

Oral Abstract

Prevention Policy Disease Management

Abs. No. AB000R78

Effectiveness of an intervention to improve control of hypertension in rural India

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In rural India, where access to health services is limited, control of hypertension is inadequate. We aimed to determine effectiveness of an intervention, led by Accredited Social Health Activists (ASHAs), to encourage self-management and healthy lifestyle changes for controlling hypertension.

In 2014-2015 we conducted a community-based survey in three regions in rural India. Blood pressure (BP) was measured using a strict protocol. Hypertension was defined as BP \geq 140/90 mmHg or taking antihypertensive medications. Wards/villages were randomised to receive either intervention or usual care (UC) in a 1:2 ratio (twice as many in UC). ASHAs delivered a six bi-weekly group-based intervention to people with hypertension. The program included education about hypertension and support for healthy lifestyle changes, such as weight loss and

adherence to medications. BP and weight was measured at each session to assist in self-management. Final outcome was assessed approximately 2 months after the end of the intervention period; BP, anthropometry and lifestyle.

The prevalence of hypertension ranged from 23% (Rishi Valley) to 33% (Trivandrum); 37.9% had their BP controlled. Overall 450 people with hypertension lived in villages randomised to the intervention and 1,012 to control. We have 80% power (two-sided $\alpha=0.05$) to detect an 8% improved control of hypertension between groups. Data lock will occur in July 2017.

We have sufficient power to determine whether the intervention results in improved control of hypertension. If effective this readily applicable program will enable people with hypertension who have poor access to health services to effectively self-manage their BP.

Abs. No. AB000R117

Task shifting of cardiovascular risk assessment by nurses for primary and secondary prevention of cardiovascular diseases in a tertiary health care setting of Northern India

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Abstract Sub-Theme: Cardiovascular Diseases

Due to the rising burden of cardiovascular diseases and NCDs there is a need for task shifting and optimal utilization of available human resources. The present study was done to determine the effect of cardiovascular disease (CVD) risk assessment and management by nurses on primary and secondary prevention of CVDs in a tertiary health care hospital of northern India. The quasi experimental pre and post-test study design with one year follow up was adopted for the study. All the nurses (n=16) working in medicine, allied and cardiology OPDs were recruited in the study. Enrolment of patients

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for primary prevention (n=400) was done from Medicine and allied OPDs. Patients for secondary prevention (500) were recruited from cardiology OPDs and were randomized to intervention and comparison group using block randomization. Risk communication package was developed and used for training nurses. These trained nurses accessed and communicated the risk in minimum of 20 patients each. Rest of the patients were enrolled by investigator. Follow up after one year revealed that there was significant improvement in the CVD risk factors and risk category for primary prevention and in improving medication adherence in CAD patients for secondary prevention of CVDs. The study concludes that the task shifting of CVD risk assessment and management by nurses is possible and effective for primary and secondary prevention of CVDs.

Abs. No. AB000R218

Comparison of two teaching approaches on the effectiveness of foot care practices among type 2 diabetics in Delhi

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Abstract Sub-Theme: Diabetes

Addressing foot care is essential for self-care of the diabetes patients because of the complications which can lead to amputation of feet. The study aims at comparing the effectiveness of two approaches for teaching foot care among type 2 diabetics in a residential area of East Delhi.

This was a quasi-experimental study conducted among 277 type2 diabetes patients (T2DM) out of 340 who were identified during a cross sectional survey in East Delhi. There were three groups: (a) T2DM given self-learning module (SLM), (b) T2DM given power point presentation individually at home (PPT) and (c) control (no intervention other than routine health care). Data were collected by using pre-tested interview schedule including observation checklist before (pre) and 3 months after intervention (post), entered in SPSS-pc 17 and expressed in % and scores. X², McNamara, ANOVA were used for tests of significance.

The three groups had comparable socio-economic and demographic characteristics. Baseline practices related to steps of foot care were similar in all the groups. Post-test after three months showed significant improvement in the

steps of foot care practice in intervention groups (SLM and PPT) versus control group (p<0.001). PPT was more effective than SLM in some of the steps such as arranging nail cutter/mirror, dust bin, checking water temperature, drying toe, avoiding lotion between toe, wearing shoes etc (p<0.05).

Both SLM and PPT were effective in improving foot care practices and more so by PPT. Active interactive session such as PPT and even SLM can be given to the T2DM patients for effective foot care.

Abs. No. AB000R238

Parliamentarian and policy mapping in India: A focus on prevention and control of non-communicable diseases

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India has a national target to reduce premature mortality from Non-Communicable Diseases (NCDs) by 25% by 2025, with other targets focusing on reduction the important NCD risk factors. This requires multi-sectoral collaboration and cooperation at the national and sub-national levels for formulating and enforcing NCD-related policies. It is pertinent to map existing policy discussions and identify potential champions to steer policy dialogues.

To study the policy scenario, an analysis of Parliamentary Questions (PQs) was undertaken to gauge the interest areas of Parliamentarians with respect to NCDs, their risk factors and to map relevant NCD-specific policy areas in India. An online keyword search and analysis of PQs was conducted on the websites of the Upper and Lower Houses of the Parliament for five consecutive Parliamentary Sessions [Monsoon Session (2014) to Winter Session (2015)].

150 questions were raised by Parliamentarians on NCD-related risk factors, like junk food, alcohol, tobacco, physical inactivity and other relevant issues. This mapping exercise helped in identifying the political parties and the Parliamentarians that potentially prioritise NCDs, the stakeholder Ministries and their role to advance NCD policies, NCD interest areas and the neglected NCD issues.

The national NCD response warrants a 'Health-in-all-Policies' approach. This mapping exercise was helpful

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in identifying key areas for policy dialogue, in order to accelerate policy decisions related to NCDs in India. The identification of key Ministries and their roles is in congruence with the National Multi-sectoral Action Plan, which calls for a 'Whole-of-Government' and 'Whole-of-Society' approach for addressing NCDs.

Abs. No. AB000R246

Evaluation of a training program of hypertension for accredited social health activists in rural India

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Abstract Sub-Theme: Cardiovascular Diseases

Hypertension is a major risk factor for cardiovascular disease, a leading cause of premature death and disability in India. Since access to health services is poor in rural India, a potential solution for managing hypertension is via the help of Accredited Social Health Activists (ASHAs). We aimed to evaluate the effectiveness of a training program designed to enable ASHAs to educate residents on self-managing hypertension.

The training program was part of a cluster randomised feasibility trial of the management of hypertension conducted in South India. Training materials incorporated details on managing hypertension, goal setting, facilitating group meetings, and how to measure blood pressure and weight. The 15 ASHAs attended a five-day training workshop that was delivered using interactive instructional strategies. ASHAs then led community-based education support groups for 3 months. Training was evaluated using Kirkpatrick's evaluation

model for measuring reactions, learning, behaviour and results using tests on knowledge at baseline, post-training and post-intervention, observation of performance during meetings and post-intervention interviews.

The ASHAs' knowledge of hypertension improved from a mean score of 64% at baseline to 76% post-training and 84% after the 3-month intervention. Research officers, who observed the community meetings, reported that ASHAs delivered the self-management content effectively without additional assistance. The ASHAs found the training materials easy to understand and useful in educating community members.

This feasibility study demonstrates that ASHAs can be trained to lead community based group educational discussions and support individuals to self-manage their high blood pressure.

Abs. No. AB000R296

Healthy India alliance: Prioritising multi-sectoral action for non-communicable disease prevention and control in India

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India adopted 10 national Non-Communicable Disease (NCD) targets to reduce premature mortality from NCDs by 25% by 2025. The National Multisectoral Action Plan of the Ministry of Health and Family Welfare, Government of India (MoHFW-Gol) calls for multi-sectoral action to achieve these targets through a 'Whole-of-Government' and 'Whole-of-Society' approach. India is also committed to the Sustainable Development Goals, with Goal 3.a striving for a one-third reduction in NCD deaths by 2030.

In response to this need, the Healthy India Alliance-*for the prevention and control of NCDs* [HIA], was established in 2015 to strengthen engagement of Civil Society Organizations (CSOs) in NCD-related efforts. HIA's vision is to catalyse multi-sectoral action to enhance health and quality of life in India. HIA's mandate is to align its efforts with global best practices and work in tandem with the government and partner CSOs, at all levels.

HIA's efforts have focused on advancing the NCD agenda through – civil society and policy mapping, CSO

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capacity building, assessing the national NCD response through a benchmarking exercise, within a Civil Society Status Report, fostering CSO-Government partnership, engaging multiple stakeholders such as patients and care givers and youth in NCD prevention and control efforts and conducting policy-focused campaigns. HIA is working under the guidance of MoHFW-Gol and the World Health Organization, to develop a pathway for effective engagement of both health and non-health/development CSOs, to work synergistically on the health and developmental aspects key to comprehensively mitigating the burgeoning burden health, economic, social, environmental burden of NCDs in India.

Abs. No. AB000R315

A bibliometric analysis of worldwide research in road traffic injuries, 1991-2017

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Research remains a major force behind global health and development, however, the burden of road traffic injuries (RTI) remains neglected global crisis. To measure the progress of sustainable development goals in RTI, substantial research will be required globally. Hence, we conducted this study to identify key actors and focus areas in RTI. We did this bibliometric analysis of global research output on RTI, 1991-2017. To extract relevant publications, keywords based on literature review were used in Scopus, a largest research database. This analysis presented 10 key bibliometric indicators. We also used total citations, average citations/article, h-index, impact factor, and highly cited articles as proxy measures of quality. A total of 10861 journal articles were retrieved; 81% were original articles, and 85% were in English. A total of 1, 15,424 citations documented with an average of 10.6 citations/article and h-index of 37. A steady increase in number of publications and citations was observed especially in the recent decade. Of top 10 authors, 4 were from USA, and 5 from Europe. The top three institutions (2 - Australia; 1 - USA) contributed $\geq 1\%$ of total publications each. Sweden ranked first followed by Australia and Canada in research productivity by population size and GDP. In the top 10 countries, only China and India found place, however, with lowest h-index and citations/article. Of the top cited articles, 1 was published in JAMA, 2 in NEJM, and 1 in the

Lancet, which showed the importance of RTI. Our study showed a steady increase on worldwide publication on RTI, however, with poor research output from LMICs.

Abs. No. AB000R324

An overview of convenience food market in India and its impact on dietary behaviour and health

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Abstract Sub-Theme: Nutrition

Globally, the demand for convenience food products has been increasing over the last few years on account of busier lifestyle of consumers and their rising income levels. The Indian ready to eat food market is projected to grow at a CAGR of 21.99% during 2014-19, in value terms. The industry is progressing at a good pace since the industrial revolution to keep foods fresh for a longer period of time and to retain the nutrients present in the foods to increase its bioavailability. The degree to which food nutrients are available for absorption and utilization in the body is very important and a critical issue for many nutrition concerns. The present study throws light on convenience food along with categories, market size, opportunities and challenges of convenience food market in India. An attempt has been made to correlate dietary behaviour of public health concerns with consumer attitudes towards convenience foods and its impact on health.

Abs. No. AB000R373

Validity and comparison of self-reported and measured data on hypertension and diabetes in India: Findings from the recent district level household and facility survey

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Abstract Sub-Theme: Diabetes

Public health research is majorly dependent on self-reporting which is usually compromised and questionable.

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Policies and programs established using such data may not be efficient to address the actual burden of disease. Previous studies have looked at the issue of discrepancies between self-reported and measured estimates, yet majority of them ignored to examine the reasons for such disparities. This pivotal research gap is decoded in the study which determined the co-factors of inconsistencies in self-reported and standardized measures of hypertension and diabetes.

The study utilizes data from DLHS-4, 2012-13. Study considered 860501 nationally representative adult sample from eighteen demographically developed states of India. Sensitivity and specificity analysis followed by multinomial logit regression model is used to draw inferences from the data.

Findings show inconsistencies by comparing respondents' CAB test results with their self-report data. Such inconsistencies include respondents who self-reported as not hypertensive/diabetic yet their CAB test indicated otherwise (14.93% for hypertension and 7.25% for diabetes) and those who had self-reported as hypertensive/diabetic although their CAB test data information proved otherwise (1.25% for hypertension and 0.99% for diabetes). Further respondent's age, sex, wealth and occupation are the major determinants of inconsistent reporting.

The study suggests that the estimates obtained by self-reporting underrate the actual scenario. Thus, large scale surveys should focus on collecting data using standardized measuring tools to access the actual burden of disease in community. Screening and awareness camps should be arranged for timely detection and treatment of hypertension and diabetes.

Abs. No. AB000R397

Cardiac rehabilitation barriers in Indonesia

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Abstract Sub-Theme: Cardiovascular Diseases

Cardiac rehabilitation (CR) is an outpatient program of secondary prevention, proven to reduce mortality and morbidity, in a cost-effective manner. However, it is grossly under-used around the globe, including in

Indonesia. Barriers to CR use have not been characterized in Indonesia, and thus the objective of this study was to identify them. A convenience sample of patients from the cardiac clinic in one hospital in West Java, Indonesia were approached to participate in April and May 2016. Grace et al.'s validated 21-item Cardiac Rehabilitation Barriers Scale was translated to Indonesian for administration in this cross-sectional study. Response options ranged from 1 "strongly disagree" to 4 "strongly agree"; higher scores indicate greater barriers. A descriptive examination was performed. Forty-two patients participated (n=30, 71.4% male; n=31, 73.8% ≥56 years old; n=22, 52.4% Bachelor's degree or greater; n=25, 49.5% worked; n=21, 50.0% had a percutaneous coronary intervention; n=24, 57.1% lived <25 km from the hospital; n=18, 42.9% had participated in CR). The greatest barriers were distance from the center (mean=2.52±0.63 standard deviation), not knowing about CR (2.38±0.58), transportation (2.31±0.64), family responsibilities (2.31±0.64) and travel (2.29±0.51). The logistical and time conflict subscales were more highly endorsed than the others. Barriers to CR use in Indonesia are similar to other regions of the world. These barriers could be mitigated by systematically informing cardiac patients about the program, and by offering alternative delivery models such as home-based CR to those reporting the other barriers.

Abs. No. AB000R408

Disability and economic burden of tobacco related illness: Experience from rural Bangladesh

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Abstract Sub-Theme: Tobacco Addiction

Tobacco related illness pose enormous disability and economic burden to the victims especially in lower socio-economic settings of developing countries. Data on the disability and economic burden of tobacco related illness are quite insufficient in Bangladesh especially in the rural parts of the country. The study intended to determine prevalence, economic and disability burden of tobacco related illness in rural Bangladesh. The cross-sectional study was conducted in two villages and total 700 respondents were selected by using systematic random sampling technique. Data were collected through face-to-face interview and clinical examination using a

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semi-structured questionnaire and check-list respectively. Nearly three quarters of the males (70%) and more than two fifths of the females (44%) were current tobacco users. Almost all the females (99%) used smokeless tobacco users while majority of the males (75%) were smokers. Prevalence of tobacco related illness was estimated 17.4% including Ischemic Heart Disease, Chronic Obstructive Pulmonary Disease, stroke, pulmonary tuberculosis and cancer. Tobacco users had about 2.5 times higher risk of these diseases than the non-users and the risk was about three times higher among the tobacco users for longer duration (>10 years) than those with shorter duration (≤ 10 years). Average direct and indirect cost of illness was US\$110 and US\$176 per month. Average disability burden was 9.8 years and it was highest for oral cancer. Burden of tobacco related illness embedded poverty, family disharmony, divorce, social isolation and loss of social position. Special measures for cessation of tobacco uses can reduce the burden of related illness.

