

## HIGHLIGHT OF THIS ISSUE

### Non-Communicable Diseases: A Global Public Health Threat

#### Introduction:

This article highlights the overwhelming burden of non-communicable diseases (NCDs) in Nepal, where NCDs now drive the majority of deaths and strain an already resource-limited health system.

#### Key Message:

In Nepal, 71% of all deaths are attributable to NCDs, with tobacco use, unhealthy diets, physical inactivity, and hypertension as the predominant modifiable risk factors—underscoring the urgent need for targeted public health strategies to curb this epidemic.

#### Methodology:

The authors compiled and analyzed national and global NCD mortality and prevalence data from WHO and UNICEF reports, examining behavioral and metabolic risk trends to identify priority intervention areas.



*Making non-communicable diseases a national priority*

# NCD - RESEARCH ROUNDUP

VOLUME: VI | ISSUE: IV

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

#### Suggested Citation:

**NCD Watch Nepal: Non-communicable Diseases in Nepal-Research Roundup April 2025. Adhikari TB, Paudel K, Bhusal S, Thapa M, Poudel M. vol. VI, issue IV, Kathmandu Nepal: 2025: 5.13.**

# TABLE OF CONTENTS

Knowledge of breast cancer among nurses in a tertiary care center: a descriptive cross-sectional study.....	3
Knowledge and practice of breast self-examination among women of reproductive age in Budiganga community of Morang, Nepal .....	3
Prevalence and factors associated with chronic obstructive pulmonary disease in Kavre, Nepal.....	4
Assessment of Serum Uric Acid Levels in Chronic Kidney Disease Patients: A Cross-Sectional Study in A Tertiary Care Hospital .....	4
District-Wise Distribution and Trends of Cancer Incidence in Nepal: A Five-Year Analysis (2016–2020).....	5
Association of Metabolic Syndrome with Increased Cardiovascular Risk in Hypothyroidism Patients: Evidence from a Nepalese Population .....	5
Unmet Needs of Physical Activities and its Associated Factor among Elderly People Residing in Chandragiri Municipality .....	5
Association of food environment with diet quality and Body Mass Index (BMI) of school-going adolescents in Nepal.....	6
Evaluation of causes of late presentation among female cancer patients in a tertiary cancer center in Nepal: Mixed method study.....	6
Non-Communicable Diseases: A Global Public Health Threat .....	7
Burden of non-communicable diseases in South Asia: a decomposition analysis.....	7
Mental health literacy among basic healthcare providers and community health volunteers of Lalitpur Metropolitan City, Nepal.....	8
Sleep quality is associated with stress in secondary school students .....	8
Stress Management Strategies among Private Schools Teachers of Tokha Municipality Kathmandu .....	8
Mental Health Status of Children in Conflict with Law Residing in the Correction Homes in Bagmati Province, Nepal: A Mixed Method Study .....	9
Periodontal status of the patients presenting with pulmonary disease in a tertiary health care facility in eastern Nepal.....	9

# TABLE OF CONTENTS

---

The effect of a community-based health behaviour intervention on health-related quality of life in people with Type 2 diabetes in Nepal: a Cluster Randomized Controlled Trial.....	10
Women's Autonomy, Community Effort, and Cervical and Breast Cancer Screening Behavior Among Married Women in Nepal .....	10
Factors influencing tobacco smoking among men age 15-49 years in Nepal .....	11
Catastrophic and impoverishing impacts of health expenditures: a focus on non-communicable diseases in Pokhara Metropolitan City, Nepal .....	11
Musculoskeletal disorders and other occupational health outcomes among sanitation workers in Nepal: A community based cross-sectional survey exploring the risk factors, knowledge, and practices .....	12
Facilitators in treatment pathways for depression or anxiety among adults in Nepal: A qualitative study .....	12

---

## Roundup Summary

In April 2025, our search on non-communicable diseases and mental health-related literature in Nepal yielded twenty-two published articles. Most of the studies covered cancer, COPD, Sleep health, and physical activity.

