S., Gill J.S.: Knowledge of HIV/AIDS? STDs and high risk sexual practices in two slums of Sough Delhi. HIV/AIDS Research in India, 123-125, 1997.
3. Jain D. Sehgal K., puri V. Sadaphal P., : Awareness of women a central issue in HIV/AIDS control. Int. Cong. AIDS, 9<sup>(2)</sup> : 769, 1993.
4. Mittal M., Gang S., Sehgal K. and Bansal R.K. : A study of KABP regarding STD & HIV/AIDS Amongst women of an urban slum. HIV/AIDS research in India 130-133, 1997.
5. Overby K. J. Kegeles S.M. : The impact of AIDS on an urban population of high-risk female minority adolescents implications for preventions. J Adolesc. Health, 15<sup>(3)</sup> : 216 227, 1994.

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## GERIATRIC CHALLENGES - TACKLING WITH INNOVATIVE MEASURES

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### Abstract :

Ageing is a natural process. India has 77 million elderly people and is expected to have 177 million by 2025. By the year 2050, one fifth of total population will be graying. Ninety percent of the elderly are from unorganized sector with no social security. Over 73 percent of 60 plus are illiterate and dependent on physical labour. Forty percent people live below the povertyline. Recent studies have shown that 89.62 percent of elderly population has multiple morbidities. The leading symptoms or group of symptoms in both males and females pertain to visual impairment / diminished vision (65% & 56.2% respectively). Other problems include heart diseases, respiratory diseases, joints pains, hearing problems etc. Many innovative experimental studies have been done to reverse the biochemical and pathological changes that occur during ageing by using chemicals and drugs. In various studies it has

been established that the use of  $\text{Ca}^{2+}$  (+) antagonists leads to reversal of atherosclerotic process, similarly 2 - mercapto propionyl glycine (MPG) and oxidized MPG improve heart functioning. Centrophenoxine considered as an ageing reversal drug is regarded as neuroenergeticum in human therapy. Ginkgo biloba extract can improve the cerebral function. Topically applied all-trans retinoic acid can repair and probably prevent photo ageing.

Geriatric Challenges- Tackling with Innovative Measures Ageing is a natural process. In the words of Seneca: old age is an incurable disease.<sup>1</sup> Old age should be regarded as a normal, inevitable biological phenomenon. Currently there are over 580 million persons aged 60 years and above in the world, which is estimated to reach a figure of over one billion by the year 2020. Over 700 million will be living in the developing countries.<sup>2</sup> India has 77 million elderly and is expected to have 177 million by

2025. By the year 2050, one fifth of the total population will be graying. That means the number of aged persons will grow to the size of India's population at the time of independence.<sup>3</sup> Ninety percent of the elderly are from the unorganized sector with no social security. Over 73 percent of the 60 - plus are illiterate and dependent on physical labour. Forty percent persons live below the poverty line. A sizable number of the elderly people suffer from physical, mental and social problems. Recent studies have shown that 89.62 percent of elderly populations have multiple morbidities. The leading symptoms or group of symptoms in both males and females pertain to visual impairment/ diminished vision (65% & 56.2% respectively). Other problems include heart disease, respiratory disease, locomotor disabilities, hearing problem, skin disease, neurological disease etc<sup>4</sup>. Prevalence of mental morbidity among the population aged 60 years and above was estimated to be 89 per 1000 population. Affective disorders in later age, particularly depression and dementia, form the mental morbidity<sup>5</sup>. Irrespective of all these, there is a major challenge to develop innovative ways of tackling special health and social problems and to improve quality of life so called Healthy ageing. Many innovative experimental studies have been done to reverse the biochemical and

pathological changes that occur during ageing by using chemicals and drugs. The basic changes occur in ageing are atherosclerotic changes, mitochondrial dysfunction leading to deteriorated heart function, decreased activity of acetyl cholinesterase enzyme & decreased cerebral 5-HT<sub>1A</sub> receptors (5-hydroxy-tryptamine 1A). This has been experimentally proved that these changes can be reversed. It has been established that the use of Ca<sup>2+</sup> (+) antagonists leads to reversal of atherosclerotic process.<sup>6</sup> 2-mercapto propionyl glycine (MPG) and oxidize MPG partly reverse mitochondrial uncoupling and improve deteriorated heart function.<sup>7</sup> Centrophenoxine, causes reversal of the age related decline of cholinergic system<sup>8</sup>. Ginkgo biloba extract reverses the decreased cerebral 5-hydroxytryptamine 1A (5-HT 1A) receptors during ageing<sup>9</sup>.

