DCWC Research Bulletin

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A. Research Abstracts on Child Development

CHILD WELFARE


**BACKGROUND:** India has the maximum number of child marriages (CMs; < 18 years) because of the size of its population, and in 47 per cent of all marriages the bride is a child. Children who are married at young age are exposed to multiple risks pertaining to their physical, mental, and social health.

**AIMS:** (i) To estimate the prevalence of CM in rural population. (ii) To study the determinants and health effects of CM. (iii) To assess the awareness among the married women regarding the health implications of CM.

**METHODOLOGY:** Community-based cross-sectional study conducted in Ardi village of Anand district. All the married women of the village were surveyed to find out the prevalence of CM. For collection of other relevant information, only those women having a married life of less than 10 years were interviewed using semi coded and pretested questionnaire.

**RESULTS:** The prevalence of CM was found to be 71.5 per cent. Caste and spouse’s education were revealed as important determinants for CM. The mean age at marriage of female spouses was 18.2 ± 2.4, while that of male spouses was 20.8 ± 3.2. About 14-18 per cent of the respondents had knowledge about the health effects of early marriage like preterm delivery, surgical delivery, abortion, LBW, and higher risk of illness in both mother and child. Only 29 per cent respondents knew about at least one of the four family welfare methods, viz. condom, oral pills, Copper-T, and tubal ligation. Women with CM were found to be less knowledgeable than those without CM in all these three aspects. CM was found to be significantly associated with mother’s age at birth of first child, delayed antenatal care (ANC), spontaneous abortion, preterm delivery, Low Birth Weight (LBW), health problems in new born baby, faulty feeding practices, lack of knowledge regarding family welfare methods, and health implications of CM.

**CONCLUSION:** Exceptionally high prevalence of CM in rural community and its serious health consequences warrant stricter enforcement of legislation, better educational opportunities for girls, and easy access to quality health services.

**Keywords:** 1. CHILD WELFARE 2. CHILD MARRIAGE 3. DETERMINANTS 4. HEALTH EFFECTS 5. KNOWLEDGE 6. LOW BIRTH WEIGHT (LBW)

**Background:** India has witnessed declining overall sex ratio since the last century. Declining child sex ratio in India is a long back issue where daughter discrimination is majorly found by depriving daughters mainly from food, medication and parental affection. Negligence towards girl child are much higher for those who are born in higher parity and having elder sisters. The child sex ratio (0-6 years) is declining steadily during the last five decades and more steeply in northern states of India. According to the decennial Indian census, the sex ratio in the 0-6 age group in India went from 962 girls per 1000 boys in 1981, to 914 girls per 1000 boys in 2011. Amongst the status of the states, 9 States/UTs viz. NCT Delhi, Chandigarh, Pondicherry Punjab, Maharashtra, Andhra Pradesh and Tamil Nadu, Mizoram & Manipur. These states have shown declining CSR in 2001-2011.

**Objectives:** To study the pattern of district level child sex ratio (0-6 year age); to show the association of Child Sex Ratio (CSR) with various socio cultural and demographic variables; and to study the effect of socio economic factors on the pattern of child sex ratio.

**Methods:** A total sample of 230 districts were analyzed from 7 states which had CSR below national average(914). The district level data on child sex ratio (0-6 years) and socio economic indicators were taken from 2001 and 2011 census. District level Total Fertility Rate (TFR) and Sex Ratio at Birth (SRB) were taken. Along with socio cultural variables were taken as they were correlated with CSR to show the association.

**Results:** The study focused on various factors covering wide range of socio-economic and demographic dimension that associated with contemporary sex discrimination and clarified their relative explanatory power. The reasons of child masculinity in north western states were explained by the cultural practice and kinship structure which attribute lesser utility to female children than male children and produces social norms hostile for the survival of a girl child. On the basis of the Child Sex Ratio the highest sex ratio in 2011 was found in Lahul & Spiti district (CSR: 1013) in Himachal Pradesh. Tawang district in Arunachal had the second highest Child Sex Ratio (CSR: 1005) moreover sharing it with the district Dakshin Baster Dantewada, Chhattisgarh. Kamrup Metropolitan in Assam had the third highest Child Sex Ratio (CSR: 994). While the state of Haryana exhibited the most grim picture with the biggest share of contribution amongst states in districts with lowest Child Sex Ratio as in Jhajjar (CSR: 774), Mahendragarh (CSR: 778) and Rewari (CSR: 784). Among 15 lowest CSR districts in India 10 belonged to Haryana. On the basis of the districts who had the highest positive changes in improving CSR in twenty years of time period (change from 1991 to 2011) highest was in Salem in Tamil Nadu (+87 points) followed by Lahul & Spiti, Himachal Pradesh (+62 points), Theni in Tamil Nadu...
and Tawang in Arunachal Pradesh with a considerable change of +41 points followed by Balarampur (+33) in Uttar Pradesh, chandauli (+32) champali (+30) in Mizoram. Negative changes in many districts was also observed with highest negative changes in 2011 CSR was found by (-85 points) since 1991 in Jhajjar, Haryana, followed by Rewari (-83 points), Mahendranagar (-74 points) of same state. Ahmednagar in Maharashtra has decreased by 65 points in CSR since 1991 while Pithoragarh declined further by 62 points.

**Conclusion:** The spatial dimension of discrimination presented above leads to conclusions that sex ratio is more skewed in the most urbanized and economically well off states of north and western region. The relatively under developed and less urbanized population of central and eastern region have higher child sex ratio. Thus geography of CSR variations remain as an issue of discussion through the superimposed socio cultural frames that really deserves attention.

**Keywords:** 1. CHILD WELFARE  2. TOTAL FERTILITY RATE  3. CHILD SEX RATIO (CSR)  4. SEX DISCRIMINATION  5. SOCIO CULTURAL FRAME
Background: In India, The School Lunch Programme (SLP) was first introduced in Madras by the Corporation for a child belonging to poor families. SLP was introduced in some parts of Kerala in 1941 followed by Bombay in 1946.

Objective: To examine the implementation of Mid-Day Meal scheme in Nalgonda.

Methods: Stratified random sampling method was used to collect the data. A total 12 schools from three mandals were selected. 12 Headmasters (HMs), 60 teachers, 60 students and 60 parents were selected in the study. Questionnaires were also used in this study.

Findings: The study found that 50 per cent of the schools are receiving poor quality of rice from the government, 41.7 per cent of the schools are receiving average quality of rice and only 8.3 per cent of the schools received good quality of rice for MDM scheme in the schools. The maximum schools 83.3 per cent are not receiving food grains (rice) on-time, only 16.7 per cent are receiving rice in school on-time. 50 per cent of the school's enrolment increased below 10 per cent, and 50 per cent of the school's enrolment increased between 11 and 20 per cent due to MDM scheme. 83 per cent of the respondents opined that regularity to the school improved due to MDM scheme There is no health problem reported by children due to MDM scheme in the schools. Training programmes are not conducted for HMs on MDM scheme 80.5 per cent of the teachers and 72 per cent parents opined that the school enrolment increased due to Mid-Day Meal. 70.4 per cent of the students say healthy and good habits are developed due to mid-day meal scheme. 83.2 per cent of the respondents take MDM in their schools. The majority of the parents (64%) had a view that there is decrease of malnutrition among children due to MDM scheme in the schools. The studies found that majority of the schools are receiving poor quality of rice from the government.

Conclusions: After analyzing the conclusion was made that the enrolment and attendance improved and classroom hunger avoided due to MDM programme.

Keywords: 1. EDUCATION 2. SCHOOL LUNCH PROGRAMME (SLP) 3. MID DAY MEAL 4. SCHOOL ENROLMENT 5. MALNUTRITION

**Background:** Breastfeeding is an unequalled way of providing ideal food for the healthy growth and development of infants. As a global public health recommendation, infants should be exclusively breastfed for the first six months of life to achieve optimal growth, development and health. It is recommended that children should be put to the breast within 1 hour after birth. During the first few days after delivery, colostrum, an important source of nutrition and antibody for the new-born, is produced and should be fed to the new-born while awaiting the production of regular breast milk. Early breastfeeding within 1 hour and exclusive breastfeeding for first 6 months are the key interventions to achieve reduction in child malnutrition and mortality. NFHS-3 data shows that initiation of breastfeeding within 1 hour is only 24.5 per cent, while exclusive breastfeeding rates in children <6 months is only 46.4 per cent in India.

**Objective:** To assess the effectiveness of targeted antenatal intervention on early initiation of breastfeeding and colostrum administration.

