

## Original Research



## Morbidity profile among patients attending allopathic healthcare facilities in Kalutara District, Sri Lanka

Naveen de Soysa<sup>1\*</sup>, Udayi Gunawardana<sup>2</sup>, Supipi Dissanayake Gunawardana<sup>2</sup>, Padmal de Silva<sup>3</sup>

<sup>1</sup>Regional Directorate of Kalutara District, Sri Lanka; <sup>2</sup>Provincial Directorate of Health Services, Western Province, Sri Lanka; <sup>3</sup>WHO Country Office, Maldives

\*Correspondence: naveendesoyasa@gmail.com

 <https://orcid.org/0000-0003-0634-0076>

DOI: <https://doi.org/10.4038/jccpsl.v31i2.8776>

Received on 19 Sep 2024

Accepted on 27 Jan 2025

### Abstract

**Introduction:** To achieve Universal Health Coverage (UHC), access to quality health services without financial hardship is essential. Although morbidity profiles influence healthcare utilization, national-level morbidity profiles of outpatients are not regularly reported, hindering the assessment of UHC progress.

**Objectives:** To describe the morbidity profile of patients attending out-patient care in all categories of healthcare facilities practising Western medicine in Kalutara District in 2019

**Methods:** A descriptive cross-sectional study with an analytical component was conducted on 1,005 outpatients in healthcare institutions practising Western medicine in the Kalutara District. One-day survey via an interviewer-administered questionnaire was done with two-staged stratified-cluster sampling technique. Patients seeking medical certificates/check-ups or living outside the district were excluded.

**Results:** The sample was 1,005. The commonest groups seeking care were more than 50 years (n=339; 33.7%), females (n=570; 56.7%), Sinhalese (n=890; 88.5%) and with the highest education level between grade 6 to GCE Ordinary Level (n=521; 51.8%) visiting outpatient departments (OPD) in contrast to general practitioners (GP) where less than 18 years (31.3%) and males (52.7%) were the commonest. The commonest symptom category (39.1%) was respiratory in all facilities. More than half (57.6%) sought treatment within the first three days of illness with early presentation to GP. Nearly 50% had comorbidities with the commonest being cardiovascular diseases. More than two fifths (44.2%) had some kind of disability.

**Conclusions:** Except for a few similarities, the morbidity profile showed variations across different levels of healthcare facilities with notable deviations in relation to age and gender when GP settings were concerned.

**Key words:** Universal health coverage, Healthcare Utilization, Morbidity-Profile, Kalutara district

## Introduction

Universal Health Coverage (UHC) aims to provide health services to all without financial strain. Achieving UHC depends on understanding morbidity profiles, which reveal disease prevalence and healthcare utilization patterns. These profiles are crucial not only for effective healthcare planning and resource allocation but also for identifying where access gaps exist, ensuring that services are equitably available to all. National and regional morbidity data help identify health priorities and improve service delivery, making them essential for effective UHC implementation (1).

Numerous studies worldwide have explored morbidity profiles and their implications for healthcare systems. In sub-Saharan Africa, both communicable and rising non-communicable diseases (NCDs) demand dual health strategies (2). A Brazilian study found that poorer regions face more infectious diseases and malnutrition, while wealthier areas face more NCDs, calling the need for tailored health policies (3). In rural China, high rates of hypertension and diabetes stressed the need for integrated care and strong primary healthcare (4). In a rural district of India, a morbidity profile study identified a significant prevalence of respiratory and gastrointestinal diseases emphasizing the critical need for enhanced sanitation and access to clean water (5). These studies emphasize the importance of analysing morbidity profiles to tailor health interventions for specific populations.

Varying health challenges, shaped by socioeconomic status, environment and healthcare access, require targeted public health strategies. Sri Lanka's healthcare system offers free services through public hospitals, funded by general taxation, alongside a growing private sector (6). Sri Lanka is recognized as performing well in relation to health parameters, by achieving good health at low cost (7). The UHC Service Coverage Index for Sri Lanka in 2017 was 66%, while many other Asian countries like India (55%), Pakistan (45%), Bangladesh (48%), Bhutan

(62%), Nepal (48%) and Maldives (62%) have got lower values (8). This reflects the country's stronger healthcare infrastructure and service capacity.