Abs. No. AB000R391

Prevalence of metabolic syndrome and cardiovascular risk among police personnel in Kolar, Karnataka

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Abstract Sub-Theme: Cardiovascular Diseases

Policing is considered as one of the top three occupations most commonly associated with workplace stress by both occupational physicians and psychiatrists. Certain morbidities like hypertension, diabetes, obesity, low back ache and cardiovascular risk are more prevalent among police personnel than general population. A Descriptive Cross Sectional Study was carried out on 200 police personnel working on permanent appointment in 5 police stations to study the socio-demographic profile and morbidity pattern among police personnel and also to evaluate the epidemiological determinants and occupational factors associated with the morbidities. Complete information regarding socio-economic-demographic details, occupational history, past and present history and family history was collected through interview. General examination including anthropometric measurements and vitals with special reference to Non Communicable diseases was recorded. Blood samples were collected to estimate Fasting Blood Sugar, Glycated

Hemoglobin (HbA1C) and Lipid profile. Mean age of the police was 41.94 ± 9.7 years. 35.5% of the police belonged to the age group 41-50 years. 182 (91%) were Hindus, 195 (97.5%) were males and 159 (79.5%) police were residing in the urban areas. 176 (88%) of the police were married, 129 (64.5%) belonged to Nuclear family, 101 (50.5%) belonged to Upper Socioeconomic class and 122 (61%) were Police constables and Home guards. Prevalence of Obesity was 68% and Overweight was 16%. 23% were diagnosed to have Diabetes Mellitus, 20.5% had Hypertension and 64.5% had Metabolic Syndrome. Regular screening and health education programs needs to be implemented. Counseling related to lifestyle modification, addiction control and stress management should be an integral component of these health-related activities.

Abs. No. AB000R422

Usefulness of graphic health warning based anti-tobacco advertisement in national newspapers of Bangladesh

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Abstract Sub-Theme: Tobacco Addiction

Graphic Health Warning (GHW) is pictorial presentation of harmful effects of tobacco use, which was published as advertisement in national newspapers of Bangladesh. To assess its usefulness a cross sectional study was conducted in eight divisions of the country. Multi-stage geographically cluster sampling was used. Total 3120 households were selected from 24 Primary Sampling Units (PSU) and 130 households from each PSU for recruiting targeted respondents. A total of 2982 respondents were interviewed. Among all, 51.3% were women and the mean \pm SD age was 39.5 ± 14.7 years. Primary occupations among men were business (28.5%) and service (27.9%) while women were homemakers (80.2%). Of all, 34.5% respondents read newspaper and about half of them (45.4%) noticed anti-tobacco advertisements in any newspapers (women, 51.8%; men, 42.7%). Overall 12.5% of respondents noticed the GHW-based anti-tobacco advertisement in national newspapers and almost all (95%) of them reported that GHW could transmit the message clearly regarding harmful effects of tobacco use. Maximum (82%) regarded GHW-based advertisement as an effective tobacco control tool. Three-quarters (77%) of the respondents who saw anti-tobacco advertisements

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discussed with others regarding the harms of tobacco use and advised (78%) to quit. Just above four-fifths (83%) of tobacco users thought about quitting and more than four fifths of them (85.5%) attempted to quit. Among the tobacco users who attempted to quit, nearly one-quarter (23.9%) reported that they have quit successfully. Periodic similar GHW-based anti-tobacco advertisements might be continued more frequently both in national and local newspapers for better outcome.

Abs. No. AB00OR381

Effect of yoga on obesity in adults

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Abstract Sub-Theme: Obesity

Adult obesity is leading risk factor for many non-communicable diseases. Since the non-communicable diseases have reached epidemic levels in India their risk factors need to be prevented. Yoga has been reported to have an important role in reducing obesity in adults.

It was a longitudinal study conducted among 100 participants. New members of Morarji Desai National Institute of Yoga were recruited as participants. Semi-structured and pretested interview schedule was used in the study. The data was collected at the start of the study and after 3 months of yoga practice.

After 3 months of yoga practice there was a change in mean BMI from 26.10 to 23.99 with statistical significance ($p=0.00$). There was also change in mean weight from 70.44 to 64.79 with statistical significance ($p=0.002$) and change in mean waist circumference and waist-hip ratio were from 97.25 to 90.1 and from 0.95 to 0.89 with statistical significance ($p=0.00$).

The regular practice of yoga helps in reducing the obesity, especially truncal obesity and thereby in helps in reducing the risk of many non-communicable diseases.

Abs. No. AB00OR121

Is rule of halves still an occurrence in South India: findings from community based survey in a selected urban area of Puducherry

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Abstract Sub-Theme: Cardiovascular Diseases

The objective of the present study was to assess the applicability of the rule of halves in an urban population of South India. We also aimed to find the correlates associated with the undiagnosed hypertension to facilitate targeted screening.

We derive our observation from a community based cross sectional study conducted using WHO Stepwise approach to surveillance in urban slum of Puducherry during 2014-15. Blood pressure was measured for all the study subjects ($n=2399$) and the subjects were classified as hypertensive using JNC 8 criteria, systolic blood pressure (SBP) ≥ 140 mm Hg and/or diastolic blood pressure ≥ 90 mmHg and/or known hypertensives and/or treatment with antihypertensive drugs. Controlled hypertension was defined as SBP < 140 mmHg and DBP < 90 mmHg.

Of the 2399, 799 (33.3%; 95% CI 31.4-35.2%) adults were found to have raised blood pressure by any means (known and unknown hypertensives). Of the 799, 367 (15.3%; 95% CI 13.9-16.8%) of study participants were known hypertensives. Of the known hypertensives, 74.7% (274/367) were put on treatment (drugs and or life style modification) and 80% (218/274) were on regular treatment. Higher proportions of men were found to have undiagnosed hypertension compared to women (26.1 Vs 19.8%, $p<0.001$). Similarly, adult from below poverty line (23.8 Vs 20%, $p<0.001$), unskilled labourer (26.6 Vs 20%, $p<0.001$) and literacy less than middle school (12.3 Vs 23%, $p<0.001$) had more undiagnosed hypertension.

In the selected urban area of South Indian region around one third of the adult populations are having hypertension including the 54% of undiagnosed hypertension. Adult from the vulnerable sub groups such as lower level of literacy, below poverty line and unskilled work are found to have higher proportions of undiagnosed hypertension.

Abs. No. AB00PO407

Pilot evaluation of a novel approach to provide comprehensive non-communicable diseases prevention and early detection services by Community Health Workers

Abstract

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Abstract Sub-Theme: Cancer

A pilot project is being implemented in rural Rajasthan (India) to evaluate the feasibility and acceptability of an integrated approach to provide the following services to eligible men and women at their doorsteps by trained CHWs: tobacco/alcohol awareness; blood pressure (BP) and random blood sugar (RBS) estimation; educating women about early symptoms of breast cancer; screening women for cervical cancer; screening habitual tobacco/alcohol users for oral cancer.

In rural areas of Udaipur, Rajasthan 10 trained CHWs make home visits to identify men and women aged 30-60 years and check their height, weight, BP and RBS. They educate the men and women about ill-effects of tobacco and alcohol and counsel the habitués to give up. They perform oral visual examination on the tobacco/alcohol habitués to screen for oral cancer. The women are educated of common symptoms of breast cancer using a prosthetic model and are advised to provide self-collected vaginal samples for HPV testing for cervical cancer screening. Men and women with abnormalities in any of the tests are navigated to a multi-disciplinary clinic set up at a local medical college hospital for further investigations and treatment.

The social, cultural and behavioral factors that impact the uptake of NCD control services among rural population are also being studied using the Rapid Assessment, Response and Evaluation (RARE) approach.

The project initiated in January 2017 has screened 2200 women and 1800 men with high acceptance to the services. The screen-positives are being recalled for further management.

Comprehensive screening for common NCDs by CHWs is feasible.

The project has been funded by Indo-American Cancer Association (IACA).

Abs. No. AB000R486

A comparative study of clinical features of patients with celiac disease and those with concurrent celiac disease and type 1 diabetes mellitus individuals

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Abstract Sub-Theme: Diabetes

Celiac disease (CD) and type 1 diabetes mellitus (T1DM) share a common genetic locus and clinical manifestations. The present study was planned to compare clinical, biochemical and hormonal profiles of patients of CD and CD with T1DM.

Records of CD patients with age ≤ 20 yr, available anthropometric measurements, haematological, biochemical and hormonal workup with tissue transglutaminase IgA antibody and duodenal biopsy (Marsh grade) were screened. The patients were divided into two groups *i.e.*, CD alone (Group A) and concurrent CD with T1DM (Group B).

One hundred and nine patients of CD (57 male) with a mean age of 14.9 ± 2.9 yr were evaluated. A total of 86 (78.9%) patients had CD alone and 23 (13 females) (21.1%) patients had CD with T1DM. The age at diagnosis and the lag duration for the diagnosis of CD were 11.5 ± 4.6 versus 13.8 ± 3.4 yr ($P < 0.05$) and 20.2 ± 31.8 versus 56.1 ± 42.4 months ($P < 0.05$) in Groups A and B, respectively. The most common histopathological grade was type 3b (59.2%) in Group A and Type 2 (42.1%) in Group B. Short stature (87% vs. 40.9%; $P < 0.01$), anaemia (80.9% vs. 45%, $P < 0.01$) and delayed puberty (61.9% vs. 29.4%; $P < 0.01$) were more common in Group A.

The present study concludes that the patients with CD alone have a longer lag time to diagnosis and consequent sequel in the form of anaemia, short stature and delayed puberty, as compared to patients with concurrent CD and T1DM.

Abs. No. AB000R491

Status of total cholesterol and high density lipoproteins ratio among the chd patients admitted in a selected tertiary level hospital in Dhaka City

Abstract

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Abstract Sub-Theme: Cardiovascular Diseases

Total cholesterol (TC)/high-density lipoprotein cholesterol (HDL-C) and low-density lipoprotein cholesterol (LDL-C)/HDL-C ratios are used to predict coronary heart disease (CHD) risk. A cross-sectional study was conducted to assess the status of TC and HDL-C ratio among the patients with CHD, admitted in a tertiary level hospital. Total 95 patients were selected by purposive sampling. Among 95 patients majority (64%) were between 30-60 years. About 23.2% had family history of CHD and 32.6% were over weighed; 51.6% were habituated in mild physical activities and 23.2% were smoker. Out of 95 patients 49 (51.6%) were at high risk and 39 (41.1%) were at moderate risk for CHD according to TC and HDL-C ratio. Both moderate and high risk ratio was observed more among 30–60 years age as 63% and 70% respectively ($p > 0.216$). High risk of TC and HDL-C ratio was found mostly among the male (67.3%) while moderate risk was found mostly among female patients (64.1%). Significant association was found between gender and TC/HDL-C ($p = 0.006$). Among 49 high risk ratio patients, 25 (51%) practiced mild physical activities; among 39 moderate risk ratio patients 21 (54%) were found to have mild and 10 (25.6%) to have moderate physical activities ($p = 0.590$). Both moderate and high risk TC and HDL-C ratio was observed more among the patients with normal BMI as found in 89.7% and 53% respectively ($p = 0.000$). So TC/HDL-C is to be measured regularly as it acts as an early predictor for signaling the onset CHD and its prevention as well.

Abs. No. AB000R555

Noncommunicable diseases and the oral cavity

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Abstract Sub-Theme: Oral Health

The oral systemic link has been well established through evidence-based research. The oral environment is both a likely source of pathogens responsible for disease, as well as acting as an early indicator for manifestations

of other conditions that first appear in the oral cavity. As first-line oral health care providers, dental hygienists should be well versed in the common systemic diseases such as cardiovascular disease and diabetes, in order to help identify their patients who may be at risk for these conditions. They should also be aware of some less common diseases that patients may present with that require specific diagnostic steps and precautions when treating.

While dental professionals are aware of the link between the oral cavity and non-communicable diseases, the direct service professionals who work with at-risk individuals may not be. An innovative training program is teaching Women Infants and Children's (WIC) staff in the US the connection between the oral cavity and pregnancy health, nutrition, disease prevention, and how to identify those most at risk for oral disease. Program evaluation has shown 96% of WIC staff had never received previous oral health training; staff who indicated they were very comfortable discussing dental issues increased from 36% to 86%; and knowledge of the recommended age of the first dental visit increased from 43% to 95%. WIC staff are integrating oral health education into nutrition and parenting education sessions and are giving dental referrals. In the pilot year nearly 1,900 dental referrals had been given to children.

Abs. No. AB000R578

Visual evoked potential in non-insulin dependent diabetes mellitus

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Abstract Sub-Theme: Diabetes

Diabetes mellitus (DM) is a set of metabolic disorders characterized by hyperglycemia and has widespread effects and complications. It is being considered as one of the main threats to human health in the 21st century. The prevalence is increasing at such a faster rate that it has become a big public health problem. Diabetic neuropathy is one of the most important complication of diabetes. The effect of diabetes on peripheral nervous system has been extensively studied but changes in the central nervous system and particularly visual function have received much less attention. Visual Evoked Potential (VEP) tests the function of visual pathway from the retina to the occipital cortex.

Abstract

The aim of the present study is to evaluate optic neuropathy in diabetic patients by finding out whether VEP latencies are altered.

We studied VEP in 20 type 2 diabetic patients and 20 healthy subjects as control group, both male and female of 40-60 years of age, with no clinical neuropathy or visual impairment. The functional study of visual pathways by means of pattern reversal VEP as a non-invasive method was used. VEP tests were recorded with RMS EMG EP MARK II machine.

Our results showed significantly prolonged P100 latencies in diabetic patients as compared to controls ($p < 0.05$) suggesting abnormal transmission of nerve impulses from the retina to visual cortex in type 2 diabetic patients.

VEP can detect neuropathic changes even before clinically evident disease. This can help in diagnosing retinopathy at subclinical stage and early management will reduce complications and improve the prognosis of the disease.

Abs. No. AB000R718

Dietary salt intake estimation by routine healthcare workers in an urban slum of Chandigarh: A feasibility study

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Hypertension is an important modifiable risk factor for cardiovascular disease (CVD). From numerous studies, it was observed that excess dietary salt is responsible for 17–30% of high blood pressure and increases the risk of blood pressure-related CVD events in normotensives also. Employing the most appropriate method is important to assess the baseline consumption as well as to evaluate the impact of potential salt reduction initiatives.

The aim and objective of this study is to collect salt data at population level by health workers, with a standard questionnaire, as they regularly visit household level for other national programs.

A cross-sectional study was conducted in an urban slum of Chandigarh for salt data collection using the WHO STEPS instrument version 3.1. Sample size of 255 was calculated by Epi Info software. However, we have taken 300 participants for our study. Six health staff from Urban Health Training Centre, Indira Colony, Department of

Community Medicine, PGIMER, Chandigarh, were involved. They were trained regarding filling the questionnaire. Investigator then re-interviewed 20% of the respondents interviewed by health workers, and a comparison of agreement was done. The range of agreement was observed to be 55–90%, and percentage agreement varies between 63% and 83%, except in 3 questions which could be considered reasonable for initiating public health interventions. From this study, we can conclude that even in resource-poor settings, it is possible to collect salt data by proper training of health workers, and thus, we can initiate evidence-based salt reduction interventions in the community.

Abs. No. AB000R728

Progression of waist-hip ratio in full-term symmetric and asymmetric small for gestational age infants

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Abstract Sub-Theme: Obesity

Waist-hip ratio (WHR) is a valid measure of central and truncal obesity. As compared to adults its use to detect children subsequently having increased risk of developing metabolic syndrome, is scarce. Auxological data on WHR of Indian symmetric and asymmetric SGA infants are unavailable. Therefore, to study growth dynamics of WHR (waist circumference ÷ hip circumference), full-term 100 symmetric SGA (male: 50, female: 50), 100 asymmetric SGA (male: 50, female: 50), 100 AGA (male: 50, female: 50) infants were mixed-longitudinally measured at 1, 3, 6, 9 and 12 months in Growth Laboratory/Clinic of the Institute. Student's unpaired t-test was employed to evaluate intra-group (symmetric vs. asymmetric), inter-group (SGA vs. AGA) and gender differences. Male infants of both SGA types had similar waist and hip circumferences at 1 month. Whereafter, asymmetric SGA males possessed larger waist and smaller hip circumferences than symmetric ones. Compared to female symmetric SGA, asymmetric ones possessed larger waist circumference throughout infancy, while hip circumference measured larger till 3 months. Waist and hip circumferences measured significantly larger ($p \leq 0.001$) while, WHR remained lesser in AGA male and females than two types and genders of SGA infants. Gender differences for waist circumference favored male symmetric and asymmetric SGA infants, no such trend could be observed for hip circumference. Smaller waist and hip circumference amongst SGA than AGA infants depict

Abstract

continuation of effect of intra-uterine nutritional insult, during postnatal life. Higher WHR amongst SGA than AGA infants appear to be a predisposing factor for development of subsequent central/truncal obesity.