**Methods:** The intervention study was conducted at a tertiary hospital from September 2009 to December 2009. On an average, 25 pregnant women visited the antenatal clinic of the hospital daily, out of which about 20 to 30 per cent are primigravida. Study participants were 154 primigravida in last trimester regularly attending Antenatal clinic of the hospital. The routine standard of care at the clinic comprised of a protocol including registration, laboratory investigations and Blood Pressure measurement, antenatal examination, consultation with an obstetrician and dispensing of drugs. The enrolled study participants were divided into intervention and control arms according to their days of visit to the antenatal clinic. They were then followed up in obstetric wards within 72 hours of their deliveries and were canvassed using a pre-tested semi-structured study instrument regarding initiation of breast feeding and colostrum administration.

**Results:** 41 per cent of the mothers in the control group initiated breastfeeding within 1 hour as against 66 per cent in the intervention group. There was 1.62 times increase in the rates of early initiation in the intervention group. The most common reason for late initiation in the control group was ignorance while in intervention group ignorance didn't account for late initiation in any of the subjects. Other reasons for late initiation which were common in both the groups were mother not feeling well after delivery. 100 per cent of the mothers among the intervention group administered colostrum to their babies; while only 56 per cent among the controls practiced it the rest of them discarded it, which
shows huge lack of awareness of the importance of colostrum and strong cultural inhibition.

**Conclusion:** As antenatal counselling along with informative educational materials proved to be a highly useful intervention in achieving the targets of early initiation of breastfeeding and colostrum administration, it is recommended that it be prioritized in Antenatal Clinics.

**Keywords:** 1. HEALTH 2. PRIMAGRAVIDS 3. ANTENATAL COUNSELLING 4. INITIATION OF BREAST FEEDING 5. COLOSTRUM 6. INTERVENTIONAL STUDY.
ICDS


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Background: The Integrated Child Development Service (ICDS) scheme is presently the only major national programme in the country which focuses on early childhood care, pregnant and lactating women through Anganwadi Workers (AWW). However, effectiveness of ICDS scheme in delivering desired services has been questioned repeatedly.

Objectives: To assess the performance regarding maternal and child health services being delivered as well as availability of infrastructure facilities at urban and rural Anganwadi Centres.

Methods: Facility and service assessment cross-sectional study was conducted during October-November, 2009 covering 22 AWCs in urban and rural areas of Pondicherry and Tamil Nadu. Information on AWWs' background characteristics, infrastructure and MCH services being delivered at AWCs were observed and recorded. Quality of MCH services being delivered was also assessed.

Results: Out of 11 AWCs each visited in urban and rural areas, 9 (81.82%) urban and 7 (63.64%) rural AWCs had a Pukka construction. However, 2 (18.18%) rural AWC buildings were Kucha. Only 3 (27.27%) urban and 4 (36.36%) rural AWCs had a functional Salter's scale, while 9 (81.82%) urban and 7 (63.63%) rural AWCs had a functional bathroom scale for weight monitoring of the children attending these anganwadis. Availability of a separate toilet was observed in 7 (63.64%) urban and 3 (27.27%) rural AWCs. Separate area for food storage was observed in 7 (63.64%) urban and only in 4 (36.35%) rural AWCs. Adequate toys or playing material and adequate playing space for children was observed in only 4 (36.36%) urban and 2 (18.18%) rural AWCs. Average numbers of children registered under these urban and rural AWCs were 27.64±8.23. Mean age of AWWs in urban and rural area was 46.27±3.77 and 42.64±7.19 years respectively. All the 11 AWWs in urban AWCs were regularly maintaining growth charts for children attending these anganwadis, while only 5 (45.46%) AWWs in rural AWCs were maintaining such growth charts regularly. Average numbers of pregnant mothers registered under urban and rural AWCs were 4.09±2.84 and 5.36±6.06 respectively. Similarly, average numbers of lactating mothers registered under urban and rural AWCs were 5.36±1.29 and 6.27±3.88 respectively. None of these 22 AWCs celebrated the ‘Health and Nutritional Day’ (Comprehensive MCH and Family Welfare day to be celebrated under NRHM every month) for the previous month.
**Conclusion:** Performance of AWCs and MCH services delivered by anganwadis are inadequate. Hence operational challenges should be addressed to improve MCH services especially in rural areas.

**Keywords:** 1. ICDS 2. CDPOs 3. CENTRAL MONITORING UNITS (CMUs) 4. AWCs 5. MCH SERVICES
Background: ICDS Programme is seen as major innovative effort in building comprehensive integrated services for children and mothers. The monitoring and supervision of the programme has been recognized as one of the essential requirements for effective functioning of the scheme. Keeping in view the importance of the monitoring, MWCD has taken many steps to revamp the MIS under ICDS. A comprehensive Monitoring and Evaluation system has already been evolved by MWCD, GOI for monitoring the projects through a regular monthly and quarterly feedback from each project. The main components of this information system are: monthly and quarterly progress reports from the Anganwadi Worker to the CDPO through Supervisors; quarterly progress report from the Supervisor to the CDPO; and Monthly and quarterly progress report from the CDPO to the State Government / Union Territory Administration with copies to the ICDS Control Room located in MWCD, GOI.

Objectives: The broader objectives were to determine the strategy to be adopted to develop effective monitoring mechanism at all levels; Study convergence of services provided under other schemes; Analyze the services delivered under the ICDS at all levels; Identify the bottlenecks/problems of the scheme and initiate action for corrective measures; Test the accuracy of the data received at the national level; Prepare detailed recommendations for improving the efficiency and effectiveness of the scheme; Document some of the Best Practices at the state level, and, Identify the strengths and weaknesses of the already existing monitoring system.

Methods: The present monitoring report analyzed the relevant ICDS data received from consultants for 810 ICDS Projects and 4423 Anganwadi Centers. The data were gathered by taking interview of ICDS Project (CDPOs) using Monitoring Proformas and Observation schedule for AWCs. Altogether 30 core indicators of ICDS implementation were used to compute the ICDS implementation index. These set of 30 core indicators were further grouped together into six sub groups of Infrastructure, Training, Personal Profile, Service Delivery, Continuous and Comprehensive Monitoring & Supportive Supervision and Community Mobilization & IEC Index.

Results: More than two third (68.43%) of AWCs were located in Pucca buildings. Take Home Ration (THR) to the children of 6 months to three years was being distributed in three forth (69.28%) of AWCs located across the country. Around 52 per cent of the total selected AWCs distributed HCF and less than one fifth (19%) of AWCs were distributed RTE to children 3 to 6 years of age. Acceptability of supplementary nutrition by ICDS beneficiaries had been reported in majority (85.8%) of the AWCs. The quality of supplementary nutrition being distributed in little less than three-fourth (74.4%) of the AWCs had been
rated as good by CMU consultants. The observation of CMU consultant’s showed that 67 per cent of AWWs were able to accurately plot the weight on the New WHO Child Growth charts. The availability of adequate educational material pertaining to NHEd had been observed in only little more than one thirds (35%) of AWCs. The data on health check-up showed that health check-up of all children were carried out in little less than one third (30.3%) of AWCs and the availability of referral slips and maintenance of children’s health were observed in 24.5 per cent and 42 per cent of AWCs respectively. Moreover, it was observed that more than half of children (68.7%) of the total population (3-6 years) were enrolled in for availing pre-school education inputs under ICDS. The data on IFA supplementation and de-worming of Adolescent Girls showed that it was being done in 46.8 per cent and 42.8 per cent of AWCs respectively. About 44.4 per cent of ICDS projects were celebrating World Breastfeeding Week and National Nutrition Week and only one fourth (28.5%) of ICDS projects were organizing the Village Health and Nutrition Day.

**Conclusion:** In order to improve the overall status of ICDS implementation across various States/UTs, a strong need to design State/UTs-specific planned approaches focusing on strategically crafted micro planning inputs is required. In order to do so, the States/UTs may require computing district and project wise ICDS Implementation Indices. Without carrying out such intensive efforts, the overall Implementation status of ICDS is not expected to improve. The ICDS implementation Index as developed by CMU can play a significant role in assessing the status of ICDS implementation in various States/UTs and in deciding the future course of action.

Background: The World Health Organization (WHO) recommends exclusive breastfeeding during the first 6 months of life for the optimal growth and the development of infants. The feeding practices during infancy are of critical importance for the growth and the development of children. The infant feeding practices are influenced to a great extent by the socio-economic status, education, religion, knowledge, attitude and the beliefs of the mother about child care. The women in the urban slums work outside their homes and they are not protected by the labour laws like maternity or sick leave. This pattern of working affects the breastfeeding practices.