Living longer offers unpredicted opportunities for personally and social fulfilling lives, but it also presents individual and social challenges related to quality of life in old age including independence, social interaction, health care and community involvement to respond to these challenges we must develop sound and affordable policies that perceive ageing as a natural process, which continues throughout the life span. so the great challenge

for geriatric population is to rehabilitate. The important thrust is to create old age homes, day care centres, mobile medical units. Travel related and Income Tax concession must be available to the elderly citizens. Elderly people are a reservoir of experience. Let us give them love, care, respect and attention.

Dr. Horlem Brundtland (former President, W.H.O.) correctly said that twentieth century was a century of 'Survival'. but the greatest challenge of the 21<sup>st</sup> Century will be to improve quality of life. Health is the most important prerequisite for people to enjoy life especially in their older years.

**Percentage of elderly reporting various ailments**

| Ailment                              | Reported% |
|--------------------------------------|-----------|
| Visual impairment/complaint          | 88.0      |
| Locomotive disorder, joints, muscles | 40.0      |
| Neurological complaints              | 18.7      |
| Cardiovascular disease               | 17.4      |
| Respiratory disorder                 | 16.1      |
| Skin conditions                      | 13.3      |
| Gastro intestinal/abdominal disorder | 9.0       |
| Psychiatric problem                  | 8.5       |
| Hearing loss                         | 8.2       |
| Genitourinary disorder               | 3.5       |

Source : VAHI (1997)<sup>10</sup>

**Distribution of elderly as per diagnostic Group**

| Systems               | Reported% |
|-----------------------|-----------|
| Eye                   | 70        |
| HTN                   | 48        |
| Psychosocial problems | 42        |
| Resp                  | 36        |
| Musculo skeletal      | 14.6      |
| Nervous system        | 8.67      |
| Ear                   | 8.0       |
| GIT                   | 4.7       |
| Endocrine             | 3.33      |
| Genitourinary         | 2         |
| Skin                  | 0.66      |
| Hernia                | 0.66      |

Source : Prakash R.et. al;(2004)<sup>11</sup>

**References :**

1. Preventive medicine and Geriatric; In Park's Text Book of Preventive & Social Medicine, 17<sup>th</sup> edition pp 408 edited by Park K, published by Bannarsidas Bhanot, Jabalpur, 2002.
2. WHO Press Release Oct. 1998.
3. News letter, National Institute of Health and Family Welfare, Vol III, No. 3, 2001.
4. Venkoba rao, A; Psychiatric morbidity in the aged, Indian Journal of Medical Research, 1997; 106:361-369.

5. Lal S, mohan B, Punia MS. Health and Social status of senior citizens in rural areas, Indian Journal of Community Health (IJCH), 1997;9(3):12.
6. Schmitz G, Hankowitz J, Brennhause B, Schmutte C. The effect of Ca<sup>++</sup> antagonists on cellular lipid metabolism. Arzneimittel-forschung (Germany west) 1990; 40 (3A): 366-72.
7. Fuchs J, Mainka L, Zimmer G. 2-mercaptopropionyl glycine and related compounds in the treatment of mitochondrial dysfunction and postischemic myocardial damage Arzneimittelofchung (Germany, west) 1985;35(91:1394-1402.
8. Sharma D, Singh R. Centrophenoxine activates acetyl cholinestrase age activity in hippocampus of aged rats. Neurobiology laboratory, school of life sciences. Jawahar Lal Nehru University, New Delhi, India, Indian J. Exp. Biol (India), 1993: 33 (5): 365-8.
9. Huguet F, Drieu K, Piriou A. Decreased cerebral 5- HTIA receptor during ageing reversal by Ginkgo biloba extract, J Pharm. Phmacol (England) 1994; 46(4):316-8
10. VAHI- Report of the Independent commission on Health in India, chapter 14, Health Problem of Specialized Groups;1997.
11. Prakash R; Choudhary S.K., Singh U.S; Deptt of comm. Med., R.N.T. Medical College, Udaipur. I.J.C.H 2004:XXIX No.1.

