

HIGHLIGHT OF THIS ISSUE

Long-term Cost-effectiveness of Health Behaviour Intervention to Manage Type 2 Diabetes in Nepal

Introduction:

This study evaluates the economic and health impact of a health behaviour intervention for type 2 diabetes management in Nepal, addressing the challenge of rising healthcare costs in low-resource settings.

Key Message:

The intervention proved cost-effective, adding 3.88 QALYs per patient at an additional \$1106 per QALY. With a 57%+ probability of cost-effectiveness, it presents a promising long-term investment for diabetes care in Nepal.

Methodology:

A decision tree and Markov model analyzed data from 481 participants, comparing intervention and control groups. Costs and QALYs were estimated from both healthcare and societal perspectives, with extensive sensitivity analyses to test robustness.



Making non-communicable diseases a national priority

NCD - RESEARCH ROUNDUP

VOLUME: VI | ISSUE: III

Online Access at: <https://nepalhealthfrontiers.org/ncd-watch-nepal>

Suggested Citation:

NCD Watch Nepal: Non-communicable Diseases in Nepal-Research Roundup March 2025. Adhikari TB, Paudel K, Bhusal S, Thapa M, Poudel M. vol. VI, issue III, Kathmandu Nepal: 2025: 4.17.

TABLE OF CONTENTS

Long-term exposure to air pollutants, meteorological factors, and mental health status: a nationwide population-based study with multilevel regression analysis	2
Overweight, obesity and physical inactivity among women of reproductive age in Eastern Nepal: a cross-sectional community-based study	2
Burden of intimate partner violence, mental health issues, and help-seeking behaviors among women in Nepal.....	3
Intertwined risk factors of mental health and cardiovascular diseases: A Cross-sectional survey in Godawari Municipality of Far-western Nepal.....	3
Knowledge and practice on prevention of respiratory health problems among traffic polices of Kathmandu, Nepal.....	4
Sleep quality using Pittsburgh Sleep Quality Index among preclinical undergraduate medical students: A descriptive cross-sectional study from Chitwan Medical College.....	4
Long-term cost-effectiveness of health behaviour intervention to manage type 2 diabetes in Nepal.....	5
Treatment of depression by traditional faith healers in Nepal: A qualitative study	5
Prevalence of Depression and Its Associated Factors Among Patients Undergoing Substance Abuse Treatment at Rehabilitation Centres in Pokhara, Nepal.....	6
Mental Health Literacy among Middle School Students in Private and Community Schools, Kathmandu, Nepal.....	6
Social Media and Mental Health in Adolescents	6
Patterns of Alcohol Use and Daily Smoking Among Men Who Have Sex with Men in Nepal .	7
Prevalence of dental caries and oral health habits among school children in Budhanikantha Municipality, Nepal	7
Burden of Non-Communicable Diseases and Emerging Attention in Gandaki Province, Nepal	8
Antepartum Depression among Pregnant Women Attending Antenatal Care (ANC) Services in Tertiary Hospital of Nepal.....	8
Engaging community health workers to promote oral health for people living with type 2 diabetes mellitus in Nepal: a qualitative study	9

Roundup Summary

In March 2025, our search on non-communicable diseases and mental health-related literature in Nepal yielded sixteen published articles. Most of the studies covered mental health, followed by hypertension, diabetes, oral health, substance abuse and sleep health.

Long-term exposure to air pollutants, meteorological factors, and mental health status: a nationwide population-based study with multilevel regression analysis

DOI: <https://doi.org/10.1186/s13690-025-01570-y>

Context: Harmful effects of air pollution and weather on physical health are well recognized but their link to mental health issues like anxiety and depression is still unclear due to the lack of in-depth research.

Methodology: This study used data from the 2022 Nepal Demographic and Health Survey, analyzing responses from 10,076 individuals aged 15–49. Depression and anxiety were assessed using PHQ-9 and GAD-7 tools. Environmental exposure data, including PM_{2.5}, PM₁₀, temperature, and humidity, were collected from national monitoring systems.

Key message: The prevalence of depression and anxiety among participants was 3.8% and 16.9%, respectively. The study found that long-term exposure to air pollution, especially PM_{2.5} and PM₁₀, is linked to a higher risk of depression and anxiety. On the other hand, warmer temperatures and higher humidity appear to help protect mental health.

