

PRIORITY AREA 3: NON COMMUNICABLE DISEASES

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Study on Prevalence of Hypertension among the People of Surkhet District of Mid-Western Development Region, Nepal, in 2001 (2001)

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Background

Hypertension is a major factor for stroke, coronary heart disease, ischaemic heart disease, heart or kidney failure, ocular diseases, pregnancy related problems etc. Hypertension is one of the major public health problems in the country. It is an iceberg condition, in Nepal, the prevalence of hypertension has been considered as an increasing "silent killer" along with rapid urbanization. In addition, the public health and medical professionals at national level need to have current information as national and regional figures of prevalence of hypertension. Therefore, this study aims to determine the prevalence of hypertension among the people of 15 and above years of age residing in Surkhet district.

Methods

It was a descriptive study. The rural and urban communities of Surkhet district were the study areas, 15 and above age of years as study population and 3079 samples as sample size. Simple random sampling technique was applied to select study areas and population in the district. Oriented and trained surveyors with the help of supporting staff, researchers and community participation carried out survey procedures in the study areas. All the instruments and equipment were standardized before the start of the survey. All the completed data were processed and analyzed in MS-EPI 6.04 and word programmers.

Results

The study revealed hypertension prevailing among 990 per 10,000 people of 15 years and above age. The prevalence of hypertension was significantly higher among 12.5% of urban people, 11.9% of male, 27.7% of Buddhist, 14.2%, 15% , 29.4% of Magar, Thakuri and Newar, 11.5% of married, 17.6% of illiterate, 12.2% of those who consumed 5gm or more than 5gm of salt per

day, 18.7% of those who consumed alcohol, 12.2% of tobacco smokers, 34.3% of obese, 48.6% of those who do not have any occupation, 18.6% of service holders and 13.1% of farmers and among 21.9% of individuals who work irregularly for less than 5 hours a day.

Conclusions

There is a need of generalizable and basic detailed information on hypertension.

Keywords: hypertension; Nepal; prevalence; Surkhet.

**A Study on Nurses Knowledge and Attitude towards Cancer Pain
Management in Hospital Setting (2002)**

Tuitui RL¹

Background

The pain effects on patient's quality of life and degree of pain control depends on knowledge and attitude of caregivers so this study was done with the objective of exploring the present knowledge and attitude of nurses about cancer pain management.

Methods

It was a descriptive study. The study was done at Tribhuvan University Teaching Hospital and Bhaktapur Cancer Care Center among 50 nurses with minimum of one year experience. Non-probability purposive sampling technique was used. A pretested structured self-administered questionnaire was used to collect information from the respondents. All collected data were analyzed and categorized on the basis of research objectives and hypothesis, which was presented on table, pie chart, bar graphs and frequency polygon.

Results

More than 50% answered correctly about cancer pain management. The mean knowledge score was 8.44 with standard deviation 2.1892 and mean attitude score was 9.36 with standard deviation 1.897. Statistically there are significant differences in nurses knowledge according to working area ($Z=6.27$; $t=5.476$), length of working experience ($Z=2.23$; $t=2.20$) and difference in attitude score according to level of knowledge score ($Z=2.64$; $t=2.966$).

Conclusions

Further research is needed regarding pain management practice and effect of pain intervention package. There is also a need to provide training on cancer pain management.

Keywords: attitude; cancer pain; knowledge; management; nurse.

A Case Study Report on Prevalence of Cholelithiasis and Involvement of Age and Sex Groups in this Disease at Kathmandu Medical College Teaching Hospital (2002)

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Background

Cholelithiasis is one of the most common disease and one of the very common health problems in Nepal and all over the world. The number of morbidity is increasing day by day though the public awareness has been started. The main objective of this study was to find the prevalence rate of Cholelithiasis and involvement of age and sex group in this case.

Methods

Surgical ward of Kathmandu Medical College Teaching Hospital was selected for case study. The cases of Cholelithiasis admitted in surgical ward in the year 2058 and 2059 were studied and retrospective analysis method and descriptive research design was used. For this study, in-patient record book of Kathmandu Medical College Teaching Hospital and interview to patient parties with the help of questionnaire were used as primary source of information. Data were compiled on the basis of related topics, analyzed and were presented in the form of table, graphs and pie chart.

