



**NCD Watch Nepal**

## Non-communicable Diseases in Nepal

**Research Roundup March 2022**

*Making non-communicable diseases a national priority*

## Welcome to NCD Watch Nepal Research Roundup

We thank you all for joining our initiative to promote evidence-informed policymaking and promote public awareness on non-communicable disease (NCDs) and related issues in Nepal- we are committed to staying up to date with the latest NCD research in Nepal.

This issue covers summary of scientific publications on NCDs in Nepal for the month of March 2022.

Should you have colleagues who'd like to receive these updates via email ([ncdwatchnepal@gmail.com](mailto:ncdwatchnepal@gmail.com))

Individual summary of round-up is also available on our social media outlets:

Twitter: <https://twitter.com/NCDWatchNepal>

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Please join us, and share with relevant colleagues. As always, previous editions of the round-up are available in our archive here at <https://ncdwatchnepal.wordpress.com/research-round-up/>

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# NCDs in Nepal Research Roundup March 2022

## Summary

For the month of March 2022, our scoping on non-communicable diseases in Nepal found 21 published articles. Majority of the studies were cross sectional studies and, covering the topic of hypertension, diabetes, stroke, cancer, cardiovascular diseases, COPD and mental health.

### Community-based management of chronic obstructive pulmonary disease in Nepal—Designing and implementing a training program for Female Community Health Volunteers

**DOI:** <https://doi.org/10.1371/journal.pgph.0000253>

**Context:** Chronic obstructive pulmonary disease (COPD) is one of the leading causes of morbidity and mortality in Nepal. Community Health Volunteers (FCHVs), have been operating within the Nepalese health system for the last three decades however, FCHVs' involvement in COPD prevention and management has not yet been explored.

**Methodology:** This study is a part of a cluster-randomized trial of a 12-month intervention to improve COPD outcomes in a semi-urban area of Western Nepal, where a training program for FCHVs was designed regarding COPD prevention and management. A six-day workshop consisting of thirty hours of training was developed for FCHVs.

**Key message:** The findings of the pre-and post-test assessments showed a significant improvement in FCHVs' COPD-related knowledge from a median (interquartile range) score of 12 (3–16) before to 21 (21–22) ( $p<0.001$ ) after the training program. The qualitative assessment revealed the feasibility of FCHVs' training on COPD and their acceptability to deliver the intervention package within the community.

### Anxiety and Depression among Hypertensive Adults in Tertiary Care Hospitals of Nepal

**DOI:** <https://doi.org/10.1155/2022/1098625>

**Context:** Co-occurrence of hypertension and depression/anxiety increases the chance of cardiovascular mortality and morbidity.

**Methodology:** A descriptive cross-sectional study was conducted among 260 adult patients diagnosed with hypertension in the outpatient department of Tribhuvan University Teaching Hospital (TUTH) and Manmohan Cardiothoracic Vascular and Transplant Center (MCVTC), Nepal.

**Key message:** This study found that most of the participants 39.2%(102) had mild symptoms of anxious mood, followed by 33.1%(86) of participants with moderate symptoms. Similarly, 43.8%(114) had a mild form of mental and emotional strain, followed by 27.7%(72) with moderate mental and emotional strain. The occupation and marital status of the hypertensive individual were associated with anxiety and depression.

### Prevalence and risk factors associated with chronic kidney disease in Nepal: evidence from a nationally representative population-based cross-sectional study

**DOI:** <https://doi.org/10.1136/bmjopen-2021-057509>

**Context:** Chronic kidney disease (CKD) is one of the most rapidly growing non-communicable diseases (NCDs) worldwide.

**Methodology:** Cross-sectional survey conducted in a nationally representative sample of 12 109 Nepalese adults from 2016 to 2018 on selected chronic non-communicable diseases was examined.

**Key message:** The overall prevalence of CKD in Nepal was 6.0% (95% CI 5.5 to 6.6). Older age, Dalit caste, hypertension, diabetes mellitus, raised total cholesterol, and increased waist-to-hip ratio were independently associated with CKD.

### EVOLUTION OF TOBACCO EPIDEMIC - WHERE ARE WE HEADING?

**Link:** <https://www.jcmc.com.np/jcmc/index.php/jcmc/article/view/623/319>

**Context:** Tobacco use is a major risk factor for certain NCDs including cardiovascular diseases, cancer, and chronic respiratory diseases.

**Methodology:** This was an editorial.

**Key message:** Brief intervention for smoking and tobacco cessation has been included in the Package of Essential Non-Communicable Disease (PEN) training manual for primary health service settings. But support to quit tobacco is not part of routine care and there is no national-level quit line to motivate the tobacco users to quit. The government needs to foster strong partnerships with the academia and non-government sectors to explore the barriers to the implementation of tobacco control law and facilitate tobacco control as the primary agenda.