Overweight, obesity and physical inactivity among women of reproductive age in Eastern Nepal: a cross-sectional community-based study

DOI: <https://doi.org/10.1371/journal.pgph.0004360>

Context: Overweight, obesity, and lack of physical activity are growing health concerns in Nepal, especially among women. Women are more affected than men by excess weight which lacks data making it crucial to understand the women's health risks related to lifestyle factors.

Methodology: This was a community-based cross-sectional study carried out in Bhadrapur municipality of Eastern Nepal among 350 women aged 18–49. Participants were selected using probability proportional to size and simple random sampling. Data on physical activity were gathered using pedometers and the Global Physical Activity Questionnaire.

Key message: About 42% of women in the study were found to be overweight or obese, with older

age and being a housewife linked to higher risk. Around 14% were physically inactive, and manual workers were less likely to be inactive compared to unemployed women. These findings highlight the need to promote healthier lifestyles among women, especially those who are older and not in paid employment.

Burden of intimate partner violence, mental health issues, and help-seeking behaviors among women in Nepal

DOI: <https://doi.org/10.1177/17455057251326416>

Context: Intimate partner violence remains a major public health issue, particularly affecting women and girls. This has serious health impacts, including mental health problems.

Methodology: This was a cross-sectional study based on the 2022 Nepal Demographic and Health Survey data. It included 5,178 women aged 15–49 years to examine the link between intimate partner violence, mental health issues, and help-seeking behaviors.

Key message: Nearly one in three women in Nepal have faced intimate partner violence, and many of them experience anxiety, depression, or suicidal thoughts as a result. Despite this, over 70% do not seek help, and among those who do, most rely on informal sources. These findings highlight the urgent need to strengthen mental health support and improve access to formal services for survivors.

Intertwined risk factors of mental health and cardiovascular diseases: A Cross-sectional survey in Godawari Municipality of Far-western Nepal

DOI: <https://doi.org/10.1177/17455057251326416>

Context: Intimate partner violence remains a major public health issue, particularly affecting women and girls. This has serious health impacts, including mental health problems.

Methodology: This was a cross-sectional study based on the 2022 Nepal Demographic and Health Survey data. It included 5,178 women aged 15–49 years to examine the link between intimate partner violence, mental health issues, and help-seeking behaviors.

Key message: Nearly one in three women in Nepal have faced intimate partner violence, and many of them experience anxiety, depression, or suicidal thoughts as a result. Despite this, over 70% do not seek help, and among those who do, most rely on informal sources. These findings highlight the urgent need to strengthen mental health support and improve access to formal services

for survivors.

Knowledge and practice on prevention of respiratory health problems among traffic polices of Kathmandu, Nepal

DOI: <https://doi.org/10.54530/jcmc.1592>

Context: Air pollution poses a major health threat in Kathmandu, which is considered the most polluted city in Southeast Asia. Traffic police, due to their constant exposure on the roads, are particularly vulnerable to respiratory issues, making their awareness and preventive actions crucial.

Methodology: This was a cross-sectional study conducted among 160 traffic police in Kathmandu, Nepal, using a purposive sampling method. Data were collected through a self-administered questionnaire from April 23 to May 4, 2021, and analyzed using SPSS software.

Key message: 61.3% had an average level of knowledge, while 76.9% had an average level of practice in preventing respiratory health issues. The study highlighted that both knowledge and practice were significantly associated with education level, indicating the importance of education in improving respiratory health awareness and practices.

Sleep quality using Pittsburgh Sleep Quality Index among preclinical undergraduate medical students: A descriptive cross-sectional study from Chitwan Medical College

DOI: <https://doi.org/10.54530/jcmc.1596>

Context: Air pollution poses a major health threat in Kathmandu, which is considered the most polluted city in Southeast Asia. Traffic police, due to their constant exposure on the roads, are particularly vulnerable to respiratory issues, making their awareness and preventive actions crucial.

Methodology: This was a cross-sectional study conducted among 160 traffic police in Kathmandu, Nepal, using a purposive sampling method. Data were collected through a self-administered questionnaire from April 23 to May 4, 2021.

Key message: 61.3% had an average level of knowledge, while 76.9% had an average level of practice in preventing respiratory health issues. The study highlighted that both knowledge and practice were significantly associated with education level, indicating the importance of education in improving respiratory health awareness and practices.

