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Research Article

Community Awareness and Engagement in Preventing and Controlling Non-Communicable Diseases in Nekemte Town, East Wollega Zone: A Comprehensive Study

Desalegn Amenu[1, *], Ayantu Nugusa[1], Temesgen Tafesse[2]

[1]Biology Department, College of Natural and Computational Sciences, Wollega University, Nekemte, Ethiopia
[2]Armauer Hansen Research Institute, Addis Ababa, Ethiopia

Abstract

Background: Non-communicable diseases (NCDs) pose a significant health challenge globally, including in East Wollega Zone, Ethiopia, particularly in Nekemte town. The burden of NCDs is rising, necessitating a thorough assessment of community awareness and engagement for effective prevention and control strategies. This study aims to assess the level of community awareness and engagement in NCD prevention and control in *Nekemte town, East Wollega Zone*, with more emphasis evaluating awareness levels, health behaviors, existing programs, barriers to engagement, and best practices. A mixed-methods approach was employed, including surveys, interviews, focus group discussions, and review of existing data and literature. Demographic data, prevalence rates, awareness levels, health behaviors, and community perceptions were collected and analyzed. The study will provide insights into the current state of community awareness and engagement regarding NCDs in Nekemte town. Findings were including awareness gaps, prevalent health behaviors, barriers to engagement, and successful community programs. For further intervention, evidence-based interventions and policies aimed at improving community awareness, promoting healthy behaviors, reducing NCD burden, and enhancing community engagement in Nekemte town and similar settings. The study is very important and has the potential to improve health outcomes, optimize resource allocation, reduce disparities, empower communities, inform policies, contribute to academic knowledge, and impact global health initiatives related to NCD prevention and control.

Keywords

Non-Communicable Diseases (NCDS), Community Awareness, Nekemte Town Health Behaviors, Health Education

1. Introduction

Non-communicable diseases (NCDs) have emerged as a significant public health challenge globally, impacting individuals, families, and communities [1]. In East Wollega Zone, specifically in Nekemte town, the burden of NCDs is increasingly recognized as a priority area for health intervention and community engagement. This introduction sets the stage for assessing community awareness and engagement in the prevention and control of NCDs in this region [2]. East Wollega Zone, situated in the western part of Ethiopia, encompasses diverse communities with varying socio-economic

*Corresponding author: wadadesalegn@gmail.com (Desalegn Amenu)

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backgrounds, cultural beliefs, and access to healthcare services. Nekemte town, as the administrative center of the zone, serves as a focal point for healthcare delivery and community development initiatives.

The prevalence of non-communicable diseases such as diabetes, hypertension, cardiovascular diseases, cancer, and respiratory conditions has been steadily rising in the region, mirroring global trends. These diseases not only impose a significant health burden but also strain healthcare systems and contribute to economic challenges for individuals and society at large [3]. Understanding the level of community awareness and engagement is essential for designing effective strategies to prevent, control, and manage NCDs. Awareness encompasses knowledge about risk factors, symptoms, preventive measures, and available healthcare services. Engagement involves active participation in health-promoting behaviors, adherence to medical recommendations, and involvement in community-based initiatives [4].

The East Wollega Zone, particularly Nekemte town, is facing a growing burden of non-communicable diseases (NCDs) such as diabetes, hypertension, cardiovascular diseases, cancer, and respiratory conditions. Despite the increasing prevalence of these diseases, there is a lack of comprehensive understanding regarding community awareness and engagement in the prevention and control of NCDs in this region. The significance of this study lies in its potential to drive positive health outcomes, optimize resource utilization, empower communities, reduce disparities, inform policies, contribute to academic knowledge, and have a broader impact on global health initiatives related to NCD prevention and control. Therefore, this study was conducted to assess the community awareness and engagement in the prevention and control of Non-Communicable Diseases (NCDs) in East Wollega Zone, Nekemte town.

2. Materials and Methods

2.1. Study Area, Design and Periods

The study was carried out at Nekemte town, Ethiopia, which serves as a junction for the Oromia region's numerous regions. The town, which has 161,000 residents, is renowned for its rich cultural diversity. It has the basic infrastructure, including marketplaces, schools, hospitals, transit systems, and administrative buildings. Nekemte is renowned for its educational institutions and cultural legacy, which support the region's intellectual development. The town is well-equipped with medical facilities, such as hospitals and health clinics, which are essential for research on public health campaigns and healthcare access. A community-based cross-sectional study design with a concurrent mixed-method approach was conducted from January 2024 to March 2024.

