

# Non-communicable Diseases in Nepal Research Roundup

*Making non-communicable diseases a national priority*

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# Non-communicable Diseases in Nepal-Research Roundup

September 2024



Publications

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## Roundup Summary

In September 2024, our search on noncommunicable diseases and mental health-related literature in Nepal yielded twenty-one published articles. Most of the studies covered mental health, cardiovascular disease, chronic kidney disease, cancer, COPD, and diabetes.

### Population Prevalence, Pattern, and Associated Factors for Retinal Diseases at High Altitude in Nepal

**DOI:** <https://doi.org/10.2147/OPHTH.S457153>

**Context:** Retinal disorders are the leading cause of blindness in Nepal and are linked with chronic diseases like hypertension.

**Methodology:** A cross-sectional study was conducted at three selected high-altitude districts (over 2500 meters) of Nepal among 338 adults aged 40 years and above.

**Key message:** Over half of the study participants had retinal diseases and hypertensive retinopathy (32.2%) was most prevalent. A significant association of retinal diseases was found with ageing and hypertension. Access to eye care services, control of systemic hypertension, and patient education should be emphasized among people living at high altitudes.

### Prevalence of Perinatal Depression and Its Associated Risk Factors among Nepalese Women in Kathmandu, Nepal

**DOI:** <https://doi.org/10.3390/healthcare12171773>

**Context:** Perinatal mental health is a significant public health concern that arises during pregnancy and/or within the postnatal period.

**Methodology:** A cross-sectional study was conducted among 300 women at the Paropakar Maternity and Women's Hospital in Kathmandu. The Edinburgh Perinatal Depression Scale (EPDS) was used to measure perinatal depression.

**Key message:** The prevalence of depressive symptoms (EPDS  $\geq$  10) was 40%. Unsupportive family members, postnatal period, complications faced during delivery, history of intimate partner violence, and first pregnancy at the age of  $\leq$ 25 years were identified as key risk factors of perinatal depression. Strong family support and the active involvement of partners in counseling can contribute to alleviating perinatal depression symptoms.

## Genetic architecture and socio-environmental risk factors for major depressive disorder in Nepal

**DOI:** <https://doi.org/10.1017/S0033291724001284>

**Context:** Major depressive disorder (MDD) is the leading cause of disability globally.

**Methodology:** This study examines genetic architecture, polygenic prediction, and socio-environmental correlates of MDD in a family-based sample of 10 032 individuals from Nepal.

**Key message:** This study estimated the narrow-sense heritability of lifetime MDD in Nepal to be 0.26. MDD risk was associated with higher age, female sex, and childhood exposure to potentially traumatic events.

## Role of sleep problem on suicidal behavior and non-suicidal self-injury among adolescents in Pokhara, Nepal

**DOI:** <https://doi.org/10.1371/journal.pone.0305221>

**Context:** Poor quality sleep has many potential consequences including non-suicidal self-injury (NSSI), suicidal thoughts or behavior and complete suicide.

**Methodology:** A cross-sectional analytical study was conducted among 673 adolescents from private and public schools in Pokhara Metropolitan. Student version of the Child and Adolescents Sleep Checklist (CASC-s) was used to assess sleep problem and The Functional Assessment of Self-Mutilation (FASM) tool was used to measure non suicidal self-injury.

**Key message:** The study found that sleep problems (65.2%), suicidal behaviour (18.6%) and NSSI (57.9%) were prevalent among adolescents. The presence of sleep problem significantly influenced suicidal behavior alongside sex of students, adolescents from lower income household and those studying in private schools. This study suggested that parents and teachers need to assess their conditions and help them maintain sound sleep.

## Depressive Symptoms, Perceived Stress, and Associated Socio-Demographic and Diabetes-Related Factors in People With Type 2 Diabetes in Nepal

**DOI:** <https://doi.org/10.1177/10105395241277892>

**Context:** People with Type 2 Diabetes (T2DM) are likely to have higher levels of perceived stress.

**Methodology:** A cross-sectional study was conducted among 481 participants with T2DM in the Kavrepalanchok and Nuwakot districts of Nepal. Depressive symptoms and perceived stress

were assessed using the Patient Health Questionnaire (PHQ-9) and Perceived Stress Scale, respectively.

**Key message:** Among the total participants, 25.8% had depressive symptoms (PHQ-9 score  $\geq 5$ ) and 32.4% experienced perceived stress. Low monthly income (<USD 215.52) and low diabetes medication adherence were significantly associated with both depressive symptoms and perceived stress. This study recommended that mandatory screening and timely treatment for mental health conditions and assessment of medication adherence should be incorporated in the routine primary care of T2DM patients.

