

Targeting NCDs epidemic through community-based interventions in low resource setting: An experience

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Background

Access to healthcare services remains a major challenge in low and middle income countries (LMICs) like Nepal. People living with Non-Communicable disease (NCD) are often diagnosed at advanced disease stages with complications. The implementation of a community-based screening initiative, Kidney, Hypertension, Diabetes, and Cardiovascular diseases (KHDC), was intended to identify the hidden burden of NCD epidemic and provide access to care among marginalized communities.

Outcomes

- 42 non-physician Health Care Providers (HCPs) were trained and mobilized on NCDs care.
- 14,517 individuals over 18 years of age were screened during the project period. (Figure 1) High blood glucose levels, high blood pressure, renal disease were diagnosed in 11.5%, 18.3%, 4.5%, and 3.1% individuals. Majority were new detections. (FIGURE 2, TABLE 1)
- 36.1% were found to have at least one NCD.
- Co-occurrence of elevated BP and raised fasting blood glucose was detected among 17% of the screened individuals.
- 21.6% screened individuals were tobacco users.
- 62.3% reported lack of physical activity.
- Sociodemographic, behavioural and biological factors were found to have significant association with NCDs. (TABLE 2)

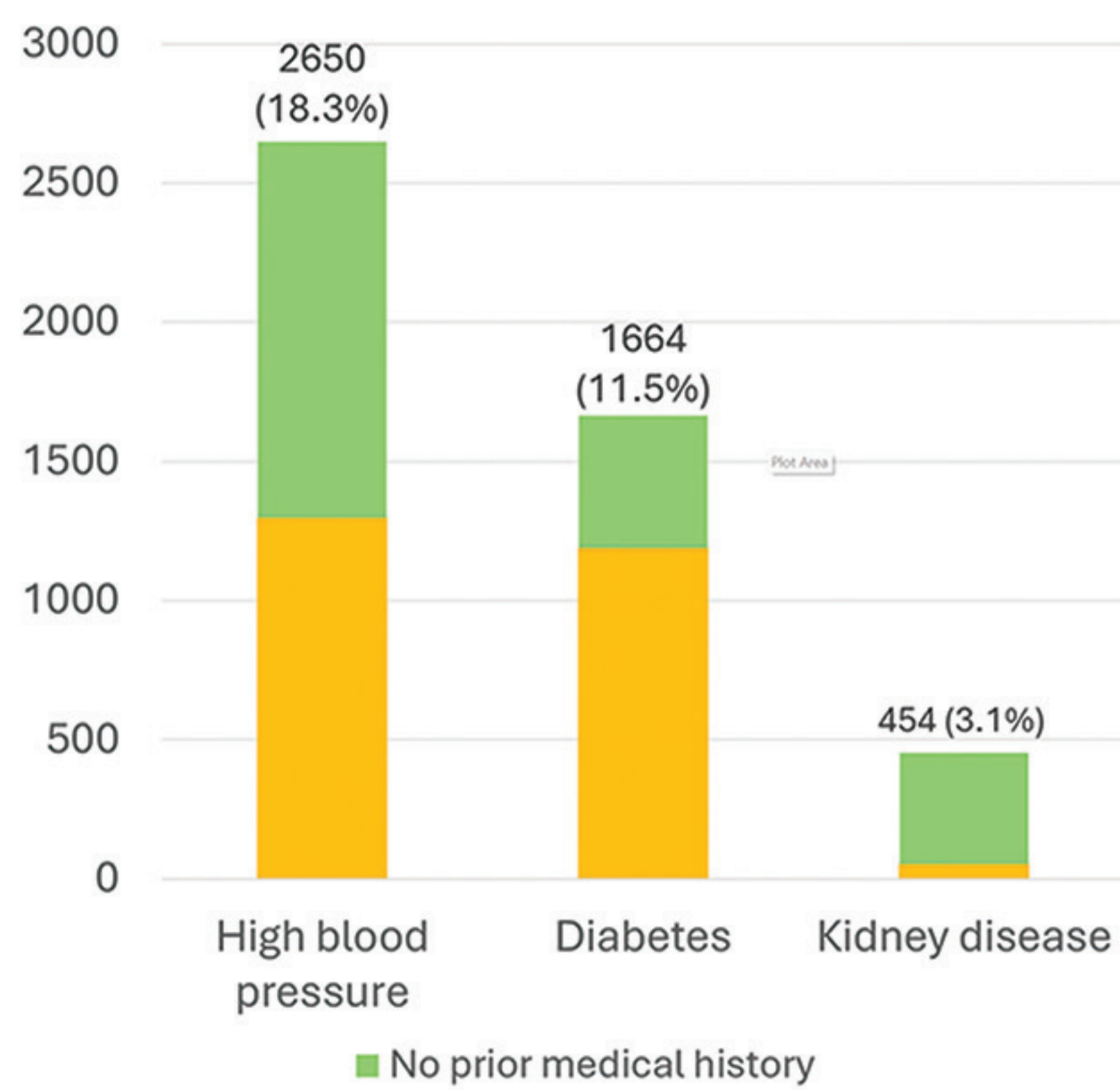


Figure 2. Detection of major NCDs among screened population (n=14,517)



Lack of Physical Activity
62.3%



Tobacco Use
21.6%

Impacts and lessons

NCDs at their early asymptomatic stage can be targeted through community-based interventions. Awareness campaigns associated with assessment of risk factors and NCDs can provide an insight into the behavioral and social factors which can subsequently be targeted with appropriate public health strategies. Engaging local actors in the process ensures the sustainability of the process and access to care for individuals diagnosed with an NCD.

Description

The KHDC program focused on early detection and management of NCDs through community based targeted screening and awareness campaigns in a municipality of Eastern Nepal during 2019-2023. It also included capacity building of local healthcare providers (HCPs) in NCD management at primary health care level with an emphasis on task sharing. Delivery of NCD services was ensured through community based targeted screening. Individuals screened positive for NCDs and/or with risk factors were managed at primary care level through the trained HCPs under guidance of expert physicians, while complicated cases were referred to a higher level of care. Management decisions were based on clinical evaluation and necessary investigations. Treatment was in line with national protocols with essential medicines allocated by the municipality.