2.2. Target Population and Selection Criteria

All adults over the age of 18 who are permanent residents of Nekemte town (residing there for at least six months) were the target populations. The study population for the quantitative investigation consisted of randomly selected adult residents. Additionally, a qualitative study was carried out, involving specifically chosen residents, healthcare providers, and public health experts.

2.3. Sample Size

To determine the sample size, create a sampling frame, and plan participant recruitment for assessing community awareness and engagement in NCD prevention and control in East Wollega Zone, the sample size was calculated based on the assumption of confidence (95%) and margin of error (5%) and proportion of Knowledge of NCD (p),

$$N=Z^2*p\ (1-p)/E^2$$

Where: n= required sample size

Z = Z-score (1.96 for 95% confidence)

p = estimated proportion (e.g., awareness or engagement level)

E = margin of error, typically expressed as a decimal (e.g., 0.05 for a 5% margin of error) Hence, rounded up to the nearest whole number, the minimum sample size required for a population of 161,000 with a 95% confidence level and 5% margin of error is approximately 385 adding 10% non-respondents 424 total population were selected.

For the qualitative aspect, a purposive sampling technique was utilized, aiming for maximum variability to ensure diverse perspectives and relevant data in line with the research objectives. This approach was intended to delve deeply into NCDs knowledge and healthy lifestyle practices within the community, seeking comprehensive insights.

2.4. Data Collection

The study designed a robust data collection tool to assess understanding of NCDs, focusing on socio-demographic factors, exposure to NCD information, knowledge levels, and healthy lifestyle behaviors. To carry out data collection, potential co-investigators were enlisted, supervised on-site by potential coordinators supervisors. Data gathering took place through face-to-face interviews utilizing pre-tested questionnaires. Furthermore, the study conducted five sessions of focus group discussions (FGDs) to delve into NCD knowledge and community health practices. These FGDs were moderated by a seasoned health professional. Additionally, ten sessions of in-depth interviews (IDIs) were conducted with healthcare providers and public health experts to gather detailed insights and perspectives.

2.5. Study Variables

Demographic Variables

1. Age
2. Gender
3. Education level
4. Occupation
5. Income level
6. Marital status
7. Ethnicity

Awareness Variables

1. Knowledge of diabetes, hypertension, cardiovascular diseases)
2. Sources of information about healthcare providers, media, family)
3. Awareness of risk factors for smoking, unhealthy diet, lack of physical activity)
4. Awareness of preventive measures healthy diet, regular exercise, screenings)

Engagement Variables

1. Participation in NCD prevention programs (awareness campaigns, health screenings)
2. Compliance with medical recommendations (medication adherence, lifestyle changes)
3. Utilization of healthcare services for NCD management
4. Engagement in community health initiatives related to NCDs

Behavioral Variables

1. Smoking status
2. Alcohol consumption
3. Dietary habits (consumption of fruits and vegetables, fast food intake)
4. Physical activity levels

Environmental Variables

1. Access to healthcare facilities
2. Availability of healthy food options
3. Environmental factors influencing physical activity (parks, sidewalks)

Socioeconomic Variables:

1. Insurance coverage
2. Employment status
3. Housing conditions
4. Economic barriers to healthcare access

These variables can be assessed through surveys, interviews, medical records, and observational data to understand the levels of awareness, engagement, behaviors, and health outcomes related to non-communicable diseases in the specified population.

2.6. Data Analysis

The data was manually checked, cleaned, and entered into Epi data manager, then exported to SPSS for analysis. Descriptive and bivariable analysis were performed, with a p-value < 0.25 for independent variables and a p-value < 0.05 for multivariable analysis. The Hosmer and Lemeshow goodness of fit model was fitted, and no multicollinearity was found. Thematic framework analysis was performed manually, and results were presented in narration, triangulating with quantitative findings.

2.7. Ethical Clearance

The study received ethical approval from Wollega University's review committee, permission from district and kebele administrations, and written informed consent from each participant.