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## ASSESSMENT OF KNOWLEDGE ABOUT VITAMIN A PROPHYLAXIS PROGRAMME AMONG HEALTH AND ICDS FUNCTIONARIES IN DISTRICT BANDA (U.P.)

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### Abstract :

**Research question :** What is the level of knowledge about vitamin A among health and ICDS staff?

### Objectives :

1. To assess the knowledge of respondent staff.
2. to suggest need for strengthening, reorienting training and motivation of staff for the success of the programme.

**Study design** - cross sectional

**Setting** - the study was performed in district Banda (UP)

**Result :** total respondents interviewed were 125 with male female ratio of 55:70.

75% of the total respondents were in the age group 20 to 45 years. Regarding knowledge 91.2% responded blindness and 15.4% Bitot's spots as symptom of vitamin A deficiency.

### Introduction :

Malnutrition as recognized by WHO is associated with over half of all child deaths that occur in the developing countries. Micronutrient, vitamin A deficiency increases severity and duration of measles and contributes to under five children mortality. Vitamin A deficiency continues to be a serious public health problem concluded by a district wise survey under taken by state government. Incidence of conjunctiva xerosis and Bitot's spot is reported to be 1-8 to 8.9%, while public health cut off is only 5%. Despite of this only 10% of children are reported to have received at least one dose of vitamin A supplement through the routine programme activities. Observing severity of the problem and quality of the services provided by health and ICDS departments, a study was carried out at Banda district of UP in may 2005

with following objectives:

1. To assess the knowledge of ICDS and Health staff
2. To suggest need for strengthening reorientation training and motivation of staff for the success of the programme.

### Material and Method :

The present study was carried out using prestructured and pretested questionnaires for interviewing health and ICDS functionaries. Out of the total area visited, only 125 respondents from both the sectors could be approached and interviewed with confidentiality as needed.

### Results :

Among respondents about majority were in the age of 20 to 45 years age. And majority (68.0%) belonged to residing at distant places from the

(68.0%) place of posting. Regarding knowledge about Vit A deficiency symptoms (multiple answers) 91.2% answered blindness followed by watering of eye (64.8%), pain in the eye (59.2%) at least others (18.4%), night blindness (85.6%), corneal xerosis (18.9%) and Bitot's spots 15.4%, when asked about cause of vita A deficiency disorders majority (67.2%) responded vita A deficiency, followed by infection (13.6%) direct contact (11.2%) and air borne (2.4%). Among methods of administration of Vit A, special spoon used was 56.8%, cap of bottle 19.2%, ordinary spoon 11.2% and dropper used 9.6%. Consumption of green leafy vegetable and yellow fruits were highly, (84.8%) considered preventive measure followed by consumption of pulses in large amount (25.6%) and least consumption of vegetable oils (16.8%) Necessity of 5 doses of Vit A to be ad-

ministered in three years, was responded (56.8%) followed by 4 doses (7.3%) and 2 doses (3.2%)

# Conclusion :

In the present study it was observed that though most of the ICDS and health field staff have workable knowledge about Vit A deficiency symptoms but this is not sufficient for success of the programme objectives and early case detection, Hence regular reorientation and training of field staff regarding ultimate and immediate objectives of the VitA prophylaxis programme is very essential. No doubt administrative and political hurdles are being faced by field workers but they should be motivated so strongly that they can put their maximum efforts within currently existing and limited resources made available by the govt.