## An audit of patients admitted to hospital in Nepal for COPD exacerbation

**DOI:** <https://doi.org/10.1177/20503121221085087>

**Context:** Chronic obstructive pulmonary disease is a large and increasing problem in low- and middle-income countries; Nepal is no exception.

**Methodology:** This was a cross-sectional study. All patients (a total of 108) admitted to two Nepalese hospitals due to acute exacerbation of chronic obstructive pulmonary disease between 18 February and 5 April 2019 were the study participants.

**Key message:** Using the Global Initiative for Chronic Obstructive Lung Disease A-D classification, 97 (90.6%) of the patients were classified in group D. All the patients received supplementary oxygen treatment and 103 (95.4%) were treated with short-acting  $\beta_2$  agonists. A total of 105 (97.2%) patients received antibiotics, and 80 (74.5%) received systemic corticosteroids.

## Internalized stigma in patients with schizophrenia: A hospital-based cross-sectional study from Nepal

**DOI:** <https://doi.org/10.1371/journal.pone.0264466>

**Context:** Self-stigma and eventually internalized stigma lead to low self-esteem, depression, delayed treatment-seeking, long duration of untreated illness, and poor quality of life.

**Methodology:** This was a cross-sectional study conducted among 114 patients with schizophrenia in the outpatient department of psychiatry in Tribhuvan University Teaching Hospital, Kathmandu, Nepal. Internalized Stigma of Mental Illness scale was used to assess the level of stigma.

**Key message:** Moderate to high levels of internalized stigma was reported in almost 90% of patients with schizophrenia. The subscale with the highest mean score was stereotype endorsement and that with the lowest mean score was stigma resistance. This study stressed the importance of stigma reduction in the overall management of patients diagnosed with schizophrenia.

## Antenatal-Based Pilot Psychosocial Intervention to Enhance Mental Health of Pregnant Women Experiencing Domestic and Family Violence in Nepal

**DOI:** <https://doi.org/10.1177/0886260520948151>

**Context:** Survivors of domestic and family violence (DFV) report poorer quality of life and worsening mental health.

**Methodology:** A parallel pilot randomized controlled trial was performed among 140 pregnant women attending an antenatal clinic of a tertiary hospital in Nepal. Participants were randomized to the intervention group (a counseling session, an information booklet about DFV, and contact details of the counselor) or a control group (usual care plus a booklet containing contact details of local DFV support services).

**Key message:** Intervention participants showed significant improvements in anxiety ( $\beta = -3.24$ ,  $p < .001$ ) and depression ( $\beta = -3.16$ ,  $p < .001$ ) at post intervention. This pilot integrated intervention showed promising outcomes in improving mental health, social support, and the use of safety behaviors among women with DFV. This intervention could be incorporated into regular antenatal care as a strategy to identify and support victims of DFV.

## Evaluation of Quality Indicators of Breast Cancer Management at a Tertiary Cancer Center in Nepal

**DOI:** <https://doi.org/10.1200/go.21.00303>

**Context:** Breast cancer is the second commonest cancer among females in Nepal.

**Methodology:** This retrospective study included 104 female patients with breast cancer who had taken treatment at Bhaktapur Cancer Hospital within 1 year. Of 33 Quality indicators (QIs) in breast cancer management according to European Society of Breast Cancer Specialists guidelines, 19 relevant QIs were chosen.

**Key message:** It was found that several QIs have low levels of adherence and there is significant room for improvement. This study concluded that; as per resource-stratified guidelines for breast cancer, we are now achieving the minimal target level for LMICs.

## Traditional and complementary medicine use among cancer patients in Nepal: a cross-sectional survey

**DOI:** <https://doi.org/10.1186/s12906-022-03555-8>

**Context:** Despite global efforts to improve cancer patients' accessibility to conventional medicine traditional medicine has been generally considered an available and affordable medical resource in less developed countries, such as Nepal.

**Methodology:** The study followed a cross-sectional design; a total of 908 participants (cancer patients) were recruited from two National hospitals in Kathmandu, Nepal.

**Key message:** It was found that among the total participants, 31.6% used one or more modalities of Traditional and complementary medicine (T&CM) after a cancer diagnosis. The most commonly used T&CM was Ayurveda (46.5%), followed by yoga (32.4%). Cancer type, cancer stage, and the patients' self-rated disease severity were strong predictors of T&CM use.

## **Assessment of knowledge on breast self-examination among female adolescents: a cross-sectional study**

**Link:** <https://www.obstetricgynecoljournal.com/articles/cjog-aid1104.pdf>

**Context:** Breast self-examination is the most important screening method for early detection and diagnosis of Breast cancer.

