

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 February 2022.

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

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

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

Facebook: <https://www.facebook.com/NCDWatchNepal>

LinkedIn: <https://www.linkedin.com/company/ncd-watch-nepal>

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/>

VOLUME III
ISSUE 2

Suggested Citation:

NCD Watch Nepal: Non-communicable Diseases in Nepal-Research Roundup Feb 2022. Adhikari TB, Paudel K, Bhusal S, Khanal P, Neupane D. vol. III. Kathmandu Nepal: 2022: 3.13.

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NCDs in Nepal Research Roundup February 2022

Summary

For the month of February 2022, our scoping on non-communicable diseases in Nepal found 14 published articles. Majority of the studies were cross sectional studies and, covering the topic of cancer, hypertension, diabetes, cardiovascular diseases, and mental health.

Sleep quality and its correlates among undergraduate medical students in Nepal: A cross-sectional study

DOI: <https://doi.org/10.1371/journal.pgph.0000012>

Context: Poor sleep quality has been found to affect students' learning abilities, academic performance, and interpersonal relationships.

Methodology: This was a web-based cross-sectional survey conducted in March 2021 among 212 undergraduate medical students at the Institute of Medicine, Kathmandu, Nepal. A 19-item Pittsburgh Sleep Quality Index (PSQI) was used to measure sleep quality.

Key message: This study identified that 38.2% of the students as poor sleepers. Factors like being depressed (AOR: 4.5, 95% CI; 1.2–5.4), current alcohol use (AOR: 2.5, 95% CI; 1.8–10.8), poor academic achievement (AOR: 3.4, 95% CI; 1.1–10.9), and being a fourth-year student (AOR: 3.6, 95% CI; 1.1–11.8) were significantly associated with poor sleep quality. This study stressed the importance of routine screening of sleep quality and depressive symptoms to mitigate their impact among medical students.

Depression, Anxiety and Stress among Nurses Providing Care to the COVID-19 Patients: A Descriptive Cross-sectional Study

DOI: <https://doi.org/10.31729/jnma.7235>

Context: Nurses are more vulnerable to sadness, anxiety, and stress due to the demanding nature of their work which could impair performance and self-efficacy.

Methodology: A descriptive cross-sectional study was conducted from 10th April 2021 to 30th June 2021 among 301 nurses from three COVID-19 dedicated hospitals using self-administered questionnaires.

Key message: The prevalence of depression, anxiety, and stress were found to be 85.7%, 62.8%, and 49.8% respectively. This study concluded that the mental health status of nurses should be

closely monitored by the employing health institutions including managing their workload, providing emotional support, and responding to their personal needs.

Prevalence of diabetes mellitus and associated risk factors in Nepal: findings from a nationwide population-based survey

DOI: <https://doi.org/10.1136/bmjopen-2022-060750>

Context: The burden of diabetes mellitus (DM) has increased globally, particularly in low-income and middle-income countries, including Nepal.

Methodology: This population-based cross-sectional study was conducted among 13,200 participants aged 20 years and above covering all seven provinces of Nepal from 2016 to 2018.

Key message: The prevalence of DM was found to be 8.5% (95% CI 7.8% - 9.3%). The odds of DM occurrence were higher in the upper age groups (40-59 yrs) (AOR: 3.1, 95% CI:2.3 - 4.2), and 60+ years (AOR: 1.3, 95% CI 1.1 - 1.6). Men (AOR: AOR 1.3, 95% CI 1.1 - 1.6), Urban residents (AOR: 1.7, 95% CI 1.4 - 2.2), hypertensives (AOR: 2.2, 95% CI 1.8 - 2.7), those who were overweight and obese (AOR: 2.0, 95% CI 1.6 - 2.4) and those who had high triglyceride level (AOR: 2.1, 95% CI 1.8 - 2.6) had higher odds of DM occurrence. Study recommends targeted DM interventions on population groups with higher chances of DM occurrence.

Analyzing the Implementation of Policies and Guidelines for the Prevention and Management of Type 2 Diabetes at Primary Health Care Level in Nepal

DOI: <https://doi.org/10.3389/fpubh.2022.763784>

Context: Nepal, in recent years, is witnessing an increasing problem of type 2 diabetes that has resulted in significant premature deaths and disability. Research looking at the overview of the implementation of the existing policies and guidelines for diabetes prevention and control is scarce.

Methodology: This was a qualitative study involving 13 In-depth interviews and 7 key informant interviews at peripheral and central levels in the Kavrepalanchowk and Nuwakot districts of Nepal.

Key message: The four key themes were identified were (i) limited implementation of policies into practices; (ii) lack of coordination among the different levels of service providers; (iii) lack of trained human resources for health and inadequate quality services at the primary health care level, and (iv) inadequate access and utilization of diabetes care services at primary health care level. The key challenges to the implementation of policies and programs were inadequate resources, limited engagement of stakeholders in service design and delivery, lack of trained health care

providers, lack of financial resources, fragmented health governance, and weak reporting and monitoring systems.