Results

It was found in 2058 B.S. the prevalence of Cholelithiasis was 21.56% but in the year 2059 B.S. the prevalence was found to be 15.76%. In 2058 B.S. among 138 total inpatients of Cholelithiasis, the number of affected females was 118 (85.5%). Total 25 patients of age group 31-35 years were admitted in this year. Similarly in 2059 B.S. the number of affected females was 138 (86.3%) and the remaining were males. Total 32 patients of age group 31-35 years were affected like in the previous year.

Conclusions

The prevalence was found to be more in females and in the age-group 31-35 years.

Keywords: age group; case study; Cholelithiasis; prevalence; sex.

Spectrum of Liver Diseases in Liver Clinic at Bir Hospital (2002)

Mishra AK

Background

In Nepal as in many developing countries, diseases related to liver and biliary tract are very common. About 10% of the patients admitted to the medical wards of Bir hospital have chronic liver disease. Hepatic coma, either due to cirrhosis of liver or fulminate hepatitis and UGI bleeding from esophageal varices due to chronic liver disease is the common emergency admissions in this hospital. Besides chronic liver disease associated with alcohol and Hepatitis B virus, the etiology is not yet clear in a large group of patients. Regarding the acute liver diseases, acute viral hepatitis is the most common and the infection with Hepatitis B virus is the major public health problem which is practically preventable. Therefore this study aims to seek the pattern of liver disease prevalent in our community.

Methods

This was a retrospective study done between the years August 2001-July 2002 at Bir hospital. All the patients attending the liver out-patient department and all the patients who were admitted in the indoor were taken as the study population.

Results

In the outdoor, 31.8% were the alcohol related liver diseases whereas 41.5% of the total admitted cases were due to it. Acute viral hepatitis accounted for only 11.6%. Interestingly IVC obstruction accounted for 12% of total liver out-patient attendance and 21% of total indoor admission.

Conclusions

These types of studies need to be carried out at different parts of the country so that cumulative data can be collected and exact report can be published.

Keywords: Bir hospital; indoor; liver diseases; out-patient department; prevalence.

Factors Involved in First Myocardial Infarction its Complications and Thrombolytic Pattern in Selected Hospitals of Nepal (2003)

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Background

World Health Organization has predicted that by 2020 AD up to three quarters of deaths in developing countries would result from non-communicable diseases and that coronary heart disease will top the list of killers. Data also indicate that epidemiological transition, which is characterized by ageing and changing life style and culminates in epidemics of hypertension and coronary heart disease, is rapidly occurring in India and other developing countries.

Methods

This was a multi-centric prospective observational study with five centers in the Kathmandu valley. The present study consisted of 213 cases of first acute myocardial infarction seen in National Academy of Medical Sciences Bir Hospital, Tribhuvan University Teaching Hospital, Medicare National Hospital and Research Center, Norvic Escorts International Hospital and in the Sahid Gangalal National Heart Center during the period of one year (1 October 2001 to 30 September 2002). All the cases were closely interrogated, examined and investigated. Serial electrocardiogram and cardiac enzymes were done. Blood sugar done in all cases and lipid profile in 148 cases.

Results

The commonest risk factor for coronary heart disease was smoking 154 (72.3%) in this study. Hypertension was found in 94 (44.1%) and its incidence has increased by 16%. Diabetes Mellitus was found in 62 (29.1%) and has

increased by 15%. Family history positive for coronary heart disease was found in 44 (20.7%). Total serum cholesterol was found abnormal in 83 (55.7%). Triglyceride was found to be above 150 mg % in 111 (75%). 35.1% had LDL above 130 mg% while 73 (64.2%) patients had HDL less than 40 mg %. Out of 213 cases, 192(90.14%) were STelevation Myocardial Infarction. Commonest complication was ventricular arrhythmia 111 (52.1%).