Abs. No. AB000R730

Early diagnosis of recurrent differentiated thyroid cancer using PET/CT versus RAI whole body scan and USG neck after thyroid surgery

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Abstract Sub-Theme: Cancer

The Objective of this study was to evaluate the effectiveness of PET/CT vs. Radioactive Iodine Whole Body Scan and USG neck in early diagnosis of recurrent thyroid cancer.

The prospective study conducted in PGIMER, India from July 2013 till December 2014 in 30 patients divided into two groups of cases and controls with 15 patients in each group. CECT and fused PET/CT imaging were done in all patients prior to surgery. PET/CT was repeated after 24 weeks of surgery in the study group. In control group, RAI-WBS and USG neck were done at 24 weeks. PET-CT showed higher accuracy than RAI –WBS for early detection of recurrence in DTC.

Strongly positive Correlations with Recurrence: (1) Metastatic neck lymph nodes, (2) Size of the Thyroid lesion preoperatively, (3) Size of the Neck swelling clinically, (4) Duration of Symptoms.

Incidence of recurrence for thyroid cancer was 26.67%. PET/CT has lower sensitivity but higher specificity than RAI-WBS and USG neck (66% vs 75%) and (91% vs 78%) for early detection.

Abs. No. AB000R735

Stroke awareness and health behaviors among stroke/TIA survivors in Kerala, India

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Abstract Sub-Theme: Stroke

Low- and middle-income countries (LMICs) bear the largest global burden of stroke. The use of secondary prevention medications and the prevalence of healthy lifestyle behaviors among stroke survivors has been shown to be low in LMICs. Objective: We evaluated stroke awareness, health behavior change, and health care system interaction among stroke or transient ischemic attack (TIA) survivors at our institute.

We utilized an exploratory, sequential, mixed-methods research design. In-depth, semi-structured interviews of stroke/TIA survivors and healthcare providers guided the development of a cross-sectional survey administered to patients or their caregivers. We evaluated for associations between demographic characteristics with risk factor and symptom awareness and health behavior change among stroke/TIA survivors.

305stroke/TIA survivors or caregivers were surveyed, with a mean (standard deviation) age of 57.6 (\pm 12.5) years; 73.4% were male. Participants identified a median (interquartile range) of 1 (0-2) medical risk factor, 2 (1-2) behavioral risk factors, and 1 (0-2) stroke symptom. A significantly proportion of those surveyed with higher educational attainment and higher monthly household income (MHI) could identify \geq 1 medical and behavioral risk factor ($p < 0.05$). Additionally, a greater fraction of those with higher MHI limited salt intake after their cerebrovascular event ($p = 0.042$). Although 75% of stroke/TIA survivors altered their dietary pattern, most of them did not make guideline-based nutritional choices; Most stroke/TIA survivors did not experience challenges in taking prescribed medications or obtaining medical care.

Stroke awareness and health behavior change among stroke/TIA survivors is sub-optimal. Results of this survey will guide future implementation research targeting stroke prevention

Abs. No. AB000R737

Effects of increasing daily walking in adult patients with type 2 diabetes mellitus attending the Debre Tabor General Hospital, Northwest Ethiopia, 2016: A randomized controlled trial

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Abstract Sub-Theme: Diabetes

The aim of the study was to assess the effects of increased daily walking on glycaemic control in adult patients with type 2 diabetes mellitus attending in Debre Tabor General Hospital, Northwest Ethiopia. Randomized control intervention design was conducted for three months among 60 adult patients with type 2 diabetes mellitus using consecutive sampling method. Intervention participants were asked to gradually increase their daily walking levels to 10,000 steps (measured by a pedometer), while control group participants were asked to maintain their current levels. Data relevant to glycemic control and other parameters of health were collected at study weeks 1 and 13. Statistical analyses included descriptive statistics, χ^2 tests, t-test, Pearson's correlation, and linear regression.

Mean baseline HbA1c% was 6.85% in intervention participants and 6.72% in control participants ($P=0.058$). Post-intervention mean HbA1c was significantly lower in the intervention group ($6.41\% \pm 0.28$) than in the control group ($7.02\% \pm 0.33$) ($P<0.001$). Individuals in the intervention group significantly increased their levels of daily walking, from 4188 to 10,008 steps ($P<0.0001$). There was a significant correlation between the average step count in week 9-12 ($P<0.001$), the average change in step count at week 9-12 from baseline ($P<0.001$), average week 12 step count ($P<0.001$) and baseline HbA1c ($P<0.001$) with reduction in HbA1c. Finally, there was a significantly greater reduction in body weight (-2.73kg vs 0.77kg , $P<0.001$), body mass index (-0.99kg/m^2 vs 0.24kg/m^2 , $P<0.0001$), and waist circumference (-2.77cm vs 0cm , $P<0.001$) for the intervention group compared to the control group ($P=0.001$), while there were no significant differences in changes for other study parameters.

Conclusion and Recommendation: A 10,000 step count recommendation positively affected glycaemic control among adult patients with type 2 diabetes mellitus. These results support the recommendation of intervening on sedentary lifestyles and increasing physical activity to improve glycaemic control in type 2 diabetes patients.

Abs. No. AB000R748

Effectiveness of health promotion interventions to reduce risk of non-communicable diseases by addressing selected determinants among military groups in North central province, Sri Lanka

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Abstract Sub-Theme: Behavioural approaches

Although military groups are considered as a healthier group, their risk of Non-Communicable Diseases is gradually increasing. In this study determinants and possible health promotion interventions were discussed to reduce NCD and empowered participants to take actions. Objective was to initiate health promotion interventions by addressing main determinants of NCD among military groups. Qualitative assessment was conducted with military groups in three regiments under one division. Participants were divided to groups, consisting minimum ten members. They were facilitated to identify determinants for NCD. Main identified determinants were tobacco use, physical inactivity, unhealthy diets, lack of happiness and lack of family functioning. While first three determinants were identified by WHO as major risk factors, other two determinants were linked to those as sub determinants. Possible interventions were discussed to change determinants. Salt, sugar and oil consumption controlling methods, Harmfulness of E numbers, media influences and tobacco industrial strategies were discussed. Focus group discussions, video clips on successful health promotion interventions, successful tools which were used by communities were used as interventions. Follow up was done throughout three months after the program via telephone conversations. Same data were gathered from minimum three persons at the same time in same camp. As changes, ability to identify and address determinants of NCD has increased. Participants initiated possible health promotion interventions by themselves after the study. Cigarette consumption has reduced by 20% after the program. Thus, health promotion interventions are effective to reduce NCD risk among military groups by addressing the main determinants.

Abs. No. AB000R754

Effect of heart failure reversal treatment as add-on therapy in patients with chronic heart failure: A randomized, open-label study

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Abstract Sub-Theme: Cardiovascular Diseases

The present study was designed to evaluate effect of heart failure reversal therapy (HFRT) using herbal procedure (panchakarma) and allied therapies, as add-on to standard CHF treatment (SCT) in chronic heart failure (CHF) patients.

This open-label, randomized study conducted in CHF patients (aged: 25–65 years, ejection fraction: 30–65%), had 3-phases: 1-week screening, 6-week treatment (randomized [1:1] to HFRT + SCT or SCT-alone) and follow-up (12-week). Twice weekly HFRT (60–75 min) consisting of snehana (external oleation), swedana (passive heat therapy), hrudaydhara (concoction dripping treatment) and basti (enema) was administered. Primary endpoints included evaluation of change in metabolic equivalents of task (MET) and peak oxygen uptake (VO₂ peak) from baseline, at end of 6-week treatment and follow-up at week-18 (non-parametric rank ANCOVA analysis). Safety and quality of life (QoL) was assessed.

Seventy CHF patients (n = 35, each treatment-arm; mean[SD] age: 53.0[8.6], 80% men) were enrolled in the study. All patients completed treatment phase. Add-on HFRT caused a significant increase in METs (least square mean difference[LSMD], 6-week: 1.536, p = 0.0002; 18-week: 1.254, p = 0.0089) and VO₂peak (LSMD, 6-week: 5.52, p = 0.0002; 18-week: 4.517, p = 0.0089) as compared with SCT alone. Results were suggestive of improved functional capacity in patients with HFRT (QoL; Mean[SD] HFRT + SCT vs. SCT-alone; 6-week: 0.44[0.34] vs. 0.06 [0.25], p < 0.0001 and 18-week: 0.53[0.35] vs. 0.29[0.26], p = 0.0013). Seven treatment-emergent adverse events (mild severity) were reported in HFRT-arm.

Findings of this study highlight therapeutic efficacy of add-on HFRT vs. SCT-alone in CHF patients. The non-invasive HFRT showed no safety concerns.

Abs. No. AB000R759

Efficacy of comprehensive diabetic care program with the reduction of HbA1C in overweight type II diabetes mellitus patients: A retrospective study

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Abstract Sub-Theme: Diabetes

The Aim of the study was to evaluate the efficacy of Comprehensive Diabetic Care Program with the reduction of HbA1c in overweight Diabetes Mellitus Type II patients retrospectively.

Retrospective study was carried out on 34 overweight type II diabetic patients (Mean Age = 54.58 ± 11.38 yrs). A total of 34 patients were enrolled after screening of 68 patients (HbA1c 7-10%). The patients were on concomitant drugs namely insulin (11.76%), DPP-4 inhibitor (17.64%), Biguanide (55.88%), Sulfonylurea (52.94%), thiazolidinedione (11.76%), other medications (20.58%) and no allopathic medications (14.70%). The patients were given Comprehensive Diabetic Care Program consisting of panchakarma procedures namely snehana (external oleation), swedana (passive heat therapy) and basti (enema), which was completed in 15 sittings. During the therapy and next 90 days, the patients followed low carbohydrate and moderate protein and fat diet. The primary endpoint of this study was the evaluation of reduction in HbA1c at the end of the follow-up after 90 days.

Thirty-four overweight type II diabetic patients (mean age: 54.58[±11.38], HbA1c[7-10%], 67.64% male and 32.35% female) were enrolled in the study. A significant reduction was observed in HbA1c levels (14.30%, p<0.05) at the end of the 90 days follow-up as compared to baseline. Also, BMI was reduced by 5.87%. There was reduction in the usage of the concomitant drugs namely insulin (2.94%), DPP-4 inhibitor (2.94%), Biguanide (32.35%), Sulfonylurea (35.29%), thiazolidinedione (5.88%), other medications (17.64%) and no allopathic medications (32.35%).

The results of the study highlights not only in the reduction of HbA1c, but also in BMI and drug tapering of the CDC program in the overweight type II diabetic patients with HbA1c (7-10%).

Abs. No. AB000R763

Effectiveness of health promotion interventions for addressing determinants of risk to non-communicable diseases among adolescents in Mihinthale, Sri Lanka

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Abstract Sub-Theme: Behavioural approaches

Non-communicable diseases (NCD) are multifactorial. Tobacco usage and unhealthy diets are two of major contributors for NCD. Image of tobacco use and the school culture empower teenagers to use smokeless tobacco. As another aspect, instant foods contain chemicals named as E numbers and high level of sugar which are unhealthy. This study located in a rural area where school dropout rate is high. This study reveals the effectiveness of health promotion interventions for addressing two selected determinants, tobacco consumption and high consumption of instant food which cause NCD among adolescents in Mihinthale. The sample size was 40 students who had same geographical area. This is an interventional study which the questionnaire itself behaves as an intervention. Students answered an interviewee administrative questionnaire which is focused on their knowledge on industrial strategies and their attitudes on smokers. 3 focus group discussions were taken with students on E numbers. Changes were gathered using structured observations and focus group discussions and analysed using content analysis. Positive attitudes of children on smoking have changed. They criticize tobacco substance use openly. Tobacco image is deglamourized. Students' knowledge has increased on company strategies and E numbers. Their concern on food security is increased. Thus, health promotion approach is effective for reducing risk to NCD by deglamourizing the image of tobacco use and by reducing the consumption of instant food. It can be used to inspire students' curiosity and lead it in a beneficial way to the community action.

Abs. No. AB000R109

Correlates of road traffic injuries among in-patients of a teaching hospital of West Bengal, India

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Abstract Sub-Theme: Injuries

Road Traffic injuries (RTI) are a complex phenomenon caused by non-linear combination and interaction of man, vehicles, road and environment. The current study was conducted to find out the determinants of outcome and severity of RTI which is growing day-by-day in a rapidly developing district of West Bengal. A cross-sectional study was conducted for randomly selected 2 days every week for one year interviewing in-patients of departments of Surgery and Orthopaedics of Bankura Sammilani Medical College and Hospital, West Bengal, face-to-face and over telephone using semi-structured questionnaire for demographic and correlates of RTI. The sample size was 295. Nine-item simplified injury severity scale (SISS) was used to assess injury severity. With SPSS 22.0 version, internal consistency of SISS scale was showed by Cronbach's alpha and association with the correlates was done by Mann-Whitney U test. Fatal outcome in terms of death and permanent disability was found as 34.24% and they had higher SISS score (45.17 ± 12.59) though it was marginally insignificant ($p = 0.06$). In Mann-Whitney U test, mean rank was higher for absence of protective devices, presence of co-morbidities, drunkenness, and accidents over national highways, in-between 6 a.m.-6 p.m., mechanized two-wheelers and non-receipt of first-aid indicating groups having greater number of high scores within them. Besides improving ply-worthiness of roads and maintenance of vehicles, road safety education towards all levels of road users, roadside random breath testing for alcohol and stringent enforcement of legislation on usage of safety measures are need of the hour to make "Safe Roads for ALL" a reality.

Abs. No. AB000R824

Fetal and neonatal outcomes in relation to maternal overweight and obesity and its comorbidities a hospital based observational study

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Abstract

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Obesity is a growing problem in the Asian subcontinent. Maternal Overweight and obesity are associated with pregnancy related complications and adverse perinatal outcomes, posing short and long-term risks for maternal and child health. The current study incorporates new WHO cutoffs for defining obesity in Asian population. There is a paucity of studies in this regard and hence the need for this study.

The aim of the present study was to evaluate fetal and neonatal outcomes of maternal overweight and obesity and its various comorbidities.

A total of 300 consecutive singleton pregnancies comprising of 100 subjects of Maternal Overweight, 100 subjects of Maternal Obesity were studied for fetal and neonatal outcomes in comparison to 100 Controls of Normal BMI at Shri Maharaja Gulab Singh (SMGS) Hospital, Jammu, Jammu and Kashmir for a period of one year from November 2015 to October 2016. These outcomes were further evaluated in relation to various comorbidities (chronic hypertension, diabetes, asthma, NASH) of maternal obesity. Normal Weight: BMI ranged between 18.5-22.9, Overweight: BMI between 23-27.4 and Obese: BMI \geq 27.5). The neonatal variables analyzed were intrauterine growth restriction, prematurity, large for gestational age infants, birth anoxia, birth injury, respiratory distress, neonatal sepsis, neonatal jaundice, hypoglycemia, hypocalcemia, congenital malformations, neonatal mortality and admission to NICU.

The neonatal outcomes more frequent among Obese women were large for gestational age (p value <0.0001); birth anoxia (p value 0.024); major congenital malformations (p value 0.024); hypoglycemia (p value 0.033). They also had a higher rate of admission to NICU (p value 0.004) and also a higher neonatal mortality (p value 0.024).

No significant differences were noted among groups regarding rates of intrauterine growth restriction, prematurity, sepsis, neonatal jaundice, hypocalcemia, birth injury and respiratory distress. No association was found between maternal overweight and neonatal outcomes. No significant increase in the frequency of neonatal outcomes was observed in the presence of comorbidities.

Our results confirm that prepregnancy obesity is associated with an increased frequency of neonatal morbidity and mortality. Further larger population based studies are required to analyse this association.

Life cycled Community based Obesity Prevention Programme is the need of the hour.

Abs. No. AB000R91

Educating school children on NCD prevention in India

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Abstract Sub-Theme: Diabetes

Arogya World created a compelling 2-year activity-based school program on diabetes awareness and prevention and showed effectiveness in a pilot in 2000 middle-school children from government and private schools in Delhi (North India) with Hriday. Subsequently, Arogya World implemented the program with trained student leaders in 10,000 rural and semi-urban school children (11-14 years old; 6-8 grades) in South India with Agastya International Foundation.