Non-suicidal self-injury and suicidal behavior among adolescents: co-occurrence and associated risk factors

DOI: <https://doi.org/10.1186/s12888-022-03763-z>

Context: Despite the increased focus on non-suicidal self-injury (NSSI) and suicidal behavior (SB) there exist no reliable data in Nepal.

Methodology: This was a cross-sectional study conducted among 730 adolescents studying in grades 9 to 12 of public and private schools of Pokhara Metropolitan City, Nepal.

Key message: The study found that 44.8% and 17.9% of the total sample had reported a history of NSSI and suicidal behaviors in the past year. Boys (52.6%) were more likely to be engaged in NSSI than girls (47.4%). However, females were significantly higher in lifetime prevalence of suicidal behavior than males. male, low-level of self-esteem (SE), moderate to severe form of depression, and SB were significant predictors of NSSI behavior. Similarly, females, low-level of SE, moderate to severe form of depression, and NSSI behavior were significant predictors of SB.

Anxiety among the General Population of Himalayan District during the COVID-19 Pandemic: A Descriptive Cross-sectional Study

DOI: <https://doi.org/10.31729/jnma.6553>

Context: The burgeoning COVID-19 pandemic situation has imposed adverse impacts on the mental health and wellbeing of the general population.

Methodology: This was a cross-sectional study conducted among 427 participants of age 18 or above in Rural communities of the Himalayan district in Nepal. The hospital Anxiety and Depression Scale was used to measure anxiety.

Key message: The prevalence of anxiety was found to be 45.9%. Anxiety was more prevalent among farmers, illiterate, widowed, and old aged.

Effectiveness of self-management health promotion education package among diabetic patients in Pokhara Metropolitan City, Nepal

DOI: <https://doi.org/10.1080/14635240.2022.2034030>

Context: Diabetes is on an increasing trend, and it is one of the four priority non-communicable diseases (NCDs) and major public health problems. Studies indicate that educational programs are effective in the management of diabetes.

Methodology: The study was a pre-test and post-test interventional study among 60 diabetic patients in Pokhara Metropolitan City, Nepal. Questionnaires were used to collect information about demographic variables and Health Belief Model (HBM) constructs.

Key message: This study showed the effectiveness of the self-management health promotion educational package. The results showed a significant increase in each construct of HBM and self-management practice after the educational intervention ($p < 0.0001$). The intervention was effective to the diabetes patients; there was an increase in perceived susceptibility, perceived severity, perceived benefit, self-efficacy, and self-management practice except for the perceived barrier.

Perceived stress, sources of stress and coping strategies among undergraduate medical students of Nepal: a cross-sectional study

DOI: <https://doi.org/10.12688/f1000research.75879.1>

Context: Medical students are subjected to various stressors throughout their training, which has a considerable impact on their physical and mental health.

Methodology: This study was a cross-sectional study conducted among 101 undergraduate medical students of PAHS, a government medical school in Lalitpur, Nepal. Perceived Stress Scale 14 (PSS 14), Medical Student Stressor Questionnaire (MSSQ), and Brief-Coping Orientation to Problems Experienced 28 questionnaire were used to assess stress level, sources of stress, and coping strategies.

Key message: The prevalence of stress among medical students was found to be 55%. The major stressors were examinations, inadequate time to study, poor marks, an extensive amount of learning content, and the need to perform well in the exam. The five most common coping strategies used were active coping, acceptance, planning, self-distraction, and instrumental support. This study also suggested the implementation of strategies to enhance teacher-student communication and adaptive coping measures among medical students.

Hypertension screening, awareness, treatment, and control: a study of their prevalence and associated factors in a nationally representative sample from Nepal

DOI: <https://doi.org/10.1080/16549716.2021.2000092>

Context: The growing burden of hypertension is emerging as one of the major healthcare challenges in low- and middle-income countries (LMICs), such as Nepal.

Methodology: This study was based on the analysis of two consecutive STEPwise approach to Surveillance surveys (STEPS) conducted in Nepal in 2013 and 2019. Nationally representative samples of 9682 participants (15- to 69-year-old) were included in the study.

Key message: Among the hypertensive participants, the prevalence of hypertension screening, awareness, h treatment, and the control were 65.9%, 20%, 10.3%, and 3.8% respectively. The unmet need for hypertension treatment and control was highest amongst the poorest individuals, the participants from Lumbini and Sudurpaschim provinces, those who received treatment in public hospitals, the uninsured, and those under the age of 30 years.