3. Results and Discussion

3.1. Socio-demographic Characteristics

Out of a total of 415 respondents who completed the study, achieving a response rate of 97.87%, the mean age of the participants was 35.50 years, with the majority falling within the age range of 31-45 years. More than half of the participants, accounting for 237 individuals (57.11%), were female. In terms of marital status, 380 participants (91.57%) were married. Additionally, the majority of respondents had education beyond the secondary level. Most participants, numbering 325 individuals (78.10%), belonged to the Oromo ethnic group. Furthermore, approximately more than half of the participants were engaged in both governmental and private sector (merchant) occupations (Table 1).

3.2. Knowledge of Communities About Non Communicable Diseases

The present findings showed that the majority of the community members, accounting for 315 (75.00%), correctly defined and understood non-communicable diseases (NCDs). Among the mentioned NCDs, high blood pressure was the most frequently occurring, with 112 cases (27.00%), followed by diabetes with 94 cases (23.00%), chronic respiratory diseases with 65 cases (16.00%), and ulcers with 60 cases (14.00%). Most community members revealed that NCDs are preventable (350, 84.00%) and 65 (16.00%) believed they are curable if appropriate treatment is received in a timely manner.

Furthermore, the communities were generally aware of the various risk factors contributing to non-communicable diseases (NCDs), which encompass a range of issues from environmental pollution to individual lifestyle practices. They recognized that preventing NCDs involves several key strategies. A significant portion of the community, 249 individuals (60.00%), identified maintaining a healthy diet as crucial for prevention. Additionally, 154 individuals (37.00%) understood the importance of reducing exposure to environmental pollutants as a preventive measure. Moreover, 133 individuals

(32.00%) emphasized the necessity of avoiding smoking and refraining from smoking habits to mitigate the risk of developing NCDs. This awareness underscores the community's recognition of both environmental and lifestyle factors in the prevention of NCDs (Table 2).

Table 1. *Socio-demographic characteristics of respondents and associated factors.*

Demographic Characteristic	Categories/Options	Frequency	Percentage (%)
1) Age	A. <18	35	8.43
	B. 18-30	130	31.33
	C. 31-45	185	44.58
	D. 46-60	30	7.23
	E. Above 60	35	8.43
	Total	415	100.00
2) Gender	A. Male	178	42.89
	B. Female	237	57.11
	Total	415	100.00
3) Education Level	A. No formal education	89	21.45
	B. Primary school	75	18.07
	C. Secondary school	36	8.67
	D. College/ University	215	51.81
	Total	415	100.00
4) Occupation	A. Employed	137	33.01
	B. Healthcare	33	7.95
	C. Education,	45	10.84
	D. Agriculture	74	17.83
	E. Student	46	11.08
	F. Merchant	80	19.28
	Total	415	100.00
5) Monthly Income	A. Below average	280	67.47
	B. Average	130	31.33
	C. Above average	5	1.20
	Total	415	100.00
6) Ethnicity	A. Oromo	325	78.31
	B. Gurage	21	5.06
	C. Amhara	50	12.05
	D. Tigire	19	4.58
	Total	415	100.00
7) Residential Area	A. Urban	250	60.24
	B. Rural	165	39.76
	Total	415	100.00
8) Family Structure	A. Single	20	4.82

Demographic Characteristic	Categories/Options	Frequency	Percentage (%)
	B. Married	380	91.57
	C. Living alone	15	3.61
	Total	415	100.00
	A. Yes	380	91.57
9) Health Insurance Coverage	B. No	35	8.43
	Total	415	100.00
	A. Yes	198	47.71
10) NCD Diagnosis	B. No	217	52.29
	Total	415	100.00
	A. Non-smoker	98	23.61
11) Smoking Status	B. Former smoker	150	36.14
	C. Current smoker	167	40.24
	Total	415	100.00
	A. Non-drinker	45	10.84
12) Alcohol Consumption	B. Occasional drinker	120	28.92
	C. Regular drinker	250	60.24
	Total	415	100.00
	A. Sedentary	350	84.34
13) Physical Activity Level	B. Moderately active	45	10.84
	C. Very active	20	4.82
	Total	415	100.00
	A. Poor	145	34.94
14) Diet Quality	B. Average	200	48.19
	C. Healthy	70	16.87
	Total	415	100.00
	A. Low	215	51.81
15) Knowledge of NCDs	B. Moderate	122	29.40
	C. High	78	18.80
	Total	415	100.00

Community's awareness toward prevention and control of NCDs

The majority of community members, 357 individuals (86.02%), agreed that non-communicable diseases (NCDs) were prevalent among people in their community in Nekemte town, East Wollega Zone. In addition, many community members emphasized the importance of several preventive measures: 378 individuals (91.02%) highlighted the significance of maintaining a healthy diet, 239 individuals (58.00%) stressed the importance of regular physical activity, 268 individuals (65.00%) underscored the need to avoid smoking, and 240 individuals (58.00%) pointed out the benefits of limiting alcohol consumption.