Results from the Delhi pilot (n=2,263) were encouraging: 23.7% more students understood that unhealthy eating habits can put you at risk for diabetes, and 12.2% more students learned that being overweight can increase the future risk for diabetes. Behavior change was also reported: the daily intake of vegetables increased from 61.2% to 76.9% over the two-year program, while the intake of carbonated drinks and fried snacks decreased. Children consistently reported choosing healthier foods: more students (75.4% vs 65.7%) for instance chose fruit chaat (healthy mixed fruit salad with spices) over alu tikki (shallow fried potato patties).

Results from program expansion in rural South India are being analyzed.

Overall impact from the two-year program was estimated to be 14%. Arogya World's school program has shown proof of concept, and established feasibility in different geographic regions, in rural and urban India, in a variety of implementation settings - with teachers, staff or student implementers. Training is key. The Arogya approach, materials and training, should be used for nationwide scale up of NCD prevention in school children before their lifestyle habits are fully set.

Abs. No. AB000R832

Evaluation of selected medicinal plants for diabetes and obesity: A preclinical study

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Abstract Sub-Theme: Diabetes

Recently there is a growing concern of co-morbidity of diabetes and obesity. Type-2 diabetes is 3 times more prevalent in obese individuals than non-obese persons and about 80% of patients diagnosed with type-2 diabetes mellitus are obese. Diabetes, a term denoting clinical association of type 2 diabetes and obesity, represents a substantial economic burden on health expenditure throughout the globe. For a long time, diabetes has been treated with several medicinal plants or their concoctions. Keeping this background in mind, present work was undertaken.

Standardised extracts of selected medicinal plants *viz.* *Hypericum perforatum* (HpE); *Picrorhiza kurroa* (PkE) and *Quassia amara* (QaE) were used in the present investigation. All the three extracts and standard drugs were orally administered through oral gavage at two dose levels, *viz.* 100 and 200 mg/kg of body weight. Control rats were given equal volume of vehicle alone. Oral glucose tolerance test and Nicotinamide-Streptozotocin induced diabetes mellitus model in rats were used to assess antidiabetic activity. High fat fed model and fructose fed model were used to evaluate putative anti-obesity activity in rats.

Extract of *Hypericum perforatum* is found effective in animal models of diabetes and obesity. *Picrorhiza kurroa* showed significant anti-diabetic and anti-obesity activity in rodents. *Quassia amara* also showed anti-diabetic activity but did not show any significant effect on animal models of the obesity.

Standardized extracts of *Hypericum perforatum* and *Picrorhiza kurroa* may be evaluated further clinically for potential beneficial effect in co-morbid diabetes and obesity while *Quassia amara* may be a lead for further exploration and confirmation of observed anti-diabetic activity.

Abs. No. AB000R800

Frequency dependent reduction of blood pressure variability in patients with recent myocardial infarction with and without scar

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Abstract Sub-Theme: Cardiovascular Diseases

Recent Myocardial Infarction (MI) has been associated with reduced Blood Pressure Variability (BPV). Low frequency (LF) BP oscillations are predominantly caused by changes in vasomotor tone while High Frequency (HF) oscillations in BP are believed to be mechanically induced due to respiratory synchronous thoracic pressure fluctuations. MI can result in irreversible damage to cardiac tissue which can be identified by the presence of a scar during Myocardial perfusion imaging (MPI). The study aims to assess LF and HF BPV in patients with recent MI with and without scar. Thirty-seven patients with recent MI (≤ 6 months) underwent MPI and were classified into those with scar (S) (n=24, age 51.8 ± 10.2) and those without scar (NS) (n = 12, age 58.7 ± 9.5). Short term BPV was assessed by non-invasive beat-to-beat BP measurement using Portapres®. HF systolic BPV was significantly lower in scar group as compared to no scar group (N vs NS 19.5 (11.3-37.2) vs 39.1 (20.6-46.1) nu, p = 0.02). However, LF systolic BPV was comparable between the two groups (N vs NS 69.5 ± 18.0 vs 57.9 ± 14.4 nu, p = 0.06). Additionally, the scar group had a significantly lower left ventricular ejection fraction (LVEF) as compared to the no scar group (N vs NS 47.9 ± 12.4 vs $60.9 \pm 5.5\%$, p = 0.002). The results suggest that in patients with recent MI, mechanically induced HF oscillations in BPV are attenuated in patients with irreversible damage to cardiac tissue when compared to those in whom it is preserved.

Abs. No. AB000R851

Iran national plan and IraPEN on preventing and control of noncommunicable diseases

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Abstract

In recent decades, and despite the great achievements in diagnostic methods and treatment techniques, the prevalence of noncommunicable diseases (NCD) has increased all over the world. Based on that, the World Health Organization (WHO) presented its “Global Action Plan 2013-2020” in 2013. The Action Plan consists of 9 objectives and 25 indicators for controlling the four major NCDs, i.e. cardiovascular diseases, diabetes, cancers, and chronic respiratory diseases. The Action Plan focuses also on reducing the diseases’ four shared risk factors, namely: smoking, physical inactivity, unhealthy diet, and harmful alcohol consumption. The WHO has also suggested some key operational activities that countries may adopt to reach the due objectives.

The key objective of WHO concerning NCD is to prevent and control these diseases, and for this ideally the Primary Health Care (PHC) system should be used (see World Health Report 2008 “PHC Now, More Than Ever”). The WHO has also suggested the “Reorientation of PHC” towards those diseases.

Besides that, WHO has advised countries to take action in four specific areas as the main strategies of achieving the objectives, those are “Governance”, “Reducing exposure to risk-factors for NCDs”, “Enabling health systems to respond” and “Measuring results”. The WHO is recommending evidence-based, effective and tangible activities for each area (so called “best buys”).

Following the important achievements made in controlling communicable diseases in the past, many effective activities have also been initiated in Iran to control NCD, for example: public education programs and integrating diabetes and hypertension screening programs in PHC system. Unfortunately, however, and in spite of the great efforts in this regard, the prevalence of NCDs in Iran, like in other countries, has increased. Therefore, it was necessary for the country to take some appropriate actions regarding its national and international commitments through customizing and implementing the WHO’s global recommendations. For this reason, and to implement the suggested strategies of WHO in the “Governance” area, “The National Document of Preventing and Controlling NCDs and their Shared Risk Factors” was prepared by the undersecretary of Public health of Iran’s “Ministry of Health and Medical Education” (MOHME) in 2013. Subsequently, a National Committee of NCDs (for which the Minister of Health is the Director) was formed and successfully approved the national document at the “High Council of Health and Food Security”. In that document,

the 13 objectives of Iran’s health system were developed informed by the 9 objectives of the WHO Global Action Plan for NCD.

The document was also signed by the Head of the Iranian Parliament, the WHO Representative of the “Eastern Mediterranean Regional Office” (EMRO) at Iran, as well as Iran’s President.

To implement the document, a number of Memoranda of Understanding (MOU) were signed by the Ministry of health and other concerned ministries, so that necessary activities could be undertaken to develop healthy environments, and provide the needed facilities for supporting healthy behaviors and reducing exposures to NCD’ risk factors. In order to measure the results and/or establish a surveillance system, the 7th round of STEP survey was implemented at the beginning of 2016.

Accordingly, and in order to enable the health system to respond, the “Ira PEN” program has been designed and its pilot study have been launched in four cities, namely Naqadeh (West-Azarbayjan province), Marageh (East-Azarbayjan province) Shahreza (Esfahan province) and Baft (Kerman province) as part of the “Health System Evolution Plan”.

The program has been developed based on the main suggested interventions of the WHO’s “Package of Essential Noncommunicable (PEN) Disease Interventions for Primary Health Care in Low Resource Settings”. In this program, the risk of incidence of fatal and non-fatal cardio-vascular events in a ten-year period will be measured for the target group, and proportionate interventions will be designed to prevent the diseases and its complications. Similarly, some activities have also been conducted for the detection and early intervention in cancers (colon, cervical and breast) and in asthma. At present after successful piloting of this program it’s going to expand across the country.

The main differences of this approach with previous activities within the health system are that at-risk individuals can be detected before they develop the disease in the proposed way, the needed educational and medical interventions could be implemented in time, so that the disease can eventually be prevented. It can be seen that all related activities of the four recommended areas of WHO have been considered in this program. I highly hope this attempt would result in better situation for preventing and controlling NCDs.

Abs. No. AB000R859

Community health workers for non-communicable diseases prevention and control in developing countries

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Community health workers employed under national programs for non-communicable diseases prevention and control deliver preventive services through community education and interpersonal communication. However, effectiveness of interventions delivered by these workers still needs to be established. A systematic review of community based and cluster randomised controlled trials utilizing community health workers for primary prevention/early detection strategy in management of Diabetes, Cardiovascular Diseases, Cancers, Stroke and Chronic Obstructive Pulmonary Diseases in low-middle income countries was conducted. Digital databases like PubMed, EMBASE, OVID, Cochrane library, clinical trials registries were searched without language limitations for publications between 2000 and 2015. Percentage change in population with different behavioural risk factors was primary outcome of review. Mean changes in levels of physical or biochemical parameters were studied as secondary outcomes. Sensitivity analysis was conducted to assess robustness of findings. Sixteen trials met the inclusion criteria for review. Duration of these studies ranged from 4 months to 19 months; primary responsibilities of health workers included health promotion, treatment adherence and follow ups. The computed pooled effects indicated an increase in tobacco cessation, decrease in systolic and diastolic blood pressure and blood sugar levels as a result of health worker interventions. There was limited evidence to determine effects on mortality and morbidity rates. Existing evidence suggests that, compared with standard care, using health workers under national programmes have the potential to be effective. These results have significant policy relevance as scarcity of resources mandates utilization of interventions with established evidence for effectiveness in low-middle income countries settings.

Abs. No. AB000R863

Role of homoeopathy in the management of noncommunicable diseases – An overview

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Noncommunicable diseases (NCDs) kill 40 million people each year, equivalent to 70% of all deaths globally. Cardiovascular diseases account for most NCD deaths, or 17.7 million people annually, followed by cancers (8.8 million), respiratory diseases (3.9 million), and diabetes (1.6 million). These 4 groups of diseases account for over 80% of all premature NCD deaths. India. shares more than two-third of the total deaths due to NCDs in the South-East Asia Region (SEAR) of WHO.

No system of medicine is complete to tackle these NCDs, so integrated approach is the need of the hour. Homoeopathy has shown success in treating chronic diseases and has potential role to play in managing NCDs in an integrated manner. A search within databases including PubMed, Scopus and Google scholar identified, a total of 187 research papers including studies conducted by Central Council for Research in Homoeopathy are listed, which includes both preclinical and clinical studies.

The results of the clinical studies related to NCDs such as cancer, diabetes and its complications, stroke, hypertension, obesity, dyslipidemia, myocardial insufficiency highlights that homoeopathy in an integrated manner could improve quality of life, increase time of survival of cancer patients, reduce symptom burden, reduce/ withdraw conventional treatment. Results of few significant papers will be discussed during the presentation.

Further Central Council for Research in Homoeopathy has undertaken field projects in four districts of four states targeting about 70 lakh population in collaboration with Ministry of Health and Family Welfare, Govt. of India, integrating Homoeopathy and Yoga under National program for prevention and control of Cardiovascular diseases, diabetes, cancer (NPCDCS), stroke for screening, treatment and behavioural change in the population. Details about its implementation and preliminary results will discussed during the presentation.

Health Promotion

Abs. No. AB000R43

Comparative impact of two non-surgical intervention packages of conservative therapy on quality of life in patients having knee osteoarthritis reporting at PGIMER Chandigarh

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Quality of life (QOL) of knee osteoarthritis (KOA) patients significantly deteriorates with pain and loss of mobility causing dependence and disability. Treatment is aimed primarily at symptom relief. However, long-term effects of early to moderate KOA can be managed through non-surgical interventions. The present study was conducted to compare the impact of two non-surgical intervention packages on quality of life in KOA patients reporting at PGIMER Chandigarh. Two group randomised controlled trial with stratified block randomization was performed. Patients were followed for a period of 3 months. Total 123 patients were enrolled in the study. After block randomization, 63 patients were allocated to group A and 60 patients were allocated to group B. At the end of intervention, there was no difference between the groups in WOMAC indices and VAS. The subjective feedback from the patients revealed appreciable benefits of the intervention in both groups. The subjective feedback from the patients revealed appreciable benefits of the intervention. In fact, theoretically all required treatment modalities for KOA are known to clinicians. They advise it also to the patients. But, still people usually do not report much relief in symptoms. The main factor for the success of our strategy was the quality of therapist-patient interaction resulting in a high degree of adherence of the patients with the prescribed regime. Hence, quality of doctor-patient relationship and interaction are the key determinants of outcome of medical care.

Abs. No. AB000R214

How do the dutch prevent NCDs in schools? A novel whole-school approach to health

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Unhealthy lifestyles in early childhood are a major global health challenge. These lifestyles often persist from generation to generation and contribute to a vicious cycle of health-related and social problems. In efforts to reverse the public health epidemic, the school setting is an ideal environment for promoting healthy lifestyles. Although Dutch schools are not obliged by government to implement health promoting measures, the Dutch government does support schools in their efforts to embed health and wellbeing in the school.

Recently, a whole school approach to health has been developed in the Netherlands entitled 'The Healthy Primary School of the Future'. This approach is implemented in four Dutch schools (n=1200 pupils) since 2015. The interventions proceed during a period of four years. A quasi-experimental design with four comparable control schools is used to evaluate the effectiveness. The changes in BMI, lifestyle behaviours, academic achievements, child well-being, socio-economic differences, and societal costs are monitored for four executive years. Apart from the effectiveness of both interventions, the process, the cost-effectiveness, and the expected legal implications are studied. The process-evaluation and one-year effects on lifestyle behaviours and child well-being will be presented.

A whole-school approach is a new concept in the Netherlands. Due to its innovative, multifaceted nature and sound scientific foundation, these integrated programmes have the potential to form a template for primary schools worldwide. The effects of this approach may extend further than the outcomes associated with well-being and academic achievement, potentially impacting legal and cultural aspects in our society.

Abs. No. AB000R228

The pathology of obesity in school-aged children and the effects of preventive obesity interventions in Dutch School-aged children

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Obesity related chronic diseases such as diabetes, renal disease, cardiovascular disease, and non-alcoholic fatty liver disease (NAFLD) all affect children and/or start in childhood. In most nations overweight prevalence is >10% among school aged children, and its rising trend has also been observed now in the developing part of the world. The first stages of lifestyle related diseases can already be found in children in primary and secondary school. Evaluation of early disease stages in 417 children with overweight and obesity (204 primary school age 6-12 y, 213 secondary school age 12-16 y) referred to the Centre for Overweight Adolescent and Children's Healthcare (COACH) in the Netherlands demonstrated that in 33% of the children in primary school insulin resistance is already present and impaired glucose tolerance in 2%. In secondary school these percentages are even higher, 63% and 6% respectively. Besides these aberrations in glucose metabolism, dyslipidemia was present in 45% of the children and high blood pressure, a major risk factor for future cardiovascular disease, in 8%. Moreover, an important impact on organ structure and function is already seen in these school-aged children as 44% demonstrated increased liver enzyme levels and 20% glomerular hyper filtration. Several studies in other nations have also shown early stages of chronic diseases in school aged children. The high prevalence of these risk factors and earliest stages of non-communicable diseases already at a very young age warrants interventions in school aged children to lessen the impact on individuals and societies.

Abs. No. AB000R244

Human resource development for home based blood pressure monitoring

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Hypertension is an important medical and public health issue and major determinant of coronary heart disease. WHO has recommended patient participation as an important element in community based health programs its management. Hence the present study was conducted in a low-income colony of Chandigarh with the objective to, (1) To develop human resource for home based monitoring Blood Pressure, (2) To assess the compliance with Home Blood Pressure Monitoring of the human resource developed and (3) To assess the factors affecting compliance. Total 250 hypertensive patients were identified by snowball sampling technique. A protocol was prepared on home based blood pressure monitoring and a log book for recording blood pressure reading regularly. The patients were motivated to buy blood pressure apparatus. Only 30 patients bought Blood pressure apparatus their family member were taught checking blood pressure and maintaining regular log book. Patients were regularly followed up weekly one month; fortnightly one month; monthly three months; alternate month six months to assess the compliance. Patients' age ranged from 35 to 90 years with mean age 58.2 years. The regular checking of blood pressure and documenting in log book was practiced by 83% subjects in the beginning of study but reduced in subsequent follow ups. The reason was unrepaired BP apparatus once non-functional. The positive aspects were the improvement in drug compliance, dietary compliance and regular physical activities (exercise/walk). Hence community health nurses and other health professionals working in community should make regular follow ups to hypertensive patients for better compliance.