Objective: To assess the infant feeding practices in an Urban slum and to determine the factors which influenced it.

Methods: A community based, cross-sectional study was conducted at an urban slum of Nagpur, Maharashtra, India, during June 2011 to December 2011. 3 slum areas were selected by a lottery method (a simple random sampling method). The data was collected by interviewing 384 mothers who had children below 1 year of age, in the local languages, by using a pretested and semi structured questionnaire.

Findings: Out of the 384 enrolled mothers, 125 (32.56%) mothers had started breast feeding within 1 hour after their deliveries. Colostrum was given by only 82 (21.38%) mothers. Exclusive breast feeding for 6 months was given by 142 (36.84%) mothers. The practice of exclusive breast feeding was more in the literate mothers and in mothers who were informed by the health personnel. This was statistically significant. The practice of exclusive breast feeding was not significantly different between the mothers who had undergone home deliveries and hospital deliveries. Out of the 131 mothers who were informed about feeding by the health personnel, 94 had breastfed their babies and out of the 253 who were not informed, 48 had breastfed their babies.

Conclusion: Inappropriate feeding practices like the late initiation of breast feeding, rejecting colostrum, giving pre-lacteal feeds, not exclusively breastfeeding for the first 6 months and the delayed initiation of complimentary feeds, are common in the urban slums of Nagpur, Maharashtra, India. The practice of exclusive breast feeding was more in the literate mothers and in the mothers who had been informed about breast feeding by the health personnel.

Keywords: 1. NUTRITION 2. EXCLUSIVE BREAST FEEDING 3. INFANT FEEDING PRACTICES 4. URBAN SLUM 5. WHO.

**Background:** Malnourished children admitted to Pediatric Intensive Care Unit (PICU) have a higher incidence of both infection and mortality. Not only malnutrition is one of the most important contributors to child mortality in developing countries, but also interplays disease severity and outcome in hospitalized patients is largely unaddressed. There is a paucity of data confirming a clear link between malnutrition and mortality in children admitted to the Pediatric Intensive Care Unit (PICU) in developing countries.

**Objectives:** To assess the impact of nutritional status on outcomes like mortality rate, length of mechanical ventilation and length of Pediatric Intensive Care Unit (PICU) stay, in critically ill children.

**Methods:** In this retrospective study conducted at a tertiary care center, records of 332 critically ill children between 1 month to 15 year of age for whom anthropometric parameters was available were included.

**Results:** Various outcomes like mortality, duration of PICU stay and duration of mechanical ventilation were assessed in the 3 groups based on the nutritional status. The prevalence of malnutrition in the index study was 51.2 per cent with an overall mortality of 38.8 per cent. No difference was found between mortality rates and proportion of ventilated children in the three study groups. However, more children who were severely malnourished had significantly prolonged ICU stay (>7 d) as well a duration of mechanical ventilation (>7 d). When the outcome variables were compared after adjusting for PIM2 scores, there were increasing odds of mortality, ventilation, prolonged PICU stay and duration of mechanical ventilation with increasing severity of malnutrition.

**Conclusions:** After stabilization of the initial critical phase, PICU outcome is influenced by the nutritional status of the children.

**Keywords:** 1. NUTRITION 2. MALNUTRITION 3. CRITICALLY ILL 4. OUTCOME

**Background:** Assam’s main lifeline is the Brahmaputra river, known for its catastrophic flooding. The river is of braided nature giving rise to numerous sand bars and islands known as chars / sapories. They are home to more than 3 million people. Over 90 per cent of the cultivated land on the river islands is flood-prone. The flood leaves the islands completely separated from the mainland, thereby preventing access to health infrastructure and services.

**Objective:** To assess the nutritional status of under 5 children residing in the char areas of Dibrugarh district and to identify the factors influencing their nutritional status.

**Methods:** A community-based cross-sectional study was conducted in the riverine (Char) areas of Dibrugarh district of Assam, during 2011-12. The sample size was 500 children in the study. Nutritional status was assessed using anthropometry. Undernutrition was classified using World Health Organization (WHO) recommended Z-score system.

**Findings:** The study reported that out of the 500 children, 206 (41.2%) were boys and 294 (58.8%) were girls. Majority (61%) were from nuclear family. Significant association was observed between the prevalence of undernutrition and socioeconomic status, literacy status of parents, infant, and young child feeding practices and size of the family ($P < 0.05$). Overall prevalence of underweight, stunting, and wasting was 29 per cent, 30.4 per cent, and 21.6 per cent, respectively. Prevalence of underweight and stunting was less than the prevalence of underweight (36.4%) and stunting (46.5%) in Assam. Prevalence of underweight and stunting was more common among the older age group. Stunting was also highest (58.6%) among the children aged 48-60 months, followed by 57.3 per cent in the age group 36-48 months. Prevalence of underweight was more (30.3%) among the children belonging to joint families than that of nuclear families (29.2%), whereas prevalence of stunting was higher (32.1%) among the children belonging to nuclear families than joint families (27.7%). Prevalence of underweight was found to be less (22.0%) when both the parents were literate in comparison to the prevalence (33.1%) when only one parent was literate. Prevalence of stunting and wasting was also least among the children whose both parents were literate in comparison to those whose one parent was literate or both the parents were illiterate.

**Conclusion:** The study concluded that Infant-feeding practices constitute a major component of child caring practices apart from sociocultural, economic, and demographic factors so special focus is needed for nutritional improvement of under 5 children living in Char areas to achieve optimum development.
Keywords: 1. NUTRITION 2. NUTRITIONAL STATUS 3. UNDER 5 CHILDREN 4. TRIBAL POPULATION 5. INFANT FEEDING.
Background: The future of any nation rests on its children – the future citizens. In India total numbers of children (Below 18 years) are about 400 million. The WHO Global Burden of Disease Project estimates that malnutrition, which includes micronutrient deficiencies including anaemia also, is the leading risk factor for child mortality in low-income and middle-income countries including India.

Objective: To find the prevalence and relationship of anaemia and various common morbidities among children in the age group of 5-14 years in Khichripur area in Delhi.

Methods: A Community based cross-sectional study was conducted with expected number of children in the age group of 5-14 years in Khichri area being 7000, and 10 per cent of the expected 5-14 years children was decided as sample size. Probability proportionate sampling was used to collect data.

Results: Of total 869 children were screened out of which only 830 subjects were finally included in the study because 8 boys and 31 girls did not gave consent. The proportion of boys and girls in the study population were found to be almost equal, (50.5%) and (49.5%) respectively. Proportion of children in each age group varies from (18.9%) to (21.3%). Proportion of children in the age group of 5-9 years is (48.3%) (preadolescent) compared to the proportion of children in the age group of 10-14 years which is 51.7 per cent (Early adolescent) almost equal. Prevalence of anemia was found to be 64 per cent. Proportion of children having mild, moderate and severe anemia was found to be (49.3%), (13.4%) and (1.3%) respectively. Morbidities are increasing proportionality with the severity of anemia.

Conclusion: Prevalence of anemia was found to be more in girls but was equally higher in boys leading to increase in much other morbidity. The measures to combat anemia which is more among the girls at all age groups and also seen to increase in prevalence with increasing age should be undertaken. Also the higher malnutrition observed among the boys is surprising; measures for nutritional supplementation are needed. Anti-helminthic should be given to all children once in 6 months.

Keywords: 1. NUTRITION 2. ANAEMIA 3. COMORBIDITIES 4. PHYSICAL GROWTH 5. MICRONUTRIENT DEFICIENCY 6. UNDERWEIGHT.
Background: Infants and young children are at an increased risk of malnutrition from six months of age onwards, when breast milk alone is no longer sufficient to meet all their nutritional requirements and complementary feeding should be started. Hence this study was undertaken to assess the practices of complementary feeding.

Objectives: To estimate the average age of commencement of complementary feeding, and to determine the feeding pattern of infants, including the types of commonly used complementary food and their frequency in the studied population.

Methods: This hospital-based cross-sectional study was conducted at one private hospital in Salem, Tamil Nadu. 50 mothers of infants between six months and one year attending the pediatric outpatient departments were selected for the study by random sampling technique. The study instrument was a closed ended structured questionnaire.

