Health & Family Welfare Abstract

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# CONTENTS

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Entry No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Maternal health / Child health care</td>
<td>1 - 7</td>
</tr>
<tr>
<td>2. Contraception</td>
<td>8</td>
</tr>
<tr>
<td>3. Diseases</td>
<td>9-16</td>
</tr>
<tr>
<td>4. Drug and drug abuse</td>
<td>17</td>
</tr>
<tr>
<td>5. Education and training</td>
<td>18</td>
</tr>
<tr>
<td>6. Elderly care</td>
<td>19</td>
</tr>
<tr>
<td>7. Environmental health</td>
<td>20-24</td>
</tr>
<tr>
<td>8. Food &amp; nutrition</td>
<td>25-28</td>
</tr>
<tr>
<td>9. Health care</td>
<td>29 – 31</td>
</tr>
<tr>
<td>10. Health economics</td>
<td>32-34</td>
</tr>
<tr>
<td>11. Hospital management</td>
<td>35</td>
</tr>
<tr>
<td>12. K A P surveys</td>
<td>36</td>
</tr>
<tr>
<td>13. Public health</td>
<td>37 – 50</td>
</tr>
</tbody>
</table>
14. Status of women................................................................. 51 – 53
15. Sustainable development..................................................... 54
16. Tribal health........................................................................... 55 – 56
17. Yoga and physical fitness....................................................... 57

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1. MATERNAL & CHILD HEALTH / CHILD HEALTH CARE


Maternal mortality is one of the important indicators used for the measurement of maternal health. Although maternal mortality ratio remains high, maternal deaths in absolute numbers are rare in a community. To overcome this challenge, maternal near miss has been suggested as a compliment to maternal death. It is defined as pregnant or recently delivered woman who survived a complication during pregnancy, childbirth or 42 days after termination of pregnancy. So far various nomenclature and criteria have been used to identify maternal near-miss cases and there is lack of uniform criteria for identification of near miss. The World Health Organization recently published criteria based on markers of management and organ dysfunction, which would enable systematic data collection on near miss and development of summary estimates. The prevalence of near miss is higher in developing countries and causes are similar to those of maternal mortality namely hemorrhage, hypertensive disorders, sepsis and obstructed labor. Reviewing near miss cases provide significant information about the three delays in health seeking so that appropriate action is taken. It is useful in identifying health system failures and assessment of quality of maternal health-care. Certain maternal near miss indicators have been suggested to evaluate the quality of care. The near miss approach will be an important tool in evaluation and assessment of the newer strategies for improving maternal health.

Keywords: Maternal health, maternal near miss, quality of care, severe acute maternal morbidity


Obstetric near-miss (ONM) describes a situation of lethal complication during pregnancy, labor or puerperium in which the woman survives either because of medical care or just by chance. In a cross-sectional observational study, five factor scoring system was used to identify the near-miss cases from all the cases of severe obstetric morbidity. Assessment of the causes of maternal mortality and near-miss obstetric cases was done. The ONM rate in this study was 4.18/1000 live births. Totally 54 maternal deaths occurred during this period, resulting in a ratio of 202 maternal
deaths per 100,000 live births. Hemorrhage, hypertension and sepsis were major causes of near-miss maternal morbidity and mortality, respectively in descending order.

**Keywords**: Five factor scoring system, Maternal mortality, Near-miss obstetric morbidity

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In spite of the countless benefi ts of breastfeeding, prevalence of exclusive breastfeeding (EBF) has been far from optimal in the developing world. Breastfeeding problems at or after 4 weeks has been reported as one among the constraints to EBF. The study aimed to determine the breastfeeding problems in the 1st postnatal week, their predictors and impact on EBF rate at 6 months. Under a prospective cohort design, 400 mother-newborn dyads were assessed for breastfeeding problems before discharge and at 60 ± 12 h of discharge. Nearly 89% of the mother-newborn dyads had one or more BF problems before discharge. Major concern was difficulty in positioning and attaching the infant to the breast (88.5%), followed by breast and nipple problems (30.3%). BF problems continued to persist even after discharge in a significant proportion of the mothers (72.5%). The only independent predictor of BF problems in the 1st week was the caesarean section (odds ratio: 1.9, 95% confidence interval: 1.3-3.2, P < 0.05). There was a marked improvement in the EBF status (69.5%) at 6 months, and BF problems did not predict EBF failure at 6 months.

**Keywords**: Breastfeeding problems, exclusive breastfeeding rate, predictors

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A retrospective study was performed to assess the pattern of pediatric ocular trauma in a tertiary eye center in eastern India. Records of 672 patients aged 16 years or less with ocular trauma who attended the outpatient department or emergency or treated as inpatients at a tertiary referral center between April 2009 and March 2010 were reviewed. Boys accounted for 70% cases. Most children were of the 5-10 years age group. Closed globe injury
was the commonest (418 patients, 62.19%), followed by open globe injuries (127 patients, 19%), orbital injuries (52 patients, 7.67%), superficial foreign bodies (7.14%) and burn (4.01%). Home was found to be the commonest place of injury (44%), and only 51.9% attended the health facility within 24 h. Conservative management was done in 497 (74%) cases, whereas 175 (26%) cases were treated surgically. Final visual outcome of 443 (66%) patients were between 20/20 and 20/50. Sixty-eight patients had worst visual outcome with monocular blindness of the injured eye. Strategies to reduce the incidence of ocular trauma at home should be directed towards raising the parental education and public awareness.

**Keywords:** Ocular trauma, pediatric, visual outcome.

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This paper critically analyzes Janani Shuraksha Yojana (JSY), the intervention to improve maternal and child health. It highlights that there has been a huge difference in the annual percentage growth rate of JSY beneficiaries and Institutional deliveries for each year, which implies that the increasing JSY beneficiaries did not have proportionate increase in institutional delivery. It argues that the achievement of JSY is more on increasing of JSY beneficiaries, rather than the increasing of institutional delivery as a whole. It further argued that the marginal increases of JSY beneficiaries are not from home delivery but from institutional delivery. It proposes a more tangible and sustainable approach to reach the unreached or underserved in the difficult and hard to reach areas, by changing the present strategy of 'making the unreached or underserved population to reach the health facilities’ to ‘reaching the unreached with health facilities and services at their homestead’, so as to change the home delivery into institutional delivery.

**Keywords:** Janani Shuraksha Yojana (JSY), maternal and child health, institutional delivery, maternal mortality

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In India, the HIV/AIDS epidemic represents one of the most serious public health problems. According to National AIDS Control Organization, about half of the new infections occur among persons below 25. More than 80 per cent of the total infections are transmitted through sexual intercourse. Importantly, the infection is growing faster among the married. What makes youth more vulnerable to HIV/AIDS? Most evidence suggests that knowledge about HIV/AIDS is low among youth. Knowledge about the modes of transmission is considered to be the only means of prevention against this disease. The objective of this article is to study awareness, knowledge and misconception regarding RTI/STI and HIV/AIDS among the married couples in high-risk states of India. Data for this paper have been obtained from the Rapid Household Survey under Reproductive and Child Health Survey, Round II, during 2002–04. The states of Andhra Pradesh, Gujarat, Karnataka, Maharashtra, Manipur, Nagaland and Tamil Nadu were purposively selected for the analysis; except Gujarat all these states were in the category of high risk. A total of 82,596 married couples
were considered for the study. A bi-variate technique was used for the analysis. In addition, a knowledge index was computed as a summary measure of knowledge and misconception. It was categorized into Low, Medium and High Knowledge. The analysis revealed that in Tamil Nadu around 33 per cent husbands and 27 per cent wives had high knowledge regarding HIV/AIDS. In contrast, in Gujarat 8 per cent husbands and 6 per cent wives had high knowledge. Further, the analysis illustrated the gap of knowledge between husbands and wives.