Abs. No. AB000R93

Assessment of lifestyle pattern and hypertension related knowledge among patients attending cardiology outdoor of a Tertiary Care Hospital in Odisha

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Abstract

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Abstract Sub-Theme: School, worksite and community interventions and technologies

Noncommunicable diseases (NCDs) accounted for 67.8% of deaths occurring globally in 2012. High blood pressure was reported as the leading single risk factor for global burden of disease contributing to 7% of global DALYs. Majority of NCDs are associated with modifiable risk factors and thus can be prevented. A cross sectional study was conducted to assess the knowledge and life style pattern related to hypertension among patients attending cardiology OPD. 105 patients attending the Cardiology OPD of IMS and SUM Hospital, Bhubaneswar during April and July 2015 were selected by convenience sampling. Data were analysed using SPSS version 20. Out of 105 participants, 78% were hypertensive, 56.2% were males and the mean age was $42.76 + 1.16$ (SE). The mean systolic and diastolic blood pressure was 146.76 mm of Hg $+ 0.9$ (SE) and 85.79 mm of Hg $+ 0.71$ (SE) respectively. About 58% of the patients led a sedentary life, 64.8% were smokers and 9.5% were currently taking alcohol. About 24% didn't know the risk factors of hypertension and 28% were unaware of the symptoms of hypertension. The risk factors known to the patients were increased salt intake (63%), obesity (59%), sedentary lifestyle (43.8%) and tobacco (39%). Blood pressure was significantly higher among those who had a sedentary lifestyle ($p < 0.001$) and also among smokers ($p < 0.05$). Intervention in the form of lifestyle education during hospital visits will be helpful to increase the awareness about modifiable risk factors, controlling blood pressure and preventing complications among these patients.

Abs. No. AB000R446

Assessing different media of communication to prevent and control diabetes and hypertension; A quantitative study at Sonipat and Vishapatnam, India

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Diabetes is one of the largest global public health concern today. India has second highest burden of disease next to China with 69.2 million adults living with diabetes. While prevention and health promotion is exemplar, secondary prevention like early detection, improving diagnosis, access to care and adherence to treatment is equally critical for desired health outcomes. Various medium of

communication are used globally to generate awareness and to promote desired behaviour; however less is known which medium is effective in order to effectively address barriers/factors for desired behaviour. A cross-sectional study was conducted at two geographical districts of India; Sonipat and Vishakhapatnam to assess different media of targeted communication on health seeking behaviour of adults ≥ 30 years of age. A Pre-tested structured questionnaire was administered to 1710 individuals by prior consent. The mean age of the participants was 48 years, 1/3rd had household income between INR. 5000-10000, 2/3rd studied below 10th standard. Less than 50% got tested for blood glucose and/or blood pressure in last three months. 49% were found to be exposed to television campaign, 33% received information by project health worker/community health worker, few (5%) to wall painting or radio campaigns or any other campaign on diabetes and hypertension. Interpersonal communication (by project/community health workers) and mid media activities was found significant (95% CI) on cross tabulation of screening behaviour; i.e. getting tested for diabetes and hypertension and exposure of campaign, hence the most effective media of communication for promoting desired behaviour.

Abs. No. AB000R540

Integrating NCD surveillance and lifestyle management in a private outpatient primary healthcare clinic for urban poor in Chandigarh, India

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Abstract Theme: Health Promotion

Abstract Sub-Theme: School, worksite and community interventions and technologies

The chronic nature of NCDs implies protracted treatment and significant treatment costs resulting in perpetuation of poverty. Nearly 70% of all outpatient spells of ailment are treated in private sector. Tarang clinic provides outpatient primary healthcare in Ramdarbar, an urban poor rehabilitation colony, Chandigarh. Tarang clinic is using walk in contact as well as health camp approach to integrate NCD surveillance for adults above 30 years of age. The screening is done using a pretested screening tool filled by staff nurse, anthropometric, blood pressure and blood sugar monitoring. This is followed by examination by the doctor and estimation of 10 year cardiac risk. Follow up of the patients with risk factors is done through telephonic

Abstract

calls/clinic visits. 76 patients were screened in one NCD health camp at clinic and 13 walk in patients were screened over a period of one month. More than half patients had central obesity, 66% were overweight/obese while 9% had undernutrition. Of the patients screened, 32% had raised blood pressure and 33% had high blood sugars. Nearly half reported adequate consumption of vegetables/fruits and 57% reported adequate physical activity. NCD theme based health camp at the clinic is a feasible low cost intervention for NCD surveillance and identification of risk factors and thereafter follow up can be done in routine outpatient clinic. Factors for consideration for screening of walk in clients include time taken for screening, staff competency and additional cost to client. Integrating NCD surveillance through private primary healthcare clinics can optimize the opportunity cost.

Abs. No. AB000R694

The South Asian Health Institute's Sehat program: Client-centred innovation lab designed to create a community-based wellness network

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The Sehat Program operates with this theory of change- if we can enable clients to eat healthy and move more by designing culturally relevant health promotion campaigns and clinical prevention services, then we can reduce their risk of chronic disease and associated health system burden.

The South Asian Health Institute (SAHI) was established at Fraser Health to improve health outcomes for the South Asian population through innovation and evidence-based care. SAHI addressed chronic disease prevention and management through Sehat, a comprehensive, multi-level approach in partnership with community leaders and stakeholders. We used behavioural insights and service design methodologies to develop and test nudges that made it easier for people to make healthy choices. Evaluation techniques were designed to produce rapid and iterative feedback on interventions and were tailored to the population served. Program outcomes: (1) Program has engaged over 15,000 South Asian residents and operates in 12 community sites. (2) Sehat Cooks. A collaboration with Temples has resulted in a reduction of added sugar in daily meals by 25% while also encouraging healthy food purchases and donations. (3) Sehat Works. A collaboration with local South Asian business leaders to co-design culturally relevant healthy eating activities and services for the workplace, (4) Sehat Shops. An emerging

partnership with local grocery stores to develop culturally relevant educational food label reading tools and services.

Early results demonstrate high levels of engagement and behaviour change at both individual and organisational levels. The approach will be scaled up and studied further to better understand the contribution of the program to reducing chronic disease rates.

Abs. No. AB000R715

Physical activity pattern among school age children in Bangladesh and double burden of malnutrition

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Double burden of malnutrition is prevalent among children in South Asia and physical inactivity is a risk factor for developing childhood obesity. We conducted a survey in seven urban cities in Bangladesh among school age children following a written voluntary consent from parents. Data on socio demographic characteristics, physical activity pattern, and anthropometry obtained. Nutritional status categorized in to normal weight, underweight, overweight/obesity following International Obesity Task Force criteria. We recruited 4,140 children 5 to 18 years of age. Most children were enrolled in school (96%) with an average age 11 ± 3 years and 50% girls; 1/3rd was underweight and 14% overweight without a sex disparity. Half of the children played or exercised regularly (58%) and 21% generally lived a very active day. Only 45% went to a playground and 59% did household chores. Most children watched television (94%) and 70% watched over 24 hours. Physical exercise was lower among overweight children (43% vs. 52%, $p < 0.001$) and higher among underweight children (63% vs. 52%) than normal weight children ($P < 0.001$). A significantly higher proportion of overweight children watched television for at least three hours in the last 24 hrs (23% vs. 19%) than normal weight children ($P < 0.001$). School age children in urban areas in Bangladesh have a low physical activity level and screening time attributes to overweight. Pattern of physical exercise may contribute to double burden malnutrition in school age children. Physical activity should be promoted in school curriculum for prevention and control of malnutrition in urban areas in Bangladesh.

Sustainable Developmental Goals and NCDs

Abs. No. AB000R99

Developing quality indicators for primary care services targeting non-communicable diseases in Thailand

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Non-communicable diseases are prevalent in Thailand and are a significant cause of mortality in Thai population. While effective and cost-effective interventions are provided in primary care setting, the quality of the services was not measured or tracked. A number of initiatives were undertaken to improve primary healthcare quality including the use of financial incentives to reward adherence to performance indicators. However, there were concerns that the current quality indicators had not been developed in a systematic, participatory and evidence-based manner. Therefore, this study aims to develop new quality indicators for the future program.

Reviews of existing documents as well as secondary data analyses were performed and presented to key stakeholders. Diseases areas were then prioritized. Recommendations from Thai clinical practice guidelines on the priority areas were extracted and prioritized. The selected recommendations were used to formulate statements and templates for each indicator. Finally, the indicators developed were piloted for 3 months in 36 primary care units across the country.

NCDs with high disease burden including hypertension, diabetes, cardiovascular risk, asthma and COPD were prioritized for indicator development. Indicators related to care for diabetes and hypertension received high acceptability and were perceived to be beneficial both, for people and health providers. However, there were problems in implementing indicators for managing cardiovascular risk, asthma and COPD.

The development of quality indicators using a guideline-based approach is a useful way of generating evidence to inform effective implementation of a program. Indicator piloting is recommended prior to introducing indicators in the health system.

Abs. No. AB000R129

Addressing the double burden of disease: improving health systems for non-communicable and neglected tropical diseases

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The burden of non-communicable diseases coexists with a burden of communicable diseases, leading to a double burden of disease. The understanding of barriers to NCD and NTD responses in low income countries at policy, health system and community are not well described.

To assess national policies, health system and community enablers and barriers to care and develop series of pilot interventions in partnership with stakeholders.

Apart from secondary data collection through literature reviews, qualitative and quantitative research methods will be used to collect data from experts, policymakers, including all stakeholders for health care delivery systems, patients with diabetes, hypertension and leprosy, households in selected sites. The selected sites are Primary health centres from rural and urban areas of eastern Nepal. Questionnaires and guidelines will be used to collect data by interview and focus group discussion.

Household survey was undertaken in the selected sites.

Preliminary finding of the household survey shows that a total of 6245 people lived in 1209 households with an average family size of 5.17 ± 2.02 . More than three fourth of them (78.1%) living below the poverty line.

About 66% of the households consulted a health care institution for health problems in the past one year. Among

the health problems reported, there were two cases of leprosy, more than 8% were diabetes and about 9% were hypertension.

None of the people had any form of health insurance. Details of the result will be presented in the conference.

Abs. No. AB000R272

Reduction in NCDs as per SDGs commitment is a distant dream through current policies in India- need for integration of all NCDs related programs

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The proportional mortality due to Non-Communicable Diseases (NCDs) in India is 72% (including 12% due to injuries). We are committed to reduce the premature mortality due to NCDs by 1/3rd by 2030. There are about 15 NCDs related program in India. The National Program for prevention and control of NCDs has not been able to bring considerable change in the burden of NCDs. The poor performance can be attributed to scattered approach, low priority and resource constrains.

Keeping in view the facts an integrated approach has been adopted in Himachal Pradesh (a north Indian state with 6.8 million populations) to reduce the common risk factors and management of NCDs. ADHAR (universal identification) linked health card comprising all information's related to NCDs risk factors, screening status, signs/symptoms, treatment adherence and follow-ups has been developed with electronic back up for entire +30 population.

The strategy has been pretested successfully on about 200 individuals in a health block of the state. The beneficiaries, field level workers and supervisors are highly motivated and convinced that this approach will reduce the workload and will be supported with electronic backup with auto generated messages/information.

The vertical and fragmented approach for NCDs prevention and control is yielding poor outcomes. There is an urgent need for a paradigm shift to collectively address the common risk factors and diseases in an integrated manner. The actual estimates of the burden of the risk factors, disease and follow-ups will also help in shaping the programs and policies accordingly.

Abs. No. AB000R336

Women of reproductive age group - A dipstick assessment of mental health to improve the continuum of care - Odisha experience

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Knowledge on mental health especially for women is limited, as much is based on self-reporting wherein a gender bias is very evident and socially ingrained. In Indian rural scenario, the female health workers are a vital link between the woman and health care delivery system and programmatically have been assigned several tasks of developing linkages between identified areas for intervention for women and child health. This study aims at developing a baseline on the mental health status and the health seeking behaviour for mental health issues among women in reproductive age group in rural areas of Odisha which is battling a high Maternal mortality ratio of 222/1 lakh live births and 51 infant deaths/1000 live births (2013) . Out of the 30 districts, 4 districts were taken up for the assessment of mental health. 60 women in each category ie pregnant, lactating and NPNL were taken from each district, making the total sample as 720 women. The GHQ-12; a validated score was used for the mental health assessment.

26.94% (194 out of 720) women showed GHQ more than 12 of which 6.7% were in the high GHQ category, meaning thereby depressed and needing psychological counselling and care. Low socioeconomic status (OR 4.77; CI-2.14-8.33); alcoholic spouse (OR 3.22; CI-2.33-8.11), lack of water and toilet facility in the house were some of the positive predictors of poor mental health.

In married women, mother's house been within 50-100km; good education of the spouse and good relations with neighbours emerged protective.

The study clearly brings out to improve condition of rural women, more interpersonal communication (IPC) and community and family centred strategies would be needed and a counsellor at the block level would also be useful. The link workers can be mentored to play a vital role in mental health assessment and referral.

Abs. No. AB000R432

Awareness of anti-tobacco laws and health system support for tobacco cessation among the residents of Delhi

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Despite the great number of epidemiological surveys in national and international literature that describe the smoking epidemic, there are very few studies that describe the health seeking behaviour of tobacco users. The tendency towards modelling new tobacco cessation programs to the target population makes it necessary to investigate this profile in order to achieve better results. A cross-sectional rapid survey was conducted among the visitors of India International Trade Fair 2016 held in November in Delhi. A self-administered questionnaire containing validated tobacco surveillance questions were administered to a total of 3000 visitors. Out of which 1731 responded. The parameters studied included knowledge regarding the gutka ban, usage or discontinuation of use of the banned products and other tobacco products, health system's outreach and type of services offered for tobacco cessation. Out of the total 1731 respondents 31% were current smokers and 17% were current users of Smokeless Tobacco products (SLT). Amongst the tobacco users 35% reported that they were not given any tobacco cessation advice by the health care providers. Overall 52% of participants did not know about the ban on any form of smokeless tobacco product in Delhi. There is a lack of knowledge about the existing anti-tobacco legislation and tobacco cessation services among residents of Delhi. Multi-level interventions and actions are required by policy makers, educators and non-governmental agencies to prevent tobacco use among residents of Delhi.

Abs. No. AB000R573

Integrated approach of health system strengthening in non-communicable disease care

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In India, absence of a robust health system and trained personnel in non-communicable diseases (NCD) are impediments to operationalize an effective government NCD prevention and control program (NPCDCS) to reduce premature deaths from NCDs by 25% by 2025. The intervention aims to improve the current health system through a comprehensive integrated approach for better management of diabetes and hypertension in Shimla and Udaipur.

Health Rise developed a decentralized integrated district level model to bridge gaps in implementation of NPCDCS guidelines by strengthening health systems at the primary care level. The model integrated with the local Govts. to strengthen primary care by providing training and technical assistance. The project trained 61 Government master trainers on NCD care, who cascaded the training to 1,105 Public Health workers (ASHA/ANMs) and medical officers. Trained Public Health Workers linked to 174 public health facilities motivated an estimated 20,000 individuals to get screened and followed-up 1,000 patients to reach a facility for NCD care and treatment. A management information system (MIS) is developed and can be used by trained health workers for real time patient tracking which was lacking until now at primary care level. Quality in the project is ensured by an operations manual developed following NPCDCS guidelines which is used to train health workers on quality parameters of NCD interventions.

While Health Rise developed a blueprint of NCD care at district level for the Government of India to adopt, scale-up and sustain, it requires local level ownership and motivation to carry it forward.

Abs. No. AB000R533

Diabetes care in public health facilities in India - A situational analysis using a mixed methods approach

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Weak public health systems have been identified as major bottlenecks in providing quality diabetic care in low and middle-income countries, including India.

Abstract

This study was conducted to assess diabetic care services in various public health facilities across six districts in three states of India using mixed methods approach. Quantitative component included assessment of diabetes services and gaps while qualitative component comprised semi-structured interviews with health care providers and diabetes patients.