Notably, access to outpatient department (OPD) services in Sri Lanka plays a crucial role in achieving this higher coverage, providing essential affordable care and ensuring equitable access as a foundation for UHC. The total OPD visits were estimated to be exceeding 100 million with 55 million visits in the public sector alone, four times of the national population of 20 million. Despite this heavy outpatient burden, the national level morbidity profiles of patients and other potential influencing factors for healthcare utilization or health seeking behaviours have not been reported regularly. A study done in Peradeniya Teaching Hospital revealed that non-specific body aches and pains was the main reason to seek OPD care, followed by respiratory symptoms, abdominal pain and fever (9). A one-day private sector GP survey in 1998 revealed respiratory symptoms to be the main reason (10). Another one-day survey conducted related to the Sri Lanka Essential service Package in 2018 has found the most frequent diagnosis being upper respiratory tract infection followed by viral fever and lower respiratory tract infections (11). These surveys indicate the need for further assessment of morbidity profiles of patients in both state and private sectors.

Achieving UHC requires a detailed examination of the current situation at the grass root level before designing interventions to make progress. Therefore, accurate morbidity data are essential for effective resource allocation within the healthcare system (12), which will inform healthcare planning of targeted interventions and policy-making. This ensures that health services are equitably distributed and accessible to all segments of the population.

This study was designed to generate the necessary evidence on morbidity profile, which is a contributory factor in the health care utilization pattern of patients

attending the OPD in all categories of healthcare facilities practising Western medicine.

## Methods

This was done as a descriptive cross-sectional study in 2019 as a one-day survey in Kalutara District, which has a diverse population living with varying health needs. Its urban areas tend to have better access to healthcare services, while rural areas might face challenges such as transportation and fewer healthcare facilities (7). All patients seeking care from the OPD of healthcare institutions practising Western medicine (government hospitals, private hospitals, GP) in the district were invited for the study. Patients accessing OPD for medical certificates and medical check-ups and those having their usual residence outside Kalutara District were excluded.

The required sample size was calculated according to a statistical formula (13), in order to detect an estimated proportion of 50% with a design effect of 2 and non-response of 20%. This yielded a sample size of 940, which was obtained using a two-stage stratified cluster sampling technique. In stage 1, the sample was stratified by the number of patients seeking care from OPD in government hospitals (45%) and private hospitals (55%) based on the latest Annual Health Bulletin statistics (14). In stage 2, 194 clusters of OPD settings (cluster size of 10 patients) were selected. The clusters taken were proportionately stratified by the different types of institutions found in the government sector (district general hospitals, base hospitals, divisional hospitals and primary medical care units) and private sector (private hospitals and

GP). This stratification was based on previous month's patient attendance statistics of each institution. Within each OPD setting, systematic sampling was applied to select the required cluster.

A pre-tested, interviewer-administrated questionnaire in all three languages was used. It has sections related to sociodemographic data and morbidity profile. Patients were interviewed post-consultation. In paediatric patients, the accompanying parent or guardian was interviewed. Presenting complaints of the patients were categorized according to the International Classification of Primary Care (ICPC) Classification (15).

The duration of patients' presenting complaints was categorized as less than three days, three to seven days, and more than seven days, aligning with common primary care practices. This classification reflects typical timelines for investigations like blood tests, antibiotic courses, and follow-up visits in general practice.

## Data analysis

Data were analysed using the Statistical Package for the Social Sciences (SPSS) version 25. Morbidity pattern was presented with frequencies and percentages.

## Results

The sample consisted of 1,005 OPD health care utilizers. They represented 25% of secondary and tertiary government hospitals (n=251) and 40% GP (n=402) settings.