**Keywords**: HIV, knowledge, married couples, high-risk states, India, knowledge index


The premise that unintended childbearing has significant negative effects on the behavior of mothers and on the health of infants strongly influences public health policy and much of current research on reproductive behaviors. Yet, the evidence base presents mixed findings. Using data from the U.S. National Survey of Family Growth, we employ a measure of pregnancy intentions that incorporates the extent of mistiming, as well as the desire scale developed by Santelli et al. (*Studies in Family Planning*, 40, 87–100, 2009). Second, we examine variation in the characteristics of mothers within intention status groups. Third, we account for the association of mothers’ background characteristics with their pregnancy intentions and with the outcomes by employing propensity score weighting. We find that weighting eliminated statistical significance of many observed associations of intention status with maternal behaviors and birth outcomes, but not all. Mistimed and unwanted births were still less likely to be recognized early in pregnancy than intended ones. Fewer unwanted births received early prenatal care or were breast-fed, and unwanted births were also more likely than intended births to be of low birth weight. Relative to births at the highest level of the desire scale, all other births were significantly less likely to be recognized early in pregnancy and to receive early prenatal care.

**Keywords**: Maternal behavior; Infant health; Pregnancy intentions


Emergency Contraception Pill (ECP) is an essential intervention to prevent unwanted pregnancies. However, its use has remained low due to various barriers including reservations among medical fraternity. This paper presents findings on barriers to ECP’s easy access for potential users from (i) a cross-sectional survey of providers' attitudes, beliefs, and practices and interviews with key opinion leaders, (ii) three consultations organized by Population Council with policymakers and public health experts, and (iii) evidence from scientific literature. The major barriers to easy
access of ECP include misconceptions and reservations of providers (disapproval of ECP provision by CHWs, opposition to its being an OTC product, and myths, misconceptions, and moral judgments about its users) including influential gynecologists. For mainstreaming ECP, the paper recommends educational campaign focusing on gynecologists and CHWs, relaxing restrictive policy on advertisement of ECP, involving press media and strengthening supply chain to ensure its regular supply to ASHA (CHW).

**Keywords:** Easy access, emergency contraception, family planning, levonorgestrel, provider barriers

3. **DISEASES**


This study quantifies breast cancer mortality in the presence of competing risks for complex patients. Breast cancer behaves differently in different patient populations, which can have significant implications for patient survival; hence these differences must be considered when making screening and treatment decisions. Mortality estimation for breast cancer patients has been a significant research question. Accurate estimation is critical for clinical decision making, including recommendations. In this study, a competing risks framework is built to analyze the effect of patient risk factors and cancer characteristics on breast cancer and other cause mortality. To estimate mortality probabilities from breast cancer and other causes as a function of not only the patient’s age or race but also biomarkers for estrogen and progesterone receptor status, a nonparametric cumulative incidence function is formulated using data from the community-based Carolina Mammography Registry. Based on the log(−log) transformation, confidence intervals are constructed for mortality estimates over time. To compare mortality probabilities in two independent risk groups at a given time, a method with improved power is formulated using the log(−log) transformation.

**Keywords:** Assam, dibrugarh, nutritional status, riverine area, WHO’s Z score


Blood can save lives; however, it can be a source of transfusion transmitted diseases if proper screening of donated blood is not done. It is now mandatory to screen all donated blood units, whether replacement or voluntary for five transfusion transmitted diseases-namely human immunodeficiency virus (HIV), hepatitis B and C, syphilis, and malaria. The present study was
done to study the prevalence of infectious disease markers among donors at the blood bank of a tertiary care center. A total of 53,069 donors donated blood over 11 years. The number of replacement and voluntary donors was 41,710 and 11,359, respectively. Screening of blood units was done by enzyme-linked immunosorbent assay (ELISA) method for HIV and hepatitis B and C. HIV testing was done using fourth generation ELISA kits. Syphilis was tested by latex agglutination assay and malaria was tested using slide method up to the year 2008-2009 and by rapid immunochromatographic assay after that. The mean percentage of these infections per year was found to be 0.2, 1.2, 0.9, 0.3, and 0.002% for HIV, hepatitis B surface antigen (HBsAg), hepatitis C virus (HCV), syphilis, and malarial parasite (MP), respectively. The risk of transfusion transmissible infection (TTI) today is low but supply of safe blood depends on proper donor selection and sensitive screening tests.

**Keywords:** Blood donors, transfusion, transmissible infections

11 Trends of Chronic Liver Disease in a Tertiary Care Referral Hospital in Eastern India. *Gautam Ray.*


There is scarce Indian data on time trends of hepatitis, an impediment to formulate an effective public health policy on the matter. The aim was to study secular trends and burden of hepatitis in a railway population. Outdoor, indoor, endoscopy unit and mortality records of patients attending this hospital from January 2003 to December 2011 were searched manually and relevant parameters of hepatitis patients were noted, especially etiology, clinical features, treatment, and mortality. Cochran-Armitage trend test was used to test significance of any trend in these parameters. Binary logistic regression analysis of various factors was carried out to study their effect on the liver related mortality of hepatitis B and C cases and Kaplan-Meyer survival curves were generated for significant factors. Two-sided $P < 0.05$ was considered to be significant. Chronic liver disease (CLD) due to alcohol showed a significant rising trend with early age (mean 48.4 years) and high percentage of decompensated disease (75%) at presentation and high early mortality (63%). No trend was observed for hepatitis B and C, but significant reduction in mortality was observed when definitive therapy was given. Cryptogenic CLD showed a decreasing trend though overall it still remained the most important etiology and survival was better compared with alcohol even with conservative therapy. Only 4% patients had hepatocellular carcinoma. A menace of alcohol related liver disease affecting young productive work force in this part of India is foreseen, which might impact the country’s economy and mandates immediate containment policy.

**Keywords:** Alcohol, Chronic liver disease, Hepatitis B, Hepatitis C, India

Non-communicable diseases, no longer a disease of the rich, impose a great threat in the developing nations due to demographic and epidemiological transition. This increasing burden of non-communicable diseases and their risk factors is worrisome. Adherence to hypertension (HT) medication is very important for improving the quality of life and preventing complications of HT. To study the factors determining adherence to HT medication. A community-based cross-sectional study was conducted in a rural area of Kancheepuram district, Tamil Nadu, with a total population of around 16,005. This study was carried out over a period of 6 months (February-July) using a pre-structured and validated questionnaire. All eligible participants were selected by house-to-house survey and individuals not available on three consecutive visits were excluded from the study. The questionnaire included information on demographic characteristics, lifestyle habits, adherence to HT medication, blood pressure, and body mass index (BMI). Caste was classified based on Tamil Nadu Public Service commission. Data were entered in MS Excel and analyzed in SPSS version 16. P value <0.05 was considered statistically significant. Ethical Consideration: Informed verbal consent was obtained prior to data collection. The patient’s adherence to HT medication was assessed using the Morisky 4-Item Self-Report Measure of Medication-taking Behavior [MMAS-4]. We studied 473 hypertensive patients of which 226 were males and 247 were females. The prevalence of adherence was 24.1% (n = 114) in the study population. Respondents with regular physical activity, non-smokers and non-alcoholics were more adherent to HT medication as compared with respondents with sedentary lifestyle, smoking and alcohol intake (P < 0.005). Based on health belief model, the respondents who perceived high susceptibility, severity, benefit had better adherence compared with moderate and low susceptibility, severity, benefit.

