Healthy diet, prevalence and factors associated among adults of Nekemte dwellers, Oromia State, Western Ethiopia

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ABSTRACT

Introduction. Adaption and adoption of a healthy lifestyle remain challenging worldwide. An unhealthy diet is the core risk of lifestyle illnesses. However, the status of a healthy diet and its predictors were not assessed in Nekemte town targeting middle-aged adulthoods. The study was designed to assess healthy diet, prevalence and factors associated among middle-aged adults in Nekemte town from January 15, 2019, to February 30, 2019. Materials and Methods. A descriptive epidemiological study design typically cross-sectional analysis was applied in Nekemte town on middle-aged adults. Primary data was gathered by using a questionnaire and checked for its normality. Factors associated with dependent variables were analyzed with logistic regressions and their significance was determined at P<0.05. Results. The status of dieting practice was 73.31% (unhealthy) and 26.69% (healthy), respectively. This study showed that being low income (P=0.001), not married (P=0.001), and daily meal frequency [adjusted odds ratio (AOR): 1.91, 95% confidence interval (CI): [1.04, 2.71]) are associated with unhealthy diets. The odds of having an unhealthy diet were almost 3 times (AOR=3.20, [95% CI: (2.04, 5.98) higher for illiterate compared to literate participants. In addition, an unhealthy diet was nearly 5 times (AOR: 4.87, 95% CI: [3.23, 7.65]) higher for having poor knowledge of healthy diet compared to alert participants. Conclusions. The researchers identified unhealthy diets practiced highly by the study samples of the populations.

Introduction

People consume diet for different reasons like malnutrition prevention globally and it is defined as the amalgamation of foods.[1] This food may be a healthy or an unhealthy diet that has a positive or negative impact on the human body. Poor diet practices were habited by low-income countries and from the four major risk factors of noncommunicable diseases, the unhealthy diet has related to those illnesses.[2,3] Different researchers argued that this scenario is not only risky for metabolic syndrome development, but also the potential risk factor for diseases like osteoporosis.[4]

Whatever the recommended healthy diet intake is still under dialogue, only 42.56% of the countries have their own dietary guidelines in the world.[5] Likewise, Ethiopia is at the initial stage of formulating the policy.

Evidence-based studies show globally people use dietary diversity scores to measure and indicate a good proxy of dietary quality.[6-8] It is known people in very low, low, and middle-level countries typically eat fewer food groups than their staple foods, resulting in low dietary diversity scores.[9] This is an arithmetical indicator of poor diet quality.[6,10]

Regarding food items, about 75% of the Ethiopian diet is cereals-based monotonous feed.[7,11] Other studies reveal the prevalence of low and medium dietary diversity scores among Ethiopian populations were 60% and 40% respectively.[12,13]

Noncommunicable diseases are rapidly increasing globally,[14] and emerging radically in East Africa among adults.[15] Diet adequacy was formulated for different age groups of adults, but findings identified many adults still do not follow a healthy diet. It is noted that no such investigation regarding the topic is based on adults in West Ethiopia with specific ages. Thus, the researchers were interested in investigating the status of healthy diet practices and associated factors on middle-age adults of Nekemte populations from January 15, 2019, to February 30, 2019.

Materials and Methods

Narration of study area

This study was conducted in the Oromia Region, western Ethiopia at the hub of western Ethiopian towns (Nekemte town) to predict study populations' healthy diet practices and their associated factors. The study is located 328 km west of Addis Ababa.

Study design and period

A community-based descriptive analysis was conducted to determine the status of dietary practices and its predictors of adults from January 15, 2019, to February 30, 2019.

Participants

Selected samples from all middle-aged (41-64 years) adult Nekemte populations and adults unfit for selection criteria were not eligible currently for the research.

Determinations of samples

The sample size was determined by using the formula $[n = [(Za/2)2*P (1−P)]/d2]$ by considering a 95% confidence level of $Za/2=1.96$, margin of error 5%, proportion (P=19.6%) of central obesity which is the most common component of metabolic syndrome among healthy Ethiopian adults 14 and the final sample size was 266.

Sampling design and sampling methods

The study setting was purposively selected while a probability sampling design was implemented for study participants. From six communes (administratively small sub-city; locally termed kebele) one commune was randomly selected with a simple lottery method. To assure the relevance of data third of the kebele must be selected. For the case additionally, another commune was assigned with non-adjacent to the former Ganda or kebele but has similar socio-economic status. A simple random sampling method was applied to select study participants.

Data collection instruments

The data collection tool used well-structured Food Frequency Questionnaires. Questions contain socio-demographic and health diet mocks. The questionnaire can be implemented at the household or individual level according to the purpose of the study. Trained data collectors including researchers collected the information sequentially.

Data process and analysis

The developed instrument for dietary practices was used to assess it. 15 of the collected data were cascaded based on standards. Adults' mean dietary score from information gathered from respondents. The data was described using IBM software, SPSS version 24. The findings were presented with frequency, percentage, and descriptive summaries used to explain the amount of study participants in the analysis. Logistic analysis was performed to calculate the association of risk factors and significance level at a P-value<0.05.

Ethical review

To conduct the study ethical consideration was approved and taken from the Food and Nutrition Research Institute Jimma University, Institutional Review Board (IRB) of the Institute of Health (Reference number, IHRPGY/596/2019).

Consent form

Prior to starting the study, an informed consent form was taken from the study participants. For illiterate respondents, the questionnaires were translated into their native language to understand the purpose.