Prevalence and determinants of hypertension in underrepresented indigenous populations of Nepal

DOI: <https://doi.org/10.1371/journal.pgph.0000133>

Context: Indigenous populations residing in low- and middle-income countries (LMICs) are highly underrepresented in medicine and public health research. Specifically, data on non-communicable diseases (NCDs) from indigenous populations remains scarce.

Methodology: This study was an observational cross-sectional study conducted among 311 participants from 12 indigenous Nepali communities residing in rural or semi-urban areas.

Key message: The prevalence of obesity and tachycardia was low (0.64% and 3.22%, respectively) but hypertension was prevalent at 23.8%. Education levels, alcohol consumption, and smoking increased the odds of hypertension in the indigenous participants.

Impact of the second wave of COVID-19 on cancer care at Birat Medical College and Teaching Hospital, Nepal

DOI: <https://doi.org/10.3126/ajms.v13i2.42069>

Context: The COVID-19 pandemic has plunged Nepal into a public health disaster and has also impacted cancer service.

Methodology: A prospective descriptive study was conducted in the Department of Oncology at Birat Medical College Teaching Hospital, Biratnagar, Nepal. All the histopathologically proven cancer patients attending the oncology unit during the specific study periods were taken as the study population.

Key message: The second wave of COVID-19 had a severe impact on cancer service at the Oncology department of the selected hospital. This study reported a 78% decrement in outpatient visits and a 30% decrement in admissions during the study period.

Invasive Exploitation and the Multiplicative Hypothesis: Polyvictimization and Adolescent Depression Symptoms in Nepal

DOI: <https://doi.org/10.1177/08862605211072164>

Context: Adverse effects of childhood maltreatment experience and adolescent depression symptoms are theorized to be more profound for adolescents who have suffered multiple maltreatments (polyvictimization).

Methodology: This study examined the concept of invasive exploitation in the context of polyvictimization and its association with adolescent depressive symptoms. 565 mother-adolescent dyads in Kathmandu, Nepal were involved in the study.

Key message: This study found that neglect ($B = 3.17, p < .01$) and sexual abuse ($B = 3.48, p < .05$) was positively associated with adolescent depression symptoms. Furthermore, this study highlighted that the interventions targeting polyvictims with experience of invasive exploitation and studies aiming to provide deeper insights into sexual abuse as invasive exploitation are needed.

Trends in television viewing and overweight /obesity among Nepalese women: Findings from 2006, 2011 and 2016 Nepal Demographic and Health Surveys

DOI: <https://doi.org/10.1016/j.numecd.2021.10.023>

Context: Associations between overweight/obesity and television (TV) viewing have been identified in high-income countries, but little evidence is available from low- and middle-income countries.

Methodology: This study analyzed the data from Nepal Demographic Health Surveys 2006 ($n = 10,115$), 2011 ($n = 5,881$) or 2016 ($n = 6,165$). A total of 22,161 women aged 15–49 years were involved in the study.

Key message: This study found that around 38% of the study participants watched TV at least once a week in 2006, which increased to 49% in 2011 and 46% in 2016. The prevalence of overweight and obesity increased from 8% in 2006 to 14.6% in 2011 and 19.8% in 2016. Compared to those who did not watch TV at all, those watching it at least once a week were at 1.5 (95% CI: 1.0–2.3), 1.8 (95% CI: 1.2–2.6), and 1.5 (95% CI: 1.1–1.9) times higher odds of being overweight/obese in 2006, 2011 and 2016 respectively.

Effectiveness and Acceptability of a Mobile Phone Text Messaging Intervention to Improve Blood Pressure Control (TEXT4BP) among Patients with Hypertension in Nepal: A Feasibility Randomised Controlled Trial

DOI: <http://doi.org/10.5334/gh.1103>

Context: Uncontrolled blood pressure (BP) is the leading cause of preventable deaths in low- and middle-income countries. mHealth interventions, such as mobile phone text messaging, are a promising tool to improve BP control, but research on feasibility and effectiveness in resource-limited settings remains limited.

Methodology: This was a two-arm, parallel-group, unblinded, randomised controlled pilot trial that included 200 participants (1:1) (mean age: 50.5 years, 44.5% women) with hypertension at a tertiary referral hospital in Kathmandu, Nepal. Patients in the intervention arm (n = 100) received text messages three times per week for three months. The control arm (n = 100) received standard care.

Key message: At three months, the intervention group had greater reductions in systolic and diastolic BP vs usual care [adjusted difference: systolic $\beta = -6.50$ (95% CI, $-12.6; -0.33$) and diastolic BP $\beta = -4.60$ (95% CI, $-8.16; -1.04$)]. The intervention arm showed an improvement in compliance to antihypertensive therapy ($p < 0.001$), medication adherence ($p < 0.001$), medication adherence self-efficacy ($p = 0.023$) and knowledge on hypertension and its treatment ($p = 0.013$).

NCD Watch Nepal

Let's unite to beat NCDs.

#actOnNCDs #beatNCDs