Keywords: Health belief model, hypertension, non-adherence, rural area


This study examines major cancer sites among the population of Gandhinagar district, India during the year 2009-2011. To study leading cancer incidents and mortality and their age distribution in both sexes in Gandhinagar district. Primary data were collected from various sources and entered in computer and analyzed. Quality checks were done, and duplicate cases were eliminated. For mortality data, death registration units were contacted. Total 2360 incident
cases (1374 males and 986 females) and 736 mortality cases (464 males and 272 females) were recorded during the year 2009-2011 in Gandhinagar district. Among males, the leading sites were mouth, tongue, lung, esophagus, hypopharynx, and larynx, whereas in females they were breast, cervix, ovary, mouth, tongue and myeloid leukemia. Majority of cases were found in the age group of 35-64 years and the proportion in male and female in this age group was 62.51% and 71.05%, respectively. 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% in our 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 screening among the women at regular intervals through camp approach in the community, as these are the most common sites (40% of female cancers).

**Keywords**: Population based cancer registry, age, gender, incidence, mortality, Mortality/incidence% (M/I%) ratio.Gandhinagar

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### Managing Dengue Outbreak in Lahore, Pakistan: Efficacy of Government Response and Lessons for the Future

Iram Anjum Khan Faisal Abbas. *Journal of Health Management* 2014; 16(4) 471–480

This article aims at exploring and analyzing reasons for the spread of dengue outbreak in Lahore, Pakistan, in 2011. This led to about 300 deaths. Also, this study intends to review the appropriateness of government response in managing the dengue outbreak. The contributing factors in the spread of dengue disease included, among others, the demographic structure of Lahore district, environmental conditions, and urbanization and slum development with lack of health facilities. Furthermore, managerial and coordination failures at the level of city district government aggravated the situation. The governance failure was manifested by the non-framing of dengue disease as a public policy concern, especially when it had affected almost 4,500 persons leading to three deaths in the year 2010. There were coordination failures with tertiary level health institutions, and the city government was unprepared. Concrete and effective steps were taken when chief minister of the Punjab province intervened personally. The strategy adopted by the provincial government was so successful that in the year 2012, there were only 252 dengue cases and no deaths were reported. However, there is still need to improve coordination at the city government level and to institute a preventive regime to manage an outbreak in the future.

**Keywords**: Dengue epidemic, public health, health management, health systems, Pakistan

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### Prevalence and correlates of metabolic syndrome in the adolescents of Rural Wardha.


Metabolic syndrome is a major concern as a precursor of cardiometabolic diseases. The present study was designed to study the magnitude and correlates of metabolic syndrome among the adolescents of rural Wardha. A cross-
sectional study was carried out among the adolescents (10-19 years) of Anji PHC. A sample of 405 was selected by random sampling from the sampling frame available with department of Community Medicine. We collected data about their sociodemographic variables and other cardiometabolic risk factors. Fasting blood sample was collected to measure lipid profile and blood glucose. Blood pressure and anthropometric measurements (height, weight, and waist circumference) were also taken. Prevalence of metabolic syndrome using ATP-III criteria modified for adolescents was found to be 9.9% (95% CI: 7.3-13.1) in the study population and lower level of high-density lipoprotein (HDL) cholesterol was found with a prevalence of 58.3% (95% CI: 53.4-63.0). The prevalence of metabolic syndrome was found to be significantly ($P < 0.05$) associated with the presence of obesity and hypertension among family members. There was a moderately high prevalence of metabolic syndrome among rural adolescents. The early identification of cardiometabolic risk factors such as hypertension and obesity can help prevent metabolic syndrome, diabetes, and cardiovascular disease.

**Keywords:** Adolescent, metabolic syndrome, dyslipidemia

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While the chances of the Ebola virus entering India are low, Ebola and pandemic flu teach us to expect the unexpected and be prepared. New diseases are appearing in the world again and again. We live today in a "global village". Ebola-infected bats are probably present in Asia. Nipah virus-infected bats are widely prevalent in east Asia; there is no guarantee their territorial flight paths will not extend to peninsular India. Is India prepared? Who exactly is in charge?

**Keywords:** Ebola; Diseases; India; Communicable diseases

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4. **DRUG ABUSE**

17  **Air Nicotine Levels in Public Places in Ahmedabad, India: Before and After Implementation of the Smoking Ban, Jingyan Yang1, Bhavesh V. Modi2,3, Stephen A. Tamplin1,4, Mira B. Aghi5, Paresh V. Dave3, Joanna E. Cohen. Indian Journal of Community Medicine/Vol 40/Issue 1/January 2015; 27p.**

Aim to compare air nicotine levels in public places in Ahmedabad, India, before (June 2008) and after (January, 2010) the implementation of a comprehensive smoking ban which was introduced in October 2008. Air nicotine concentrations were measured by sampling of vapor-phase nicotine using passive monitors. In 2008 (baseline), monitors were placed for 5-7 working days in 5 hospitals, 10 restaurants, 5 schools, 5 government buildings, and 10 entertainment venues, of which 6 were hookah bars. In 2010 (follow-up), monitors were placed in 35 similar venues for the same duration. Comparison of the overall median nicotine concentration at baseline (2008) (0.06 μg/m3 Inter quartile range (IQR): 0.02-0.22) to that of follow-up (2010) (0.03 μg/m3 IQR: 0.00-0.13), reflects a significant decline.
(% decline = 39.7, \( P = 0.012 \)) in exposure to second-hand smoke (SHS). The percent change in exposure varied by venue-type. The most significant decrease occurred in hospitals, from 0.04 \( \mu g/m^3 \) at baseline to concentrations under the limit of detection at follow-up (% decline = 100, \( P < 0.001 \)). In entertainment venues, government offices, and restaurants, decreases in SHS exposure also appeared evident. However, in hookah bars, air nicotine levels appeared to increase (\( P = 0.160 \)). Overall, SHS exposure was significantly reduced in public places after the smoke free legislation came into force. However, nicotine concentrations were still detected in most of the venues indicating imperfect compliance with the comprehensive ban.

**Keywords:** Air nicotine monitoring, second-hand smoke, smoke-free law, smoking ban

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**5  EDUCATION & TRAINING**


The present article examines trends and patterns besides examining quality and utilization of In-service training number NRHM. The study was conducted in all six PHCs in the Haldwani District of Uttarakhand State. The effect of training on output of key indicators is also worked out by comparing pre and post training data. In order to assess quality of training and its utilization, interviews were conducted with key staff at PHCs viz, medical officers, staff nurse, make and Female supervisors and laboratory technicians. The study indicates substantive improvements in the selected output and outcome indicators relating to RCH services. Study suggests for better outcome of in-service training augmentation in facilities, supplies and good coordination is further require.