Table 2. Community knowledge and attitude toward prevention and control of NCDs, 2024.

Characteristics	Category	Frequency	Percentage
Do you know NCD	Yes	315	75.90
	No	100	24.10
NCD	High blood pressure	112	26.99
	Diabetes	94	22.65
	Cardio vascular diseases	65	15.66
	Ulcer	54	13.01
	Cancer	60	14.46
Is NCD preventable	Yes	350	84.34
	No	65	15.66
NCDs are preventable	Yes	365	87.95
	No	50	12.05
Ways of preventing NCDs	No- smoking	133	32.05
	Regular physical activities	116	27.95
	Health diets	249	60.00
	Limiting alcohol consumption	70	16.87
	Reducing environmental exposure	154	37.11
	others	29	6.99
NCDs are curable	Yes	390	93.98
	No	26	6.27

Furthermore, in terms of their knowledge and potential practices, nearly all community members, 400 individuals (96.40%), recognized that they had an active role to play in the prevention and control of NCDs within their environment and homes. This high level of awareness and sense of responsibility indicates a strong community commitment to mitigating the risk of NCDs through lifestyle changes and environmental management.

Table 3. Community's awareness toward prevention and control of NCDs and its associated factors in Nekmete town, East Wollega Zone.

Perceptions towards NCDs	Category	Frequency	Percentages
Presence of NCDs among community	Agree	357	86.02
	Disagree	50	12.04
	No	8	1.92
Importance of NCDs risk factors			
Avoiding smoking / using tobacco	Very important	268	64.57
	Important	70	16.86
	Fairly important	61	14.69
	Not Important	16	3.85
Limiting alcohol use	Very important	240	57.83
	Important	68	16.38

Perceptions towards NCDs	Category	Frequency	Percentages
Physical activity	Fairly important	87	20.96
	Not Important	20	4.81
	Very important	239	57.59
	Important	69	16.62
	Fairly important	87	20.96
	Not Important	20	4.81
Healthy diet	Very important	378	91.08
	Important	25	6.02
	Fairly important	9	2.16
	Not Important	3	0.72

In the study area of Nekemte town, East Wollega Zone, there is a significant lack of intervention and awareness practices concerning the prevention and control of non-communicable diseases (NCDs). Among the total health workers, a notable proportion of community health workers (CHWs), 27.00% (13 individuals), who were involved in NCD prevention and control reported facing several challenges. These challenges included inadequate knowledge about NCDs, insufficient training, and negative perceptions within the community towards these diseases.

Table 4. *Community Health Workers involvement in prevention and Control of NCDs, (n=30).*

Items	Category	Frequency	Percentages
CHW involvements	Yes	13	43.33
	No	17	56.66
Activities	Community mobilization	4	13.33
	Screening and early detection	8	26.66
	Referral	11	36.66
	Supporting adherence to treatment	7	23.33
CHW engagement for Prevention and Control	Cancer	4	13.33
	Diabetes	6	20.00
	HBP	13	43.33
	CVD	7	23.33
	Others	30	100.00
Challenges involved in the prevention or control of NCDs	Lack of knowledge	4	13.33
	Lack of training	8	26.67
	Negative Perception	15	50
	Lack of support	2	6.67
	Others	30	100

The difficulties experienced by the CHWs were echoed by some community members. Participants in focus group discussions (FGDs) acknowledged that while CHWs were somewhat involved in the prevention and control of NCDs,

their efforts were hindered by limited health education on NCDs. This was largely because CHWs were primarily focused on other health issues such as water, sanitation, and hygiene. To address these gaps, it is essential to enhance the training and education of CHWs regarding NCDs, increase community awareness about the importance of NCD prevention and control, and shift some focus towards these pressing health concerns. Comprehensive strategies that integrate NCD education into the broader health agenda, along with targeted interventions and robust community engagement, are crucial for improving the overall health outcomes in Nekemte town.