## Knowledge of breast cancer among nurses in a tertiary care center: a descriptive cross-sectional study

**DOI:** [10.1097/MS9.00000000000003117](https://doi.org/10.1097/MS9.00000000000003117)

**Context:** Breast cancer remains a major health concern, and nurses play a vital role in its early detection and patient education. Despite their frontline position in healthcare, limited research has explored how well-informed nurses are about breast cancer, especially in clinical settings.

**Methodology:** This was a descriptive cross-sectional study carried out among 235 nurses from a tertiary care hospital between August and September 2021. Information was gathered using a structured questionnaire, and knowledge levels were assessed based on a median score cut-off.

**Key message:** The study found that while overall breast cancer knowledge among nurses was good (64.7% correct responses), many lacked awareness of key risk factors like obesity and smoking, and non-lump symptoms such as nipple discharge. Although most could identify screening tools like mammography (95.7%), targeted training is needed to fill these knowledge gaps and strengthen early detection efforts.

## Knowledge and practice of breast self-examination among women of reproductive age in Budiganga community of Morang, Nepal

**DOI:** <https://doi.org/10.71152/ajms.v16i4.4443>

**Context:** Breast cancer continues to be a major health concern for women globally, especially in terms of mortality. In low-resource settings, lack of awareness and limited practice of breast self-examination (BSE) hinder early detection and timely treatment.

**Methodology** This was a descriptive cross-sectional study was carried out among women of reproductive age, using random sampling to select participants. Data were gathered through a structured questionnaire.

**Key message:** Although over 70% of women had heard of breast self-examination (BSE), only 5.4% practiced it regularly. This highlights a major gap between awareness and action, stressing the need for practical health education to promote early breast cancer detection.

## Prevalence and factors associated with chronic obstructive pulmonary disease in Kavre, Nepal

**DOI:** <https://doi.org/10.62992/terc7525>

**Context:** Chronic obstructive pulmonary disease (COPD) is a growing global health issue and a major public health concern in Nepal. This study aimed to determine the prevalence of COPD and the factors associated with it among the older population in Nepal.

**Methodology:** This was an analytical cross-sectional study that was carried out at Dhulikhel Hospital, Kathmandu University, in the Kavre district. The study included 470 individuals aged 50 years and above, selected through stratified random sampling. COPD diagnosis was made using spirometry and chest X-rays.

**Key message:** The study found that nearly one-fifth of the participants had COPD, with risk increasing significantly with age. Illiteracy, traditional firewood use, and family history of COPD were also linked to higher risk. There is a need for preventive measures such as promoting education, improving indoor air quality, reducing firewood dependency, and increasing awareness about family history risks to reduce COPD burden in Nepal.

## Assessment of Serum Uric Acid Levels in Chronic Kidney Disease Patients: A Cross-Sectional Study in A Tertiary Care Hospital

**DOI:** <https://doi.org/10.3126/jmmihs.v10i1.77719>

**Context:** Chronic kidney disease (CKD) is a significant global health concern, particularly in Nepal where elevated blood uric acid levels may worsen kidney damage and cardiovascular risks. This study aimed to assess uric acid levels among CKD patients at a tertiary care hospital in Nepal.

**Methodology:** This was a cross-sectional study conducted at KIST Medical College and Teaching Hospital in Lalitpur, Nepal, involving 242 CKD patients in stages IIIB to V, from April 2021 to April 2024. Blood samples were analyzed for uric acid and creatinine using an automated biochemistry analyzer.

**Key message:** The study found that hyperuricemia affected two-thirds of CKD patients, with the highest prevalence in stage V. Hypouricemia was also observed, mainly in advanced stages. Both conditions were more common in males. These findings suggest that monitoring and managing uric acid levels, especially in late-stage CKD, is crucial for better clinical outcomes.