### Psycho-social problems among older people residing in community of Chitwan, Nepal-A cross-sectional study

**DOI:** <https://doi.org/10.1371/journal.pone.0310849>

**Context:** Older people are vulnerable to various psycho-social problems such as depression, anxiety, insomnia, dementia, and loneliness.

**Methodology:** The study was a cross-sectional study conducted among 388 older people aged 65 years and above residing in different wards of Bharatpur Metropolitan city. Geriatric depression scale-15; Geriatric anxiety scale-10, University of California Los Angeles Loneliness Scale (UCLA-20), Athens Insomnia Scale and Mini-Cog Test were used to measure psycho-social problems among participants.

**Key message:** In this study, 67.0% of older adults had depression, 60.3% had anxiety, 53.6% had moderate to high level loneliness, 47.2% had insomnia, and 33.3% had dementia. Age, functional dependency, sex, comorbidity, financial dependence, education and occupation were significantly associated with the psychosocial problems among older people.

### Prevalence and Risk Factors of Diabetic Retinopathy among Type 2 Diabetic Patients in Tertiary Care Hospital of Gandaki Province of Nepal

**DOI:** <https://nepjol.info/index.php/JCMSN/article/view/67590>

**Context:** Diabetic retinopathy (DR) is one of the commonest causes of blindness in Nepal.

**Methodology:** This was a hospital based cross-sectional study conducted among 162 patients of type 2 diabetes aged 30 years and above.

**Key message:** The prevalence of diabetic retinopathy was 41.98%. There was a statistically significant association of diabetic retinopathy with duration of diabetes and chronic kidney disease. Early diagnosis and treatment of diabetic retinopathy is essential to reduce blindness in diabetic patients.

## Knowledge, Attitude and Diagnosing Ability about Oral Cancer among Medical and Dental Students of a Tertiary Medical College in Chitwan, Nepal

**DOI:** <https://nepjol.info/index.php/JCMSN/article/view/67592>

**Context:** Lack of knowledge, casual attitude, and poor diagnostic skills among medical and dental undergraduate students could delay detection and management.

**Methodology:** A comparative cross-sectional study was conducted among 123 (medical- 72, dental- 51) undergraduate students.

**Key message:** This study found a notable difference in diagnostic ability of oral cancer among medical and dental students. 93% of dental undergraduates were confident about diagnosing oral cancer Vs 41% of medical undergraduates.

## Effect of Nesting and Swaddling on Sleep Duration of Preterm Neonate Hospitalized at Tertiary Care Centre of Eastern Nepal

**DOI:** <https://doi.org/10.61814/jkahs.v7i2.878>

**Context:** Preterm neonates' sleep is frequently disrupted during hospitalization due to stressful environmental factors and human error, which can negatively affect neurological development and growth, leading to lifelong disabilities.

**Methodology:** This was a true experimental study involving 36 preterm neonates at BPKIHS, randomly assigned to experimental and control groups. Sleep duration was measured using video recordings and AASM guidelines after applying nesting and swaddling in the experimental group.

**Key message:** Nesting and swaddling can significantly increase the sleep duration in preterm neonates, making it an effective method to improve their rest during hospitalization. These techniques could help support better developmental outcomes for hospitalized preterm infants.

## Etiology and epidemiology of acute exacerbations of chronic obstructive pulmonary disease in Eastern Nepal: a narrative review

**DOI:** <https://doi.org/10.1097/MS9.0000000000002520>

**Context:** COPD is a major global health issue, primarily caused by exposure to harmful particles, with cigarette smoke being a significant contributor with acute exacerbations worsening the symptoms.

**Methodology:** A systematic search was conducted to identify studies on AECOPD in Nepal, using databases like PubMed and Google Scholar. Tools for quality assessment ensured that only high-quality research was reviewed, with studies examining respiratory infections, environmental exposures, and comorbidities as key factors influencing AECOPD.

**Key message:** Respiratory infections and environmental factors like air pollution and biomass fuel use are major causes of AECOPD, especially affecting women in Nepal. Targeted interventions are needed to reduce exposure to these risk factors and manage related health conditions.

## Prevalence and covariates of depression among older adults in Nepal: A systematic review and meta-analysis

**DOI:** <https://doi.org/10.1371/journal.pmen.0000112>

**Context:** Depression is a growing public health concern among older adults worldwide, particularly in developing countries like Nepal.

**Methodology:** A systematic search was conducted across multiple databases, including PubMed, Scopus, NepMed/Nepjol, and Google Scholar, from 2013 to 2023. The study involved 20 articles assessing 5,728 older adults from three regions of Nepal, with data quality evaluated using the JBI quality appraisal method.