**Table 1: Sociodemographic characteristic of the patients seeking OPD services**

| Categories                     | Secondary & tertiary government hospitals (n=251) |      | Primary government institutions (n=222) |      | Private hospitals (n=130) |      | General practices (n=402) |      |
|--------------------------------|---------------------------------------------------|------|-----------------------------------------|------|---------------------------|------|---------------------------|------|
|                                | No.                                               | %    | No.                                     | %    | No.                       | %    | No.                       | %    |
| <b>Age group (years)</b>       |                                                   |      |                                         |      |                           |      |                           |      |
| <18                            | 54                                                | 21.5 | 57                                      | 25.7 | 36                        | 27.7 | 126                       | 31.3 |
| 18 - 30                        | 17                                                | 6.8  | 20                                      | 9.0  | 9                         | 6.9  | 92                        | 22.9 |
| 31 - 40                        | 34                                                | 13.6 | 23                                      | 10.4 | 15                        | 11.5 | 41                        | 10.2 |
| 41 - 50                        | 41                                                | 16.3 | 34                                      | 15.3 | 19                        | 14.6 | 38                        | 9.5  |
| 51 - 60                        | 45                                                | 17.9 | 36                                      | 16.2 | 10                        | 7.7  | 44                        | 10.9 |
| >60                            | 57                                                | 22.7 | 48                                      | 21.6 | 40                        | 30.8 | 59                        | 14.7 |
| Missing                        | 3                                                 | 1.2  | 4                                       | 1.8  | 1                         | 0.8  | 2                         | 0.5  |
| <b>Sex</b>                     |                                                   |      |                                         |      |                           |      |                           |      |
| Male                           | 87                                                | 34.7 | 87                                      | 39.2 | 46                        | 35.4 | 212                       | 52.7 |
| Female                         | 162                                               | 64.5 | 134                                     | 60.4 | 84                        | 64.6 | 190                       | 47.3 |
| Missing                        | 2                                                 | 0.8  | 1                                       | 0.4  | 0                         | 0.0  | 0                         | 0.0  |
| <b>Ethnicity</b>               |                                                   |      |                                         |      |                           |      |                           |      |
| Sinhala                        | 230                                               | 91.6 | 196                                     | 88.3 | 127                       | 97.7 | 337                       | 83.8 |
| Tamil                          | 9                                                 | 3.6  | 10                                      | 4.5  | 0                         | 0.0  | 15                        | 3.7  |
| Muslim                         | 7                                                 | 2.8  | 15                                      | 6.8  | 3                         | 2.3  | 44                        | 11.0 |
| Burgher                        | 2                                                 | 0.8  | 0                                       | 0.0  | 0                         | 0.0  | 4                         | 1.0  |
| Missing                        | 3                                                 | 1.2  | 1                                       | 0.4  | 0                         | 0.0  | 2                         | 0.5  |
| <b>Highest education level</b> |                                                   |      |                                         |      |                           |      |                           |      |
| No schooling                   | 10                                                | 4.0  | 20                                      | 9.0  | 3                         | 2.3  | 20                        | 5.0  |
| Preschool- Grade 5             | 38                                                | 15.1 | 50                                      | 22.5 | 32                        | 24.6 | 71                        | 17.7 |
| Grade 6 - Passed O/L*          | 160                                               | 63.7 | 114                                     | 51.3 | 55                        | 42.3 | 192                       | 47.7 |
| Passed 12 or A/L**             | 37                                                | 14.8 | 33                                      | 14.9 | 26                        | 20.0 | 86                        | 21.4 |
| Degree holder                  | 6                                                 | 2.4  | 4                                       | 1.8  | 9                         | 6.9  | 16                        | 4.0  |
| Other                          | 0                                                 | 0    | 1                                       | 0.5  | 3                         | 2.3  | 1                         | 0.2  |
| Missing                        | 0                                                 | -0   | 0                                       | 0    | 2                         | 1.6  | 16                        | 4.0  |