30 public health facilities including 17 primary, 8 secondary and 5 tertiary were assessed. All had provision for blood glucose measurement but HbA1c estimation was available at tertiary centres only. There was no system to maintain and update patient records and lifestyle modification support (dietary advice, exercise/yoga, smoking cessation) was available in some secondary and all tertiary facilities. Screening and management for complications was not done at primary facilities. Basic oral anti-diabetic drugs

were available in all health facilities whereas insulin was in tertiary centres only.

42 physicians were interviewed. Patient overload, lack of specialised training and follow up mechanisms were major the key barriers. 37 patients were interviewed. Patients had to visit tertiary facilities for drugs/insulin and routine follow-up. There was no formal referral and follow-up mechanism to link patients to specialised facilities.

There is wide gap in implementation of diabetes services at all levels. Primary and secondary facilities should play greater role in follow-up, drug dispensing, lifestyle modification support and screening for complications. Strengthening of recording and cohort reporting and adequate referral mechanism is the need of hour.

Social Determinants and Equity

Abs. No. AB00P0445

Health insurance coverage and out of pocket expenditure pattern in the urban field practice area of Mandya Institute of Medical Sciences, Mandya

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Health care industry in India is on path for a revamp in last two decades. In this process, improving health facilities are going beyond the reach of the poor. To tackle this problem, Government and private sectors are coming out with various health insurance schemes.

It is evident that still a major portion of Indian population is at risk of financial catastrophe of health events as out of the pocket (OOP) expenditure is the most prevalent mode of expenditure. Hence this study was undertaken to assess the coverage of health insurance and out of pocket (OOP) expenditure pattern among population of Urban Field Practice Area of Mandya Institute of Medical Sciences, Mandya.

This Was a community based Cross sectional study conducted between March – July 2017 Permanent residents of Kyathamgere Primary Health centre area were taken as study population.

Sample size was 460 households. Stratified random sampling method was adopted for this study.

Mandya city population will be covered using stratified random sampling method. The information on the distribution of wards will be collected from City Corporation. Subsequently 12 households will be covered from each ward by systematic random sampling method.

Results: Yet to be analysed.

Abs. No. AB000R646

Productivity losses among patients with common mental illness and co-morbid cardiovascular disease in rural Karnataka

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Untreated mental disorders account for 13% of the total global burden of disease. Mental disorders account for 25.3% and 33.5% of all years lived with a disability in low- and middle-income countries, respectively. Patients suffering from mental illness have productivity losses due to presenteeism as a result of reduction in task focus and productivity in addition to losses due to absenteeism.

Abstract

The Objective of this study was to study the productivity losses among patients with common mental illness and co-morbid cardiovascular disease in rural Karnataka.

303 patients with a diagnosis of a common mental illness and comorbid cardiovascular disease were administered the iMTA Productivity Cost Questionnaire (iPCQ) which is a generic tool to measure productivity losses due to illness and disability. The iPCQ measures losses of productivity at paid work due to absenteeism, losses of productivity at paid work due to presenteeism and losses of productivity at unpaid work. The mean age of the study population was 59.91 ± 9.09 years with 76.9% females. A total of 142 individuals (46%) reported productivity losses in paid and unpaid work. 115 individuals (38%) reported losses of productivity at unpaid work. Productivity loss was in unpaid work contributed to a large proportion (80.9%) of the total productivity loss. A total of 102 (33.7%) individuals were involved in paid work out of whom 46 (45%) individuals reported losses of productivity at paid work due to absenteeism while 10 (9.8%) individuals reported losses of productivity at paid work due to presenteeism at work.

Abs. No. AB000R689

Examining implementation and effects of a comprehensive community intervention addressing type 2 diabetes among high-risk patients in North Carolina, U.S.A.

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Type-2 diabetes affects millions of people globally. Ethnic and racial minorities are at higher risk for developing diabetes and are more likely to suffer serious complications in the U.S. An empirical case study design was used to examine the implementation of a comprehensive, countywide diabetes intervention (Durham Diabetes Program) in Durham County, North Carolina and its effects on Emergency Department (ED) visits and hospital admissions. Program participants (N=200) with a high risk of developing a serious complication within the next year were enrolled into the intensive intervention. Culturally competent teams delivered the various intervention components including a Neighbourhood Intervention Team and a Clinical Care

Team. Anchored in behaviour change strategies, the core intervention components included diabetes self-management education and support, enhancing clinical care, community organization and mobilization, and health system/community transformation. Mixed and innovative approaches were used to (1) Identify and target areas of high needs; (2) Select and engage community partners in addressing diabetes; (3) Mobilize and engage community members, and (4) Identify patients' level of diabetes complication risk, with a focus on equity. Additionally, the Durham Diabetes Program carried out community/system changes based on multiple behaviour change strategies. Further, services were provided at multiple ecological levels: individual, group, neighbourhood, community, and county levels. Finally, the Durham Diabetes Program was associated with decreased ED visits (by 34%) and hospital admissions (by 40.5%). This research has implications for first adapting and then scaling-up this community intervention to various countries to ultimately reduce the burden of type 2 diabetes.

AB000R787

Assessing risk and out-of-pocket expenditure among patients undergoing hemodialysis

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In recent years, Chronic Kidney Disease (CKD) has become a serious public health problem. The number of patients with CKD globally is rising considerably and India is no different. The treatment of CKD is dialysis or renal transplant. In present scenario as there is lack of organ donation and the one-time cost involved in transplant is more people choose dialysis. Since it is being perceived that treatment is free of cost in public hospital and the cost of hemodialysis differs across the country research is needed to evaluate its cost.

The aim of the present study was to assess risk factors and out-of-pocket expenditure among patients undergoing Hemodialysis in Tertiary care unit of Ahmedabad (Gujarat).

This was a descriptive cross-sectional study (as quantitative) along with observation and field notes (as qualitative) collected during quantitative data collection in tertiary care hospitals of Ahmedabad. Patients undergoing hemodialysis in these hospitals, were selected for the study. Patient data as well as cost details were

Abstract

collected. A total of 128 patients from both the hospitals were interviewed. Patients perspective was taken for the analysis of cost. Both direct and indirect costs were analysed.

Overall the prevalence of Hypertension amongst study population was 70.3%, Overall the prevalence of Diabetes in study population was 28.1%. There were 30 patients (23.43%) who had both hypertension and diabetes. Dialysis is a costly therapy, the average cost per session HD was found to be INR 992.07 ± 767.80 in this study for patients in public hospital (irrespective of any kind of insurance); whereas patients undergoing HD in private hospital (without having ESIC card) was spending on an average INR 4302.64 ± 1200 . A significant proportion of out of pocket expenditure for patients in public hospital was due to loss of wages (34.75%) and transportation (19%) whereas, in private hospital (for those not covered under ESIC) major proportion was spend on payment in hospital (60.48%) and loss of wages of patient (18.13%).

The results illustrate that treatment in public hospitals is not free of cost as being perceived; the direct and indirect cost associated with it can bring a threat to their income and earning capacity and can lead the family falling into trap of debt. Future multi-centric research is required to understand the cost dynamics in both public and private settings. Further research is required to understand the qualitative concerns of the patients undergoing HD.

Abs. No. AB000R870

Study of social, economic and adverse health effects of chronic arsenic poisoning in Purbasthali 1 block, Burdwan district, West Bengal

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The eastern districts of the state of West Bengal (India) are affected by groundwater contamination by arsenic . This has had profound implications for the social , economic and health aspects of the populations concerned. The management of environmental toxicity by arsenic , therefore

is not just limited to clinical management but also social and economic rehabilitation of the population it has affected.

This study aims to study not only the adverse outcomes on health of the affected population but also the social, economic implications. The objectives of the present study were as follows :

1. To evaluate the health impact of chronic arsenicosis
2. To study the social , economic parameters of arsenic affected patients

The study was conducted in Purbasthali 1 block of Burdwan District of West Bengal (India). Total 10 villages were selected .

About 80 % patients reported their monthly income <5000. Majority of the patients were above 30 years of age and Illiterate. Majority of the patients were having Nodular Keratosis (42%) while others were having Diffuse Keratosis (20%), Leuco Melanosis (10%), Hyperkeratosis(8%) and Intitial stages of Melanosis(6%) as health effects of Arsenic Contamination. About 82 % of study patients were found to be Hypertensive. Chronic Obstructive Pulmonary Disease was found in about 23% participants. 30 % participants reported Delayed sensory- motor Neuropathy. About 4% of the participants were having Basal Cell Carcinoma

From our study which included field based survey of households and camp based study of various adberse health effects of chronic arsenic poisoning, we concluded that poverty, lack of education, poor socio-economic status compounded the adverse health effects of chronic arsenicosis.

Due to limited resources it was not feasible to screen the entire population surveyed, for adverse health effects. This leaves the room for a more extensive study.

It is proposed to organise a more detailed study in near future once sufficient resources are available.

Acknowledgement: The author acknowledges the contribution of all treating doctors, paramedics, Nadanghat Panchayat Samiti and others who had participated in field survey related to this study and who helped in screening the patients.

Surveillance and Implementation Research

Abs. No. AB000R125

Assessment of prevalence and disability due to migraine in selected urban population of Ludhiana city in Punjab

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Headache is a common and disabling feature of primary headache disorders, namely migraine, tension-type headache and cluster headaches. In the Global Burden of Disease Study (2013), migraine was found to be sixth highest cause of years lost due to disability worldwide. Therefore, this community based cross sectional study is planned to determine the prevalence and disability due to migraine in the Urban Field Practice Area of Department of Community Medicine, Shimlapuri, and Ludhiana. 465 adults (> 18 years) from population of 11179 will be interviewed by house to house visits. Every 5th house will be included in the study. The questionnaire has been prepared based on the diagnostic criteria of migraine by International Headache Society and MIDAS assessment tool will be used to calculate the disability. The data so generated will be analysed by using statistical tests like percentage, proportions and chi-square test.

Out of 102 adults who were interviewed till now, 16 (15.7%) were found to have migraine, out of which 6 had migraine with aura. Migraine without aura was found to be in the ratio of 1:9 (male: female) whereas migraine with aura was in ratio of 1:2. After applying MIDAS it was found that 56.25% were facing moderate disability whereas severe disability was seen in 37.5%. Only 1 out of 16 had prior knowledge regarding her migraine status.

This study not only puts light on the proportion and disability due to migraine but also on the need to make people aware about their health condition.

Abs. No. AB000R186

Poorest of poor trapped in smokeless tobacco use: Study from 140 countries

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Prevalence of smokeless tobacco (SLT) use and its association with demographic factors such as gender, income of the country and family and place of residence is not yet known in global perspective.

Global burden of prevalence of SLT use among adults was estimated using in 140 countries national estimates by gender and income of the countries in countries. In low and low middle-income group countries, further prevalence was computed by residence and family income. The number of male and female SLT users was also calculated taking corresponding age groups and prevalence.

Nearly one in ten males and one in twenty females used SLT in any form. The mean SLT use prevalence was significantly higher among females ($p < 0.001$) as well as males ($p < 0.001$) in group 1 countries (lower and lower middle-income countries) than those of group 2 countries (high and upper middle-income countries). There was significant difference in SLT use prevalence among males and females in group 1 ($p < 0.01$) and group 2 ($p < 0.01$) countries. Nearly 91% of the 356 million adult SLT users resided in LICs and LMICs. In these countries prevalence was higher in rural area (< 0.001) and in the poorest population ($p < 0.001$).

The majority of the burden of SLT use is on the poor countries among which the burden on the poorest is even more.

Abs. No. AB000P268

Prevention and control of noncommunicable diseases in Kerala through local self-Governments

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Abstract

The Indian State of Kerala has the highest prevalence of most of the non-communicable diseases (NCDs) such as diabetes, cardiovascular disease and cancer. Risk factors of NCDs are also high in the state. Government of Kerala in collaboration with Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Trivandrum is implementing a project on prevention and control of NCDs. One of the strategies of this project is to involve all the local self-Government Institutions: 978 village Panchayats, 64 municipalities and 6 municipal corporations. In the first year (2016-17), 20% of the Village Panchayats were covered under this project. Panchayat presidents (n=177) and standing committee chair persons responsible for health (n=148) were given orientation on NCDs for one day by senior officials of the state and senior public health faculty members of SCTIMST using standardized modules. Subsequently 450 health staff including doctors and health workers was given one day training on NCD risk factors. Activities including health education classes, training of accredited health activists, encouraging physical activity by providing space and facilities, tobacco and alcohol control and enhancing consumption of fruits and vegetables to reduce NCD risk factors were also implemented. A baseline survey of 12053 adults and 2356 adolescents using WHO STEPs was conducted to find out the NCD risk factor prevalence in the State. The survey will be repeated after five years to see the impact of the implementation of NCD risk reduction strategies for a period of five years.

Abs. No. AB000P282

Prevention and control of non-communicable diseases in Kerala through schools

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Prevalence of non-communicable diseases (NCDs) such as cancer, cardiovascular diseases and diabetes and their risk factors (tobacco use, unhealthy diet, physical inactivity and alcohol consumption) is one the highest in Kerala. The onset of most NCDs is shifting to lower age in Kerala. Government of Kerala in collaboration with Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Trivandrum is implementing a project on prevention and control of NCDs. One of the strategies of this project is to involve all the Government schools in this project. In the first year (2016-17),

20% of the community development blocks and the schools in those blocks were covered under this project. School teachers (n=746) from 324 schools were given training on NCDs for one day using structured modules by senior officials of the State and senior public health faculty members of SCTIMST. These trained teachers conducted 2930 classes in their schools for 170487 children and implemented NCD risk reduction strategies in those schools. The strategies included implementation of cigarettes and other tobacco products rules, enhancing physical activity by ensuring a minimum number of the recommended physical education classes to all the children, providing sports goods, encouraging vegetable cultivation in those schools where facilities are available, avoiding junk foods and encouraging fruits and vegetable consumption. A baseline survey of 12053 adults and 2356 adolescents using WHO STEPs was conducted which will be repeated after five years of implementation of this project to see the impact of the implementation.

Abs. No. AB000R385

An assessment of mortality burden due to non communicable diseases covered under national program for prevention and control of cancer, diabetes, cardio vascular diseases and stroke in a Tertiary Care Hospital in Rajasthan

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The NCDs are a global epidemic challenging economic growth in most countries. The percentage of death from NCD in India is 60 percent. 40 per cent of all hospital stays and 35 per cent of OPD visits are due to NCDs. The health care system has to deal with double burden of infective and non-infective diseases. The NPCDCS was started in Objective of this study is to determine number of deaths due to NCDs covered under NPCDCS and to identify the associated possible risk factors. This is a retrospective observational study. Data of hospital admissions and deaths among adults aged 35 years and above over one year period (January 2016- December 2016) was collected from the Hospital HMIS. All 492 indoor admission tickets of deaths due to NCDs covered under NPCDCS were retrieved and studied for epidemiological profile and associated factors. The data was coded and entered on Excel sheet, analysis is being done using SPSS version 20. Mean with SD and hospital based proportional mortality rates and cause specific mortality rates are to be calculated. Chi square test will be used to determine significance of association of possible risk factors with the NCDs. p value < 0.05 will

Abstract

be taken as significant. Results and Conclusions will be submitted after analysis of data.

Abs. No. AB000R423

Relationship between social capital and body composition in adolescents and young adults living in a society under transition (Rural-Palwal and Urban- Faridabad, Haryana): An exploratory study

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Recent studies from high income societies suggest that social capital might influence the body composition. In a systematic community based selection process, 858 subjects (15-25 years) were recruited (Rural-435;Urban-423; with equal proportion of genders) to determine the relationship between individual social capital (SC) and health outcomes (Overweight/obesity, elevated waist circumference (WC), hypertension) in adolescents and young adults living in Haryana (North India). Social capital was measured using locally validated standard questionnaires comprising name interpreter, position and resource generator. Bivariate and stepwise multivariate logistic analyses were done to determine the relationship between SC and health outcomes using Stata 12.0.