## District-Wise Distribution and Trends of Cancer Incidence in Nepal: A Five-Year Analysis (2016–2020)

**DOI:** <https://doi.org/10.3126/jmmihs.v10i1.77785>

**Context:** Cancer is an escalating public health issue in Nepal. This study aimed to explore the national cancer burden using secondary data from B.P. Koirala Memorial Cancer Hospital (BPKMCH), which serves as the national authority for cancer data collection.

**Methodology:** The study analyzed data from 62,492 newly diagnosed cancer cases recorded between January 1, 2016, and December 31, 2020. Patient demographics and cancer site data were categorized based on Nepal's topographical regions and coded using ICD-O-10 (3rd edition).

**Key message:** The highest cancer cases were reported from Kathmandu, followed by Jhapa and Morang districts. An increasing trend in cancer incidence over the years was observed, indicating the urgent need for targeted interventions such as awareness campaigns, HPV vaccination, and regular screening programs.

## Association of Metabolic Syndrome with Increased Cardiovascular Risk in Hypothyroidism Patients: Evidence from a Nepalese Population

**DOI:** <https://doi.org/10.3126/jmmihs.v10i1.77977>

**Context:** Hypothyroidism is linked to metabolic syndrome and heightened cardiovascular disease (CVD) risk globally.

**Methodology:** This was a cross-sectional study conducted at Manmohan Memorial Teaching Hospital, Kathmandu, with 244 participants — 122 hypothyroid patients and 122 euthyroid controls. Various clinical parameters, including hs-CRP, were measured and analyzed for associations.

**Key message:** Hypothyroid patients, particularly those with MetS, had significantly higher levels of hs-CRP, blood pressure, cholesterol, and other metabolic indicators. They also showed increased CVD risk, with 60% in the high-risk category. hs-CRP was positively correlated with several CVD risk factors, supporting its role as a useful screening marker for managing CVD risk in hypothyroidism.

## Unmet Needs of Physical Activities and its Associated Factor among Elderly People Residing in Chandragiri Municipality

**Link:** <https://journals.onehealth.edu.np/index.php/home/article/view/159>



**Context:** Physical activity is essential for maintaining physical and mental well-being in old age. However, many elderly individuals perceive their activity levels as inadequate.

**Methodology:** This study employed a descriptive cross-sectional design targeting elderly residents of a selected ward in Chandragiri Municipality. A total of 278 participants were surveyed using structured interviews and questionnaires.

**Key message:** Unmet needs linked with mental health issues, cultural restrictions, and the presence of chronic diseases pose a serious challenge to healthy aging and call for targeted community-level interventions, awareness programs, and accessible physical activity opportunities for the elderly.

### Association of food environment with diet quality and Body Mass Index (BMI) of school-going adolescents in Nepal

**DOI:** <https://doi.org/10.1371/journal.pone.0321524>

**Context:** With increasing NCD risk among adolescents, the role of the home food environment has become critical in shaping dietary behaviors and overall health, making urban children more vulnerable.

**Methodology:** This was a cross-sectional analytical study conducted among 678 school-going adolescents aged 15–19 in Budhanilkantha Municipality. Researchers assessed food availability at home, time to access nearby food shops, parenting style, and parental dietary modeling. Diet quality was measured using the Global Dietary Recommendations (GDR) score.

**Key message:** Adolescents living farther from vegetable shops and those with processed foods available at home had significantly lower diet quality scores. Conversely, availability of fruits and vegetables correlated with better dietary quality. Parental modeling also influenced BMI outcomes. These findings stress the importance of improving the home food environment and parental involvement to promote healthy dietary practices in urban adolescents.

### Evaluation of causes of late presentation among female cancer patients in a tertiary cancer center in Nepal: Mixed method study

**DOI:** <https://doi.org/10.1158/1538-7445.AM2025-976>

**Context:** Delayed cancer diagnosis and treatment among women is a pressing issue in Nepal, often resulting in poor prognosis and increased mortality.