\* General Certificate of Education Ordinary Level; \*\* Advanced Level

Table 1 describes their socio-demographic characteristics. The commonest groups seeking care in the government sector were more than 50 years (n=339; 33.7%), females (n=570; 56.7%), Sinhalese (n=890; 88.5%) and educated up to grade 6 and beyond (n=521; 51.8%). In contrast, the commonest age group that presented to GP settings were less than 18 years (30.8%). The majority who presented

to any type of institution other than GP were female (n=570; 56.7%). In contrast, general practices had more males (n=212; 52.7%). A higher proportion of the study sample had studied up to grade five (19%, n=191). In patients above the age of 18 years, the commonest occupation category was craft and related trades workers (n=55; 7.5%) followed by service and sale workers and technicians.

**Table 2: Comparison of the presenting complaints of participants categorized according to the ICPC Classification**

| Presenting complaint           | Secondary & tertiary government hospitals (n=251) |      | Primary government institutions (n=222) |      | Private hospitals (n=130) |      | General practices (n=402) |      |
|--------------------------------|---------------------------------------------------|------|-----------------------------------------|------|---------------------------|------|---------------------------|------|
|                                | No.                                               | %    | No.                                     | %    | No.                       | %    | No.                       | %    |
| Respiratory conditions         | 78                                                | 31.1 | 119                                     | 53.6 | 49                        | 37.7 | 147                       | 36.6 |
| General and unspecified*       | 32                                                | 12.7 | 12                                      | 5.4  | 15                        | 11.6 | 80                        | 19.9 |
| Skin conditions                | 40                                                | 15.9 | 17                                      | 7.7  | 27                        | 20.8 | 37                        | 9.2  |
| Musculoskeletal conditions     | 26                                                | 10.4 | 30                                      | 13.5 | 14                        | 10.8 | 35                        | 8.7  |
| Gastroenterological conditions | 22                                                | 8.8  | 14                                      | 6.3  | 14                        | 10.8 | 39                        | 9.8  |
| Neurological conditions        | 20                                                | 8    | 21                                      | 9.4  | 2                         | 1.5  | 25                        | 6.3  |
| Urological conditions          | 11                                                | 4.3  | 2                                       | 0.9  | 2                         | 1.5  | 11                        | 2.7  |
| Cardiovascular conditions      | 5                                                 | 2    | 6                                       | 2.7  | 5                         | 3.8  | 7                         | 1.8  |
| Ear, nose, throat conditions   | 6                                                 | 2.4  | 1                                       | 0.5  | 2                         | 1.5  | 10                        | 2.4  |
| Other conditions               | 9                                                 | 3.6  | 0                                       | 0    | 0                         | 0    | 8                         | 1.9  |
| Missing                        | 2                                                 | 0.8  | 0                                       | 0    | 0                         | 0    | 3                         | 0.7  |

\*Somatic complaints, lethargy, malaise or any other vague symptom

As given in Table 2, more than one third of the patients complained of having respiratory conditions (39.1%), while 10% each of skin, general and musculoskeletal conditions were reported. In

PMcUs, more than half reported respiratory symptoms (53.6%) compared to general and unspecified conditions seen in the GP settings (n=80).

**Table 3: Comparison of the duration of presenting complaint of the current illness among participants**

| Duration | Secondary & tertiary government hospitals (n=251) |      | Primary government institutions (n=222) |      | Private hospitals (n=130) |      | General practices (n=402) |      |
|----------|---------------------------------------------------|------|-----------------------------------------|------|---------------------------|------|---------------------------|------|
|          | No.                                               | %    | No.                                     | %    | No.                       | %    | No.                       | %    |
| <3 days  | 98                                                | 39.0 | 128                                     | 57.6 | 69                        | 53.1 | 284                       | 70.7 |
| 3-7 days | 75                                                | 29.9 | 58                                      | 26.1 | 42                        | 32.3 | 59                        | 14.7 |
| >7 days  | 75                                                | 29.9 | 35                                      | 15.8 | 16                        | 12.3 | 42                        | 10.4 |
| Missing  | 3                                                 | 1.2  | 1                                       | 0.5  | 3                         | 2.3  | 17                        | 4.2  |

Overall, most of the patients at government settings sought treatment within three days of onset of the presenting complaint (57.6%) followed by 16.7% who sought care after seven days (Table 3). In comparison, more than 70% (70.6%) of patients had the illness for less than three days in GP settings. However, in secondary and tertiary government hospitals, most patients came after three days of illness.