**Methodology:** A cross-sectional study was conducted among 120 female adolescents of Model Multiple College, Dhanusha, Nepal.

**Key message:** The study revealed that most (94.2%) of the participants had poor knowledge of breast self-examination. There is a further need for awareness and health education on breast self-examination.

## **Awareness Regarding Cervical Cancer among Reproductive Age Women Residing in Nuwakot District**

**Link:** <http://kumj.com.np/issue/ONLINE/446-450.pdf>

**Context:** Cervical cancer is the most common malignancy among Nepalese women and it is the main cause of death among reproductive-age women in Nepal.

**Methodology:** A descriptive cross-sectional study was conducted to assess the awareness of cervical cancer among a total of 190 reproductive-age women in the Nuwakot district, Nepal from April to May 2021.

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**Key message:** This study highlighted that most of the reproductive age women were unaware of the meaning, causes, risk factors, and preventive measures of cervical cancer. So, there is a need for the implementation of awareness programs on cervical cancer and its preventive measures in this community.

## **Prevalence and Determinants of Type 2 Diabetes among the Pulmonary Tuberculosis Cases in Nepal: A Cross-Sectional Study**

**Link:** <http://kumj.com.np/issue/ONLINE/474-480.pdf>

**Context:** Diabetes is viewed as a significant comorbid condition among tuberculosis patients, which is reducing the treatment efficiency.

**Methodology:** An analytical cross-sectional study was conducted among a total of 306 tuberculosis patients.

**Key message:** The prevalence of type 2 diabetes mellitus (TBDM) was 17.32% (95% CI: 13.05-21.58) of all diagnosed tuberculosis cases. Age  $\geq$  45 years, patients residing in the urban areas, had Body Mass Index (BMI)  $<18.5$ , had diastolic blood pressure  $\geq$  80 mmHg, and patients who were treated with Cat II and Cat III tuberculosis treatment regimens were associated with TBDM.

### The role of Diabetes mellitus comorbidity on Tuberculosis treatment outcomes in Nepal: A prospective cohort study

**DOI:** <https://doi.org/10.11576/seejph-5329>

**Context:** TB patients beginning TB treatment with Diabetes comorbidity experience tardy regain of body mass and hemoglobin, which are essential for profound recovery from both diseases.

**Methodology:** A prospective cohort study was conducted in central Nepal among 408 TB patients. The TB cases (n=306) and TB with DM (n=102) cases were followed up for the estimation of blood glucose level, HbA1c level, and sputum examination on 2, 5, and 6 months after TB treatment started.

**Key message:** This study identified that the magnitude of treatment failure among tuberculosis cases was 19.7%. The prevalence of worsening TB treatment among patients with TB and DM was significantly higher than in those who had TB only. Poor glycemic control, increasing age, inadequate financial status, and previous history of tuberculosis were strong predictors of worsening tuberculosis treatment outcomes.

### Level of depression anxiety and stress among health care workers at a tertiary hospital during second wave of COVID in Nepal

**Link:** <https://www.nepjol.info/index.php/JCMC/article/view/43830>

**Context:** Psychological impact of the COVID-19 pandemic on health care workers (HCWs) is a burning issue that needs to be taken care of with utmost importance.

**Methodology:** A descriptive cross-sectional study was conducted among 245 HCWs at a COVID dedicated hospital in July and August 2021. Depression, anxiety, and stress scale (DASS) 21 was used to measure the psychological hazards among HCWs.

**Key message:** Depression was observed in 22.86%, anxiety in 50.61%, and stress in 15.51%. The prevalence of depression, anxiety, and stress was higher among the nurses. Therefore, the mental health needs of the health care workers have to be taken care of for maintaining a better effective healthy workforce and service delivery.

## KNOWLEDGE, ATTITUDE, AND PRACTICE RELATED TO DIABETES MELLITUS IN DENTISTS OF NEPAL

**Link:** <https://www.jcmc.com.np/jcmc/index.php/jcmc/article/view/556/310>

**Context:** Diabetes mellitus (DM) is one of the most common systemic diseases encountered by dentists in daily practice.

**Methodology:** This cross-sectional study was conducted among a total of 345 dentists in Nepal from August to December 2020.

**Key message:** There was good knowledge and practice in dentists though there were frequent areas of improvement in attitude. Various training like continuing medical education (CME) may be beneficial to improve personal beliefs.

## Diabetic Retinopathy among Diabetic Patients at a Tertiary Care Hospital: A Descriptive Cross-sectional Study

**Link:** <https://www.jnma.com.np/jnma/index.php/jnma/article/view/7243>

**Context:** Diabetic retinopathy is the most common ocular morbidity in the diabetic population and is the leading cause of blindness among the working-age group.

