

# Non-communicable Diseases in Nepal Research Roundup

*Making non-communicable diseases a national priority*

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1

# Non-communicable Diseases in Nepal-Research Roundup

February 2023



Publications **NCD Watch Nepal** NCD Watch Nepal



# TABLE OF CONTENTS

<b>TABLE OF CONTENTS .....</b>	<b>1</b>
<i>Roundup Summary.....</i>	2
<i>Estimating mean population salt intake using spot urine samples in Nepal: a cross-sectional study .....</i>	2
<i>Cross-sectional study examining the epidemiology of chronic pain in Nepal.....</i>	2
<i>Electrocardiogram abnormalities and renal impairment in patients with type 2 diabetes mellitus: A healthcare facilities-based cross-sectional study in Dang district of Nepal.....</i>	2
<i>Prevalence and risk factors of chronic kidney disease among patients with type 2 diabetes mellitus at a tertiary care hospital in Nepal: a cross-sectional study .....</i>	3
<i>The double-edged sword of 'community' in community-based psychosocial care: reflections on task-shifting in rural Nepal.....</i>	3
<i>A qualitative study of coping strategies in persons with spinal cord injury during the COVID-19 pandemic.....</i>	4
<i>Use of mHealth for management of hypertension in low and middle-income countries: opportunities and challenges.....</i>	4
<i>Clinical Profile of End Stage Renal Disease Patients Undergoing Hemodialysis in a Tertiary Hospital of Lumbini Province, Nepal.....</i>	4
<i>Investigating the relationship between air pollution, meteorology, and COPD trends in Pokhara Metropolitan City, Nepal .....</i>	5
<i>Stress and coping strategies among higher secondary and undergraduate students during COVID-19 pandemic in Nepal .....</i>	5
<i>Attitude sustains longer than subjective norm and perceived behavioral control: Results of breast cancer screening educational intervention.....</i>	6
<i>"Augmenting the referral pathway for retinal services among diabetic patients at Reiyukai Eiko Masunaga Eye Hospital, Nepal: a non-randomized, pre-post intervention study".....</i>	6
<i>A longitudinal study of the role of spousal relationship quality and mother-in-law relationship quality on women's depression in rural Nepal .....</i>	6

## Roundup Summary

For the month of February 2023, our scoping on non-communicable diseases and mental in Nepal found 13 published articles. Most of the studies were cross-sectional and covered the topic of mental health, chronic kidney disease, and respiratory diseases.

### Estimating mean population salt intake using spot urine samples in Nepal: a cross-sectional study

**DOI:** <https://doi.org/10.1097/hjh.0000000000003380>

**Context:** Little is known about the usefulness of spot urine testing compared with 24-h urine samples which can be costly, burdensome, and impractical in population surveys.

**Methodology:** This was a community-based cross-sectional study conducted among 451 participants. Mean salt intake was estimated from spot urine samples and then contrasted with mean salt intake estimations from 24-h urine samples.

**Key message:** Unweighted mean ( $\pm$ SD) salt intake based on 24-h urine collection was  $13.28 \pm 4.72$  g/day. This study concluded that none of the included spot urine-based equations accurately corresponded to 24-h salt intake in the present study.

### Cross-sectional study examining the epidemiology of chronic pain in Nepal

**DOI:** <https://doi.org/10.1097/pr9.0000000000001067>

**Context:** The WHO recognizes chronic pain as a global public health concern, however, there is a dearth of large-scale epidemiological studies in low-income countries, including Nepal.

**Methodology:** This was a cross-sectional study of 520 adults ( $\geq 18$  years) in Ranipani, Baluwa Village Development Committee, Nepal. Participants' chronic pain, neuropathic pain, pain catastrophizing, resilience, pain intensity, pain interference, sleep disturbance, and depression were measured.

**Key message:** The point prevalence of chronic pain was 53.3%. Chronic pain was associated with the female gender, older age, and manual labor occupations. This study concluded occupational and mental health is the area to target for interventions.

### Electrocardiogram abnormalities and renal impairment in patients with type 2 diabetes mellitus: A healthcare facilities-based cross-sectional study in Dang district of Nepal

**DOI:** <https://doi.org/10.1111/jdi.13985>

**Context:** The global burden of diabetes mellitus is rising substantially, with a further increase in cardiovascular and kidney disease burden.