Results: In this study, all the selected mothers were literate. About 62 per cent of the mothers introduced complementary foods to their infants before 5 months, while 36 per cent of mothers started complementary feeding at the recommended time i.e., six months. Majority of infants (74%) were breastfed between four and 12 hours in the present study. A total of 50 mother-child pairs responded and the response rate was 100 per cent. 46 per cent infants belonged to the 6–9 months age group and 54 per cent infants belonged to the 6–12 months age group. Nearly half of the infants were boys. The mean age was 8.84 (S.D +1.78) months and the median age were 10 months. About 30 (60%) infants had body weight more than seven kg, (58%) of the infants had first birth order and (56%) of the infants was first child in their family. Approximately 68 per cent infants belonged to urban area and 60 per cent infant’s family income was more than Rs. 10,000. Half of the mothers completed their graduation and moreover majority of the selected mothers were homemakers. More than half (64%) of the mothers preferred commercial complementary foods because it saves time, were convenient and had good taste while 18 per cent of them felt that these foods were more nutritious, cheaper, better taste and easily available. One fourth of the selected mothers preferred both home-prepared and commercially-complementary foods. Approximately three fourth of the subjects (70%) fed complementary foods twice a day to their infants, while 30 per cent of them fed complementary foods to their infants 3 - 5 times. More than three hundred rupees per month was spent for procuring complementary foods by 68 per cent of the mothers.
Conclusion: The findings of this study indicated that majority of the cases (62%) were not up to the mark in proper use of complementary practices. Residence area and education level of mother were significantly related with the use of proper complementary practices. Use of proper complementary practices among the mother was improper among the majority cases. Appropriate complementary feeding should start from age of six months with continued breast feeding up to two years.

Keywords: 1. NUTRITION 2. COMPLEMENTARY FEEDING 3. EXCLUSIVE BREASTFEED 4. INFANTS.
Background: The prevention of malnutrition is crucial for improving our human resources. Child under-nutrition is the major public health issue in many developing countries such as India. Out of 167 million underweight under-five-year old children in the world, 90 million live in South Asia. Despite global efforts for improving nutritional status of children, desired outcomes could not be achieved. Malnutrition is regarded as a silent emergency in India, seriously affecting human development and economy of the country.

Objective: Present study attempts to find the prevalence of malnutrition in under three children and their relations with socio-demographic factors.

Method: A community based cross-sectional study, undertaken in Rural, Urban and Slum population of UT Chandigarh. The total sample size was 424, under the study.

Results: Nutritional status of children was assessed using WHO classifications. Out of the total, 262 (61.8%) were found to be underweight. Underweight prevalence was maximum amongst 25-36 months (75%) of age. There were 24.6 per cent females of normal weight as compared to 40.6 per cent in males. Prevalence of underweight was found to be maximum (72.5%) in case of low SES. Normal weight was highest for birth order one (37.7%). Normal weight children were more in case of joint family (34.4%) as compared to that in nuclear families (32.8%) and underweight children were more in nuclear families (64.7%).

Conclusion: The study was undertaken to know the prevalence of malnutrition in children and to identify important factors leading to malnutrition. According to WHO criterion the overall prevalence of underweight was found to be 61.8 per cent. Prevalence of underweight was more among girls (72.6%) as compared to boys (54.2%). Underweight prevalence was maximum (75.0%) among children aged 25-36 months. Prevalence of underweight was found to be maximum (72.5%) in case of low SES. EBF (Exclusive Breastfeeding), Prelectal feed, colostrum’s feeding etc. all are significantly related to underweight. It is suggested to promote optimal Infant and Young Child Feeding Practices (IYCF) to reduce malnutrition in terms of being underweight among children under three years of age.

Keywords: 1. NUTRITION 2. NUTRITIONAL STATUS 3. WHO 4. MALNUTRITION 5. UNDER THREE CHILDREN 6. INFANT AND YOUNG CHILD FEEDING PRACTICES

Background: Growth may be defined as the acquisition of tissue with a concomitant increase in body size. Development refers in both the qualitative and quantitative aspects. Measurement of growth is an index of the overall health and nutrition.

Objective: The study aimed at determining the growth pattern and velocity in impoverish children between ages of 2-11 years.

Methods: The study was conducted in an urban slum called Ghousia Nagar in Mysore (South India), where a voluntary organization was working for slum betterment. Research proposal was approved from the institutional authorities with family consent as per ethics committee guidelines. Total 360 children under 11 years were enrolled for study. The mode of data collection was longitudinal method.

Results: Normal growth of children is an indicator of well-being. Assessments were made on nutritional status of children. Weight and height ratio respectively reveals a high prevalence of undernutrition. After 6 months of the study for a period of 4 years, the division of grades as per Gomez scale classification were assessed as normal (>90), mild (76-89), moderate (60-75), severe (<60). Total 20 per cent of children were with normal weight, 29 per cent of children with normal height and 59 per cent with normal weight and height ratio, 45 were underweight.

Conclusion: These observations indicate that interventions are needed to correct nutritional deficiencies and prevent the negative impact of undernutrition on secondary growth spurt of growing children.

Keywords: 1. NUTRITION 2. UNDER NUTRITION 3. NORMAL GROWTH 4. LONGITUDINAL DATA 5. MID UPPER ARM CIRCUMFERENCE 6. LONGITUDINAL MODE.
Background: Child obesity is one of the primary priority programs of the World Health Organization and is the most serious public health challenge of the twenty first century. Childhood obesity is a global issue affecting many low and middle income countries.

Objectives: To study the prevalence of childhood obesity among selected school children, their socio economic and infant nutrition status, lifestyle and dietary habits of obese children and asses the relation between infant nutrition and obesity in children.

Methods: To find out the prevalence of childhood obesity, three schools situated in Coimbatore were selected. A total of 1631 children both boys and girls studying from I to VI standard were selected. The nutritional status of all these children was assessed through anthropometric measurements.

Results: The prevalence of obesity was noticed among 30 per cent of boys and 31 per cent of girls. Obesity was high among the eight and nine year's old girls. 84 per cent of the boys and 81 per cent of girls belong to high income group. Small family is becoming a common lifestyle leading the children to tend for themselves. 61 per cent of boys and 65 per cent of girls were non vegetarians. Only 200 boys out of 245 and 58 girls out of 85 had the habit of consuming fruits and vegetables.

Conclusion: The study highlights the intertwining of multifaceted factors like socio economic status, lifestyle pattern, dietary habits and infant nutrition to play a definite and major role in the prevalence of childhood obesity. Infant nutrition seemed to have a strong impact in the occurrence of childhood obesity with special reference to complementary age and type of complementary food.

Keywords: 1. NUTRITION 2. OBESITY 3. COMPLEMENTARY FOOD 4. ANTHROPOMETRIC ASSESSMENTS 5. BMI 6. CHILDHOOD 7. DIETARY HABITS.
B. Research Abstracts on Child Protection

Child Labour

Source: www.fxb.harvard.edu/wp-content/.../Tainted-Carpets-Released-01-28-14.pdf G18943

Background: The Constitution of India, Article 24 includes a prohibition against the employment of children in factories and other hazardous settings. Nevertheless the issue of child labor and slavery in India’s hand-made carpet sector has received extensive attention since the early 1990s. Carpet weaving is stipulated as semi-skilled work in India. Semi-skilled minimum wages for carpet weaving differ by state. This is in large part due to the fact that India is the largest exporter of hand-made carpets in the world. The traditional “Carpet Belt” region of Uttar Pradesh that encapsulates the three cities of Bhadohi, Mirzapur, and Varanasi, emerges from a few dozen to at most a few hundred cases of child labour.

Objectives: To document child labour cases, to explore well beyond the traditional Carpet Belt across nine states in northern India; to investigate all modes of slave-like labor exploitation found in the carpet sector; and to document the supply chain of tainted carpets from the point of production to the point of retail sale in the United States.

Methods: The study utilized a purposive network and snowball sampling to identify survey participants located in nine states across northern India. These states were: Rajasthan, Haryana, Uttar Pradesh, Madhya Pradesh, Bihar, Sikkim, West Bengal, Jharkhand, and Odisha. Semi-structured interview questionnaires were used to gather information under the study.