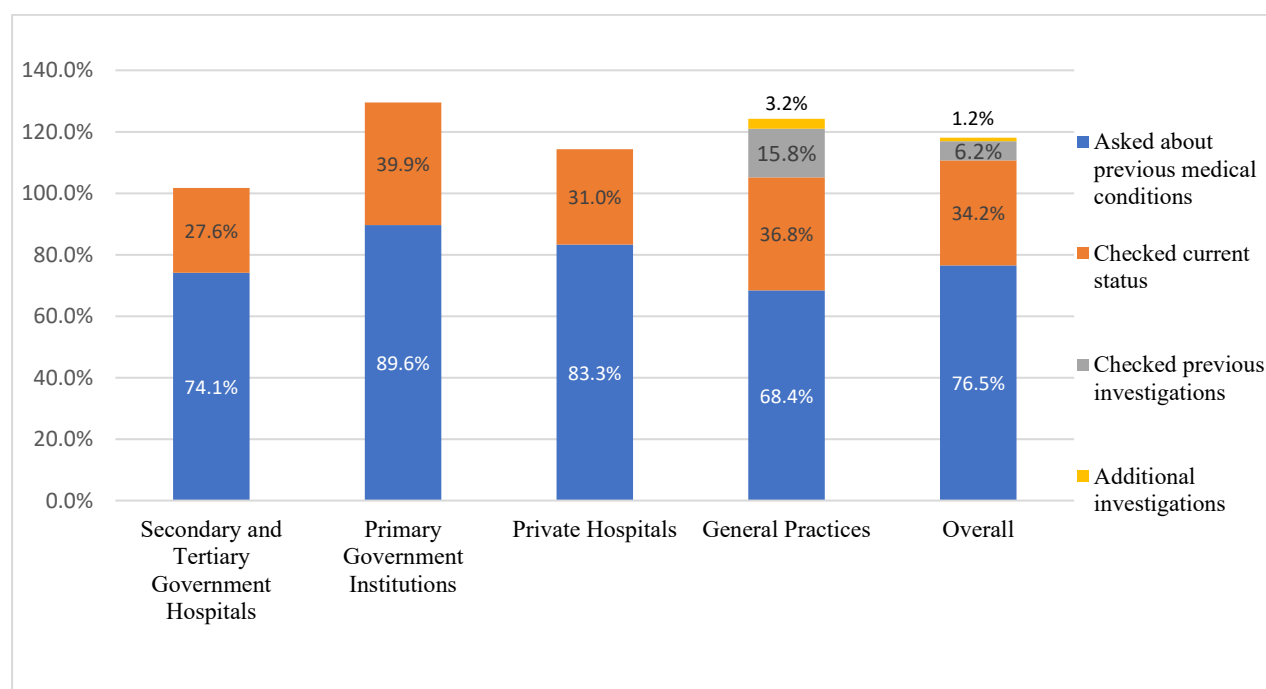
More than half (53.6%) had not been previously diagnosed as having any medical condition, whereas 24.2% had previously diagnosed cardiovascular diseases and 14.1% diabetes (Table 4). In secondary and tertiary government hospitals, 18.3% of patients had previously been diagnosed with gastritis or stomach disease.