**Keywords:** NRHM; IMNCI; AYUS; DTC; NTS; NTP; CTP; PIP

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**6  ELDERLY CARE**


Population ageing is a universal phenomenon. The persons aged sixty and above are increasing in the developed as well as the developing countries. Among the Asian countries, China has the highest proportion of aged persons followed by India. According to 2001 census, there were 177 million elderly persons in India and the number is
estimated to be 177 million in the next 25 years. The proportion of aged persons in India's population rose from 5.6 percent in 1961 to 8.6 percent in 2011 (Census of India 2011). The elderly population aged 70 and above, which was only 8 million in 1961 rose to 29 million in 2001. Moreover, the proportion of elderly above 70 in the total population increased from 2.0 percent in 1961 to 2.9 percent in 2001. Life expectancy increased from 40 years in 1951 to 66.7 years in 2011 (CIA, 2011). Elderly people across all social segments are facing problems of disrespect, indifference and other emotional problems. However, the nature of problems may vary according to the strata of society.

**Keywords:** Elderly abuse; Kerala; Elderly care

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### 7. ENVIRONMENTAL HEALTH

#### 20 Vulnerability of Poor Urban Women to Climate-linked Water Insecurities at the Household Level: A Case Study of Slums in Delhi. Jagriti Kher; Savita Aggarwal; Geeta Punhani. *Indian Journal of Gender Studies; February 22(1) 2015*

In most developing countries rural, peri-urban slum women and girls spend several hours every day in water accession and management. Climate change coupled with demographic and technological factors further confound this scenario. This study assesses the vulnerability of poor women to climate-linked water insecurities in Delhi, the capital of India, where almost 20 per cent of its people live in slums and related settlements. This study made a qualitative and quantitative assessment of water-related needs of women living in slums across different regions of the city. Considering the rapid growth of slums, climatic changes and little change in the gendered distribution of domestic responsibilities, women are likely to spend huge amounts of time in meeting their practical gender needs of water and other resources. Their strategic gender needs of education, skill development and income will continue to be ignored leading to persistent gender gaps in attainments in different sectors. It is therefore very important to enhance the overall adaptive capacity of urban poor women to face the challenges of rapid urbanisation and climate change.

**Keywords:** Slums-delhi; Public health; Poor; Climate linked water

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The major cause of most environmental problems is the rapidly growing human population. About 90 million babies are born each year. At this rate, by the year 2050, global population will reach 10 billion. The current world population is, on average, very young and has many years of reproductive life ahead. In developing countries where the urbanization is occurring most rapidly, the technology is not high enough to take responsibility of water treatment and clean production. Many Western companies produce their products in developing countries because of more flexible environmental law and cheaper production costs. This puts extra pressure on the environment of the developing
Environmental problems in most of the urban centres are evident. Environment-related diseases or accidents remain among the major causes of illness, injury, and premature death. This is common in the poorer centres of urban areas. Most of these diseases are caused by pathogens in water, food, soil, or air. Burns, scalds, and accidental fires are common in overcrowded shelters.

**Keywords:** Environmental health; Slum dwellers; Public health


The article is based on a study of the problem of contaminated water supply in Ludhiana. It finds that the incidence of water-related diseases and their economic impact on households is reasonably high. The quality of water was identified as a major problem in all the selected localities of the city. Leaking pipes, water storage and the slow movement of water during transmission and distribution contribute to health problems, especially for the poor.

**Keywords:** Environmental health; unsafe drinking water; Ludhiana


Impact assessments are conducted with the objective of safeguarding human health and the environment. The Environmental Impact Assessment notification of 2006, subsequent amendments and associated guidelines provide the framework to document untoward effects of proposed industrial and developmental projects on the environment, and to manage them. It is also implicitly understood that the notification covers human health concerns arising from the proposed projects. Are health concerns being adequately accounted for when projects are provided clearance? Through the use of a standardised framework, several gaps were found in health-related aspects of the notification and the two evaluated EIA reports analysed here. Further reflection is called for on the purpose of EIAs to prevent human health from becoming a casualty on the path to "development".

**Keywords:** Environmental health; Environment; Public health.


India's population is exposed to dangerously high levels of air pollution. Using a combination of ground-level in situ measurements and satellite-based remote sensing data, this paper estimates that 660 million people, over half of India's population, live in areas that exceed the Indian National Ambient Air Quality Standard for fine particulate
pollution. Reducing pollution in these areas to achieve the standard would, we estimate, increase life expectancy for these Indians by 3.2 years on average for a total of 2.1 billion life years. We outline directions for environmental policy to start achieving these gains.

**Keywords:** Pollution; Public health; Environment; Life expectancy.

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**8. FOOD & NUTRITION**

**25 Nutritional Status of under 5 Children belonging to Tribal Population Living in Riverine (Char) Areas of Dibrugarh District, Assam.** Safikul Islam, Tulika Goswami Mahanta, Ratna Sarma, Saikia Hiranya.  

Assam’s main lifeline, the Brahmaputra river, braided nature created numerous sand bars and islands known as chars/sapories. They are home to more than 3 million people. Over 90% of the cultivated land on the river islands is flood-prone; the flood leaves the islands completely separated from mainland, preventing access to health infrastructure and services.  

**Aims:** 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.  

**Settings and Design:** A community-based cross-sectional study conducted in the riverine areas of Dibrugarh district of Assam.  

**Materials and Methods:** Nutritional status was assessed using anthropometry. Undernutrition was classified using World Health Organization (WHO) recommended Z-score system. Data collection was done by house to house visit of all chars using proportionate allocation. Statistical Analysis Used: Rates, ratios, proportions, and chi-square test. Results: Overall prevalence of underweight, stunting, and wasting was 29%, 30.4%, and 21.6%, respectively. Prevalence of underweight and stunting was less than the prevalence of underweight (36.4%) and stunting (46.5%) in Assam, but the prevalence of wasting was more than that of Assam (13.7%) as observed in National Family Health Survey-3. 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 ($P < 0.05$). Conclusions: Special focus is needed for nutritional improvement of under 5 living in char areas to prevent preventable morbidities and to achieve optimum development.  

**Keywords:** Assam, dibrugarh, nutritional status, riverine area, WHO’s Z score
India is the second world's largest populated country next to China. Change in food habit and lifestyle leads to several disorders, which again leads to change in health status. Nutrition is the main constrain to health for an individual; community health normally depends on the quantity and quality of food available for their consumption. To lead a healthy and normal life of a human being, the nutrition is basic and prerequisite. An appropriate diet is vital from the very early stages of life for precise growth, development and to remain active. Food consumption, which principally depends on production and distribution, determines the health and nutritional status of the inhabitants (NIN dietary guideline). Nutrition and health intervention can bring down the incidences of nutritional deficiency and help to lead a better healthy life.

Keywords: Nutrition; Population; India; Public health

Assessing the progress made in reducing under-nutrition among children who are less than two years old in Maharashtra between 2005-06 and 2012, this article points out that child under-nutrition, especially stunting, declined significantly in the state during this period. It holds that this decline can be associated with the interventions initiated through the Rajmata Jijau Mother-Child Health and Nutrition Mission, which began in 2005, and that this indicates the critical role the state can play in reducing child under-nutrition in India.

Keywords: Malnutrition; Nutrition; child health; Maharashtra.

The National Sample Survey Office's survey of consumption expenditure is woefully inadequate for estimating the number of food-insecure households in India. Future surveys of NSSO need to collect information on the four pillars of food security: availability, access, nutritional adequacy/utilisation and stability. The Comprehensive Nutrition Survey in Maharashtra is an example of such a survey and appears to do a decent job of capturing the different elements of food security.

Keywords: Food sufficiency; India.