**Methodology:** A descriptive cross-sectional study was conducted among 540 participants in the Department of Ophthalmology of a tertiary care hospital in Nepal from 15th August to 30th November 2021.

**Key message:** Among 540 participants, 146 (27.04%) study subjects had diabetic retinopathy changes in at least one eye. Smoking, type 2 diabetes mellitus, hypertension, and raised glycated hemoglobin levels, were the major factors observed in the study subjects.

## Factors influencing the mental wellbeing of persons affected by leprosy in Far-Western Nepal

**DOI:** <https://doi.org/10.47276/lr.93.1.12>

**Context:** In addition to physical impairments, persons affected by leprosy often experience social stigma.

**Methodology:** The study used a cross-sectional design with a qualitative approach. A total of 25 persons affected by leprosy were included in the in-depth interviews and 13 persons participated in

focus group discussions. The data were analyzed using Framework Analysis and Thematic Open Analysis.

**Key message:** This study revealed that the majority of participants faced leprosy-related stigma, physical discomfort, restrictions in social participation, and mental distress. Factors influencing mental wellbeing included discrimination, social support, and religion, participation (restrictions), (in) ability to work, community attitudes, and knowledge of leprosy, and cultural beliefs about the disease.

### **Community-Based Screening for Hypertension and Diabetes among Adults: Study of Western Nepal**

**Link:** <https://www.nepjol.info/index.php/ajps/article/view/43595>

**Context:** Hypertension and diabetes are the major public health problems.

**Methodology:** Community-based cross-sectional screening was done among 142 adult populations aged 20–80 years with blood pressure and blood sugar tests with standard protocol.

**Key message:** This study found that hypertension was present in 45.77 % and diabetes in 7.04 % of the adults. More than half (55.26%) of the screened males and 47.11 % of the screened females were in the hypertension stage II. Hypertension and diabetes are more prevalent in the  $\geq 60$  years adults compared to other age groups.

### **Disability Stigma and Discrimination in Nepal: A Study of Pokhara Metropolitan City**

**Link:** <https://www.nepjol.info/index.php/ajps/article/view/43592>

**Context:** Stigma and discrimination attached to disability are not new phenomena in Nepal. People, irrespective of disability status, have been aware of these phenomena for a long history of humankind from socio-cultural perspectives prevalent in Nepalese society.

**Methodology:** This study adopted a qualitative research approach, following in-depth interviews with people with disability using semi-structured questionnaires in the Pokhara Metropolitan city, Nepal.

**Key message:** This study investigated that there are heavily loaded stigma and discrimination against people with disability, especially among women in-migrants in their place of origin. It concludes that gender, caste, class, and residence are intrinsically linked with the daily lives of the people.

## Dyslipidemia in Acute Non-cardioembolic Ischemic Stroke Patients at a Tertiary Care Centre: A Descriptive Cross-sectional Study

**Link:** <https://www.jnma.com.np/jnma/index.php/jnma/article/view/7321>

**Context:** Dyslipidemia is a major risk factor for coronary heart disease but has an unclear role in the pathogenesis of ischemic stroke.

**Methodology:** A descriptive cross-sectional study was conducted among 76 patients with acute noncardioembolic ischemic stroke admitted to the Neuromedicine unit of a tertiary care center in Nepal from August 2017 to July 2018.

**Key message:** The prevalence of dyslipidemia among the acute non-cardioembolic ischemic stroke patients was 35 (46.05%) where high total cholesterol was diagnosed in 11 (31.43%), high triglycerides in 25 (71.43%), high low-density-lipoprotein in 10 (28.57%), and low high-density-lipoprotein in 11 (31.43%) patients.

## Poor Glycemic Control in Type 2 Diabetes Mellitus Patients in Two Tertiary Care Centers during COVID-19 Lockdown: A Descriptive Cross-sectional Study

**Link:** <https://www.jnma.com.np/jnma/index.php/jnma/article/view/6998>

**Context:** Lockdown enforced to control the rapid transmission of novel coronavirus has resulted in the confinement of people in the home and restrictions of movement. This may have altered the lifestyle and glycemic control of type 2 diabetes mellitus patients.

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**Methodology:** A descriptive cross-sectional study was conducted among 259 type 2 diabetes mellitus patients in selected hospitals from 1st September to 30th September 2020.

**Key message:** Among 259 patients with type 2 Diabetes Mellitus, 183 (70.65%) had poor glycemic control during the lockdown period. Mean fasting and post-prandial blood glucose among these patients were  $164.16 \pm 49.30$  mg/dl and  $246.76 \pm 69.86$  mg/dl respectively.

**Let's unite to beat NCDs.**

**#actOnNCDs #beatNCDs**