**Table 4: Distribution of the previously known medical conditions among participants**

| Medical condition         | Secondary & tertiary government hospitals<br>(n=251) |      | Primary government institutions<br>(n=222) |      | Private hospitals<br>(n=130) |      | General practices<br>(n=402) |      |
|---------------------------|------------------------------------------------------|------|--------------------------------------------|------|------------------------------|------|------------------------------|------|
|                           | No.                                                  | %    | No.                                        | %    | No.                          | %    | No.                          | %    |
| Cardiovascular            | 58                                                   | 23.1 | 48                                         | 21.6 | 42                           | 32.3 | 95                           | 23.6 |
| Diabetes                  | 34                                                   | 13.5 | 26                                         | 11.7 | 22                           | 16.9 | 60                           | 14.9 |
| Asthma                    | 30                                                   | 12.0 | 18                                         | 8.1  | 12                           | 9.2  | 27                           | 6.7  |
| Gastritis/ stomach        | 46                                                   | 18.3 | 11                                         | 5.0  | 5                            | 3.8  | 16                           | 4.0  |
| Other                     | 3                                                    | 1.2  | 1                                          | 0.5  | 0                            | 0.0  | 5                            | 1.2  |
| At least one of the above | 13                                                   | 53.0 | 105                                        | 47.3 | 65                           | 50.0 | 163                          | 40.5 |
| Visual disability         | 74                                                   | 29.5 | 74                                         | 33.3 | 60                           | 46.2 | 76                           | 18.9 |
| Hearing disability        | 29                                                   | 11.6 | 24                                         | 10.8 | 13                           | 10.0 | 22                           | 5.5  |
| Other disabilities        | 43                                                   | 17.1 | 15                                         | 6.8  | 14                           | 10.8 | 19                           | 4.7  |
| Some kind of a disability | 142                                                  | 56.6 | 111                                        | 50.0 | 82                           | 63.1 | 107                          | 26.6 |

According to Figure 1, out of 243 patients (24.2%) with cardiovascular diseases in the past, 76.5% were asked about their disease by going through previous clinic records, while the prevailing disease status was checked only in 34.2% of them. Previous investigations were checked only in 6.2% and additional investigations were done in 1.2% of them. In all types of hospitals, none of their past

investigations were checked nor additional tests requested. In GP settings, 68.4% were asked about their cardiovascular condition and their previous investigations were checked in 15.8% of them. Among all patients, 44.0% (n=442) had some disability, predominantly visual (n=284; 28.3%) and hearing (n=88; 8.8%) impairment.

**Figure 1: Comparison of the cardiovascular conditions assessed by a medical officer during outpatient visits**

## Discussion

This is a pioneering study done in Sri Lanka on UHC covering an entire district with emphasis on the curative setting. Older patients mainly visited the government and private hospitals, while younger and mostly male patients went to GPs. Respiratory issues were the most common across all settings, with more general complaints at GPs. Early care-seeking was higher in primary care, while delayed visits were common in secondary and tertiary level hospitals. Cardiovascular diseases were the most frequent known conditions.

The age distribution shows that more patients below 18 years of age present to the GP settings in contrast to other levels which had more of above 50-year age group. Global literature also depicts higher utilization of hospital services by older people (17). In the study in USA in 2019, younger persons seemed to prefer GP service while older population utilize inpatient services (12). This difference may be due to children being mostly included in the category below 18 years. When children present with symptoms, the caregivers would like to seek care without delay, hence may go to the nearest facility available.

The utilization of GP settings showed a male preponderance in contrast to other levels of healthcare institutions. This may be due to their preference of obtaining services after hours, in which GP services may be more accessible for working men due to their location, hours and the ability to address a variety of health concerns in one visit. In contrast to a study in Australia with GP records, younger men (<40 years) were less likely to visit GPs, typically seeking care for acute illnesses, injuries or mental health concerns (18).

The most common presenting complaint in GP-setting was related to the respiratory system. These symptoms may include shortness of breath and increased respiratory rate, which may look alarming to the caregivers. However, there may be a lack of timely recognition of symptom severity, potentially leading to delayed health-seeking behaviour, particularly until the latter part of the day. This finding is in par with the WHO Global Disease Burden profile done in 2017 (17).