9. HEALTH CARE SERVICES
The results from this study indicate that a vast majority of people (almost 80 per cent) in India use the private sector for outpatient care curative services, albeit a slight decline is noted between 1995–96 and 2004. The utilization of private sector for outpatient services has become more inequitable across expenditure quintiles, favouring the rich at the national level during the period 1995–96 to 2004. There are also large inter-state variations in the choice between private and public provision for poor and non-poor people at the state level. The results indicate that Himachal Pradesh is the only state where the public outpatient services are well targeted and fairly accessible to the poor people (84 per cent) than other states. The multivariate analysis suggests that the gap in access to private provider for outpatient care between poor and non-poor, highly educated and uneducated and scheduled tribes (STs) and other social groups have broadened over the study period. Unlike outpatient care, the results show a trend of declining use of public health facilities for inpatient care. A sizeable proportion of the poor were forced to visit private provider due to non-availability of public facilities: this suggests the need for the public health care system to be responsive to the needs of the poor by ensuring availability of quality services in the public facilities.

**Keywords:** Healthcare utilization, poor, non-poor, choice of provider, India

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Over the years various plans and programmes have been initiated and implemented by the state government of Orissa. But, state’s health indicators have not improved substantially. Moreover, in recent years, health seeking behaviour of the people has been affected due to increasing cost of health care. Health care is not free of cost any more due to introduction of user fee, increasing trend of privatization and the technological innovation. As a result, out of pocket expenditure has increased enormously affecting the socio-economically disadvantaged groups the most. In consequence, they tend to depend more upon borrowing, dis-saving, selling valuable assets and curtailing expenditure on education of their children. Hence, in this paper we try to investigate broadly into three main aspects, namely, health seeking behaviour, health care burden and most importantly the source of financing of their health expenditure across socio-economic groups by using bi-variate and regression techniques (logit) to provide policy suggestions with respect to health care financing, especially focusing health insurance. Our findings show that there exists a statistical significant difference in health seeking behaviour, health expenditure and financing health care among socio-economic groups. Socio-economic groups fall behind in terms of health care utilization and experiencing higher health care burden as well as depending more on inefficient mechanism to finance their health expenditure. Hence, we advocate that state government should increase its expenditure share towards health sector substantially to achieve desired outcomes and also provide comprehensive health insurance to the targeted socio-economic backward groups.

**Keywords:** Health financing, health seeking behaviour, health expenditure, coping mechanism, health insurance, Orissa

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Atherosclerosis is a multi-factorial disease involving the interplay of genetic and environmental factors. Studies highlighting the public health importance of risk factors like chronic infections causing acute myocardial infarction (AMI) in the Indian context are scarce. This study was undertaken to study the association of socio-demographic and life-style factors with acute myocardial infarction in central India. The cases and controls were group-matched for age, gender, and socio-economic status. A blinded research associate administered the study questionnaire. We performed an unconditional multiple logistic regression analysis. The case-control study included 265 cases of AMI and 265 controls. The results of final model of logistic regression analysis for risk factors of AMI included 11 risk factors at $\alpha = 0.05$. They were waist hip ratio, body mass index, stress at home in last 1 year, hypertension, family history of CHD, past history of gingival sepsis, tobacco smoking, raised total serum cholesterol, Chlamydia pneumoniae, Helicobacter pylori and raised C-reactive protein. The findings confirm the role of conventional risk factors for cardiac disease and highlight need for research into the association between chronic infections with AMI.

Keywords: Atherosclerosis, acute myocardial infarction, risk factors

10. Health Economics

Oral disease patterns are changing in modern India as a nation is witnessing a major shift in the dietary habits of its countrymen. The reported facts about the various oral diseases are alarming and reflecting the state of oral health in our country. The lack of a well-organized oral health care delivery system due to the absence of an oral health policy could be one of the main reasons for an increasing oral disease load. Though, the blue print of the National Oral Health Policy that was drafted at developing an efficient oral health care delivery mechanism to address the oral health needs of its countrymen it still remains as a draft since last 15 years due to very poorly motivated policy makers. It is most unfortunate that until date, the efforts are meager to convert this draft into a policy and implement in spite of a reported hike in the oral disease load stating scarcity of qualified dental manpower as a major reason.
However, the time has come to put a pause to such excuses and seriously look into its implementation. It lies in the hands of the government and the dental health regulating bodies in the country to take appropriate measures for the implementation of the policy thereby brightening the employment opportunities for the budding dentists as well as bringing smiles on millions of Indians.

Keywords: Oral health; Health economics; health policy; India.


Since independence, India's national health policies have been aspirational but the end results have been limited. The National Health Policy 2015, which is in the process of being finalised, should, in place of the earlier "broadband" approach, adopt a "narrow focus" on primary healthcare through the National Rural Health Mission. The latter has focused on primary healthcare and has shown visible results. A slew of suggestions as to how this can be done are made in this article.

Keywords: Health policy; Health economics; National health policy


The key to improving the quality of healthcare services in India and reducing costs at the same time can be found by enacting legislation which lays down minimum standards of patient care. In the absence of such standards and the reluctance of health insurance companies to standardise either price or quality, healthcare services continue to be expensive and of doubtful quality. Developing standards of patient care by legislative mandate and a change in the attitude of health insurers can change the equation in favour of the patient who is now at the mercy of the hospital.

Keywords: Healthcare services; Health economics; Better health services

11. HOSPITAL MANAGEMENT
Occupational injuries and exposure to blood and body fluids are serious concerns among health care workers (HCWs). The objective of this study was to investigate occupational injuries and associated factors among female health assistants working in a rural hospital in Karnataka. All the health assistants (46) working in a rural hospital were interviewed utilizing a schedule, adapted from Occupational Health Manual. Simple descriptive statistics and tests of association were performed. Among all the health assistants surveyed, 33 (71.7 per cent) of the employees were exposed to blood and body fluids, 27 (58.7 per cent) reported history of needle-stick injuries in the last three months. Stress, headache and back pain were most common complaints –28 (60.9 per cent), 25 (54.3 per cent) and 24 (52.2 per cent), respectively. The number of workers who had anaemia was 35 (76.1 per cent) and 20 (43.4 per cent) workers were underweight with a body mass index (BMI) less than 18.5. The work-related stress and musculoskeletal disorders were found to be high. Health education on ergonomics and the promotion of consistent use of personal protective equipments may help reduce the incidence of musculoskeletal and needle-stick injuries.

Keywords: Health assistant, health care workers, occupational health, occupational injuries, needle-stick injuries

12. KAP SURVEYS

The study was conducted in 6 centres from December 2013 to July 2014. A total of 332 attendees at the mobile health outpatient clinics in 6 centres were interviewed in local dialects after obtaining their verbal consent. The questions were concerning the basic aspects about cause, mode of spread, presenting symptoms and methods of prevention of diarrhea, malaria, tuberculosis and HIV/AIDS. The awareness levels were qualified as fully aware, partly aware and not aware depending on the answers given. The data was collated and levels of awareness were correlated with age, gender, educational status. The results are compared with published literature from Nepal and other developing countries. The percentage of respondents with full knowledge about diarrhea, malaria, tuberculosis and HIV/AIDS were 53.31, 26.81, 10.24 and 27.41 respectively. The awareness was lowest in the above 70 age group. There was a significant correlation between levels of education and awareness in all diseases. Although males had slightly higher awareness levels than females for all the 4 diseases, the difference was not significant. Despite good response to the measures by governmental and nongovernmental agencies in health education, awareness levels are low in certain pockets in remote rural areas in Nepal.