**Key message:** Every one out of two older adults in Nepal are affected by depression. Key factors contributing to depression include age, gender, chronic illnesses, low literacy, and feelings of loneliness that need to be addressed through public health initiatives aimed at addressing and reducing depression in the elderly population.

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## Assessment of Demographic Characteristics Among CAD Patients by Ethnicity

**DOI:** <https://doi.org/10.3126/nprcjmr.v1i2.69331>

**Context:** Coronary artery disease (CAD) remains a major public health issue worldwide, significantly contributing to preventable deaths, especially among individuals over 15 years of age.

**Methodology:** This was a retrospective study performed in Shahid Gangalal National Heart Centre using a hospital database of 837 patients during one year time period.

**Key message:** CAD is a significant public health concern in Nepal, particularly in the central region, where most patients are male and primarily from the Brahmin/Chhetri ethnic groups. Notable differences in CAD types and severity among various ethnicities was seen with acute STEMI being the most common diagnosis. Targeted public health strategies are essential to address the unique risk factors present in different demographic groups.



## Treatment Adherence and Health-Related Quality of Life Among Patients with Hypertension at Tertiary Healthcare Facility in Lalitpur, Nepal: A Cross-Sectional Study

**DOI:** <https://doi.org/10.2147/PPA.S476104>

**Context:** Hypertension is a widespread health issue in Nepal, and assessing medication adherence and health-related quality of life is vital for effective health policy planning.

**Methodology:** This was a quantitative cross-sectional study, focusing on 380 hypertensive patients at KIST Medical College and Teaching Hospital in Lalitpur, Nepal. The Nepali version of the EQ-5D-5L tool was used to assess health-related quality of life and the Hill-Bone Compliance to High Blood Pressure Therapy Scale to evaluate medication adherence.

**Key message:** Improving medication adherence is linked to a better quality of life, highlighting the need for both healthcare providers and patients to work together to enhance treatment compliance.

## Epidemiological Profile of Oral Cancer Patients Attending at B.P. Koirala Memorial Cancer Hospital, Chitwan, Nepal

**DOI:** <https://doi.org/10.3126/nprejmr.v1i3.70061>

**Context:** Oral cancer is a significant health issue and a major cause of death in regions like South-Central Asia, with rising cases reported in Nepal.

**Methodology:** This was a descriptive cross-sectional study conducted from January to July 2023, involving 50 patients at B.P. Koirala Memorial Cancer Hospital (BPKMCH), Bharatpur, Nepal. Data was collected using a semi-structured interview.

**Key message:** The prevalence of oral cancer was found to be higher among men, with high rates of smoking, tobacco, Gudka, and alcohol consumption contributing to the disease. Early screening and targeted prevention strategies focusing on these risk factors are crucial to reducing oral cancer cases.

## Correlation of Diabetes self-care adherence with glycemic measures: a cross-sectional health facility-based study in Kathmandu, Nepal

**DOI:** <https://doi.org/10.3126/nmcj.v26i3.69874>

**Context:** Managing diabetes through self-care is essential to prevent complications and improve the quality of life for patients.

**Methodology:** This was a cross-sectional study conducted among 385 diabetic patients in private healthcare facilities in Kathmandu using a semi-structured questionnaire to gather

socio-demographic data and blood glucose levels. The Self-Care Inventory (SCI) 12-item version was used to assess adherence to diabetes self-care practices.

**Key message:** Over half of diabetes patients were found to have good self-care adherence, especially with medication, but struggled with exercise, diet, and glucose monitoring. Self-care practices were linked to better blood sugar control, though older individuals faced more challenges. Education is key to improving self-care and managing diabetes effectively.

### Stress Among Nurses working in the Intensive Care Unit at Tertiary care Hospital, Nepal

**DOI:** <https://doi.org/10.62065/bjhs611>

**Context:** ICU nurses face significant stress due to the demanding nature of their work, which involves managing complex patient conditions and using advanced medical technologies.

**Methodology:** This was a cross-sectional study conducted at a tertiary care Hospital in Nepal between July 2022 and March 2023 which included 69 ICU nurses selected through non-probability consecutive sampling. Data were collected using a self-administered questionnaire, and stress levels were measured with the Expanded Nursing Stress Scale (ENSS).

**Key message:** Most ICU nurses experienced moderate levels of stress, with only a small portion facing mild or severe stress. There is a need for support systems to manage stress levels in intensive care settings.

### Clinical characteristics of COVID-19 among COVID-19 patients with and without Diabetes in the Tertiary Care Center of Birat Medical College Teaching Hospital of Morang District, Nepal

**DOI:** <https://doi.org/10.62065/bjhs609>

**Context:** The COVID-19 pandemic raised concerns about its impact on individuals with chronic conditions, particularly diabetes.