Aside from respiratory conditions, 19.9% of participants at GP settings reported general or non-specific symptoms. A 2021 rural India study showed a similar trend, where GPs are often the first contact for undiagnosed conditions (19). Males may choose easily accessible institutions for generic symptoms, illustrating how morbidity profiles influence healthcare access. Additionally, most GP visitors had illnesses lasting three days or less.

Most participants had chronic NCDs, highlighting Sri Lanka's epidemiological transition and the need to consider this in planning UHC (20). Cardiovascular conditions and diabetes require long-term treatment and follow-up compared to acute illnesses. The study found that previous records were checked more frequently in GP settings than in other institutions and a higher percentage of care providers asking about previous comorbidities. This underscores the need to enhance record-keeping and accessibility in other healthcare settings as well.

A limitation of the study was that client numbers were estimated using past statistics, which may have differed from the actual figures. However, trends in patient visits have remained stable over time, minimizing the impact on internal validity.

## Conclusions & Recommendations

There were disparities in age and gender among outpatient clients. Majority who presented to GP were children and young males. Respiratory issues were the most common condition at OPD. In GP, the second most common condition was general and unspecific, whereas in secondary and tertiary hospitals, it was skin conditions. General practices see around three fourth of patients within the first three days of symptom onset, compared to around half the patients seen after the first three days in

secondary and tertiary government hospitals. It is recommended to strengthen underutilized government primary healthcare units to enhance access for underprivileged populations, while also promoting other essential services such as preventive and promotive care. Additionally, further research should focus on patient convenience and the utilization of rehabilitative services, addressing the rising incidence of disabilities and their associated financial implications.

## Public Health Implications

- This study emphasized the need for strengthening primary healthcare in underserved areas. The high prevalence of respiratory and non-specific conditions underscores the importance of targeted interventions like improved sanitation and awareness campaigns.
- Disparities in healthcare access based on age and gender highlight the necessity for tailored outreach programs.
- Additionally, the increasing burden of chronic diseases and disabilities calls for integrated care models, emphasizing long-term management and rehabilitation. These findings suggest that healthcare services should be more responsive to the diverse needs of the population for effective UHC implementation.

## Author Declarations

**Competing interests:** The authors declare that they have no competing interests.

**Ethics approval and consent to participate:** Ethics approval was obtained by the Ethics Review Committee of National Institute of health Services- Kalutara (NIHS/ETC/19/82R).

**Funding:** Financial assistance from Primary Health Care System Strengthening Project (PSSP)

**Acknowledgements:** Dr Palitha Abeykon, Dr. Buddhika Mahesh and Dr Sameera Senanayaka who guided through all the stages of this project.

**Author contributions:** NDS- designing, data collection and statistical analysis, drafting the manuscript; MDUB- data collection and data entry; DSKD- data collection and data; PDS- Supervisor; all authors read and approved the final manuscript.

## References

1. World Health Organization. *Primary Health Care On The Road To Universal Health Coverage*. Geneva: World Health Organization, 2019. Available from: <https://www.who.int/publications/i/item/9789240029040>.
2. Mudie K, Mei Jin Tan M, Kendall L, Addo J, dos-Santos-Silva I, Quint J, et al. Non-communicable diseases in sub-Saharan Africa: a scoping review of large cohort studies. *J Glob Health* 2019; 9(2). <https://doi.org/10.7189/jogh.09.020409>.
3. Wehrmeister FC, Wendt AT, Sardinha LMV. Inequalities and chronic non-communicable diseases in Brazil. *Epidemiol Serv Saude* 2022; 31(Suppl 1): 1-4. <https://doi.org/10.1590/S1679-49742022000100004>.
4. Min Y, Jiang LX, Yan LJJ, Wang LH, Basu S, Wu YF, et al. Tackling China's noncommunicable