Keywords: Communicable diseases; Nepal; Health awareness; KAP Surveys; Rural communities
13. PUBLIC HEALTH


Something phenomenal has happened in India from April through May 2014, which cannot be ignored by healthcare professionals. In the largest-ever election in the world, 553.8 million people exercised their right to choose their next government. Considering 834.1 million total electors on the roll of Election Commission of India, the national voter turnout was an all-time high at 66.4% (comparable for males and females).(1) Similar voter surges were seen in 1984 (64.0%) and 1957 (62.2%), but the turnout spike this year was unprecedented considering that the 1984 polls were held in exceptional circumstances following the assassination of sitting Prime Minister. Even the highly charged post-emergency elections in 1977 could result only in 60.5% turnout. Low turnouts of 2004 (58.0%) and 2009 (58.2%) do not seem to fit in this discourse. We may never be able to fully fathom the reasons behind this phenomenon. Is it a marker of improving accuracy of electoral rolls, or the raised motivation of voters, or both? And to what extent were the voters pulled by real or perceived issues, or were they pushed by extrinsic forces? Equally important is to analyze the major barriers stopping a third of our electors from exercising their right to choose their government. Nonetheless, some qualitative inferences may still be made about what issues were on the radar of our voters. Based on a summary analysis of opinion polls conducted by various national and transnational agencies, the major issues that emerged from the wider narrative included: Price rise/inflation, roads-electricity water, unemployment, corruption, economic slowdown, security-terrorism, and religious polarization.(2-5) And this was seen across all classes and regions. Health or healthcare did not figure in the list. At least this was not explicit. Contrary to this, with the opinion surveys conducted in a specimen of high-income country, for example the USA, where healthcare consistently stays among the top three concerns of the voters.(6) Europe is no different. Are people in different parts of the world thinking differently about their basic needs? the ruling classes in different parts of the world have choreographed the narrative differently?

Keywords: Healthcare;


Observing epidemiological transition of various diseases throughout the world, it is quite apparent that the burden of no communicable diseases (NCDs) is a major concern. In this era of globalization, developing countries, including India cannot remain untouched from the threats and major developments in the field of international health and NCDs.
The effective functioning of any health system requires an efficient public health service. Every human being has the right to enjoy “the highest attainable standard of health,” which can be fulfilled by giving every man an affordable and equitable health system he deserves and demands. In these years, complex health changes have complicated the situation in India. Most important gaps in the health care include an understanding of the burden of the disease and what leads to and causes ill health, the availability and use of appropriate technology in the management of disease, ill health and health systems that have an impact on service delivery. Universal Health Coverage (UHC) has the potential to increase economic growth, improve educational opportunities, reduce impoverishment and inequalities, and foster social cohesion. Steps taken for achieving UHC will address the public health challenges and vice versa.

Keywords: Public health challenges, Universal health coverage, Demographic transition

Universal health coverage (UHC) is the means to provide accessible and appropriate health services to all citizens without financial hardships. India, an emerging economy with demographic window of opportunity has been facing dual burden of diseases in midst of multiple transitions. Health situation in the country despite quantum improvements in recent past has enormous challenges with urban-rural and interstate differentials. Successful national programs exists, but lack ability to provide and sustain UHC. Achieving UHC require sustained mechanisms for health financing and to provide financial protection through national health packages. There is a need to ensure universal access to medicines, vaccines and emerging technologies along with development of Human Resources for Health (HRH). Health service, management, and institutional reforms are required along with enhanced focus on social determinants of health and citizen engagement. UHC is the way for providing health assurance and enlarging scope of primary health care to nook and corners of the country.
India’s growth hype and dream of emerging as an economic superpower are being challenged today, among other things, by its failure to foster an inclusive growth path and provide to bulk of its population basic amenities of education and health. There exists great inequality at interstate and intrastate level in terms of the key components of human development—health and education. The present work attempts to measure the extent of the inequality in health status and health care services in the two most populous states of India namely Uttar Pradesh and Bihar. A detailed analysis of inter district and inter region disparity in health status and health care in the two states has been done using secondary data from Annual Health Survey (2011) and Statistical Diary (2011). Composite indices of health status and health services have been developed using Maher’s normalization technique and principal component analysis. Inequality measures like co-efficient of variations have been used to measure the relevant disparities in the two states and explain the reason thereof. The work shows low overall health status and wide inter district and inter region health disparity in the two states with lower disparity in Uttar Pradesh as compared to Bihar in terms of health status and relatively high disparity in health infrastructure. One startling fact is existence of very low and insignificant correlation between infrastructure and outcome. The study finds health status is influenced not only by health care facilities, but a number of other factors principally government’s commitment and policies.

**Keywords:** Composite indices, Health inequality, Health infrastructure, Health status

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Public health laboratories play a critical role in disease surveillance and response. With changes in disease dynamics and transmission, their role has evolved over time, and they serve a range of important public health functions. For their effective functioning, it is important to have specialized manpower in these laboratories, which can contribute to their maximum utilization. The present manuscript is an attempt to explore the human resource capacity building initiatives for public health laboratories in India. Using three parallel methods we have attempted to gather information regarding various human resource capacity building initiatives for public health laboratories in India. Our study results
show that there is a paucity of programs providing specialized training for human resources in public health laboratories in India. It highlights the urgent need to address this scarcity and introduce capacity building measures to generate human resources for public health laboratories to strengthen their role in public health action.

**Keywords:** Capacity building, human resources, laboratories, public health, training

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Perceived organizational support (POS) measures the employee perception of support from the organization and helps to understand the employer-employee relationship better. The aim of the study is to understand the healthcare professionals' perception of support from public health department and to examine the healthcare professionals' difference in perception of support across various demographics variables. A survey is conducted among healthcare professionals including medical officers and staff nurses working in primary health centres (PHC) in the state of Tamilnadu. In the study, public health department refers to the Directorate of Public Health and Preventive Medicine. Mann Whitney U test and Kruskal Wallis H test are used to assess the difference in POS across demographic variables. The results of the study indicated that the healthcare professionals perceive a moderate level of support from public health department. The healthcare professionals' POS is found to differ across their age, role and total work experience but not across gender and work experience in the current PHC. Further, the POS of healthcare professionals is found to differ with respect to PHC location and does not differ with respect to PHC type. The results emphasize the need to enhance POS of healthcare professionals. The health policy makers and mangers have to consider the difference in POS of healthcare professionals and make amendments in the human resource policies related to selection and training.

**Keywords:** Healthcare professionals, primary health centers, public health, Tamil Nadu

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Headache disorders are common and burdensome throughout the world, placing high demand on health care services. Good information on their prevalence and distribution through sectors of the population are a prerequisite for planning interventions and organizing services, but unavailable for India. To find out the prevalence of headache disorders in Karnataka State and establish important sociodemographic associations. Using a door to door survey technique, amongst 2997 households, 2329 individuals were interviewed with a validated structured questionnaire by randomly sampling one adult member (aged 18-65 years) from eligible households in urban (n = 1226) and rural (n = 1103) areas of Bangalore, during the period April 2009 and January 2010. Chi-square, odds ratio (OR), and logistic regression. The 1-year prevalence of headache was 63.9% (62.0% when adjusted for age, gender and habitation) and 1-day prevalence (headache on the day prior to the survey) was 5.9%. Prevalence was higher in the age groups of 18-45 years, among females (OR = 2.3; 95% confidence interval: 1.9-2.7) and those in rural areas. Prevalence was higher in rural (71.2 [68.4-73.8]) than in urban areas (57.3 [54.5-60.1]) even after adjusting for gender. The proportion of days lost to headache from paid work was 1.1%, while overall productivity loss (from both paid and household work) was 2.8%. Headache disorders are a major health problem in India with significant burden. It requires systematic efforts to organize effective services to be able to reach a large number of people in urban and rural India. Education of physicians and other health-care workers, and the public should be a pillar of such efforts.