Conclusions

Coronary heart disease should be considered as one of the major health problem now and in near future. Coronary heart disease prevention should be seen as being synergistic with poverty reduction strategies and addressed in development initiatives.

Keywords: age; coronary heart disease; first acute myocardial infarction; Nepal.

Reactive Thrombocytosis and its Relation with Different Hematological Parameters and Acute Phase Reactant C-reactive protein (CRP) 2003

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Background

Reactive thrombocytosis is an increase in the circulating thrombocyte count (platelet count more than 400000/cmm of blood) secondary to a physiologic process within the body, often an infection; acute and chronic inflammatory conditions, malignancy, rapid blood generation after haemorrhage and hemolytic anaemia, rebound thrombocytosis (following withdrawal of cytotoxic drugs, treatment with folate and vitamin B12 deficiency, withdrawal from alcohol), asplenia, iron deficiency anaemia and post surgical procedure. C - reactive protein is an acute phase reactant whose level increases in response to a variety of inflammatory stimuli, after trauma, tissue necrosis, surgery, myocardial infarction. C-Reactive protein level can increase up to 100 fold after the onset of a stimulus. Thus an elevated C - reactive protein might be valuable tool for diagnosis of reactive thrombocytosis. The aim of this study was to study thrombocytosis in different conditions, to study the correlation between reactive thrombocytosis and inflammation measured by C - reactive protein, Erythrocyte sedimentation rate and White blood cells and to study the relation between platelet counts, mean platelet volume, Erythrocyte sedimentation rate and White blood cells count with C - reactive protein.

Methods

Cross-sectional study of 100 cases of reactive thrombocytosis conducted in Tribhuvan University Teaching Hospital in one year period (from January 2003 to December 2003) with platelet count more than 400000/cmm of blood (reactive thrombocytosis) whose serum C-Reactive protein level was measure, Erythrocyte sedimentation rate, White blood cells count were done and platelet morphology was studied.

Results

Among 100 cases of reactive thrombocytosis 61 cases were diagnosed as inflammatory diseases (61%), 17 cases were diagnosed as malignancy (17%), 10 cases were post operative cases (10%), 4 cases were diabetes mellitus (4%), 4 cases were diagnosed as tuberculosis (4%) and 4 cases were haemorrhage (4%).

Among 100 cases of reactive thrombocytosis C - reactive protein was positive in 81 cases. There was low degree of positive correlation between Erythrocyte sedimentation rate and White blood cells, Erythrocyte sedimentation rate with platelet count, between platelet volume with count, between C - reactive protein and platelet count, between C - reactive protein and White blood cells count, C - reactive protein with mean platelet volume, C - reactive protein with platelet large cell ration. However there was low degree of negative correlation between C - reactive protein and Erythrocyte sedimentation rate.

Conclusions

Inflammatory diseases are the common cause of reactive thrombocytosis which can be diagnosed by measuring the serum C - reactive protein level in most of the cases which is cost effective, simple, and easy to perform and gives speedy result. C-reactive protein R might be valuable diagnostic tool for early diagnosis, treatment and predict prognosis of the disease process when implicated in clinical practice. The main value of C - reactive protein is to provide a guide to the sensitivity of the inflammatory process and to increase clinician's awareness when C - reactive protein remains high.

Keywords: C-reactive protein; erythrocyte sedimentation rate inflammatory diseases; platelet count; reactive thrombocytosis; white blood cells.

Prevalence of Refractive Error in Mentally Retarded Students of Kathmandu Valley (2003)

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Background

Mental retardation is seen all over the world. As mental disorder is a developmental disorder and refractive error can develop by ocular mal-development, high percentage of refractive error could be found in mentally retarded students, which has been never explored in Nepal. Simple correction with glasses can improve their vision that can be utilized by both the trainer to teach them for better rehabilitation and the mentally retarded people for better learning. This research is first of its kind which evaluates the prevalence of refractive error in mentally retarded and gives subtle data about the number of students with poor vision due to refractive error alone.

Methods

The study was cross-sectional and descriptive in nature. The study was carried out among 138 students of 5 to 40 years of age in three different mentally retarded schools of Kathmandu valley using convenience sampling method.