Long-term cost-effectiveness of health behaviour intervention to manage type 2 diabetes in Nepal

DOI: <https://doi.org/10.1186/s12916-025-03981-8>

Context: Managing type 2 diabetes in low-income countries like Nepal is challenging due to limited resources and rising healthcare costs. There is a need to understand whether investing in health behaviour interventions can offer lasting economic and health benefits.

Methodology: This study used a decision tree combined with a Markov model to evaluate a health behaviour intervention for type 2 diabetes in Nepal. It involved 481 participants (238 in the intervention group and 243 in control) and analyzed both health system and societal perspectives. The model incorporated trial and published data to estimate costs and quality-adjusted life years over multiple timeframes, using various sensitivity analyses to assess uncertainty.

Key message: The study found that a health behaviour intervention for managing type 2 diabetes is cost-effective in Nepal, adding 3.88 quality-adjusted life years per patient at an additional cost of about \$1106 per QALY from a healthcare perspective. With over 57% probability of being cost-effective, this approach offers a valuable investment for better long-term diabetes care and should be considered for wider implementation.

Treatment of depression by traditional faith healers in Nepal: A qualitative study

DOI: <https://doi.org/10.1016/j.ssmmh.2025.100425>

Context: Depression remains a widely misunderstood mental health condition in many parts of Nepal, where traditional faith healers still often serve as the first point of contact for care where the treatment approaches and beliefs about the illness differ from biomedical models.

Methodology: This qualitative study involved in-depth interviews with 12 traditional faith healers in Nepal, using a narrative approach to explore their practices and beliefs. A vignette portraying a woman with depression symptoms helped guide discussions around their methods of assessment and treatment.

Key message: Traditional faith healers in Nepal use a mix of spiritual and social explanations for depression and apply a variety of healing practices, from rituals to referrals. Their role as first contact for many people suggests they could help identify and support individuals with depression early on. Involving them in mental health efforts may improve access to care, especially in rural or underserved areas.

Prevalence of Depression and Its Associated Factors Among Patients Undergoing Substance Abuse Treatment at Rehabilitation Centres in Pokhara, Nepal

DOI: <https://doi.org/10.1155/mij/4778500>

Context: Depression and substance use disorders are major public health concerns worldwide, affecting personal health, social relationships, and economic productivity.

Methodology: This was an institution-based cross-sectional study conducted among 212 patients from rehabilitation centres in Pokhara Metropolitan, Nepal. Participants were selected through a multistage probability sampling method, and data were gathered using face-to-face interviews with a semi-structured questionnaire.

Key message: Over half (58%) of patients in substance abuse rehabilitation centres in Pokhara were found to be experiencing some level of depression. Key factors linked to depression included poor sleep, financial stress, past violence, and low self-esteem. This shows a strong need for supportive mental health strategies in rehabilitation settings.

Mental Health Literacy among Middle School Students in Private and Community Schools, Kathmandu, Nepal

DOI: [10.4236/psych.2025.163020](https://doi.org/10.4236/psych.2025.163020)

Context: Adolescents' ability to understand and respond to mental health issues is vital for early support and care recognizing mental health problems and seeking help at earliest stages.

Methodology: This cross-sectional study was carried out among 454 students aged 12 to 16 years from seven schools in Kathmandu and Lalitpur. Participants were selected using purposive sampling, and data were collected using the Mental Health Literacy Questionnaire.

Key message: The study found that girls and students with more educated parents had better understanding of mental health issues. While many students recognized depression (84%) and anxiety (53%), awareness of less common conditions was low. These findings highlight the need for focused mental health education, especially for boys and students from less educated families.

Social Media and Mental Health in Adolescents

DOI: <https://doi.org/10.47670/wuwijar20251DK>

Context: Social media has become a central part of adolescents' daily routines, with growing concerns about its impact on their mental well-being. Global studies suggest a link between excessive use and mental health issues while such evidence lacks within Nepal.

Methodology: This study used a structured survey design with 260 adolescent participants from Kathmandu and Dang Valleys in Nepal. Data was collected using a five-point Likert scale to measure various factors related to mental health, with a high internal consistency confirmed by a Cronbach's alpha of 0.94.

Key message: The study found no significant gender differences in the mental health outcomes of adolescents. Targeted interventions to address the negative effects of social media on adolescent mental health, stressing the need for early detection and preventive strategies are crucial.