- diseases: shared origins, costly consequences and the need for action. *Chin Med J (Engl)* 2015; 128(6): 839-843. <https://doi.org/10.4103/0366-6999.152653>.
5. Kumar P, Srivastava S, Banerjee A, Banerjee S. Prevalence and predictors of water-borne diseases among elderly people in India: evidence from Longitudinal Ageing Study in India, 2017–18. *BMC Public Health* 2022; 22(1): 1-11. <https://doi.org/10.1186/s12889-022-13376-6>.
  6. World Health Organization. *Sri Lanka: Health Statistics*. Geneva: WHO, 2019. Available from: <https://www.who.int/countries/lka/en/>.
  7. Govindaraj R, Navaratne K, Cavagnero E, Seshadri SR. *Health care in Sri Lanka: what can the private health sector offer?* HNP Discuss Pap 2014; 1-66. Available from: <http://documents.worldbank.org/curated/en/423511468307190661/Health-care-in-Sri-Lanka-what-can-the-private-health-sector-offer>
  8. World Bank, Sri Lanka. *World Bank Development Indicators*. 2021. Available from: <https://tradingeconomics.com/sri-lanka/indicators-wb-data.html?g=financial+sector>.
  9. Dharmaratne S, Agampodi S, Dassanayaka S, Kumarihami P, Ratnayake A, Wickramathilake S. Disease burden assessment beyond in-patient data: a morbidity profile assessment of outpatients. *Int J Prev Med* 2012; 3(10): 730-732.
  10. De Silva N, Mendis K. One-day general practice morbidity survey in Sri Lanka. *Fam Pract* 1998; 15(4): 323-331. <https://doi.org/10.1093/fampra/15.4.323>.
  11. Ministry of Health Nutrition and Indigenous. *Sri Lanka Essential Health Services Package*. Colombo: Ministry of Health, 2019: 70.
  12. Yazdanbakhsh K, Zhong H, Bao W, Friedman D, HHS public access. *Clin Hemorheol Microcirc* 2016; 176(1): 139-148. <https://doi.org/10.1016/j.clinhemor.2016.09.001>.
  13. Scheaffer RL, Mendenhall WM, Ott L. *Elementary survey sampling*. New York: McGraw-Hill, 2006.
  14. Ministry of Health Nutrition and Indigenous. *Annual Health Bulletin 2015 Sri Lanka*. Colombo: Medical Statistics Unit, Ministry of Health, Nutrition and Indigenous Medicine, 2017. Available from: [http://www.health.gov.lk/moh\\_final/english/public/elfinder/files/publications/AHB/2017/AHB%202015.pdf](http://www.health.gov.lk/moh_final/english/public/elfinder/files/publications/AHB/2017/AHB%202015.pdf).
  15. World Health Organization. *World Organization Of Family Doctors International Classification Of Primary Care*. Geneva: WHO, 2016. Available from: [www.globalfamilydoctor.com](http://www.globalfamilydoctor.com).
  16. Alwis I, Rajapaksha B, Jayasanka C, Dharmaratne SD. Morbidity profile and pharmaceutical management of adult outpatients between primary and tertiary care levels in Sri Lanka: a dual-centre, comparative study. *BMC Prim Care* 2024; 25(1): 1-14. <https://doi.org/10.1186/s12875-024-02250-z>.
  17. World Health Organization. *Global Burden Of Disease Study 2017*. Geneva: WHO, 2017. Available from: <https://www.who.int/data/gho/data/themes/mortality-and-global-health-estimates/gbd-2017>.
  18. Bayram C, Valenti L, Britt H. General practice encounters with men. *Aust Fam Physician* 2016; 45(4): 171-174.
  19. Yadav R, Zaman K, Mishra A, Reddy MM, Shankar P, Yadav P, et al. Health seeking behaviour and healthcare utilization in a rural cohort of North India. *Healthc* 2022; 10(5): 1-12. <https://doi.org/10.3390/healthcare10050867>.
  20. Navaratne KV, Gopalan S, Engलगau M, Okamoto K. *Prevention and control of selected chronic NCDs in Sri Lanka: policy options and action*. HNP Discuss Pap 2010; 1(October): 1–136. Available from: <http://documents.worldbank.org/curated/en/2010/10/12932732/prevention-control-selected-chronic-ncds-sri-lanka-policy-options-action>.