**Methodology:** This retrospective, single-center study involved 195 COVID-19 patients. Data on patient characteristics were analyzed using descriptive statistics, while associations between patient characteristics and clinical outcomes were assessed with a Chi-square test.

**Key message:** COVID-19 patients with diabetes commonly experience symptoms like cough, chest pain, and breathing issues, with hypertension being the most prevalent comorbidity. Patients with diabetes or other health conditions should take extra precautions to protect themselves from infectious diseases like COVID-19.

## Quality of Life of Older People Living with COPD in Nepal

**DOI:** <https://doi.org/10.62992/zyngxe19>

**Context:** Chronic Obstructive Pulmonary Disease (COPD) is a widespread chronic condition, especially among the elderly, and poses a growing public health challenge.

**Methodology:** This hospital-based cross-sectional study was conducted between February 2017 and July 2018 at a tertiary care hospital in Kavre, Nepal, involving 220 patients aged 60 years and older. The study assessed participants' quality of life using the shorter version of the St. George's Respiratory Questionnaire (SGRQ-C).

**Key message:** Older adults in Nepal suffering from Chronic Obstructive Pulmonary Disease (COPD) experience a significantly reduced quality of life across various aspects, including symptoms, daily activities, and overall impact. Factors such as gender, education, family type, and economic status are closely linked to their quality of life.

## Association of Perceived Stress with Acute Coronary Syndrome: A Matched Case Control Study

**DOI:** <https://doi.org/10.3126/jcmsn.v20i3.70085>

**Context:** Acute Coronary Syndrome (ACS) significantly contributes to global health issues, resulting in high rates of illness and death. The influence of perceived stress due to ACS has not been thoroughly investigated, particularly in the local context.

**Methodology:** This was a case-control study conducted at Birat Medical College Teaching Hospital between July 1 and November 28, 2023, focusing on participants matched by age and gender. The study included 50 cases of Acute Coronary Syndrome and 50 control subjects, selected using consecutive sampling. Perceived Stress Scale-10 (PSS-10) was used to assess stress levels in both groups.

**Key message:** Although the patients with ACS experience higher perceived stress, it is not a direct predictor of the condition. Key risk factors such as hypertension, smoking, and a family history of cardiovascular disease are significantly associated with ACS, highlighting the importance of managing these risks to prevent heart-related issues.

## Postpartum Depression among Mothers in a Maternity Hospital Kathmandu, Nepal: A Mixed Method Approach

**DOI:** [10.31729/jnma.8746](https://doi.org/10.31729/jnma.8746)

**Context:** Postpartum depression is a serious issue affecting many mothers worldwide, yet it often receives insufficient attention. The condition can lead to severe consequences for both mothers and their children.

**Methodology:** A descriptive cross-sectional study was conducted using a mixed-methods approach at Paropakar Maternity and Women's Hospital between July and December 2023. The study included six participants for qualitative in-depth interviews, while quantitative data was collected from all respondents through self-administered questionnaires.

**Key message:** A significant number of young mothers experience postpartum depression, often facing both physical and mental challenges during and after pregnancy. This highlights the need for better pre-pregnancy assessments, depression screenings, and social support systems to help mothers during this critical time.

## Hypertensive Retinopathy among Hypertensive Patients in a Tertiary Care Centre: A Descriptive Cross-sectional Study

**DOI:** <https://doi.org/10.31729/jnma.8761>

**Context:** Hypertension can lead to various eye conditions, including retinopathy, which serves as an important indicator of overall health complications.

**Methodology:** A descriptive cross-sectional study was conducted among 161 hypertensive patients between April 4 and November 19, 2023, at the Department of Ophthalmology at KIST Medical College and Teaching Hospital. The researchers employed a convenience sampling method to select participants.

**Key message:** The study revealed that 43.5% of hypertensive patients had hypertensive retinopathy. The findings suggest a higher prevalence of this condition compared to similar studies, highlighting the need for regular eye examinations in individuals with high blood pressure.

We thank you all for joining our initiative to promote evidence-informed policymaking and promote public awareness of the 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 a summary of scientific publications on NCDs in Nepal for the month of September 2024.

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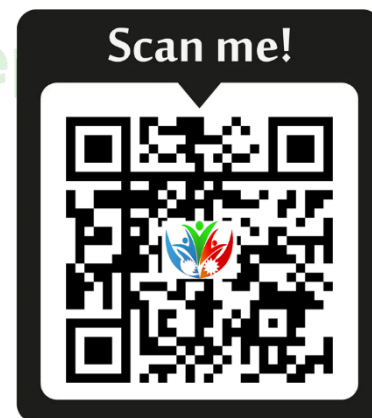
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#### Publications



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