Results

Out of 138 students, 94 were found to have refractive error accounting for 68.12%. In males, number of cases with refractive error was high in the age group of 6-10 years and 11-15 years but in females it was in the age group of 11-15 years. Simple hyperopia was the commonest type of refractive error accounting to 50.27% of the total. 20% of the cases had visual impairment.

Conclusions

A maximum number of mentally retarded students had vision problems that could have severe impact on their education, training and daily living activities. Thus regular vision screening should be carried out in the schools for mentally retarded.

Keywords: mentally retarded; prevalence; refractive error; visual disabilities; visual impairment.

Intermediate Uveitis Components: A Hospital Based Study (2004)

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Background

Intermediate uveitis is an idiopathic, insidious, inflammatory disease affecting the pars plana, peripheral retina and underlying choroid. It accounts for 8% of all cases of uveitis and affects primarily healthy children and young adults. This research aims to study the components of intermediate uveitis at Nepal Eye Hospital in the year 2003 August to 2004 March.

Methods

It was a prospective study done at Nepal Eye Hospital in the year 2003 July to 2004 March. Target population was the patients with intermediate uveitis visiting Nepal Eye Hospital in the study duration. Convenient sampling was done. Sample size was 50. Specially designed Proforma of intermediate uveitis was used to collect particulars of the patients, history, clinical examination findings, investigation reports, management protocols used and the final visual outcome.

Results

Intermediate uveitis was seen more in 20 to 29 years age group (38%, n=19) and least common before 10 years and after 50 years. The disease was found to be slightly more prevalent among males (52%). Among the study population, farmers constituted maximum proportion (36%, n=18) and Mongoloid origins were mostly affected (30%, n=15). Ninety percent of the patients reported blurring of vision and 72% patients reported floaters. Pain was not a frequent complaint. Only 12% of patients complained of pain. Similarly, only 10% of patients had photophobia. Forty-two had bilateral involvement of the eye while 58% had unilateral involvement. Anterior segment affection with keratic precipitates and anterior chamber cells were noted in 72% of involved eyes. All patients had normal intra ocular pressure. Vitreous cells were noted in all the affected eyes while 4% (in each eye) had vitreous snow banking and 3% (in each eye) had vitreous snowballs. Laboratory test showed normal total and differential leukocyte counts. 30% cases were mantoux positive and 10% had abnormal chest X-ray findings. Stool for ova/cyst was positive in 28% of cases. 8% of cases had associated pulmonary tuberculosis. Most of the patients (52%) received both topical steroid and posterior subtenon injection of Triamcinolone. Systemic steroid was used in 4%. No patients required antimetabolites/immunosuppressants or laser photocoagulation while 2% received cryotherapy. Cystoids macular edema was noted in one patient on presentation and complicated cataract was noted in one patient on presentation. Similarly, three patients had mild vitreous hemorrhage which resolved spontaneously. Visual acuity was improved in 52% of cases and remained static in 46% while deteriorated in 2%.

Conclusions

Significantly high number of patients with intermediate uveitis has been reported from central development region, mainly from Dhading, Kathmandu and Nuwakot districts. People in their third decade were found to be commonly affected in this study. Most of the presenting cases were of Mongoloid origin. The severity of the disease was found to be in milder form

with fewer complications in our study. With the treatment protocol followed, visual acuity improved in 52% of the cases.

Keywords: association; intermediate uveitis; management; prevalence.

A Prospective Study of Practice Pattern and Outcomes in Acute Myocardial Infarction and Unstable Angina in Various Regions of Nepal (2004)

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Background

Ischaemic heart disease is one of the leading causes of mortality and morbidity in the world. The burden of this disease in Nepal and India is huge. With large burden of ischaemic heart disease in Nepal, a study of practice pattern and analysis of its appropriateness will therefore, now, be timely and important.