**Methodology:** A convergent mixed-method study was conducted at a government cancer center. Quantitative data were collected from 200 female cancer patients who presented late for treatment. In addition, 15 women participated in focus group discussions to explore deeper socioeconomic and cultural barriers.

**Key message:** Major factors linked to late presentation included rural residence, education below the 12th grade, unemployment, joint family living arrangements, fear of destabilizing family, financial burden, denial or minimization of symptoms, and fear of abandonment, especially by spouses and in-laws. These findings underscore the urgent need for gender-sensitive cancer awareness programs, financial support mechanisms, and community-based interventions to reduce delays in cancer care.

## Non-Communicable Diseases: A Global Public Health Threat

**DOI:** <https://doi.org/10.3126/jmmihs.v10i1.77684>

**Context:** Non-communicable diseases (NCDs), such as cardiovascular disease, cancer, diabetes, and chronic respiratory illnesses, now account for the majority of deaths worldwide including Nepal.

**Methodology:** This article compiles global and national data on NCD mortality and prevalence, highlighting key behavioral and metabolic risk factors. Trends and patterns in NCD-related deaths are examined using recent health statistics and reports from WHO and UNICEF.

**Key message:** In Nepal, 71% of deaths are due to NCDs. Risk factors include tobacco, poor diet, physical inactivity, and hypertension. Addressing these through public health strategies is critical to meeting the Sustainable Development Goals.

## Burden of non-communicable diseases in South Asia: a decomposition analysis

**DOI:** <https://doi.org/10.1186/s41043-025-00827-0>

**Context:** South Asia is experiencing rapid epidemiological transition, with NCDs becoming the dominant health burden.

**Methodology:** Using Global Burden of Disease 2021 data, age-standardized metrics for cardiovascular disease, cancer, diabetes, and chronic respiratory diseases were analyzed from 2010–2021, with decomposition of contributing factors.

**Key message:** While some NCDs (e.g., cardiovascular and respiratory) declined in incidence, diabetes and cancer rose sharply. Environmental, metabolic, and behavioral risks vary by country.



South Asia needs tailored interventions and aging-friendly policies to reduce the rising NCD burden.

## Mental health literacy among basic healthcare providers and community health volunteers of Lalitpur Metropolitan City, Nepal

**DOI:** <https://doi.org/10.1186/s12913-025-12727-4>

**Context:** In Nepal, mid-level healthcare workers and Female Community Health Volunteers (FCHVs) are essential for delivering community-based mental health services.

**Methodology:** This was a cross-sectional study done among 233 healthcare workers in Lalitpur using random sampling. The Mental Health Literacy Assessment Scale (MHLAS) was used to measure MHL levels.

**Key message:** Around half of the participants demonstrated high Mental Health Literacy. Higher education, mid-level provider status, and previous mental health training were significantly associated with better MHL. The study highlights the need for integrating mental health education into healthcare training and continuing professional development programs.

## Sleep quality is associated with stress in secondary school students

**DOI:** <https://doi.org/10.1186/s12889-025-22652-0>

**Context:** Secondary school students undergo major physical, psychological, and academic challenges, making them vulnerable to stress-related sleep problems.

**Methodology:** This was a cross-sectional study conducted among 634 students in Triyuga Municipality, Udayapur using cluster sampling. A self-administered survey measured sleep quality, academic stress, and mental stress.

**Key message:** About 28% of students reported poor sleep quality. Perceived academic stress and mental stress symptoms significantly increased the likelihood of sleep problems. Stress-reduction strategies and sleep hygiene education are recommended to improve adolescent health outcomes.

## Stress Management Strategies among Private Schools Teachers of Tokha Municipality Kathmandu

**DOI:** <https://doi.org/10.37080/nmj.229>

**Context:** Teachers often face high stress due to workload, expectations, and classroom challenges, which can impair their mental health and teaching performance.