Patterns of Alcohol Use and Daily Smoking Among Men Who Have Sex with Men in Nepal

DOI: <https://doi.org/10.1007/s10900-025-01456-8>

Context: Men who have sex with men (MSM) are more likely to face health risks linked to alcohol use and smoking.

Methodology: This was a cross-sectional study employing a respondent-driven sampling approach to survey 250 men who have sex with men in Kathmandu between October and December 2022.

Key message: Over 70% of MSM participants in Kathmandu reported drinking alcohol in the past year, and 42% smoked daily. Factors such as low income, sex work, and prior drug use were linked to higher alcohol and tobacco use. There is an urgent need for tailored support programs to reduce substance use among MSM in Nepal.

Prevalence of dental caries and oral health habits among school children in Budhanikantha Municipality, Nepal

DOI: <https://doi.org/10.20396/bjos.v24i00.8673330>

Context: Dental caries is the most common oral health disease among school-aged children worldwide linked with oral hygiene practices, and food habits.

Methodology: This was a cross-sectional study involving 400 students from two secondary schools in two wards of Budhanikantha Municipality located in Kathmandu. Oral check-ups using

the DMFT index were done through a dental professional to assess dental caries.

Key message: Nearly two-thirds (63%) of school children had dental caries, with poor brushing habits and high daily intake of sugary foods and drinks. There is an urgent need for better oral health awareness and regular dental checkups among children.

Burden of Non-Communicable Diseases and Emerging Attention in Gandaki Province, Nepal

DOI: [10.31729/jnma.8922](https://doi.org/10.31729/jnma.8922)

Context: Non-communicable diseases (NCDs) are a growing health concern in Nepal, now causing the majority of deaths in the country. Conditions like heart disease, cancer, chronic lung issues, liver problems, and diabetes are key contributors to this rising burden.

Methodology: A screening program was carried out in Gandaki Province targeting 2976 high-risk individuals aged 40 and above for non-communicable diseases across six districts through integrated health screening sessions.

Key message: The screenings showed that many adults aged 40 and above had high blood pressure, high blood sugar, obesity, or unhealthy cholesterol levels. Declaring Falgun as the month for non-communicable disease screening nationwide can boost early detection, raise awareness, and improve prevention and care through better planning and coordination.

Antepartum Depression among Pregnant Women Attending Antenatal Care (ANC) Services in Tertiary Hospital of Nepal

DOI: <https://doi.org/10.3126/nprcjmr.v2i3.76961>

Context: Antepartum depression is a frequent mental health concern during pregnancy that can severely impact not just the mother but also the child and family, which can also lead to serious outcomes such as maternal suicide, highlighting the need for timely attention and care.

Methodology: This was a cross-sectional study carried out at a government hospital in Chitwan using convenient sampling, involving 252 pregnant women. Data was collected through face-to-face interviews using a semi-structured questionnaire that included the Edinburgh Postpartum Depression Scale to assess antepartum depression.

Key message: The study found that 16.7% of pregnant women experienced antepartum depression,

with feelings of loneliness and thoughts of self-harm significantly increasing the risk. To reduce this burden, it's important to address these factors and integrate programs focusing on improving the mental health and well-being of pregnant women, especially in developing countries like Nepal.


Engaging community health workers to promote oral health for people living with type 2 diabetes mellitus in Nepal: a qualitative study

DOI: <https://doi.org/10.1186/s12875-025-02711-6>

Context: The increasing burden of oral health problems and type 2 diabetes mellitus (T2DM) poses significant health challenges, particularly in low- and middle-income countries like Nepal where community health workers (CHWs) can play a role in promoting oral health care for people with T2DM.

Methodology: This was a qualitative study that used key informant interviews (KIIs) and in-depth interviews (IDIs) to gather data from health facilities in Kavrepalanchowk and Kathmandu districts. Interviews were conducted with 7 health assistants and 4 community medical assistants, as well as 7 policymakers and health managers at the central level.

Key message: The study reveals that community health workers (CHWs) can play a vital role in delivering oral health services for people with type 2 diabetes at the primary health care level in Nepal. However, challenges like a lack of policies, resources, and CHW training need to be addressed. Strengthening the health system and providing ongoing support, training, and incentives could help integrate oral health care effectively into primary care services.



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 March 2025.

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

Individual summary of the 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/> https://nepalhealthfrontiers.org/publication_type/ncd-watch-nepal-research-roundup/

NCD Watch Nepal



Publications



Let's unite to beat NCDs.

#actowncds #beatncds