Results: The results demonstrated that minority castes and ethnic groups remain heavily exploited in India’s carpet sector. The fact that 99.9 per cent of cases documented belonged to these communities is a blistering indictment of the country’s inability to protect and empower its most vulnerable and disenfranchised citizens. Children were regularly forced to work excessively long hours in extremely dangerous conditions. Under the study 1,406 cases (20% of industry prevalence) of child labour were included. Also, 286 cases (4% of industry prevalence) of human trafficking were identified. Many children worked, ate, and slept inside rural carpet shacks, rarely if ever stepping outside for weeks or months at a time. Child carpet weavers had to toil 10 to 14 hours a day in order to receive the minimum wage for an eight-hour workday. Average work-day were 10 to 12 hours, six to seven days a week. Chronic underpayment of minimum wages differ by (40%) to (65%) for child carpet weavers. Women and children were paid (12%) to (32%) less than adult males.
Entire Muslim villages held in debt bondage for carpet weaving in rural areas near Shahjahanpur (Uttar Pradesh), and in the districts of Morena and Gwalior (Madhya Pradesh).

**Conclusion:** The findings of the study catalyze new efforts to form a robust union that can advocate for the rights of workers and ensure decent working standards and wages. It recommended that the semi-skilled minimum wage for carpet weaving be standardized and enforced across the industry in all states in India. Social awareness campaigns focused on improving the status of low caste communities to be undertaken to empower these vulnerable child labors. Alternate sources of income opportunity and education for children must be a part of efforts to cleanse the carpet industry supply chain. Numerous steps to be taken and new partnerships shall be forged in order to elevate investigations and prosecution to a more effective level.

**Keywords:** 1. CHILD LABOR 2. CARPET WEAVING 3. CHILD WELFARE 4. SEMI-SKILLED LABOURS 5. CHILD CARPET WEAVERS.
Health


**Background:** The metabolic syndrome is a risk factor for cardiovascular diseases and an increasing trend has been reported even among adolescents. Increasing trend of obesity among children and adolescents has led to increased prevalence of insulin resistance, paving the way for cardio metabolic risk factors such as high cholesterol, triglyceride level, and raised blood pressure.

**Objectives:** To study the magnitude and correlates of metabolic syndrome among the adolescents of rural areas in Wardha District.

**Methods:** A cross-sectional study was carried out in a rural area of Primary Health Centre, Anji situated in Wardha District. All adolescents in the age group of 10-19 years of Primary Health Centre, Anji were included in the study. The subjects were selected by using simple random sampling using computer-generated random numbers. House visits were made to collect the data using a pre-designed and pre-tested interview schedule.

**Results:** Out of the 405 adolescents studied, 39.2 per cent were in early adolescence (age <15 years), 44.9 per cent were male, 46.2 per cent were from other backward caste (OBC), 90.4 per cent were from nuclear family, and 71.9 per cent were involved in light physical activity. About 10.6 per cent subjects had a family history of obesity, and 5.9 per cent and 3.2 per cent subjects had a family history of hypertension and diabetes, respectively. The overall prevalence of metabolic syndrome was 9.9 per cent. Adolescents having a family history of obesity had higher odds of metabolic syndrome as compared to those who did not have a family history of obesity.

**Conclusion:** In the present study, an overall prevalence of metabolic syndrome was found to be 9.9 per cent, quite high as compared to another Indian study that reported 4.2 per cent in adolescents aged 12-17 years. Biological factors such as family history of obesity and hypertension were found to be significantly associated with this condition. There is a definite cause of concern regarding the moderately high prevalence of metabolic syndrome in rural communities of India. Identification of cardio metabolic risk factors, i.e., family history of diabetes and hypertension at the early age can be useful to prevent consequent diabetes and cardiovascular disorders.

**Keywords:** 1. HEALTH 2. METABOLIC SYNDROME 3. ADOLESCENTS 4. RURAL AREA 5. HYPERTENSION 6. INTERVIEW 7. PRIMARY HEALTH CENTRE.
Background: Skinfold thickness is an important index for assessment of body fat composition in children. Although high body mass index (BMI) in children may be an indicator of raised total body fat, it may be inaccurate. Reports suggest that skinfold thickness is associated with adiposity even in non-obese children, leading to the assumption that it may be a better predictor of cardiovascular risk. Thus, BMI followed by this measurement may help to correctly identify excess body fat in children.

Objectives: To create age and gender – specific Triceps Skinfold Thickness (TSFT) percentile curves for Indian children; and to determine cut-offs for predicting the risk of childhood hypertension.

Methods: A multi centric study with cross sectional sampling method was used. The study was performed in schools catering to children of higher socio-economic status in 5 major Indian cities (Delhi, Chennai, Pune, Kolkata and Raipur), with a total sample size of 13375 children aged 5-17 years.

Results: It was found that the percentile curves for boys plateau was around 13 years whereas for girls the curves increased steadily till the age of 17 years. Median triceps skinfold thickness increased by (7%) to (9%) till the age of 9 years in boys and girls. After the age of 12 years, median triceps skinfold thickness decreased by (1%) to (2%) in boys but showed increase by (3%) to (4%) in girls. The optimal cut-off percentile yielding maximal sensitivity (68%) and specifically (74-78%) for predicting high blood pressure was 70th triceps skinfold thickness percentile in both genders. Area under the curve (AUC) was 0.778 (95% CI: 0.753, 0.803) in boys with (68%) sensitivity and 78 per cent specificity. In girls, AUC was 0.749 (95% CI: 0.713, 0.785) with (68%) sensitivity and 74 per cent specificity.

Conclusion: Percentile curves for TSFT developed in the present study would be useful in the assessment of adiposity and the risk of hypertension in Indian children.

Keywords: 1. HEALTH 2. ANTHROPOMETRY 3. ADIPOSITY 4. BLOOD PRESSURE 5. BODY MASS INDEX.
Background: Autism Spectrum Disorders (ASDs) are neuro developmental disorders characterized by impairments in social interaction, communication, and presence of repetitive, restrictive behavior and interest. Understanding of relationships between adaptive skills, intelligence, and severity of autism symptoms would improve decisions about developmental goals.

Objectives: To investigate the relationship between intellectual functioning, symptom severity, and adaptive behavior functioning of children with autism spectrum disorder (ASD).

Methods: Retrospective case records (1999 to 2013) of 523 children [Mean age 4.79 yrs (SD 2.37)] maintained by the Pediatric Psychology Unit at the Department of Pediatrics of a tertiary care teaching hospital in North India were examined. The adaptive behavior functioning was measured by the Indian adaption of the Vineland Social Maturity Scale. Symptom severity was assessed using the Childhood Autism Rating Scale (CARS).

Results: The mean Social Quotient (SQ) of the sample was 62.40 (SD=20.41). Nearly two-third (63.3%) of the ASDs had SQs less than 70 and only 15 per cent of the ASD children had SQs above 85. Adaptive behavior scores in the lower functioning ASD children were significantly higher than their Intelligence Quotient (IQ) scores while for the high functioning ASD group, the SQs were significantly lower than their IQs. Multiple regression analysis revealed that IQ, age of the child, CARS score, and education of the mother accounted for 62.5 per cent of the variance in the SQ of children with ASD (F=198.01, P 0.000)

Conclusions: ASD children with higher adaptive behaviour skills had higher intellectual ability, were younger, had lower symptom severity scores, and had mothers with more years of schooling. Thus, adaptive behavior measures must constitute a crucial component of not only diagnostic assessment of ASD children but also as an important goal of treatment.

Keywords: 1. HEALTH 2. AUTISM SPECTRUM DISORDER (ASD) 3. ADAPTIVE BEHAVIOR FUNCTIONING 4. CHILDHOOD AUTISM RATING SCALE (CARS) 5. IQ
Background: Depression is a disorder that is defined by certain emotional, behavioral and thought patterns. Depressive syndrome is experiencing anxiety with other symptoms such as feeling sad, lonely, unloved and worthless. Studies were conducted by using community and school samples of adolescents have shown depression as the most common psychiatric disorder among adolescents.

Objectives: This study aimed to find the prevalence of depressive symptoms among adolescents studying in schools in Chennai.

Methods: A cross sectional study carried out among adolescents studying in classes X, XI and XII in various private schools in the city of Chennai. About six hundred schools in Chennai following different patterns of education. Under this survey the Directorate of Public Instructions (DPI) had categorized the 377 matriculation schools by 23 geographical zones.

Results: The study assessed depression and symptoms among urban adolescents in South India. Various categories of depression were classified as (0-9 no depression), (10-19-mild depression), (20-29 moderate depression), (< 30-severe depression) by its emotional, cognitive, motivational and physical manifestations. Adolescents aged 15 had the lowest and adolescents aged 18 years had the highest scores of depression symptoms. There was an increase in the proportion of students from the mild to the severe categories as age increased. Gender and its relationship to depression found a lack of gender difference. Some studies found no gender differences in their sample of adolescents. Out of the 964 adolescents, 378 (39.2%) were observed with 'no depression'. Mild depression was found in 358 (37.1%) adolescents. The number of adolescents who reported moderate depression was 187 (19.4%) and severe depression was 41 (4.3%). Thus a total of 228 (23.7%) adolescents presented with moderate to severe depression.