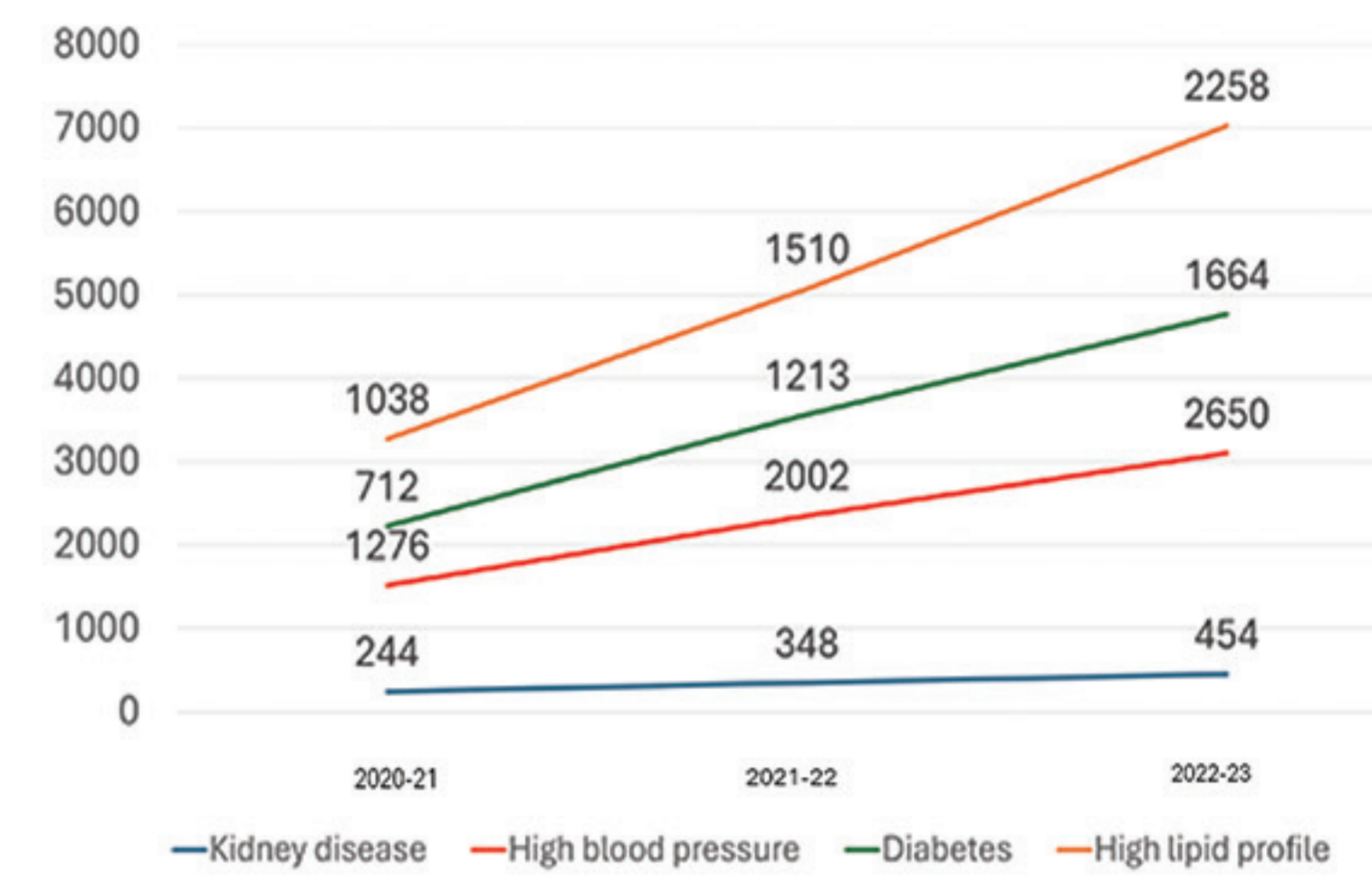


Figure 1. Cumulative frequency graphs for major non-communicable disease diagnosis throughout KHDC implementation in three years.

Fasting Blood Glucose
HbA1c
Serum creatinine
Lipid profile
Urine analysis
ECG
Echocardiography