**Methodology:** A cross-sectional study was conducted among 345 patients with type 2 diabetes in Tulsipur Sub-Metropolitan City of Nepal. WHO-STEPS questionnaire and resting ECG were carried out to collect data.

**Key message:** The study showed that the proportion of major and/or minor ECG abnormalities was 47.8% which were associated with age, higher education, unemployment, body mass index, and duration of type 2 diabetes mellitus  $>5$  years. Similarly, the proportion of renal impairment was 3.5% which was associated with older age and hypertension. The study concluded that hypertension management and early screening are essential to prevent future cardiorenal complications among patients with type 2 diabetes mellitus.

### **Prevalence and risk factors of chronic kidney disease among patients with type 2 diabetes mellitus at a tertiary care hospital in Nepal: a cross-sectional study**

**DOI:** <http://dx.doi.org/10.1136/bmjopen-2022-067238>

**Context:** Chronic kidney disease (CKD) in patients with type 2 diabetes mellitus (T2DM) is the major cause of end-stage renal disease.

**Methodology:** This was a cross-sectional study conducted in the outpatient department of Shree Birendra Hospital, Kathmandu, Nepal. A total of 201 Patients above 18 years of age on antidiabetes medications or recently diagnosed DM based on American Diabetes Association criteria were included in the study.

**Key message:** The prevalence of CKD in T2DM was 86.6%. Advancing age, concomitant hypertension, increasing duration of T2DM, and presence of anemia were found to be important risk factors of CKD.

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### **The double-edged sword of 'community' in community-based psychosocial care: reflections on task-shifting in rural Nepal**

**DOI:** <https://doi.org/10.1080/13648470.2022.2161765>

**Context:** 'Task-shifting' to community workers can help fill treatment gaps in low-resource settings.

**Methodology:** This was ethnographic research focused on psychosocial interventions in Nepal.

**Key message:** This study suggests the deployment of community workers to address psychosocial care gaps may entail not only leveraging existing relationships within communities but also reconfiguring the very terms of relatedness.

## **A qualitative study of coping strategies in persons with spinal cord injury during the COVID-19 pandemic**

**DOI:** <https://doi.org/10.1037/rep0000477>

**Context:** COVID-19 pandemic has negatively impacted the physical and mental health of persons with spinal cord injury ( PwSCI).

**Methodology:** This was a qualitative phenomenological study that utilized focus group discussions (FGDs) to collect participants' responses. Two virtual FGDs (seven participants in each group) were conducted with PwSCI in Nepal.

**Key message:** Four major themes related to coping strategies PwSCI used during the pandemic were identified: use of social support, serving others, engagement in self-care activities, and positive thinking and creativity. Findings suggest that many participants used healthy coping strategies to cope with COVID-19 pandemic-related stress and challenges.

## **Use of mHealth for management of hypertension in low and middle-income countries: opportunities and challenges**

**DOI:** <https://chjournal.net/article/view/5470>

**Context:** Despite being the leading cause of global mortality, the hypertension control rate is astonishingly low, particularly in low- and middle-income countries.

**Methodology:** This was a perspective in which authors aimed to document the real-world experience of designing and implementing a mHealth project in Nepal

**Key message:** It was found that mHealth provides a unique opportunity to bridge the gap between providers and patients, send health education and reminder messages, secure patients' privacy, and make data management easier. It was also mentioned that authors encountered technological and financial barriers, unclear mHealth policy and guidelines, and low literacy levels, including digital literacy.

## **Clinical Profile of End Stage Renal Disease Patients Undergoing Hemodialysis in a Tertiary Hospital of Lumbini Province, Nepal**

**DOI:** <https://doi.org/10.52403/ijhsr.20230204>

**Context:** Over 9% of the population worldwide is estimated to be affected by chronic kidney disease, particularly in developing countries.

**Methodology:** This was a retrospective, observational study based on the medical records of the 40 patients with end-stage renal disease attending the hemodialysis unit in Bheri Hospital, Nepalgunj, Nepal.

**Key message:** The most common cause of the end-stage renal disease was hypertension, followed by diabetes. Anaemia, hypocalcemia, and hyponatremia were found to be the common complications associated with the patients. This study concluded that early diagnosis and treatment of hypertension and diabetes are key to the prevention and control of chronic kidney diseases.