**Methodology:** A descriptive cross-sectional study among 100 private school teachers was conducted using purposive sampling. The Perceived Stress Scale and a coping strategy questionnaire were used to assess stress levels and responses.

**Key message:** Over half (54%) of teachers experienced high stress levels. Many coped by adopting a positive outlook, though the need for structured stress management support was evident. Promoting mental wellbeing among teachers is essential for both educator and student outcomes.

## Mental Health Status of Children in Conflict with Law Residing in the Correction Homes in Bagmati Province, Nepal: A Mixed Method Study

**DOI:** <https://doi.org/10.21203/rs.3.rs-6057968/v1>

**Context:** Children involved with the justice system face compounded social, emotional, and environmental challenges that can severely affect their mental health.

**Methodology:** This was a mixed-method cross-sectional study conducted among 182 adolescents aged 14–17 in two juvenile correction homes in Bagmati Province, using the Nepali version of DASS-21. In-depth interviews with wardens and counselors provided qualitative insights, and SPSS with thematic analysis was used.

**Key message:** High levels of depression (58.2%), anxiety (76.4%), and stress (52.2%) were prevalent. Risk factors included female gender, family instability, and punitive history. The study highlights an urgent need for integrated, gender-sensitive mental health services tailored to this population.

## Periodontal status of the patients presenting with pulmonary disease in a tertiary health care facility in eastern Nepal

**DOI:** <https://doi.org/10.1186/s12903-025-05881-y>

**Context:** Periodontal health and systemic diseases, such as respiratory illnesses, may be interlinked, but this relationship is rarely studied in the Nepali healthcare context.

**Methodology:** This was a hospital-based cross-sectional study conducted among 103 pulmonary patients aged over 18 years examined oral hygiene practices, tobacco use, and periodontal health using standard clinical indices.

**Key message:** 85.5% of patients had periodontitis, mostly of moderate severity. Tobacco use and poor gum health were significantly associated with periodontitis, although its direct link with pulmonary conditions wasn't established. Oral health promotion should be incorporated into chronic disease management.

## The effect of a community-based health behaviour intervention on health-related quality of life in people with Type 2 diabetes in Nepal: a Cluster Randomized Controlled Trial

**DOI:** <https://doi.org/10.1007/s11136-025-03971-6>

**Context:** As diabetes becomes more prevalent in Nepal, improving health-related quality of life (HRQOL) is a growing priority, yet behavioral interventions remain underutilized and poorly evaluated in public primary healthcare.

**Methodology:** A cluster randomized controlled trial enrolled 481 participants with Type 2 diabetes from 30 public facilities. A 6-month culturally tailored behavioral program was tested against usual care, with quality of life measured via EQ5D-3L and EQVAS, and analyzed using GEE models.

**Key message:** The intervention led to a significant improvement in EQVAS scores, especially among those attending more sessions, though EQ5D-3L scores remained unchanged. Sustained, community-friendly programs may meaningfully enhance diabetes care and patient well-being.

## Women's Autonomy, Community Effort, and Cervical and Breast Cancer Screening Behavior Among Married Women in Nepal

**DOI:** <https://doi.org/10.1002/wmh3.70008>

**Context:** Nepal has low cancer screening rates despite high cervical and breast cancer burdens. Understanding the influence of women's autonomy and participation in community groups like Health Mothers' Groups (HMGs) could help inform interventions.

**Methodology:** Secondary analysis of NDHS 2016 data examined screening knowledge and practices among 5,038 ever-married women aged 30–49. Autonomy indicators and HMG participation were evaluated for associations with screening awareness and uptake.

**Key message:** Women's autonomy showed limited effects, but participation in HMGs was strongly associated with increased knowledge of cancer screening services. Strengthening community-based women's platforms could significantly enhance early detection efforts.