Conclusion: The research findings of this study gave an approximate estimate of the proportion of adolescents experiencing depression. This could result in further problems like poor academic performance, poor coping methods and suicidal ideations and lots of malfunctioning in adolescent age and coming stages of human life cycle.

Keywords: 1. HEALTH 2. ADOLESCENT 3. DEPRESSION 4. PATRIARCHY 5. MATRICULATION SCHOOLS
Background: Sleep plays an important role in the physical growth, behavior and emotional development of children and is closely related to cognitive functioning, learning and attention. Sleep behaviors and architecture change drastically across the age spectrum from infancy to adolescence. Identifying these behavioral problems is important in order to define an effective treatment of these conditions. Moreover, sleep patterns and problems vary across cultures and there is paucity of data from India on the prevalence of sleep problems especially in toddlers.

Objectives: To describe the sleep patterns and problems in children aged between 12 and 36 months of age.

Methods: This cross sectional survey was collected over a span of 1 year in Advanced Pediatric Centre, PGIMER, Chandigarh and crèches of Chandigarh. Children in the age group of 12 to 36 months were included in study. A total of 368 children were enrolled.

Results: The average duration of sleep was 12.5 hrs (SD =1.9). The mean total sleep duration and mean day time sleep duration decreased, while mean night time sleep increased as the age advanced from 12 to 36 months. The frequency of sleep habits seen in the index study were that during bed time routine was only in 68 (18.5%), a regular bed time ritual was found in 281 (76.4%), 329 (89.4%) children frequently required 0-20 min time to fall asleep. While 11(3%) parents used sleep inducting drugs. Night waking (1 to 3 times a night) was observed in 297 (80.7%) and its frequency declined with age. Parent reported sleep problems were seen in all 47 (12.8%) cases. Lack of co-sleeping and night waking were considered as strongest predictors of parent reported sleep problems.

Conclusions: Toddler's sleep duration, night waking behavior, and day time naps decrease as the age progress while night time sleep duration increase with age. Lack of co-sleeping and night waking were considered as strongest predictors of parent reported sleep problems.

Keywords: 1. HEALTH 2. SLEEP IN CHILDREN 3. SLEEP PATTERN 4. TODDLERS SLEEP 5. SLEEP PROBLEMS 6. PREDICTORS
C. Women and Gender Issues

Health


G18920

**Background:** Maternal Mortality Ratio (MMR) is an important indicator of reproductive health and its reduction remains a challenge in India. Though India has made an appreciable progress in improving its overall health status yet reduction in the Maternal Mortality Ratio (MMR) is far from the goal set by the Millennium Development Goals (MDG) of 109 per one lakh live births by 2015. As per Sample Registration System (SRS), GOI during 2007-2009, a fall of 42 points or (17%) decline was found and it has further declined to 178.

**Objectives:** To estimate MMR in two states, Orissa and Rajasthan having high MMR; to identify the associated medical causes of maternal mortality.

**Methods:** This survey was conducted from October 2010-June 2012 on a sample of 13 Primary Health Centers (PHCs) in Orissa and 15 PHCs in Rajasthan. These numbers have been derived after estimating the total number of live births using MMR and birth rate from Sample Registration System 1997-2003. An adapted snowball technique was adopted wherein maternal deaths were captured by snowball technique and the numbers of live births were taken from the available records from the various health facilities in the study.

**Results:** The overall birth rate in Orissa was found to be 19 per 1000 population while in Rajasthan it was 24 per 1000 population. The study revealed that (17%) additional maternal deaths could be captured by snowball technique as against the official record. The overall weighted estimate of MMR was 252 per one lakh live births (95% CI: 246-259 per 1,00,000 live births) in Orissa and 209 per one lakh live births (95% CI: 207-211 per one lakh live births) in Rajasthan. The main causes of maternal deaths were post-partum hemorrhage, anemia and septicaemia. More than 25 per cent maternal deaths could be attributed to indirect causes including suicide, accident and infectious diseases.

**Conclusion:** The overall weighted estimate of MMR was 252 per one lakh live births (95% CI: 246-259 per 1,00,000 live births) in Orissa and 209 per one lakh live births (95% CI: 207-211 per one lakh live births) in Rajasthan. There is a reduction in maternal mortality ratio. More than (25%) of maternal deaths due to no obstructed reasons could be averted or saved the life of mothers.

**Keywords:** 1. HEALTH 2. MATERNAL MORTALITY 3. MILLENNIUM DEVELOPMENT GOALS 4. PRIMARY HEALTH CENTRES 5. ESTIMATES.
Background: Breast and cervical cancers are two major cancers among Indian women. Analysis of trends would help in planning and organization of programs for control of these cancers. There was a definite decline in cervical cancer in developed countries while this is still a major cancer in developing countries. Cancers of uterine cervix and breast are the two leading cancers sites among Indian women with 13,4420 incident cases, 338,010 five yearly prevalence and 115,251 incident cases, 315,679 five yearly prevalence respectively.

Objectives: To compute risk of breast and cervical cancers using updated data from different cancer registries of India and study of its trends.

Methods: Data on incidence rates of breast and cervical cancers were obtained from six major cancer registries of India for the years 1982-2008 and from the recently initiated cancer registries, North Eastern Registries of India with a total of 21 registries.

Results: The annual percentage change in incidence ranged from (0.46 to 2.56) and (−1.14 to −3.4) for breast and cervical cancers respectively. Trends were significant for both cancers in the registries of Chennai, Bangalore, Mumbai and Delhi except Barshi and Bhopal. Northeast Region showed decrease in risk for breast and cervical cancers whereas increasing trend was observed in Imphal (West) and for cervical cancer in Silchar.

Conclusion: Cancer registries suggest that the North Eastern Region of India observed a declining risk for breast cancer, whereas the other and older registries observed upward trend in breast cancer incidence and a declining trend in cervical cancer.

Keywords: 1. HEALTH 2. BREAST CANCER 3. CANCER IN INDIA 4. CANCER INCIDENCE 5. CERVICAL CANCER.
Introduction: Poor access and utilization of antenatal and other health services continue to contribute to high maternal mortality rate along with other socioeconomic factors. Improving utilization of maternal health care services is a global challenge for the health system in low and middle income countries.

Objectives: To study utilization of maternal health care services in a rural population of a Aurangabad district.

Methods: A community based descriptive cross sectional study undertaken from August 2010 to July 2011 in 4 villages of Paithan taluka, of Aurangabad district. Respondent women who had less than 1 year child and were residents of particular area for previous 2 years or more at the time of interview were included in the study. Simple random sampling was used for selection of villages. Total sample size was 203 respondents.

Results: The study revealed that most of the respondent women 110 (53.4%) had paid three or more than three antenatal visits and 12 (5.8%) did not pay any antenatal visit. Less than half (40.8%) respondent women had their first antenatal visit in 1st trimester. Majority of the women (90.3%) had institutional delivery. Out of 8 (3.9%) deliveries assisted by untrained person in 4 (1.9%) deliveries umbilical cord cut with unsterile instrument and of these 4 (1.9%) deliveries in 2 (1.0%) untrained person applied cow dung to umbilical stump.

Conclusion: Awareness regarding three or more antenatal visits and registration of pregnancy in first trimester was emphasized through health education campaign. Though negligible percentage, hazardous practice of application cow dung to the umbilical stump was observed in the study. It should be averted through health education and promotion of institutional deliveries.

Keywords: 1. HEALTH 2. MATERNAL HEALTH 3. TT 4. IFA TABLETS 5. UNTRAINED PERSON 6. ANTENATAL VISIT
Background: There are two types of rural population in Delhi, one which live in rural villages (non-urbanized) and the other living in urbanized villages which are notified by the government. The health and wellbeing of mothers and infants are of critical importance, both as reflections of the current health status of individuals, local communities, and the nation as a whole. There is a serious dearth of empirical research in India on the utilization of maternal healthcare services in rural settings particularly in urbanized villages.

Objectives: To test the hypothesis that the pregnancy related care of mothers in urbanized villages is better than that in non-urbanized villages.

Methods: The desired sample of 420 mothers was selected by adopting two-stage sampling in each of two districts of Delhi: South and South West. In the first stage villages and in second stage 14 eligible mothers with children of age of 6 weeks to one year were selected. Informed consent was received from the mothers before their interview.