**Keywords:** Epidemiology, Global campaign against headache, Headache disorders, India, Prevalence

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Three distinct groups of people, the sick, at risk and a healthy population constitute the beneficiaries of any health services. Available health care packages are based on the paradigm of the “natural history of the disease and the five levels of the prevention.” Patient-centric “personal care services” and community centric “public health care” are the two packages universally provided to a community. A health care system can only be effective and efficient if there is balanced mix of the personal and public health care delivered as a comprehensive package in a regionalized graded manner by a well-trained manpower. The current health care delivery system is mostly personal care centered and public health component is in the fringes and being delivered as vertical programs through the multipurpose health worker. The alternative model speaks about bifurcating the two types of services and delivering both as a comprehensive package to the community. As per the constitution of India health services including major public health services are state subject but the nature of emerging public health problems relates to mass movement of people and goods, environmental changes due industry and other developmental activities etc. resulting in the spread of the same beyond the manmade geographical boundary, some public health activity may be included in the union/concurrent list. To deliver the packages a public health cadre may be created at the state and center and be equipped with public health knowledge and skill to deliver well-defined evidence-based service package to control the existing problem and keep strict vigilance to prevent entry/emergence of new health problems.
**Keywords**: Personal health care services, public health care services, public health care package, evolution of health care in India, India’s five year plan, policy reform and system reforms in health care, governance, system vs mission mode.

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46 **Profitable Public Health Venture!** Nidhi Bhatnagar, Manoj Grover A. *Journal of Health Management* 2014; 16(3) 459-464

Public health goes beyond the domain of curative medicine. It has always taken a backseat with no immediate tangible outcome. Moreover, it generally falls in the ambit of government services, inadequate due to lack of resources. This paper proposes to revitalize some aspects of preventive and curative health service delivery, based on the felt need of the society. Changing demographics and disease pattern warrants modification in health service delivery. Economic growth of the country has made larger section of population capable to pay for quality health services at reasonable costs. Business in these identified domains will benefit population at large simultaneously satiating the interests of present-day entrepreneurs.

**Keywords**: Public health, profitable, private

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47 **Interstate Level Comparison of People’s Health Status and the State of Public Health Care Services in India** Rajkishor Meher Rajendra Prasad Patro. *Journal of Health Management* 2014; 16(4) 489–507

Health is an essential component of economic development and there is a strong correlation between health of human population and societal well-being. We cannot just think of the development of the human capital without the development of health and education of the people. However, it is found that although India has made large gains on the health front of its population, there exist wide variations between and within states. While states such as Kerala, Punjab and Tamil Nadu have a very developed health sector and the health indicators of these states are comparable to those of developed middle-income countries, states such as Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh, Uttar Pradesh, Odisha, etc., are almost at the level of Sub-Saharan Africa. By using a few of the key health indicators the present article makes a critical analysis of the health status of people in the 17 major states of India, the ongoing health development programmes and the present state of public health care services in different parts of the country. The article further delves into an arena of specific policy intervention measures that are required to be undertaken in order to increase the health status of people.

**Keywords**: Composite health development index, RCH services, Public health care services, Communicable diseases, Non-communicable diseases, Health expenditure

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48 **Government and Local Authority Intervention for the better health of Slum Dwellers in Ahmedabad city-India.** Dr. Upadhyay Rushiraj B. *Afro Asian Journal of Anthropology and Social Policy: 2014, Volume : 5, Issue : 2*

As a matter of fact, there various issues remain in the slums which directly impact of the sedentary life of slum dwellers. On the same side, myriads of people are sustain below poverty line which is the major obstruction for them
to mélange in streamline and overall development. The living pattern and socio-economic condition of slum dwellers as well as geographical environment of slums are the cause of the degradation. Various issues are facing by slum dwellers and health is one of them, which is directly impact on their social life and economic arrangements. Moreover, health is a one of the main indicator for the development. In that context, Government of Gujarat and local authority has taken some initiative and implemented such projects and plans for the better health of slum dwellers and through that reform their living standard. This study is conducted through considering the slums of Ahmedabad city in Gujarat because Ahmedabad is known as a heart of Gujarat state and urbanization process is very rapid here as well as large amount of slums are remain in this city. Therefore, this study has tried to focused government and local authority intervention for the better health of slum dwellers as well as also focused the perceptions of slum dwellers about the projects and plans implemented by Government.

**Keywords**: Slum, Dwellers; Public health

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This study investigates the existence of economies of scale in the provision of breast and cervical cancer screening and diagnostic services by state National Breast and Cervical Cancer Early Detection Program (NBCCEDP) grantees. A translog cost function is estimated as a system with input factor share equations. The estimated cost function is then used to determine output levels for which average costs are decreasing (i.e., economies of scale exist). Data were collected from all state NBCCEDP programs and District of Columbia for program years 2006–2007, 2008–2009 and 2009–2010 ($N = 147$). Costs included all programmatic and in-kind contributions from federal and non-federal sources, allocated to breast and cervical cancer screening activities. Output was measured by women served, women screened and cancers detected, separately by breast and cervical services for each measure. Inputs included labor, rent and utilities, clinical services, and quasi-fixed factors (e.g., percent of women eligible for screening by the NBCCEDP). 144 out of 147 program-years demonstrated significant economies of scale for women served and women screened; 136 out of 145 program-years displayed significant economies of scale for cancers detected. The cost data were self-reported by the NBCCEDP State programs. Quasi-fixed inputs were allowed to affect costs but not economies of scale or the share equations. The main analysis accounted for clustering of observations within State programs, but it did not make full use of the panel data. The average cost of providing breast and cervical cancer screening services decreases as the number of women screened and served increases.

**Keywords**: Cost . Cost function. Breast cancer. Cervical cancer . Screening

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The draft national health policy suggests that public health services should be held accountable according to commercial principles, which would have a deleterious impact on public health. From the point of view of common people, the background to the National Health Policy 2015, Draft (hereafter draft NHP) could not have been very inspiring. Instead of the long-awaited jump in the healthcare budget, the 2014–15 budget showed hardly any rise in
allocation for health, making a mockery of its declaration of a “Health Assurance Mission.” In December 2014 the central government reportedly cut Rs 7,000 crore from an already low budget due to fiscal pressure. Further, if we consider the views of Arvind Panagariya, vice-chairman of the newly formed Niti Aayog, it has to be assumed that the NHP will be cast in a full-blown neo-liberal framework. Panagariya has argued for cash transfer to the poor instead of providing public health services:

**Keywords**: Public health; Health services;

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### 14. STATUS OF WOMEN


We explore the impact of socio-demographic change on marriage patterns in India by examining the hypothetical consequences of applying three sets of marriage pairing propensities—contemporary patterns by age, contemporary patterns by age and education, and changing propensities that allow for greater educational homogamy and reduced educational asymmetries—to future population projections. Future population prospects for India indicate three trends that will impact marriage patterns: (1) female deficit in sex ratios at birth; (2) declining birth cohort size; (3) female educational expansion. Existing literature posits declining marriage rates for men arising from skewed sex ratios at birth (SRBs) in India’s population. In addition to skewed SRBs, India’s population will experience female educational expansion in the coming decades. Female educational expansion and its impact on marriage patterns must be jointly considered with demographic changes, given educational differences and asymmetries in union formation that exist in India, as across much of the world. We systematize contemporary pairing propensities using data from the 2005–2006 Indian National Family Health Survey and the 2004 Socio-Economic Survey and apply these and the third set of changing propensities to multistate population projections by educational attainment using an iterative longitudinal projection procedure. If today’s age patterns of marriage are viewed against age/sex population composition until 2050, men experience declining marriage prevalence. However, when education is included, women—particularly those with higher education—experience a more salient rise in nonmarriage. Significant changes in pairing patterns toward greater levels of educational homogamy and gender symmetry can counteract a marked rise in nonmarriage.