For rural youths: participation in organizations was the only independent factor that was protective for being overweight/obese [adjusted odds ratio (AOR) (95% C.I.): 0.35 (0.13-0.98)]. For urban counterparts: high trust among acquaintances and greater number of best friends were protective [AOR (95% C.I.): 0.54 (0.31-0.99), 0.54 (0.35-0.83), respectively], while high access to total resources was a risk factor [AOR (95% C.I.): 1.67 (1.08-2.59)] for being overweight/obese; for elevated WC, greater number of best friends was protective [AOR (95% C.I.): 0.62 (0.40-0.98)], sharing health information and high access to total resources were found to be risk factors [AOR (95% C.I.): 1.84 (1.11-3.07), and 2.11 (1.32-3.35), respectively]. Greater number of best friends emerged as the only independent factor for hypertension in urban population [AOR (95% C.I.): 0.25 (0.08-0.79)].

In conclusion, there is differential association of SC variables with body composition and BP among north Indian rural and urban adolescents and young adults.

Abs. No. AB000R425

Epidemiological investigation of clustering of disability in four villages of Nayagaon district, Odhisha, April 2016

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NCDC conducted an epidemiological investigation into the cause(s) of disability in four villages of Odagaon block in Nayagarh district of Odisha on a request from Ministry of Health and Family Welfare. Objectives were to assess burden and pattern of disability among the four villages (Chadiapalli, Gudiapalli, Hariharpur and Panchrida Manpur) of Nayagarh and to ascertain its likely cause. Methodology: (i) Rapid Household Survey in all villages to identify individuals with disability and verification by clinical team from district hospital (ii) Assessment of antenatal care to identify any pregnancy/delivery related cause, (iii) Interviews with community leaders, ASHA, ANM and other health staff (iv) Observation of environmental, occupational and local food habits, and (v) testing for fluoride level in urine and water samples. Average rate of disability in four villages (1.935%) was less than both National (2.21%; Census 2011), and Nayagarh (2.063%; AHS 2012-13) average, but found to be high in Chadiapalli and Godiapalli (4.09% and 2.55%). Commonest type was locomotor (78; 41.7%) followed by hearing (50; 26.7%), mental (42; 22.4%), multiple (33; 17.6%), speech (31; 16.5%) and visual (24; 12.8%). Two third (121; 64.7%) of all disabilities were acquired and rest were present since birth. Pregnancy and birth related complication was major cause of disability in speech (67.7%), mental (66.6%), hearing (28%) and locomotor (25.6%). Mean urinary fluoride level was 1.79 PPM (0.53 PPM to 4 PPM). Most of water sources having fluoride level <1mg/dl.

Abs. No. AB000R436

Emerging Burden of NCD risk factors in rural part of South India: Results from WHO- STEPS survey

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Abstract

There is rapid rise in Non-Communicable diseases prevalence and their risk factors in Low Medium Income Countries undergoing nutrition and demographic transition including India. Recent literature show rural population is no longer immune to NCD's and their Risk factors. A WHO-STEPs (1 and 2) approach was used for this study to assess the burden of NCD risk factors in a rural area of Southern India. Data were collected by complete enumeration in the rural field practice area of BLDE University's, Shri B.M. Patil Medical College, in Vijayapur district of Karnataka in 2016 from total of 2536 participants (18-65years). Results showed 26% were overweight or obese and 23% were having abdominal obesity. More than 13% respondents were affected by Hypertension and 3% reported having diabetes. For those consuming vegetables and fruits more than 3 times a week the risk of obesity, abdominal obesity and diabetes reduced significantly. Chance of having abdominal obesity, BMI, hypertension and diabetes was significantly higher among people having > 8 hrs/week sedentary time compared to those <4 hrs/week. Non-Smoking reduces the chance of being hypertensive by 61%, of diabetes by 30% and abdominal obesity by 43%. Probability of being hypertension was double with overweight/obese people and it was increased by 37% among diabetic patients. In conclusion, a high burden of NCD risk factors is seen in this study and points towards urgent need for surveillance in rural settings. These findings add to the scarce data of NCD's burden in rural areas and help inform policy makers to focus on high risk groups.

Abs. No. AB000R539

Attendance to non-communicable disease screening services and its associated factors among rural adults in Dimbulagala, Sri Lanka

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Sri Lankan health system offers selected Non-Communicable Disease (NCD)-screening services free of charge. However, a substantial proportion of the targeted population does not attend and factors that affect the attendance are not well known. The objectives of this study were to determine selected-NCD screening knowledge, awareness, practices of adults (35-65-years) and to determine factors-associated with attendance to free government screening clinics in Dimbulagala.

A descriptive cross-sectional study was conducted among adults aged 35-65, permanent residents in Dimbulagala. Estimated sample size of 537 was selected from 30 clusters by probability proportionate to the number of households in each Grama niladari area. In the case of more than one eligible participant present in a selected household, the Kish method was used to identify a participant in a random manner. An interviewer administered questionnaire was used to ascertain the data and a knowledge score was developed based on the questions.

Five-hundred-thirty-seven (n=537) questionnaires were administered with a response rate of 93%. Mean age of the study population was 46.5 (SD=8.75) years. Majority (83.2%) of the study population had scored more than the middle value (i.e., 20) of the knowledge score. Majority of the participants were not aware of the services (60.1%, n=323) while a lesser number of the study population (39.9%, n=214) were aware. Out of the respondents, females (n=134, 46.4%) had better awareness compared to males (n=80, 32.3%). Only 37.8% individuals have ever attended a NCD screening clinic. Majority of the respondents responded poorly to assessing food habits, level of physical activity, regular blood pressure measurement and self-breast examination for females. The multivariate analysis showed "gender" and "heard about the clinic" are the most important factors determining attendance to a screening clinic.

There is a gap between the respondents' NCD screening knowledge and attendance. Out of several factors associated with attendance to NCD screening clinics "gender" and "heard about the clinic" are the most important.

Abs. No. AB000R55

Colorectal cancer and its risk factors among adult Bangladeshi population

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Worldwide, colorectal cancer is the fourth most common cancer affecting both men and women equally. The objective of this cross sectional study was to find out the proportion (prevalence) of Colorectal Cancer among cancer patients and find out and characterize the risk factors. The study

population was 200 (male 162, female 38) colorectal cancer patients attending two specialized cancer hospitals. In 2015 a total number 1942 cancer patients of gastrointestinal system were admitted among whom 22.5% (prevalence) had been suffering from colorectal cancer. Mean age of the respondents was 43.34 ± 12.83 years. Mean monthly family income was $20,505 \pm 14,657$ Taka. (1 US\$=80 Taka) and expenditure was $25,800 \pm 18,563.7$ Taka. History of polyps was 46%. History of inflammatory bowel disease was 37%. Family history of colorectal cancer was 14%. Consumption of red meat (1-3 times per week) was observed in 80% cases. Inadequate fruits and vegetables consumption was 91%. Weekly consumption of rich food more than once was 38%. History of Smoking, consuming smokeless tobacco and alcohol consumption were 42%, 34%. And 8% respectively. History of Diabetes was 25%. Significant association was observed between Income and consumption of red meat ($p=0.000$), Income and frequency of consuming vegetables and fruits ($p=0.000$), age of the respondents and diabetes ($P=0.028$). Results indicate that, the diseases is more prevalent in Males, there is economic impact of the disease causing more expenditure than income, one fourth of cases have known diabetes which may have possible association with colorectal cancer which might be explored through analytic study.

Abs. No. AB000R558

Absolute survival rate and its predictors for lung and gall bladder cancers in North India: A prospective study through telephone

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We report absolute survival rate and its predictors for lung cancer (LC) and gall bladder cancer (GBC) in North India (common cancers with poor survival outcomes) from a tertiary hospital setting. To date, such data from India is very limited.

Randomly selected study participants (N=535; LC-262, GBC-273) were those who were registered at 'Post Graduate Institute of Medical Education and Research', Chandigarh for LC (ICD10-C34) and GBC (ICD10-C23) between 01-01-2010 and 31-12-2014. Participants aged 30-69 years during registration with a valid contact number were recruited. Information on socio-demographics, telephone number, disease (clinical-

pathological) and treatment status were abstracted from medical records. Participants (or their family/relatives) were followed-up with telephonic interviews between 01-03-2016 and 31-07-2016 and their vital status was recorded. Absolute survival rates (1/3/5-year) were calculated using Kaplan-Meier Method and Log-rank test was used to determine differences in survival rates by socio-demographics, education, disease and treatment status. Cox-proportional-hazards-regression multivariable models were run to evaluate the association of predictors on survival after diagnosis and treatment.

Participants (N=535) at registration were $53.5(\pm 8.9)$ years of age (58.3% men, 37.8% illiterate). A majority (76.7%) had an advanced disease at diagnosis (Stage III/IV); only 55.5% underwent cancer-directed-treatment, primarily chemotherapy or combined (63.1%). In comparison with LC ($p<0.01$), GBC participants were younger ($51.6 (\pm 9.1)$ vs. $55.4 (\pm 8.2)$ years), 67.8% were women (vs.14.5%) with advanced clinical-extent before treatment (56.1vs.40.9%) and received no treatment (53.1vs.13.4%). With 33% lost to follow-up, survival analysis included 412 participants (N=211LC; 220GBC) with 376.2 person-years of total follow-up and 305 deaths (N=147LC; 158GBC). Overall, absolute survival rates (95% CI) were 43.4% (38.2, 48.5), 11.2% (7.7, 15.5) and 3.9% (1.5, 8.3) for 1/3/5-year respectively; GBC had lower survival rates than LC ($p=0.0006$). Age and stage-at-diagnosis for LC; primary treatment, clinical-extent before treatment and stage-at-diagnosis for GBC were significant predictors for survival ($p<0.01$).

LC and GBC showed poor absolute survival rates in North India. Age-at-diagnosis, clinical-extent before treatment, stage-at-diagnosis and primary treatment were significant predictors for survival.

Abs. No. AB000R560

Structural equation modelling to identify the risk factors of diabetes in the adult population of North India-results from a large cross-sectional STEPS survey

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Abstract

The study aimed at exploring the risk factors of diabetes using a Structural Equation Modelling (SEM) in the North Indian state of Punjab. A non-communicable disease risk factor survey (based on WHO-STEPS approach) was done in the state of Punjab, India in a multistage stratified sample of 5127 individuals. The survey involved WHO STEPS-questionnaire administration, anthropometric and biochemical measurements.

Overall prevalence of DM among the study participants was found out to be 8.3% (95% CI: 7.3–9.4%). The final SEM had excellent fit considering the model parameters. The following risk factors deemed to have a direct statistically significant effect on blood sugar status: family history of DM (4.5), residence (3.1), age (0.46), waist circumference (0.18), blood pressure (0.11) and triglycerides (0.46). There are specific indirect effects of waist circumference, alcohol intake and age on blood sugar levels, which are mediated by raised blood pressure. Waist circumference mediates the indirect effects of age, family h/o of diabetes, alcohol intake and weekly fruit intake on blood sugar levels. Triglycerides also mediated the indirect effects between age and diabetes.

The key finding of the study is that family history of DM, residence, age, waist circumference, blood pressure and triglyceride levels are the main variables directly affecting diabetes status in the Indian population. Blood pressure, waist circumference and triglyceride levels also mediate the indirect effects of other variables on diabetes. These results further strengthens the evidence that lifestyle changes in the form of physical activity, healthy diet are required to prevent and control diabetes.

Abs. No. AB000R98

Iran cancer related mortality rates and trends; 1990-2015

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Iran as one of the developing countries is experiencing epidemiologic transient period in all aspects of health including diseases burden. Malignancies as a leading cause of years of life lost after injuries and cardiovascular diseases among Iranians, are focused in case of improving care and prevention procedures. This study remarks the deaths due to all types of cancer in Iranian people from 1990 to 2015. We used the data set from deputy for research and technology/Iran-ministry of health in 1995 to 2001, data set from deputy for public health/Iran-ministry of health in 2001 to 2004 and 2006 to 2010 and two cemeteries' data sets. Also, the main methods which used for statistical analysis include the Gaussian process regression and the spatio-temporal model. Overall the age standardized cancer related mortality rate has been decreased during 1990-2015 from 109.4 (CI 100.602-119.596) to 57.8 (CI 53.562-61.047) per 100,000, respectively. Due to some preventable types of neoplasms, much incidence and death rates will be enforced to decreased by effective recommendation for life style modification, environmental risk factors refusal and screening for fatal neoplasms with long latent phase; so the result of this study can guide health system to mention the map of most fatal and preventable neoplasms to intervene; also planning in order to raising public awareness to participate in early detection programs could improve cancer surveillance and malignancy burden.

Abs. No. AB000R631

ASHAs as informants in a Population-Based Stroke Registry in Rural Ludhiana, India: A Feasibility study

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The Indian Council of Medical Research (ICMR) initiated the Task Force Project to evaluate the feasibility of conducting a population based registry in rural Ludhiana.

The aims of this study were: (1) To assess the feasibility of establishing a population based stroke registry for

estimating the burden of stroke, stroke types and risk factors for stroke in rural Ludhiana, (2) To develop and validate the methodology for data collection from the rural community.

All first-ever stroke (FES) patients over 18 a well-defined community (Sidwan Bet and Pakhowal blocks) having verifiable census data and being representative of the population structure of Punjab, data was collected using the WHO STEPS approach. All the ASHAs, ANMs were trained in stroke symptoms. Health education in the community was conducted along with a toll-free Helpline number for stroke.

The ASHAs reported 87 cases of FES that occurred during the study period. All cases were confirmed by the neurologist. The incidence of stroke was 171.4 and 180.5 per one lakh male and females respectively. The sensitivity of the ASHA reporting a stroke case was 93.6% with a positive predictive value is 61.9%.

Population based rural stroke registry is feasible with the above methodology. The burden of stroke is high in rural Punjab which requires further studies.

Abs. No. AB000R706

Feasibility of setting up a cancer registry in a resource poor setting: Experience from a population-based cancer registry in Gadchiroli, Maharashtra, India

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Population-based data on cancer from tribal and underdeveloped regions of India are rare. We assessed the feasibility of setting up a population-based cancer registry (PBCR) in Gadchiroli, a tribal and one of the most backward districts of India with heavy tobacco use and lack of cancer care facilities. The registry was set up in a well-defined population of 105,157 living in 134 villages. Cancer cases were identified through-a) an annual house to house surveys to screen for diagnosed cancers and oral lumps, b) selected local hospitals, and c) mortality surveillance system where the cause of death was determined using a verbal autopsy on all deaths in these villages. A total of 128 cancer patients (72 females, 56 males) were

registered for the two-year period 2015-2016. The age adjusted incidence rate (AAR) for all cancers was 83.5 among females and 56.2 among males. The leading sites were cervix (AAR = 18.6), mouth (AAR = 15.1) and breast (AAR = 8.1) for females and mouth (AAR = 22.3), ill-defined sites (AAR = 8.1) and digestive organs-ill defined (AAR = 3.8) for males. The microscopic verification of diagnosis was low (19.5%) and the primary site of cancer remained unidentified for 18% of cases. As house to house survey was used for registration, under registration was not the major issue. It is feasible to conduct cancer registration in resource poor setting to generate actionable public health data. Different quality standards may be needed to ascertain quality of cancer registration in resource poor settings.

Abs. No. AB000R727

Physical inactivity as an independent and important risk indicator in developing DM and related co morbidities among a selected ethnic community in Bangladesh

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Diabetes Mellitus is a growing health problem worldwide. Obesity, diabetes and hypertension are significant risk factor for cardiovascular disease. A community based cross-sectional study was conducted in 2015 in a selected ethnic population (Beharies) in Bangladesh. The study was aimed to find out risk factors of Diabetes mellitus and related comorbidities among the study population. The study involved 300 purposively selected study subjects aged 30 and above. Oral glucose tolerance test (OGTT) was performed to diagnose diabetes (as per WHO criteria). Cardiovascular comorbidities were determined by measuring Blood Pressure, BMI, Total cholesterol, Waist Hip Ratio etc. Logistic regression analysis was used with or without adjustment for potential confounders. Sixty seven percent of the subjects were females. The mean age was 47.2 ± 12.9 yrs. Thirty five percent respondents had family history of diabetes. Inadequate (lower than who recommended) physical activity was found among 65.7% of study subjects who were diabetic compared to 34.3% of subjects who were non-diabetic. Similarly, low level of physical activity was observed among study subjects with high cholesterol (45.7%) and hypertension (22.7%) among

Abstract

study subjects. Waist circumference was found to be high in 69.7% of study subjects who were observed to have relatively lower level of physical activity. The differences were statistically significant suggesting association of inadequate physical activity with Diabetes mellitus and

other comorbidities. It concludes that physical inactivity is an independent and important risk indicator for diabetes mellitus and related co morbidities and behavior intervention is important for increasing physical activities among the population at risk.