Methods

This was a multi-centric prospective observational study with two centers in Kathmandu valley. 122 patients at National Academy of Medical Sciences, Bir

Hospital and 22 patients at Medicare National Hospital and Research Center were studied for a period of nine months (July 2003 to March 2004). Data was collected by means of a simple case report form

Results

Ischaemic heart disease event in male patients was 1.8 times more than female. Myocardial infarction was common than unstable angina. Most common risk factor was smoking (74%). Hypertension was present in 43% and diabetes mellitus in 27%. Thrombolysis was done in 22% only while myocardial infarction was present in 56% of patients. Only 11% of patients were taking Aspirin before hospital admission. During hospital stay, 98.6% of patients received Aspirin. Before admission, drugs taken by patients were nitrate in 9.64%, ACEI in 13.38%, B-blockers in 14.08%, CC blockers in 10.56% and statins in 4.93% only. In hospital, nitrate was given to 98.61%, ACEI in 83.10%, B-blocker in 79.58%, CC blocker in 6.34% and statins in 86.62%. 6.34% of patients received anti arrhythmic therapy during hospital stay. In hospital mortality was 7% and death occurred within 30 days was 3.5%.

Conclusions

Male predominance was seen in ischaemic heart disease events. Underutilization of drugs like aspirin, B-blocker, statins, ACEI was seen in these patients.

Keywords: ischaemic heart disease; myocardial infarction; Nepal; regions; unstable angina.

Comparative Study of Intact Parathyroid Hormone, Calcium, Phosphate and Radiological Changes in Patients with End Stage Renal Disease on Maintenance Haemodialysis and Newly Diagnosed End Stage Renal Disease (2005)

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Background

Secondary hyperparathyroidism and renal bone disease are invariable consequences of chronic kidney disease. Calcitriol deficiency, hypocalcemia

and hyperphosphatemia are responsible for raised parathyroid hormone and renal bone disease in both pre-dialysis and maintenance dialysis patients. Calcitriol therapy and control of serum phosphate with protein restricted diet and phosphate binders result in correction of hyperparathyroidism and reversion of the renal bone histology. Since the initiation of nephrology service in Nepal, these therapies are practiced in all chronic kidney disease patients without any studies on the severity of hyperparathyroidism, renal bone disease and the beneficial and adverse effects of these drugs. So this study was carried out to initiate the study on renal bone disease and to see the degree of hyperparathyroidism, hypocalcemia, hyperphosphatemia and the radiological changes in Nepalese patients with end stage renal disease on maintenance haemodialysis (ESRD on MHD) and newly diagnosed end stage renal disease (NESRD) and to evaluate the beneficial effect of haemodialysis on secondary hyperparathyroidism.

Methods

Twenty three (16 male, 7 female) end stage renal disease on maintenance haemodialysis patients with twice a week dialysis for 6 to 78 (22 + 3, mean + SEM) months with protein restricted diet and calcium acetate as a phosphate binder but without calcitriol therapy and twenty three (16 male, 7 female) newly diagnosed end stage renal disease patients without protein restricted diet, phosphate binder and calcitriol therapy were included in this study and fasting blood samples were collected for estimation of serum intact parathyroid hormone (PTH), calcium, phosphate and alkaline phosphatase and all were subjected to X-ray hands A/P view and X-ray lumbosacral spine lateral view.

Results

Serum intact parathyroid hormone was found to be significantly lower ($z = -4.251$, $p < 0.0001$) in end stage renal disease on maintenance haemodialysis (mean + SD) 118.7 + 195.8 pg/ml than in newly diagnosed end stage renal disease (mean + SD) 335.0 + 214.3 pg/ml. On grouping of study population