**Keywords**: Sociodemographic change; Marriage; Status of women; India; Marital status

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The article explores the issue of the conditional cash transfers scheme for the girl child in Haryana. The beneficiary mothers and the persons involved in the implementation of the scheme were interviewed with the help of an in-depth interview guide to gather quantitative and qualitative data. It was found that though the scheme’s aim is to improve attitudes and create a favourable attitude towards the girl child, it has not been able to achieve the desired outcomes. Education and the upbringing of the girl child were not concerns of either parents or stakeholders responsible for implementing the scheme. The questions raised by the study are: when parents still want a male heir for their family, will governmental efforts succeed in stopping female foeticide, especially in the case of a third daughter?

Keywords: Girl child; Haryana; Cash transfer scheme


This paper analyses crime against women and children in Delhi based on two data sources, the National Crime Records Bureau and an empirical data set of the Perceptions Survey of the Delhi Human Development Report, 2013. Using the NCRB data, the paper analyses trends in the rate and composition of crime against women and children from 2004-2006 to 2010-2012, including charge sheets and convictions. Results from the Perceptions Survey highlight the spatial nature of crime in the state, the differential experience of crime by social groups, as well as men and women. A key finding is the high vulnerability of children to crime in the city. What emerges from the comparison of secondary and primary data is the simultaneous existence of incidence of crime on the one hand and perception of crime and violence on the other. A combination of various data sources is important to capture both incidence and perception in order to gain a more holistic and in-depth understanding of crime and violence, a vastly under-researched topic in the social sciences.

Keywords: Crime; women violence; Child violence; Delhi

15. Sustainable Development

Non-affected or less affected parts of any local community plays the most important role in providing relief and rehabilitation services during the disaster situation in remote areas especially till the outside help arrives in the affected region. However, Panchayati Raj institutions especially Gram Panchayat are not significantly mandated and empowered to participate in disaster management set-up in India. This article attempts to provide an overview of disaster management set up in India and expresses need for more significant involvement of PRIs. Especially, it provides some useful tips for empowering and mandating Gram Panchayat in this respect.

**Keywords:** Gram Panchayat; Disaster management; Local community; Rehabilitation

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**TRIBAL HEALTH**


This study is based on the health and nutritional status of Raji community by using anthropometric profile likes height, weight, waist and hip circumferences and three parameter were derive from these measurement, i.e., Body Mass Index (BMI), waist–hip ratio (WHR) and Hemoglobin (Hb). In this study we collected N = 94 adult individuals blood samples and anthropometric measurement aged above 18 years of nine villages in the study area. Anthropometric measurements and Hb including it is reported in this study that the prevalence of undernutrition was found to be high (45.7%) and it seems higher prevalence in males than females. The sexual differences body parameters were also evaluated. Both males and females show statistically no differences in their mean age. Mean values of BMI of the Raji is significantly lower than those of other tribal populations of India as reported in several other studies. These trends were much higher than those found in several tribal populations from other parts of India. These results indicate lack of health awareness on healthy lifestyle and also they have no idea about healthy nutritious diet, etc. Therefore, they are not able to intake the nutritious substances (vitamins, proteins, minerals, and so on) because the health status in this community directly proportional to the economic (financial) and socio-cultural conditions of these people. Therefore, they are suffering from malnutrition, anaemia, mental retardness and other symptoms which are related to the blood disease. In this article, it has been attempted to evaluate the health situation of the Raji tribes and has also an attempt has been made to make some recommendations related to their health and social development which might be helpful in their successful development.

**Keywords:** Tribal health; Tribal community; Uttarakhand, India

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We studied dimorphism in blood pressure levels as well as the prevalence of hypertension among adult Savara tribals of village Munchingput Mandalam, Visakhapatnam district, Andhra Pradesh, India. A cross-sectional study was used to collect data on systolic blood pressure (SBP), diastolic blood pressure (DBP) and pulse rate. A total of 148 adults (95 males and 53 females) were measured and classified into three age-groups, i.e., Group I: 23–32 years, Group II: 33–42 years and Group III: ≥43 years. Negative significant sex difference in SBP among age group I (t = −2.409; p < 0.05) were observed. Positive significant sex difference in DBP among age group I (t = 2.545; p < 0.05) were also observed. Significant age group difference was noticed for SBP (F =4.332; p < 0.01) among males. Based on SBP the prevalence of prehypertension and stage I hypertension in males were 2.1% and 1.1%, respectively. Similarly, in females the prevalence of prehypertension and stage I hypertension based on SBP were 5.7% and 9.4%, respectively. On the basis of DBP the prevalence of prehypertension in males was 1.0%. Significant sex difference (x² = 7.691; p < 0.05) in prevalence of elevated blood pressure was observed. Thus we can conclude that females of this studied ethnic group are more prone to have prehypertension and stage-I hypertension than their male counterparts.

**Keywords:** Tribal health; Blood pressure; Tribal community; Visakhapatnam, India

17 YOGA & PHYSICAL FITNESS

The Healing is in the Pain; Revisiting and Re-Narrating Trauma Histories as a Starting Point for Healing. Keri Lawson-Te Aho. *Psychology & Developing Societies* September 2014 26: 181-212.

Five Māori women from one tribal community in Aotearoa/New Zealand narrated their stories of multi-generational legacies of historical trauma. Although psychological/spiritual trauma effects remain for these women, consciousness of trauma in these narratives was seen in a positive light as opportunities for healing. Three connected trauma acts were narrated. The process of narrating trauma histories in this study was ultimately construed as an exercise in self-determination through the re-empowerment of their voices and visions. The trauma and pain of their histories has not departed. However, the power of telling their stories creates access to healing through the achievement of consciousness of the impacts of history on shaping current realities, testimony about the resilience of previous generations and knowledge of the strategies previous generations employed to survive the brutalising effects of colonisation. The potential for healing through reclaiming new and more hopeful narratives was identified as a powerful tool to finally lay the pain of the past to rest. The healing value and potential of revisiting, re-examining and re-envisioning trauma histories under colonisation is being woven into the landscape of historical trauma theory-development, itself a healing endeavour. This study was part of a larger study on the relationship between healing from historical trauma, tribal self-determination and suicide prevention in one hapū/sub-tribe. This article focuses on the process of narrating historical trauma as a starting point for healing.
Keywords: Healing; Re-narrating