### **Investigating the relationship between air pollution, meteorology, and COPD trends in Pokhara Metropolitan City, Nepal**

**DOI:** <https://doi.org/10.1175/WCAS-D-22-0098.1>

**Context:** Understanding biometeorological system relationships can assist with future health interventions for limiting exposure to pollutants.

**Methodology:** This research was completed using data sets published in government records and scientific literature.

**Key message:** This study found a positive correlation between air pollution levels and chronic obstructive pulmonary disease hospital admissions into Pokhara's Western Regional Hospital and a negative correlation between meteorological measurements and hospital admissions. Also, air pollution levels for pollutants equal to or less than ten micrometers and greater than 2.5 micrometers were better predictors of hospital admissions than air pollutants sized 2.5 micrometers and below.

### **Stress and coping strategies among higher secondary and undergraduate students during COVID-19 pandemic in Nepal**

**DOI:** <https://doi.org/10.1371/journal.pgph.0001533>

**Context:** COVID-19 pandemic has caused a psychological impact among students by increasing stress and anxiety.

**Methodology:** A cross-sectional web-based study was conducted during the complete lockdown in July 2020 among 615 college students in Nepal. Stress owing to COVID-19 and the lockdown was assessed using the Perceived Stress Scale (PSS), and Brief COPE was used to evaluate coping strategies.

**Key message:** The mean ( $\pm$ SD) PSS score was  $20.2 \pm 5.5$ , with 77.2% of students experiencing moderate and 10.7% experiencing a high-stress level. Stress was more common among girls (92.6%) as compared to boys (82.7%). Similarly, the mean score for coping strategy was the highest for self-distraction ( $3.3 \pm 0.9$ ), whereas it was the lowest for substance use ( $1.2 \pm 0.5$ ).

## **Attitude sustains longer than subjective norm and perceived behavioral control: Results of breast cancer screening educational intervention**

**DOI:** <https://doi.org/10.1371/journal.pone.0281184>

**Context:** Early diagnosis of breast cancer through breast health awareness and self-examination, in addition to mammography screening, is a highly feasible and useful technique in poorly resourced settings.

**Methodology:** A quasi-experimental study was conducted among 360 females (180 each in IG and CG) aged 40–75 years in Pokhara, Nepal. Participants in the IG were delivered an hour-long breast cancer screening-related lecture-discussion-demonstration session.

**Key message:** Overall, the results of the study showed that adopting an educational intervention based on the theory of planned behavior was effective in sustaining breast self-examination (BSE) and mammography intentions for only four months. To retain the effects longer (up to 12 months or longer), additional educational strategies focusing on subjective norms and perceived behavioral controls of both tests are highly warranted.

## **“Augmenting the referral pathway for retinal services among diabetic patients at Reiyukai Eiko Masunaga Eye Hospital, Nepal: a non-randomized, pre-post intervention study”**

**DOI:** <https://doi.org/10.1186/s12913-023-09105-3>

**Context:** Despite the availability of retinal services, people may not access them because of the lack of knowledge about diabetic retinopathy (DR) and poor referral systems.

**Methodology:** This was a non-randomized, pre-post intervention study design conducted over 16 months. A total of three health education sessions were provided to the health care professionals of Scheer Memorial Hospital (intervention site) on diabetic retinopathy.

**Key message:** This study shows that a well-planned health education intervention changes the knowledge of physicians about DR. There is an increase in the number of referrals and attendance of patients for DR screening with the change in knowledge and referral mechanism.

## **A longitudinal study of the role of spousal relationship quality and mother-in-law relationship quality on women's depression in rural Nepal**

**DOI:** <https://doi.org/10.1016/j.ssmmh.2023.100193>

**Context:** Nepal remains a patrilocal society, with women moving into their husbands' homes after marriage. Spousal relationship quality can be an important predictor of the health and mental well-being of married women.

**Methodology:** This was a longitudinal study conducted among a prospective cohort of 200 women in the Nawalparasi district of Nepal.

**Key message:** Results of this study suggest that better relationship quality with the spouse was positively associated with reduced depression among women, and greater relationship quality with the mother-in-law was also positively associated with lower levels of depression. Furthermore, it was found that the relationship with mothers-in-law moderates the association between spousal relationship quality and depression.



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 February 2023.

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

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