according to K/DOQI guide line with serum intact parathyroid hormone 150-300 pg/ml as the optimal level, sub optimal parathyroid hormone level was found in 82.6% maintenance haemodialysis (<100 pg/ml in 65.2%) and 30.4% newly diagnosed end stage renal disease patients, optimal parathyroid hormone in 4.3% maintenance haemodialysis and 26.1% newly diagnosed end stage renal disease patients and hyperparathyroidism in 13% of maintenance haemodialysis and 43.5% of newly diagnosed end stage renal disease patients. In newly diagnosed end stage renal disease patients parathyroid hormone level was found to be >100 pg/ml in all but one patient. On grouping of end stage renal disease on maintenance haemodialysis patients according to dialysate calcium concentration, mean parathyroid hormone level was found to be significantly lower ($F=7.984$, $p < 0.05$) in high dialysate calcium (1.75 mmol/l) group [45.3 + 40.8 pg/ml (mean + SD)] than in low dialysate calcium (1.25 mmol/l) group [256.4 + 289.9 pg/ml (mean + SD)]. Serum calcium was found to be significantly higher ($t = 6.86$, $p < 0.00001$) in maintenance haemodialysis (mean + SD) 9.6 + 1.2 mg/dl than in newly diagnosed end stage renal disease (mean + SD) 6.9 + 1.4 mg/dl. On grouping of study population according to serum calcium level, end stage renal disease on maintenance haemodialysis patients showed hypocalcemia in 17.4%, normocalcemia in 56.5% and hypercalcemia in 26.1% patients and newly diagnosed end stage renal disease showed severe hypocalcemia with serum calcium (mg/dl) of 6.6 + 1.1 (mean + SD) in 91.3% patients. Serum phosphate was found to be significantly lower ($t = -2.43$, $p < 0.05$) in end stage renal disease on maintenance haemodialysis (mean + SD) 7.9 + 2.3 mg/dl than in newly diagnosed end stage renal disease (mean + SD) 10.3 + 4.1 mg/dl. On grouping according to K/DOQI, normal serum phosphate of 3.5 - 5.5 mg/dl was found in 8.7% of end stage renal disease on maintenance haemodialysis and 13% of newly diagnosed end stage renal disease. Hyperphosphatemia was observed in 91.3% end stage renal disease on maintenance haemodialysis patients with serum phosphate (mg/dl) of 8.2 + 2.3 (mean + SD) and in 87% of newly diagnosed end stage renal disease patients with serum phosphate (mg/dl) 11.2 + 3.6 (mean + SD). Parathyroid

hormone showed negative correlation with serum calcium and positive correlation with serum phosphate in both groups but statistically significant positive correlation of parathyroid hormone and phosphate was observed only in newly diagnosed end stage renal disease patients. Osteopenia and osteoarthritis were the dominant radiological findings along with tuft erosion, radius bone erosion, rugger jersey spine and vascular calcification. None of these findings showed any relation with parathyroid hormone level in both groups.

Conclusions

Hypocalcemia, hyperphosphatemia and hyperparathyroidism are the invariable consequences of chronic kidney disease and it becomes severe in advanced renal failure if not treated earlier. Maintenance haemodialysis and calcium containing phosphate binder therapy can control the hypocalcemia, hyperphosphatemia and secondary hyperparathyroidism even without calcitriol therapy. Hyperphosphatemia still remains a significant problem in maintenance haemodialysis patients. Undue suppression of parathyroid hormone has occurred in maintenance haemodialysis and probably it is related to high dialysate calcium with calcium containing phosphate binder therapy. Plain X-rays have not been found helpful to diagnose renal bone disease.

Keywords: calcitriol deficiency; end stage renal disease; haemodialysis; hyperparathyroidism; hyperphosphatemia; hypocalcemia; parathyroid hormone; renal bone disease.

Prevalence of Non Communicable Disease in Nepal Hospital Based Study (2010)

Nepal Health Research Council, Ramshah Path, Kathmandu, Nepal.

Background

Non-Communicable diseases (NCDs) are in epidemic proportion worldwide. Particularly four diseases-Cardiovascular diseases, Chronic Obstructive Pulmonary Diseases (COPD), cancer and diabetes have greatest share in the morbidity and mortality accounting for around 60% of all deaths worldwide. Disease pattern is also changing from infectious to chronic in Nepal like other developing countries due to epidemiological transition. Burden of infectious diseases is still high; on the top of that it is also facing the problem of non-communicable diseases creating new challenges for our public health system. Data is necessary to formulate policy for tracking the changing disease pattern of the nation. As a result Nepal Health Research Council conducted this study to determine hospital based prevalence of non-communicable diseases. to assess its associated risk factors and to take general information from selected health institutions regarding availability of human resources, infrastructures, diagnostic and treatment facilities for managing non-communicable diseases.