**TABLE - 1**  
**Knowledge about Vit A deficiency symptoms (multiple answers)**

| Symptoms (n =125)   | Number | Percentage |
|---------------------|--------|------------|
| Swelling the eye    | 48     |            |
| Pain in the eye     | 74     | 59.2       |
| Watering of the eye | 81     | 64.8       |
| Blindness           | 114    | 91.2       |
| Others              | 23     | 18.4       |

**TABLE - 2**  
**Knowledge about causes of night blindness**

| S.No. | Causes           | Number     | Percentage  |
|-------|------------------|------------|-------------|
| 1.    | Infection        | 17         | 13.6        |
| 2.    | Direct contact   | 14         | 11.2        |
| 4.    | Air borne route  | 3          | 2.4         |
| 5.    | Vit A deficiency | 84         | 67.2        |
|       | Other            | 7          | 5.6         |
|       | <b>Total</b>     | <b>125</b> | <b>100%</b> |

**TABLE - 3**  
**Knowledge about Mode of Administration**

| S.No.        | Modes                   | Number     | Percentage  |
|--------------|-------------------------|------------|-------------|
| 1.           | Ordinary spoon          | 14         | 11.2        |
| 2.           | Cap of bottle           | 24         | 19.2        |
| 3.           | Dropper                 | 12         | 9.6         |
| 4.           | Special spoon for Vit A | 71         | 56.8        |
| 5.           | Others                  | 4          | 3.2         |
| <b>Total</b> |                         | <b>125</b> | <b>100%</b> |

**TABLE - 4**  
**Knowledge about Prevention of Night Blindness (multiple answers)**

| S.No. | Prevention (n=125)                              | Number | Percentage |
|-------|-------------------------------------------------|--------|------------|
| 1.    | Consumption of pulses in large amount           | 32     | 25.6       |
| 2.    | Consumption of G.L. vegetable and yellow fruits | 106    | 84.8       |
| 3.    | Consumption of vegetable oils                   | 21     | 16.9       |

**TABLE - 5**  
**Knowledge about total number of doses of Vit A administered to <3year children.**

| No.          | Total doses | Number     | Percentage |
|--------------|-------------|------------|------------|
| 1.           | Two         | 4          | 3.2        |
| 2.           | Three       | 28         | 22.4       |
| 3.           | Four        | 9          | 7.3        |
| 4.           | Five        | 71         | 56.8       |
| 5.           | More than 5 | 7          | 5.6        |
|              | Others      | 6          | 4.8        |
| <b>Total</b> |             | <b>125</b> | <b>100</b> |

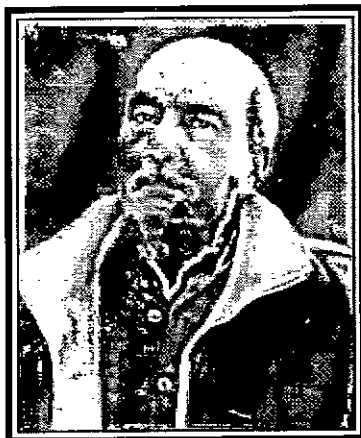
**REFERENCES :**

1. Unicef : State of the world's children, New York : Oxford University Press, 2000.
2. Pedro MRA, Cheong RL, Madriaga JR, Barba CVC, 2001 Impact, policy, and program implications of the Philippines vitamin A-supplementation program vienna Page 84.
3. M.C. Gupta, B.K. Mahajan, 2003 Text book of Preventive and social Medicine, 3rd edition Page : 354-355.
4. K. Park 2005 Text book of Preventive and social Medicine 18th edition, Page 442-444.

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## OBITUARY

5.8.1940 - 16.4.2005



*Dr. Surendra Nath Sharma Joined department of SPM GSVM Medical College Kanpur In the year 1972 and retired from the same department in 1998. Before joining in Medical College; he had served as head of department of physics in SMV College and Head of Deptt. of Statistics in PPN College, Kanpur. He was devoted teacher, highly respected by both his Colleagues as well as students. He was closely, associated in teaching statistics in very simple manner to undergraduate and post graduate students. He was actively involved in supervising MD/MS Thesis work of postgraduate students of department of SPM as well as of other departments of medical college kanpur. He had published many research papers in National & Inter National journals. He was also elected as president of G.S.V.M. Medical College Teachers Association.*

*Even after retirement, he worked as Guest Faculty in department of SPM for about 2 years. He was excellent player of Lawn Tennis, Table Tennis and Chess. A total Health break morning walk and meditation was part of his daily routine.*

*We all members of Indian Journal of community Health and Faculty of Department of Community medicine, all medical colleges of UP, mourn his death and pray to god, may his soul rest in peace.*