4. Discussion

The demographic profile of the study population, comprising predominantly married, well educated, and economically active individuals, provides valuable insights for designing effective health interventions. With a balanced gender distribution and high education levels, there is a significant opportunity to implement targeted strategies to address health issues within the community. Cultural considerations, particularly regarding the dominant Oromo ethnic group, should guide the development of interventions to ensure cultural relevance and acceptance. Overall, leveraging the demographic characteristics of the population can facilitate the delivery of tailored and impactful health initiatives aimed at improving overall well-being and reducing health disparities within the community.

The present findings revealed that 75.00% of community members correctly defined and understood non-communicable diseases (NCDs). High blood pressure was identified as the most frequently occurring NCD (27.00%), followed by diabetes (23.00%), chronic respiratory diseases (16.00%), and ulcers (14.00%). The majority of respondents believed NCDs are preventable (84.00%), while 16.00% thought they are curable with timely treatment. Similar results were reported by multiple authors, indicating that blood pressure and diabetes were the most prevalent non-communicable diseases among the communities [5-7]. Moreover, the community demonstrated awareness of various NCD risk factors, including environmental pollution and lifestyle practices. Key prevention strategies identified included maintaining a healthy diet (60.00%), reducing exposure to environmental pollutants (37.00%), and avoiding smoking (32.00%). This underscores the community's recognition of both environmental and lifestyle factors in NCD prevention [6-12].

The majority of community members in Nekemte town, East Wollega Zone (86.02%), recognized the prevalence of non-communicable diseases (NCDs) among people in their community. Additionally, a significant number of individuals emphasized various preventive measures: maintaining a healthy diet (91.02%), regular physical activity (58.00%), avoidance of smoking (65.00%), and limiting alcohol consumption (58.00%) which is similar with previous reports [8, 9].

The challenges faced by Community Health Workers (CHWs) in addressing non-communicable diseases (NCDs) were recognized by community members themselves, as revealed in focus group discussions (FGDs). While CHWs were involved to some extent in NCD prevention and control, their effectiveness was hampered by limited education on NCDs [10-16]. This was often due to CHWs primarily focusing on other health issues such as water, sanitation, and hygiene.

To bridge these gaps, there is a crucial need to enhance the training and education of CHWs regarding NCDs. Additionally, increasing community awareness about the importance of NCD prevention and control is vital. Shifting some focus towards these pressing health concerns within CHW programs is also necessary [11, 13]. Comprehensive strategies that integrate NCD education into the broader health agenda, coupled with targeted interventions and robust community engagement, are essential for improving overall health outcomes in Nekemte town [11-14].

The demographic profile of the study population in Nekemte town, characterized by predominantly married, well-educated, and economically active individuals, presents a promising opportunity for designing effective health interventions. With a balanced gender distribution and high levels of education, there is potential to implement targeted strategies aimed at addressing health issues within the community. Cultural considerations, particularly regarding the dominant Oromo ethnic group, should guide the development of interventions to ensure cultural relevance and acceptance. Leveraging these demographic characteristics can facilitate the delivery of tailored and impactful health initiatives aimed at improving overall well-being and reducing health disparities within the community [15, 16].

The study revealed that a substantial proportion of community members correctly understood non-communicable diseases (NCDs) and recognized their preventable nature. High blood pressure and diabetes emerged as the most prevalent NCDs, consistent with findings from other studies. Furthermore, the community demonstrated awareness of various NCD risk factors, emphasizing the importance of maintaining a healthy diet, reducing exposure to environmental pollutants, and avoiding smoking [10-17].

However, challenges faced by Community Health Workers (CHWs) in addressing NCDs were identified, including limited education on NCDs and a primary focus on other health issues. To address these challenges, it is essential to enhance the training and education of CHWs regarding NCDs and increase community awareness about the importance of NCD prevention and control. Shifting some focus towards NCDs within CHW programs and implementing comprehensive strategies that integrate NCD education into broader health agendas are vital steps toward improving overall health outcomes in Nekemte town.

Abbreviations

NCD	Non Communicable Diseases
CHW	Community Health Workerss

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Ethics Approval (Committee and the Ethical Approval Number)

Not applicable.

Consent for Publication

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Data Availability Statement

The data used and analyzed during the current study are available within the manuscript.

Conflicts of Interest

The authors declare no conflicts of interest.

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