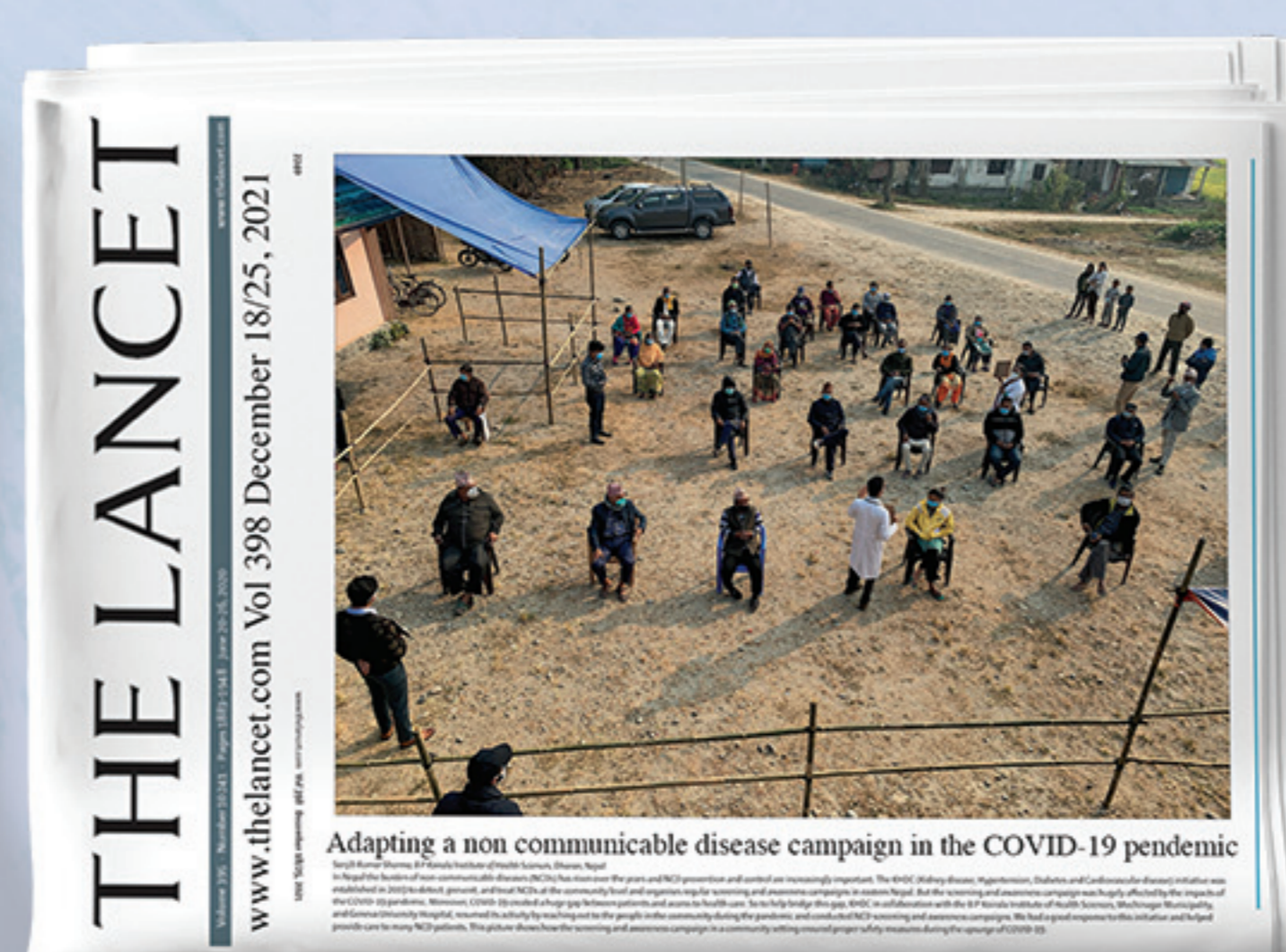
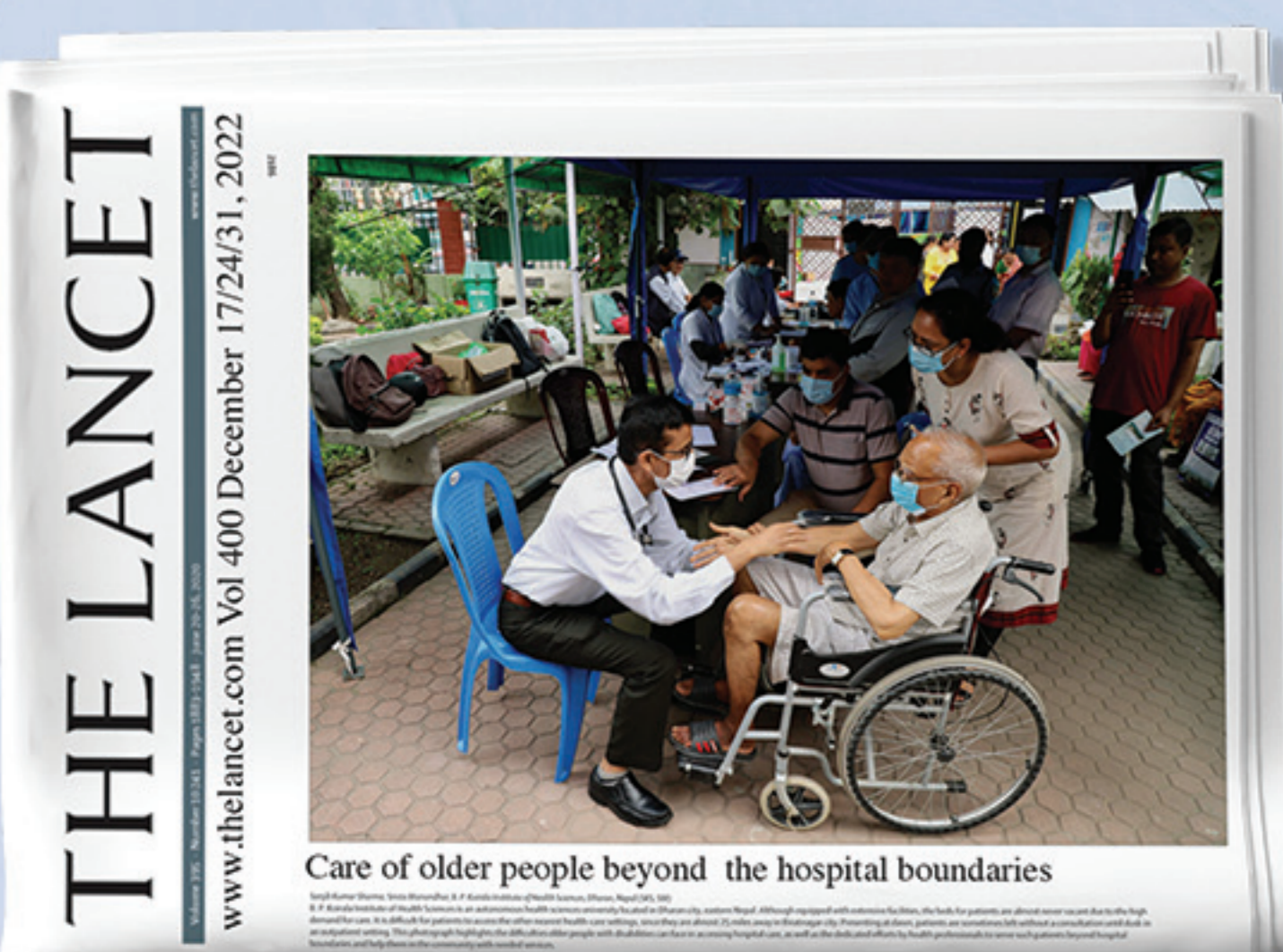
	Frequency (n)	Proportion (%)
Only SBP raised (>140 mmHg)	1137	7.8
Only DBP raised (>80 mmHg)	428	3.0
Both SBP and DBP raised	1085	7.5
Either SBP or DBP raised	2650	18.3