Road Safety

Abs. No.AB000R217

Healthcare facility preparedness regarding gender based violence in Delhi: Stakeholders' perspective

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Healthcare facility preparedness is of prime importance in dealing with care of victims affected with gender based violence (GBV). There is paucity of information on this aspect in India. The study aimed at assessing the health care facility preparedness from the perspective of stakeholders in Delhi.

This was a cross sectional study conducted in nine hospitals and 25 dispensaries under Government of National Capital Territory (NCT) of Delhi. The stakeholders included heads of hospitals, Chief District Medical Officers (CDMOs) and Medical Officer In charge of dispensaries. Data was collected by in-depth interview schedule, expressed in percentage.

The stakeholders interviewed were 45 (from 9 hospitals, 25 dispensaries and 11 CDMOs). According to them, written policies and procedures were available in 8/9 (88.9%) hospitals, and with 4(36.4%) CDMOs and not with dispensary in-charges. Almost all the hospitals and dispensaries had facilities such as emergency contraception, pregnancy test kit. 22.2% hospital heads, 20.0% dispensary in charge and 18.2% CDMOs responded that counselling services were provided to GBV victims. Only 44.4% stakeholders from hospitals, 40.0% from dispensaries and 45.5% CDMOs had attended training sessions on GBV. Only 44.4% hospital heads, 20.0% dispensary in-charge and 18.2% CDMOs conducted training sessions for their staffs. Barriers in implementation of services for GBV victims included time limitation (33.3% hospital heads, 56.0% dispensary in charges), lack of awareness among staff (55.6% hospital heads, 72.7% CDMOs, lack of political commitment (44.4% by hospital heads and 52.0% by dispensary in-charges).

There were inadequate services for GBV victims in the health facilities and needs strengthening.

Mental Health

Abs. No. AB000R267

Processed food consumption, depression and anxiety disorders: Exploring the link among Delhi adolescents

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Research suggests that a poor-quality diet that is lacking in nutrition may lead to deficiencies that have been associated with mental health issues. Diets rich in refined

sugars, carbohydrates, saturated fats can affect proteins synthesis (signaling molecule neurotrophic factor) that are important for brain development leading to depression. The present study is designed to study the association of depression and anxiety with diet quality and food consumption patterns of adolescent boys and girls (aged 13-16 years) studying in public schools of Delhi. 300 adolescents (selected randomly from public schools of Delhi) participated in this cross-sectional study. For the assessment of depression and anxiety Child Behavior Checklist (CBCL; administered to the parents) and Early Adolescent Temperament Questionnaire (EATQ-R; self-report) were used. Data was also collected on socio

Abstract

demographic profile, physical activity, dietary habits and patterns, food intake (24 hr recall, Food Frequency Questionnaire), body image perception, locus of control, eating behavior (TFEQ; self-report), and anthropometric (Weight, Height, BMI, Body fat %) profiles. 17% of the subjects were found to be suffering from depression and anxiety. Consumption of processed foods (confectionaries, salted namkeens/chips, packed juices, chips) showed an upward trend. Data on other parameters are still being analyzed and an effort is being made to find association among them. The ongoing study will highlight the impact of mental health disorders on nutritional status and diet quality of adolescents. It will also serve as a strategic tool for management and prevention of mental health disorders among adolescents.

Abs. No. AB000R303

Behavioural problems in primary schoolers-family microsystem and individual ontogeny as determinants and predictors in Urban Kerala

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Childhood behavioural disorders contribute to 3.4% of the total 183.9 million DALYs worldwide caused by mental and substance use disorders. Among Low and Middle Income Countries, India has near-universal annual enrolment (96.7%) for 6-14 year olds. The present study was conducted to identify the determinants and predictors of behavioral problems in individual ontogeny and family microsystem, in 6-10 year old primary schoolers in urban area of Thrissur, Kerala.

A school based cross-sectional study was conducted on 385 students aged 6 to 10 years, selected by Multi stage sampling (Probability Proportionate to Size, Cluster, Simple Random Sampling) from aided, unaided and government schools in urban Thrissur, Kerala, India. The SDQ and a semi structured questionnaire were used. Analysis was done using Chi square, t-test, ANOVA/posthoc, logistic regression (spss ver 16, Epilnfo).

Family microsystem distribution showed Nuclear families-203 (53%), single parent families (11%); household

size more than four-208 (55.6%); Single child category-36 (9.35%); school level education in mothers (39.2%) and fathers (62.83%); maternal occupation-homemakers (69.35%) and paternal occupation-professional associates/skilled workers (50.27%).

Individual ontogeny factor distribution showed: females-236 (61%), Hindus (57%); maternal/foetal complications in pregnancy and delivery-12%; history of maternal drug intake during pregnancy-7%; history of significant neonatal illness-8.05%; infant and/or childhood illnesses-16.88%; birth order one-56 (42%); low birth weight-56 (15.14%); history of mental illness in family-23 (6%).

The significant determinants of child behaviour problems were gender-male in hyperactivity {p-0.0019; OR-1.95 [1.27 - 2.98]}, female in emotional problems (p-0.016); religion (p-0.007); type of family (p-0.049); paternal and maternal education (p-0.016; p-0.013); paternal and maternal occupation (p-0.035, p-0.005); birth order (p-0.004); pregnancy/delivery complications (p-0.001), neonatal illness (p-0.028), infant and child illnesses (p-0.021).

Age of 6 years {p-0.029,adj.Odds-1.24[1.022-1.057]}, positive history of pregnancy/delivery complications {p-0.033; Adj.Odds-2.535[1.075-5.977]} and birth order one {p-0.002; Adj.Odds-2.085[1.295-3.357]} are found to predict child behaviour problems. Religion other than Muslim {p-0.001; Adj.odds-0.5[0.329-0.76]}, maternal occupation other than unskilled {p-0.004; Adj.Odds-0.69[0.537-0.891]} were protective.

The study identifies significant factors in individual ontogeny and family microsystems which needs to be addressed in the area to ensure mental health and well-being.

Abs. No. AB000R455

Mental health of cancer patients attending the cancer centre of Mandya Institute of Medical Sciences, Mandya and their awareness regarding cancer

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Abstract

Cancers figure among the leading causes of morbidity and mortality worldwide, with approximately 14 million new cases and 8.2 million cancer related deaths. Comprehensive patient-centred care in oncology has been prioritized in international guidelines and standards, which includes prevention and early detection, evidence-based medical treatment, rehabilitation and palliative care as a collective approach for reducing morbidity and mortality of cancer. Improving the quality of care requires recognition and addressing patient's psychological distress, mental disorders and supportive care needs during treatment of cancer. Knowledge regarding cancer i.e. its warning signs, early detection, management of patients with cancer etc., help in improving outcome of cancer patients. This one year cross sectional study from 1st October 2016 to 30th September 2017 will analyse the mental health of cancer patients and their awareness regarding cancer among patients who report to Cancer Centre, Mandya Institute of Medical Sciences, Mandya during the study period. The patients will be interviewed using a pre-formed, pre-tested, semi-structured questionnaire. Analysis will be done using descriptive statistics like percentages, mean, standard deviation, etc., and analytical statistics like chi square test, student t test, etc. To conclude, awareness regarding various aspects of cancer symptoms, diagnosis, treatment options, etc., is poor. Most of the patients are diagnosed to have anxiety and depression requiring further counselling and treatment.

Abs. No. AB000R695

Body image issues among female students: An unspoken epidemic

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Body Image is the perceptions concerning one's self or body as presented to others. A negative body image can result in stress, low self-esteem and in high risk behaviours.

This study aims to assess the magnitude of body dissatisfaction and the extent to which unhealthy eating habits are practiced due to Body Image issues in female students in health sciences, using a Silhouette scale and a Standardized self-administered questionnaire scale. Anthropometry was done.

The study was done among female students in four health professional education institutes in Ludhiana city, Punjab, North India.

A total of 143 students (mean age 19.1 ± years). Nearly 89.5% think about their weight and shape all the time. Over 51% perceived themselves to be overweight while in reality 16.8% were overweight and 61.6% were of normal weight. Those with higher BMI perceived themselves as 2-3 sizes lesser compared to lower BMI considered themselves at least 2 sizes more than their actual BMI. Those with higher actual BMI perceived themselves 2-3 sizes lower while those with lower BMI who perceived themselves 2 sizes higher. Those attempting to lose weight in the past month and are currently doing so was 50% and 33.6% respectively. Eating smaller meals was 55.6% and 38.5% skipped meals regularly. More than one-third of girls have at some point felt so bad about their shape that they have cried.

There is a high prevalence of body image issues which needs urgent recognition and addressable as NCDs.

Abs. No. AB000R709

Parent mediated intervention programs for children with NDDs in South Asian countries: A systematic review

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Evidence of parental programs are available mostly from developed countries but resources to address the needs of parents of children with Neurodevelopmental Disorders (NDDs) in South Asian countries are limited. E carried out a systematic review to identify the available published literatures to explore if the parent mediated programs can improve social, behavioural and functional skills of children with NDDs in South Asian countries. E searched through BMD, MDIN, syclNO, oogle scholar and eb of science from 1988 to 2017 using keywords of AD, ADD, ID, C, parent mediated program and South Asia. E retrieved 273 studies and 16 met the inclusion criteria include 5 randomised controlled trials and 11 before after studies. Most of these (12, 75%) conducted in India, (3, 18.75%) in Pakistan and one was in Bangladesh. Different tools have been used to measure the outcome and interventions were mainly delivered through one to one or group sessions of the parents. This review reported significant improvement in parent child interaction, social and communication skills and parental knowledge to train their children. However, these findings are debatable due to small sample size, limited resource settings, and lack of control groups to

Abstract

negate confounding factors. This study is the first one to document the parent mediated programs of the children with NDDs in South Asia. But, critically evaluating these literatures suggest that current evidence is very scant to draw a comprehensive conclusion about the outcomes and recommend further research in large scale to design appropriate programs in South Asia.

AB000R765

Depression, anxiety and stress among couples attending infertility clinic at GTB Hospital, Delhi

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Infertility can be an emotionally and physically distressing experience for large number of couples. The consequences of infertility and its treatment leads to various mental health problems like depression, anxiety, stress, domestic violence, loss of self esteem and social isolation. The current study endeavors to address the evidence gap about mental health of infertile couples by assessing the frequency of depression, anxiety and stress and exploring their association with the socio-demographic attributes. A cross sectional study was done on 80 infertile couples attending the infertility

clinic at GTB Hospital, Delhi using the Depression, Anxiety and Stress Scale, a 42 item, self-reported questionnaire. Most females in the study were aged between 20 – 29 years whereas most males were between 25 – 34 years. Nearly half of the male subjects were consuming tobacco and 20% were alcoholics. 85% of the infertile couples had primary infertility. Depression, anxiety and stress were more prevalent and more severe in females. More than 60% of infertile females had depression and stress whereas 42.5% had anxiety. Among infertile males the prevalence of depression, anxiety and stress were 20%, 10% and 17.5% respectively. Statistically significant association was seen between the duration of treatment before coming to GTB hospital and depression among males ($p < 0.034$) and perceived cost of treatment before coming to GTB hospital and anxiety in females ($p < 0.001$). In both males and females, the predictors of depression were socioeconomic status, duration of infertility and perceived cost of treatment outside GTB hospital. Type of family, duration of infertility and duration of treatment were predictors of anxiety in females on logistic regression analysis. In males, duration of infertility, duration of treatment and perceived cost of treatment were the predictors of stress. It was concluded from the present study that infertility causes significant psychological morbidities in infertile couples, thus necessitating the need for professional counseling of infertile couples for their mental wellbeing in addition to management of infertility.

Technology and NCDs

Abs. No. AB000R389

Effectiveness of weekly SMS reminders in adherence to treatment among type 2 diabetes mellitus patients - A community based randomized controlled trial

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Poor adherence leads to poor health outcomes and increased economic burden for the patient by increasing

the out of pocket expenditure. This study was conducted among type 2 Diabetes Mellitus (DM) patients, to assess effectiveness of Short Message Service (SMS) reminders in improving adherence to drug treatment, in decreasing HbA1c and in improving adherence to physical activity in an urban area of Puducherry, South India. An open label parallel design randomized controlled trial was conducted among type 2 DM patients residing in urban service (December 2014 to May 2016). An eligibility screening was done and 208 participants were randomly selected and allocated to intervention and control group. Adherence to drug treatment and adherence to physical activity was captured using Morisky Medication Adherence Scale (MMAS-8) and a pre-tested structured questionnaire respectively. Intervention consisted of twice weekly SMS reminders sent for a period of 24 weeks (8SMS X 6 cycles).

Abstract

SMS content focused on delivering messages related to regular medication intake, physical activity and healthy diet. The mean (SD) age of study participants was 56 (11) years and majority (68%) were females. In Intention-To-Treat, the difference in difference (DID) analysis showed improvement of 26.9% (95%CI: 16.3%, 37.6%) and 16.3% (95% CI: 7.5%, 25.2%) in adherence to medication and to physical activity respectively. There was a decrease of 0.22% in the mean HbA1c ($p=0.399$) in the intervention group and 0.004% decrease in the control group ($p=0.989$). Thus, in type 2 DM patients in urban area, those who received weekly SMS reminders showed to improve adherence to both drug treatment and physical activity.

Abs. No. AB000R570

Patient centered information system for early non-communicable disease detection, diagnosis and treatment adherence

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In India, absence of a robust health information system has been a major impediment to establish an efficient and effective non-communicable disease prevention and control program (NPCDCS) to reduce premature deaths by 25% by 2025.

There is a need for development of Management Information System for programme related data capturing at the primary care level for NCDs. There are gaps in patient level data related to non-communicable diseases (NCD) at the primary care level.

Health Rise has recognized this gap and initiated development of a management information system (MIS) to collect patient level data at the first point of service by a frontline health worker. Data collected includes: (1) NCD risk and behavioral factors leading to NCD's, (2) Tracking of confirmatory diagnosis, (3) Tracking adherence to clinical management of hypertension and diabetes.

The data will be captured using tablets and mobiles and FLHWs will be trained on this tool in 2 sites. Patient-level data will be shared between community and health facilities to inform monitoring and reporting of NCD patients from primary to secondary care sites. The MIS will generate real time data with reminders and sms alerts for use by frontline health workers to be more efficient

and timely in their follow-up and be responsive to the needs of the patient.

This MIS will provide a patient centric information tool to improve the frontline health workers efficiency in the delivery of health services by facilitating faster information availability across all levels resulting in evidence based management and policy decisions.

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A Feasibility Study to Find the Prevalence of Type 2 Diabetes Mellitus and Its Management in Difficult Terrains by Frontline Workers

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In India, the prevalence of diabetes is rising rapidly, and is predicted to exceed 100 million by 2030. Patients with Type 2 Diabetes Mellitus (T2DM) often need a complex set of services and support ranging from glucose monitoring, medication management, psychotherapy and social support, physical activity promotion and nutrition counselling. Technology can really help in integrating these supports into a patient's therapeutic regimen. Any reduction in HBA1C and BP is likely to reduce the risk of diabetic complications.

The objectives of the present study were to find the prevalence of T2DM and its risk factors by the Swasthya Slate and to assess the feasibility of using the Swasthya slate by ASHAs in prevention and management of T2DM.

The novelty of this community-based study carried out in the hilly terrains of Tehri Garhwal in Uttarakhand demonstrates the use of Swasthya Slate by ASHAs to provide evidence based low cost care by incorporating decision support tools to promote medication adherence and monitor diabetes management and complications. Individual socio-demographic data was obtained and investigations done and recorded in the slate. FGDs with diabetic individuals and IDIs with healthcare providers were conducted to assess barriers to management of diabetes.

All ASHAs were very keen to learn new things and quickly mastered the use of the slate. HbA1c was done for 500

Abstract

residents in 5 villages, with prevalence of pre-diabetics being 55.4% and diabetics 9.4%.

Poor residents tend to be unaware of their risk factors and have limited access to doctors with distance and

cost acting as major barriers. Providing training, and using tablet devices with clear healthcare pathways, can enhance the capacity of ASHAs to diagnose and monitor emerging risk factors and identify high risk patients who need immediate diabetes care by physicians.