Methods

A cross-sectional study was performed wherein 400 indoor patients of fiscal year 2065/66 were randomly selected from each of the 31 selected health institutions. The health institutions included all the regional and sub regional hospitals, zonal hospitals, specialized hospitals of cancer and heart diseases and medical colleges in peripheral level. One central hospital, one medical college and one private hospital of Kathmandu valley were also selected randomly. Data was entered in MS-Excel and further analyzed in Statistical Package for Social Sciences (version 11.5).

Results

Data showed that out of total admitted patients, 36.5% patients suffered from non-communicable diseases. Out of total non-communicable diseases, 38% were having heart disease followed by chronic obstructive pulmonary disease (33%) whereas diabetes and cancer accounted for 19% and 10% cases respectively. Out of the total heart diseases, nearly half of the patients suffered from hypertension. It was found that most of the health institutions had limited and untrained human resources and inadequate infrastructure for delivering the health services to manage non-communicable diseases. It showed that the attribution of smoking in development of non-communicable diseases was 60%. The odds of developing non-communicable diseases among physically inactive group (vigorous and moderate) were 4.39 and 3.5 times more than those who were physically active. Multiple regression analysis showed that alcohol and physical activities are independent risk factors for developing the non-communicable diseases.

Conclusions

Risk factors reduction activities should be implemented immediately for the reduction of non-communicable diseases in Nepal.

Keywords: association; health institutions; non-communicable diseases; prevalence; risk factors.

Research Report on NCD Risk Factors Surveillance in Nepal (2003)

Background

According to WHO, nearly 52 percent deaths and 38 percent of diseases burden in South East Asia Region (SEAR) are related to non-communicable diseases (NCDs). Particularly, cardiovascular disorders, cancer, diabetes mellitus and conditions arising from injuries are prioritized top in the region, out of them; ischemic heart disease and cerebrovascular disease are two main conditions. Cancer, Cardiovascular disorders, neuropsychiatric disorders, diabetes mellitus and hypertension are reported major NCDs in Nepal. Information on distribution and determinants of risk factors especially for NCDs in population provide basis for selecting strategies for effective prevention and control. Such strategies aim to promote healthy behavior and lower risk in the entire population. Thus, it is essential to quantify and access distribution of risk factors. The main aim of this study is to identify and describe the level of selected non-communicable diseases risk factors by age and sex among 25-64 aged populations, using recommended WHO definitions and to provide appropriate and sufficient information needed for design and implementation of non-communicable diseases risk factors prevention and control interventions.

Methods

The study area of this survey was Kathmandu metropolitan city. Among the 35 wards of the Kathmandu Metropolitan city, only 5 wards were chosen. They were 2, 7, 14, 18 and 32 wards. A sample size of approximately 2000 (men and women) between 25 to 64 years were selected through Probability Proportion to size (PPS) sampling method, which could detect magnitude of selected risk factors by age and sex. Sample households were drawn from the selected wards by using cluster sampling. Among the clusters, two

clusters from each ward were selected using simple random sampling method. Collected data were computerized and analyzed using EPI-2002, Epi data 2.1b and Statistical Package for Social Sciences 10 version.

Results

Present study showed that 33 percent of the total respondents were having either form of tobacco (smoke and smokeless). In total, about half of the surveyed population (48 percent) had ever consumed alcohol in their life time. Out of total, 63 percent male and 33 percent female were alcohol consumers. Respondents had low fruit and vegetable intake. In average 2 to 3 days in a week, people took fruits. Study shows that 73.56 percent of male respondents and 90.98 percent of female respondents were inactive. Body Mass Index of men ranged from 22 to 23.62 kg/m² where as Body Mass Index of women ranged from 23.56 to 26.64 kg/m² with mean of 22.82 kg/m² for men and 24.56 kg/m² for women. Data revealed that 20.29 percent male and 17.35 female were found hypertensive. In this study, only 9.70 percent men had waist hip ratio more than 1 in women 70.68 percent had more than 0.85.