Results: Out of the total 420 deliveries of children in each group of villages, more than 84 per cent were conducted in either Government facilities or Private hospitals/nursing homes. More than (95%) of the pregnant women received antenatal care during the second month of pregnancy. 86 per cent of mothers received full antenatal care. About (70%) of deliveries conducted were normal and about (29%) were caesarean. 88 percent of the deliveries conducted by TBA in urban villages were found to be significantly higher than the number of deliveries conducted by TBA in non-urbanized villages. New/sterilized blade was used to cut the cord of the about 64 per cent of the new born babies in villages and about 73 per cent in urban villages. Postnatal care was received by most (90%) of the mothers.

Conclusion: It may be observed from the study that the outcome indicators of MCH services such as Full ANC, Safe Delivery, and Postnatal Care were almost similar, may be because MCH services particularly ANC services have been made accessible to all the mothers in both groups of villages in Delhi. Almost all of the mothers were found to be availing the same irrespective of their socio-economic background and place of residence.

Keywords: 1. HEALTH 2. MATERNAL HEALTH 3. ANTENATAL CARE 4. MATERNAL CARE 5. URBANIZED VILLAGES
Background: The global burden of cancer continues to increase largely because of the aging and growth of the world population alongside an increasing adoption of cancer-causing behaviors, particularly smoking in economically developing countries. Across the globe, cancer is leading cause of death too with 7.6 million deaths (around 13 per cent of all deaths) in 2008. The focus of the National Cancer Control Program of India has been on primary prevention by promoting tobacco control and genital hygiene; on secondary prevention by screening for cervical cancer, breast cancer, and oropharyngeal cancer; and palliative care.

Objective: To study the magnitude of cancer and different types of cancer; to study mortality of 10 most cancer sites and their age distribution in both sexes in Gandhinagar district.

Methods: Primary data were collected from various sources. All the cancer cases were collected by trained cancer registry staff from various sources of registration from government hospitals, private hospitals, nursing homes, and diagnostic laboratories, etc. Quality checks were done. For mortality data, death registration units were contacted.

Results: Total 2360 incident cases (1374 males and 986 females) occurred in the age group 35-64 and 736 mortality cases (464 males and 272 females) were recorded during the year 2009-2011 in Gandhinagar district. The proportion of cancer morbidity was 62.59 per cent and 71.20 per cent in males and females, respectively. The leading sites of cancer morbidity in males were mouth (14.56%) while that among females was breast (24.85%). The proportion of leading cancer mortality in males and females was (64.44%) and (65.07%), respectively. The leading cancer mortalities in males were tongue (14.01%), while amongst females it was breast cancer (16.18%). Thus, tobacco was observed to be the most important identified cause of cancer in the study.

Conclusion: The study helps to understand the possible cancer patterns in Gandhinagar district. Foremost causes of cancer in leading sites in males were tobacco related, and the proportion of cancers associated with tobacco was 53 per cent in the study. It highlights the possibility of easy and early detection of cancers, especially by oral cancer screening in the population. Further, the findings highlight the need of cancer cervix and breast screenings among the women at regular intervals through camp approach in the community, as these are the most common sites (40% of female cancers).

Keywords: 1. HEALTH 2. CANCER 3. GENDER 4. MORBIDITY 5. MORTALITY.

**Background:** In 2005, Drugs Controller General, India (DCGI) allowed the sale of emergency contraceptive pills (ECPs) over the counter (OTC). There was never a doubt that the emergency contraceptive pills would prove to be immensely popular among women in India. That is because India records 11 million abortions annually and a shocking 20,000 women die because of abortion-related complications. With combined annual sales of 8.2 million tablets, seven brands of emergency contraceptives are sold OTC in India. The segment was valued at Rs. 770 million for the year ended June 2009 with a 245 per cent volume growth over the previous year.

**Objectives:** 1. To understand consumer psyche when it comes to personal products such as emergency contraceptive pills (acceptation/rejection) 2. To understand the awareness of these products, their availability, usage and side effects. 3. To know the factors leading to the growth of such products.

**Methods:** Random sampling was adopted for selecting sample. Sample size consisted of 200 women aged 18-40 years from Mumbai city and the suburbs under the study.

**Results:** Although there was increased awareness about contraceptive pills, only 35 per cent of respondents used them. Out of 200, 93 women believe that the media is responsible for the current change in culture.

**Conclusion:** A change in culture gives rise to the need for new products. The media is responsible to great extent for the gradual shift in culture. Therefore, banning advertisement would not help but educating consumers of its long term side effects would solve the problem of overuse of the product.

**Keywords:** 1. HEALTH 2. REPRODUCTIVE HEALTH 3. EMERGENCY CONTRACEPTIVE PILLS 4. CONSUMER PSYCHOLOGY 5. MEDIA IMPACT.
Social Welfare


G18958

Background: In rural India the situation of women labourers is quite deplorable. They are the one who suffers from socio-cultural, political, economic exploitation, injustice, oppression and violence. Lack of adequate employment opportunities, limited skills and illiteracy make them extremely limited and dependent status. They do not enjoy any social security, maternity benefits, pension schemes or any other kind of economic protection.

Objectives: To analyze the situation of women at workplace and on domestic front and living conditions in the rural areas of Punjab.

Methods: This study was based on multistage systematic random sampling technique. Data were collected from 498 households in three districts Sangrur, Ludhiana and Hoshiarpur selected on the basis of work participation rate of rural women in Punjab. The information was recorded by personal interview method through a pretested structured questionnaire.

Findings: This study found that 64.86 per cent of the respondents were less than 45 years of age in the rural areas of Punjab. There were only 27.11 per cent respondents who had acquired some formal school education out of which 2.81 per cent up to the primary level, 18.88 per cent educated up to the middle level, 4.42 per cent up to the matric level, 0.80 per cent were educated up to the higher secondary level and 0.20 per cent up to the graduation level. Caste-wise distribution of women labourers shows that the percentage of the scheduled castes (79.92%) was the highest among all the categories. 88.55 per cent of the total sampled women labourers were married, 1.61 per cent unmarried, 9.84 per cent of them were either widows or divorced. The living conditions of the women labourers were observed to be quite pathetic in the rural areas of Punjab. Only 8.64 per cent of respondents have pucca houses and 67.27 per cent are living in dilapidated houses. 77.51 per cent respondents get employment in both the agriculture and non-agriculture sectors, 14.26 per cent only in the agriculture sector and remaining 8.23 per cent get employment only in the non-agriculture sector. 32.33 per cent are willing to work up to a distance of 4 kilometers and 50.60 per cent respondents stated that they are willing to work around an area of 3 to 4 kilometers. About one-third of the respondents are not being paid equal wages for equal work with men.

Conclusion: The study reveals that the social status and living conditions of the sampled women labourers are very miserable in the rural areas of Punjab.
Further, almost all the sampled women labourers do not find work in agriculture and non-agriculture sectors for more than 180 days in a year because of their illiteracy and ignorance towards their rights.

*Keywords:* 1. SOCIAL WELFARE 2. WOMEN LABOUR 3. WORK PLACE DEPENDENT 4. SOCIAL STATUS
Background: Age at marriage has a profound impact on childbearing because women who marry early have a longer period of exposure to pregnancy and a greater number of lifetime births. 'Age at marriage' is not only a crucial but also a decisive variable in limiting family size and fertility level. There is an inverse correlation between age at marriage and fertility level. The legislation in India to prevent child marriage has existed in India before Independence. However, there have been certain cultural and social expectations relating to age at marriage in all societies as a part of their tradition.

Objectives: To examine the awareness among the Yerava Tribe about the legally prescribed age at marriage; and; to identify preferences relating to the minimum age at marriage.

Methods: The sampling design was based on the list of tribal households collected from the department of social welfare. Stratified sampling method was adopted to select tribal colonies from different clusters. A total of 250 households from 10 tribal colonies were selected for the study. Besides, a pre-tested schedule was used to collect data from an adult member of each household.

Results: Majority of the households were aware of the legally prescribed minimum age for marriage. However, Yeravas prefer to marry their sons and daughters as they reach adulthood. Employment status did not alter the preferences of the Yeravas towards the minimum age at marriage.

Conclusion: Yeravas have their own cultural identity. They do not practice child marriages or pre-puberty marriages. The limited awareness amongst them is directly associated with illiteracy and work status, influenced by the exposure to media and contact with wider society. The prevailing trend of the preference and practice relating to marriage among Yeravas indicates a progressive outlook with an inclination to move towards higher age at marriage.