## Factors influencing tobacco smoking among men age 15-49 years in Nepal

**DOI:** <https://doi.org/10.21203/rs.3.rs-6123786/v1>

**Context:** Despite Nepal's public health campaigns and regulatory measures, tobacco use among men remains stubbornly high, contributing to significant disease burden and health system costs.

**Methodology:** A multilevel logistic regression analysis was conducted using data from the 2022 Nepal Demographic and Health Survey (NDHS), including 4,913 men aged 15–49. The study assessed tobacco use against socio-demographic variables.

**Key message:** Tobacco use was significantly higher among alcohol users, manual laborers, and wealthier individuals, but lower among the highly educated and older adults. Programs should shift focus toward high-risk subgroups and address co-risk behaviors like alcohol use.

## Catastrophic and impoverishing impacts of health expenditures: a focus on non-communicable diseases in Pokhara Metropolitan City, Nepal

**DOI:** <https://doi.org/10.1186/s12889-025-22418-8>

**Context:** Non-communicable diseases (NCDs) like cardiovascular disease and diabetes require ongoing care, but Nepal's health system heavily relies on out-of-pocket expenditure (OOPE), leaving families financially exposed.

**Methodology:** This was a community-based cross-sectional survey conducted among 1,276 randomly selected households in Pokhara Metropolitan City. The study estimated the prevalence of catastrophic health expenditure (CHE) using WHO's threshold (10% of household consumption) and assessed impoverishment against the national poverty line.

**Key message:** Households with members suffering from NCDs, particularly heart disease and diabetes, experienced significantly higher rates of CHE and medical impoverishment. These households were nearly twice as likely to be pushed below the poverty line due to health expenses. The findings emphasize the urgent need to expand social health protection mechanisms, such as insurance coverage for chronic illnesses, and integrate financial risk protection into NCD policy frameworks.

## Musculoskeletal disorders and other occupational health outcomes among sanitation workers in Nepal: A community based cross-sectional survey exploring the risk factors, knowledge, and practices

**DOI:** <https://doi.org/10.1186/s12889-025-22282-6>

**Context:** Sanitation workers provide an essential public service but often work under hazardous conditions with limited legal and institutional protection facing routine exposure hazards.

**Methodology:** This was a cross-sectional analytical study conducted among 790 sanitation workers across five municipalities: Kathmandu, Lalitpur, Pokhara, Dhangadhi, and Birendranagar. Data were collected using structured interviews and physical assessments to estimate the prevalence of MSDs and to examine associations with related factors.

**Key message:** Over one-third of workers suffered from MSDs, particularly those who were older, from marginalized backgrounds, and working in Pokhara. Use of PPE was inconsistent. Occupational health services and stricter labor protections are urgently needed for this neglected workforce.


## Facilitators in treatment pathways for depression or anxiety among adults in Nepal: A qualitative study

**DOI:** <https://doi.org/10.21203/rs.3.rs-5711655/v1>

**Context:** Depression and anxiety are common worldwide, yet many people in low- and middle-income countries like Nepal struggle to access appropriate treatment.

**Methodology:** The study took place in Jhapa, Chitwan, and Kailali districts, involving 24 adults receiving care for depression or anxiety. Participants were selected purposively and interviewed using the McGill Illness Narrative Interview to capture detailed accounts of their symptoms and help-seeking behavior.

**Key message:** Treatment pathways were often complex and involved multiple providers, with traditional healers being the most frequently consulted, especially at the beginning. Care-seeking was shaped by service quality, provider behavior, access, confidentiality, and social influence. Improving service delivery, raising awareness, and training traditional healers in mental health could enhance access to care and support better outcomes.



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 April 2025.

Should you have colleagues who'd like to receive these updates via email ([ncdwatchnepal@gmail.com](mailto: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/](https://nepalhealthfrontiers.org/publication_type/ncd-watch-nepal-research-roundup/)

#### NCD Watch Nepal



#### Publications



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

#actowncds #beatncds