Conclusions

There is an urgent need of planning and implementing the effective programmes to reduce the risk factors for non-communicable diseases.

Keywords: alcohol; diet; non-communicable diseases; physical activity; physical measures; risk factors; surveillance; tobacco use.

Non Communicable Diseases Risk Factors: STEPS survey Nepal 2013 (2014)

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Background

In Nepal, the first national-level NCD risk factor survey was conducted in 2007/08 to determine the prevalence of modifiable behavioral risk factors; however, this survey did not cover biological risk factors. Against this backdrop, the current study was conducted in 2012/13 (five years later) to collect baseline data on biological risk factors and determine the distribution of modifiable behavioral risk factors among the Nepalese population.

Methods

This national non-communicable diseases risk factor survey was conducted as a cross sectional study from July 2012 to June 2013 with data collection spread from January to June 2013. A sample size of 4,200 was used to represent the target population (15–69 year old adults) in Nepal. Multistage cluster sampling using a mix of probability proportionate to size (PPS) and systematic random sampling was applied using the sampling framework from the Nepal Census 2011 to select the participants. Out of the 921 Ilakas in Nepal, 70 were selected. Three clusters were selected from each of the sampled Ilakas using the probability proportionate to size sampling method, leading to the selection of 210 wards. Twenty households were selected from each cluster using systematic sampling. One participant out of the eligible candidates (15–69 years) in each selected household was selected to take part in the survey using the Kish method. The survey was conducted using

the WHO non-communicable diseases STEPS instrument version 2.2, which consists of three Steps for measuring non-communicable diseases risk factors. Data was collected digitally using personal digital assistants (PDAs) xx from which data were transferred to Microsoft Excel on personal computers. Data cleaning was done using Statistical Package for Social Sciences 16.0 and analysis undertaken using Epi Info 3.5.1 using prior developed analysis commands. Descriptive weighted analysis was also undertaken along with complex sample analysis.

Results

The prevalence of smoking among respondents was 18.5% (men 27.0%, women 10.3%). The prevalence of alcohol consumption was 17.4% (men 28.0%, women 7.1%). The surveyed population ate fruit on average on 1.9 days in a typical week. Around 2.3% of respondents did not meet the WHO recommendations for physical activity for health. Among the surveyed population, 91.0% consumed powdered salt from the packet with two children on its logo. Around 95% of respondents were found to have 20 or more natural teeth. Among those with natural teeth, 9.5% had teeth in a poor or very poor state and 7.0% had gums in a poor or very poor state. Based on body mass index (BMI), one-tenth of respondents (10.4%) were found to be underweight, 67.9% were normal weight, 17.7% were overweight and 4% were obese. The prevalence of raised blood pressure or hypertension, excluding those on medication, was 23.4% (men 28.7%, women 18.5%). The prevalence of self reported diabetes was 1.9% (men 2.4%, women 1.4%). The prevalence of impaired fasting glycaemia was 4.1% (men 5.1%, women 3.2%). The prevalence of diabetes mellitus was 3.6% (men 4.6%, women 2.7%) This proportion was found to increase with age. The prevalence of raised total cholesterol including those currently on medication was 22.7% (men 24.5%, women 21.0%). The prevalence of low HDL was higher among women (79.3%) than men (61.2%). Regarding combined risk factors, only 0.4% of respondents did not have any of these risk factors, 84.5% had one to two risk factors and 15.1% had three to five

risk factors. In both sexes this proportion was higher for the 55–69 year age group at 6.1% (men 7.3%, women 4.9%).

Conclusions

Non-communicable disease risk factors are highly prevalent among the Nepalese population, which is a serious public health problem. Unless urgent and targeted interventions are made to prevent, treat and control non-communicable diseases and their risk factors, the burden of non-communicable diseases could become unbearable in Nepal. There is an urgent need for concerned agencies to plan interventions to prevent and control these risk factors.

Keywords: non-communicable diseases; prevalence; risk factors; STEPS survey.