Keywords: 1. SOCIAL WELFARE 2. YERAVA TRIBE 3. AGE AT MARRIAGE 4. LEGALLY PRESCRIBED AGE AT MARRIAGE 5. AWARENESS 6. PREFERENCES 7. PRACTICES.
Women Welfare


**Background:** Although India is experiencing demographic transition in an economically active population but the issue remains that how the country capitalizes these resources. Furthermore, females played a crucial role in the extended family labour force in agrarian society like India which is unnoticed in many cases. With only 25.51 per cent of the total female population in workforce, India is ranked 11th from the bottom out of 131 countries in terms of female labour force participation (ILO, 2009-2010). Hence, it bypasses the economic boom for rest 75 per cent Indian women.

**Objectives:** To understand the changing pattern of Female Work Participation Rate (FWPR) across the States of India over the period of 2001 and 2011 census. Also study the regional variations in terms of women work participation in India within different residential settings (Rural-Urban).

**Methods:** The present study is based on secondary data collected by Census of India 2001 and 2011. Information on economic activities is also collected from the primary census abstract (PCA) for both the time periods. Information of per capita income at the State level was collected from Economic Survey - 2010-2011.

**Results:** The proportion of working population in both rural and urban areas, Work Participation Rate (WPR) for females was considerably lower than the WPR for males. In rural areas, WPR for males and females were nearly 54 and 25 per cent, respectively while in the urban areas, WPR for males and females were nearly 55 and 15 per cent, respectively. However, the increase of size of female labour force does not mean that FWPR will increase. Education played a positive role with the WPR irrespective of sex, with most of the States, where the female literacy rate is high, the FWPR is also high. That indicates the awareness among the female population and their capability to enter into the labour force was further depended on their male counterpart.

**Conclusion:** Pattern in the female WPR rate in India reveals that regardless of sturdy economic growth, the distinguishing features of Indian labour force is, falling engagement of women from the labour force. Therefore, it comes out that women are in greater disadvantaged position in general and those in rural areas in particular. The unpaid work and home based work in which females invest maximum time probably does not get enumerated or reported in the employment surveys (census) or being accounted as unpaid domestic activity.
Hence, it advocates for a formation of a body which can check value of women’s work in those activities in which women predominate as well as home based work for non-discriminatory practices in the informal labour market in India.

Keywords: 1. WOMEN WELFARE 2. FEMALE WORK PARTICIPATION RATE 3. CENSUS OF INDIA 4. FEMALE LABOUR FORCE 5. WORK PARTICIPATION RATE.
Background: Domestic violence is identified as public health problem. It is associated with adverse maternal health. Globally, the negative impact of violence on health of women has been acknowledged. It increases the incidence of unintended pregnancies and abortions and reduces the contraceptive use. Sexual violence associated with vaginal, anal or urethral trauma leads to risk of infection and sexual health problems. Not only physical but mental health of the women is also affected due to domestic violence.

Objective: To examine the prevalence of domestic violence and to understand the socio-demographic factors associated with it in slums of Mumbai, Maharashtra, India.

Methods: A community based cross-sectional household survey was carried out among eligible women for the study during September 2012 to January 2013. A total of 1137 currently married women aged 18-39 years with unmet need for family planning and having at least one child were selected using cluster systematic random sampling from two urban slums.

Results: The prevalence of women ever experiencing domestic violence in the community was 21.2 per cent. Women whose husband consumed alcohol were significantly at an increased risk of ever experiencing domestic violence than their counterparts. Risk of domestic violence was twice for women who justified wife beating than women who did not justify wife beating.

Conclusion: The study demonstrates that domestic violence was prevalent in urban slum community. Factors like early marriage, working status, justified wife beating and husbands use of alcohol were significantly associated with domestic violence. There is a need to bring change in behaviour regarding the same in the community.

Keywords: 1. WOMEN WELFARE 2. DOMESTIC VIOLENCE 3. HUSBAND’S ALCOHOL CONSUMPTION 4. UNMET NEED OF FAMILY PLANNING 5. URBAN SLUMS.
Background: Mahatma Gandhi National Rural Employment Act (MGNREGA) is a programme of Rural Development which aims at enhancing livelihood security of households in rural areas of the country by providing at least one hundred days of guaranteed wage employment in a financial year to every household whose adult members volunteer want to do unskilled manual work. In this programme a minimum of 33 per cent participation of women in envisaged.

Objectives: To find out the status of women participation in MGNREGA in Jharkhand.

Methods: Both primary as well secondary source of analysis was used in the study. Secondary source consists of State and District level implementation statistics available in Jharkhand government records. Primary data were collected through Focus Group Discussions (FGDs). A total of 22 members participated in this discussion.

Findings: The study shows that the participation rate of women in this programme in Jharkhand was only 32.53 per cent. Out of all 24 districts, 11 districts have shown the required performance and remaining 13 districts, the participation was below 33 per cent. Late payment or corruption in Panchayati Raj Institutions (PRIs) and lack of awareness about the programme were some reasons of ineffective completion of MGNREGA. Delayed payment was found to be the major reason for low participation of women in the programme. It was also revealed that lack of transparency and accountability in PRIs also discourage women in participating in this programme. It was also revealed during the FGD that women do not have awareness about the procedural formalities of making complaints against the non-payment or late payment of wages. As a result of all these factors, the programme had become less attractive for women.

Conclusion: The level of participation of women in MGNREGA in Jharkhand was low as compared to national level is decreasing year by year. A number of factors were found to be responsible like: late payment, corruption in PRIs and lack of awareness of women about the programme, which explains the low level of Participation to a greater extent. Thus, inefficient implementation process with women due to lacking awareness, practice of late payment and existence of corruption results in low participation of women in MGNREGA.

Keywords: 1. WOMEN WELFARE 2. RURAL DEVELOPMENT 3. MGNREGA 4. FGD 5. PRIs.
Background: The intervention of Micro Finance has brought tremendous changes in the life of woman at the grass root level. The Self Help Groups (SHGs) are instrumental in empowering rural women with affordable banking, insurance and entrepreneurial approaches. Therefore, the present economic challenges have emphasized the need of woman’s participation in socioeconomic contributions for sustainable developments.

Objective: To determine whether microfinance services are instrumental in empowering women in Patiala district, Punjab.

Methods: Empirical in nature, the study was based on primary and secondary data respectively. Judgement and convenience random sampling technique was used for collecting information from the respondents. Sample size was 50 SHG Members. Interview Schedules with relevant set of questions were designed for data collection under the study.

Results: Microfinance is considered as a unique programme for helping the poor and empowering women. The study revealed that the SHG members had empowered through microfinance activities. The maximum numbers of the members were in the age-group of 20-40 years (72%), illiterate group (50%), married category (88%), and nuclear family (76%). Occupational information of the respondents revealed that 30 per cent of respondents were housewives, agriculture (30%) and 24 per cent were occupied in other activities. Members of SHGs were without any educational backgrounds which affected their accessibility to the facilities and resources. The groups were structured with standard membership’s i.e. 10-12 (70%) to reduce the clashes among the members while many were affiliated to the group more than one to five years (50%). Most of the respondents conducted the SHG meetings weekly (88%) and fortnightly (12%) thus indicated the interaction among the members, which resulted in high empowerment rate that can be considered as synergetic measures in Micro Finances. The impact of Micro Finance and mutual groups on empowerment of women was well interpreted as the members showed the empowered sign in decision making (80%), self confidence (92%), problem solving (64%), and improvement in economics status (86%), quality of life (60%) and delegation in social functions/ activities (58%). However, it was also found that many families faced some financing problem which affected in improving their quality of life.

Conclusion: The study recognized that microfinance has positive impact on women empowerment and also benefiting their small businesses, struggling with finance to fund their businesses due to lack of collateral security, and other
unofficial screening criterion. Microfinance institutions were lending for consumption purposes and charged high interest rates which made it difficult for the women in business to borrow. NABARD should take steps to eliminate harassment caused to the SHG leaders at the time of bank linkage. Besides, SHGs require proper guidance and regular visits by the promoters i.e. GOs, NGOs and Banks for achieving cohesiveness and smooth functioning SHG activities.

Keywords: 1. WOMEN WELFARE 2. EMPOWERMENT 3. MICRO FINANCE 4. SHG 5. EMPOWERMENT RATE 6. MICROFINANCE ACTIVITIES 7. DECISION MAKING 8. COLLATERAL SECURITY.
### Acknowledgement

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<td>Guidance and Support</td>
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<td>Director</td>
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