Table 1. Findings for elevated blood pressure among screened individuals [N=14502]

	BP elevation (either SBP or DBP)			p-value
	Elevated (n=2650)	Normal (n=11852)	OR (95% CI)	
Age [Mean (±SD)]	59.43 (±13.54)	48.61 (±15.25)	1.049 (1.046-1.052)	<0.001
Sex [n (%)]				
Male	1292 (23.4%)	4221 (76.6%)	1.720 (1.580-1.872)	<0.001
Female (ref.)	1358 (15.1%)	7631 (84.9%)		
Education [n (%)]				
Illiterate	1440 (24.7%)	4385 (75.3%)	2.027 (1.861-2.206)	<0.001
Literate (ref.)	1210 (13.9%)	7467 (86.1%)		
Self-reported Physical activity [n (%)]				
Lack of activity	1661 (18.4%)	7362 (81.6%)	1.024 (0.939-1.117)	0.589
Some degree of activity (ref.)	989 (18.1%)	4490 (81.9%)		
Current tobacco consumption [n (%)]				
Current user	678 (21.7%)	2453 (78.3%)	1.317 (1.194-1.453)	<0.001
Non-user (ref.)	1972 (17.3%)	9399 (82.7%)		
BMI [Mean (±SD)]	26.00 (±5.47)	25.64 (±6.52)	1.008 (1.002-1.015)	0.010
LDL (Low Density Lipoprotein) level based on Lipid profile investigation [n (%)]				
Raised LDL (>150 mg/dL)	177 (27.1%)	477 (72.9%)	1.711 (1.432-2.044)	<0.001
Normal LDL (ref.)	2464 (17.8%)	11363 (82.2%)		

* CI: Confidence Interval; OR: odd's ratio; SD: Standard Deviation; p-value < 0.05 signifies statistical significance

Table 2. Predictors for Blood Pressure (BP) elevation, either Systolic Blood Pressure (SBP) or Diastolic Blood Pressure (DBP) among screened individuals. [N=14502]



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Conflict of Interest: None