Results

Subject characteristics

From 266 samples completed an assessment of respondents with gender distribution, the majority of the respondents, 186 (69.93%) had unhealthy diet practices

and 62.78% were females. Among male participants, 71 (71.72%) had unhealthy diet practices (Table 1).

Findings discovered that 146 (54.89%) of the participants had low income <1.25USD/44.45ETB, and 209 (78.57) adopted unhealthy dietary habits. similarly, nearly ¾ of the participants, 187 (70.30%) of adults were illiterate, and from the total illiterate participants, 134 (71.66%) of them had unhealthy diets (Table 1).

Status of healthy diet practice

The overall prevalence dietary practices assessed, for sure the result indicated that 195 (73.31%) and 71

(26.69%) of respondents adopted unhealthy and healthy diets respectively (Figure 1).
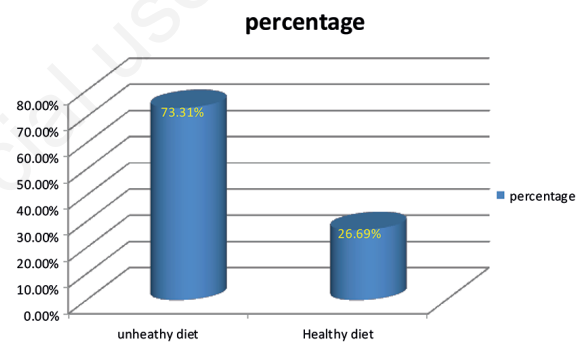
Factors associated with diet foods

On analysis marital status, education, meal frequency and income of participants demonstrate a relationship with the adoption of healthy foods among middle-aged Nekemte populations. Adults with low income, illiterate, and meal frequency less than 3 times per day were significantly associated with unhealthy diet practices with adjusted odds ratio (AOR): 1.59, 95% confidence interval (CI): (1.37, 3.21), AOR: 3.20, 95% CI: (2.04, 5.98), AOR: 1.91, 95%CI: (1.04, 2.71) respectively. The odds of having an unhealthy diet were almost 3 times [AOR=3.20, 95% CI: (2.04, 5.98)] higher for illiterate compared to literate participants (Table 2).

Table 1. Socio-demographic distribution of participants with diet practice, Nekemte (n=266).

Variable categories		Diet practices, n (%)	
		Unhealthy	**Healthy**
Sex	Female	115(68.86)	52 (31.14)
	Male	71 (71.72)	28 (28.28)
	Total	186 (69.93)	80 (30.07)
Age group in years	41-48	119 (82.10)	26 (17.90)
	49-56	52 (67.53)	25 (32.47)
	57-64	29 (65.90)	15 (34.10)
	Total	200 (75.19)	66 (24.81)
Income (USD/person/day)	<1.25 USD	110 (75.34)	36 (24.66)
	>1.25 USD	99 (82.50)	21 (17.50)
	Total	209 (78.57)	57 (21.43)
Marital status	Not married	69 (78.41)	19 (21.59)
	Married	127 (71.35)	51 (28.65)
	Total	196 (73.68)	70 (26.32)
Educational status	Literate	51 (64.56)	28 (35.44)
	Illiterate	134 (71.66)	53 (28.34)
	Total	185 (69.55)	81 (30.45)

USD, United States dollar.

Figure 1. The prevalence of diet consumed by respondents in Nekemte town (n=266).

Table 2. Binary and multivariate analysis findings of factors associated with healthy diet (n=266).

Variables categories		Diet practice		COR	AOR (95% CI)	P-value
		Unhealthy	**Healthy**			
Sex	Female	115	52	0.74	0.54 (0.48, 0.87)	0.868
	Male	71	28	1	1	1
Income USD/person/day	<1.25	110	36	2.13	1.59 (1.37, 3.21)	0.001**
	>1.25	99	21	1	1	1
Education	Illiterate	134	53	6.61	3.20 (2.04,5.98)	0.047*
	Literate	51	28	1	1	1
Marital status	Not married	69	19	0.68	0.59 (0.52, 0.98)	0.001**
	Married	127	51	1	1	1
Has urban farming	Yes	5	17	1.05	0.40 (0.32, 0.58)	0.576
	No	203	45	1	1	1
Meal frequency	<3/day	148	35	2.47	1.91 (1.04,2.71)	0.000*
	≥3/day	13	68	1	1	1
Knowledge on healthy diet	Poor	123	44	5.78	4.87 (3.23,7.65)	0.001**
	Good	37	62	1	1	1

Significances considered at *P<0.05; **P≤0.001. USD, United States dollar; COR, crude odd ratio; AOR, adjusted odds ratio.

Discussion

This community-based study found that 73.31% of middle-aged adults adopted unhealthy diets. Also, 183 (68.80%) of the adults had <3 times meal frequency consumption patterns per day.

According to Darmon *et al.* (2008), the findings postulated individuals with lower socio-economic status adapt and adopt unhealthy diets when compared to those with higher one among adults in Australia.[16] Likewise, the current study revealed a healthy diet of participants was significantly associated (P<0.001) with the daily income of adults. This research outcome was also confirmed by a study done on dietary intakes among US adults, and in Australia.[17,18]

Also study in the United Kingdom (UK) agreed that participants from households reporting lower financial or food security (since the start of the COVID-19 pandemic in the UK in February 2020) had poorer diets in some respects than participants from other households.[19]

Having poor knowledge of a healthy diet was strongly associated with having an unhealthy diet [AOR: 4.87, 95% CI: (3.23, 7.65)]. Similar to this finding, having good perceptions and valuable knowledge regarding healthy diet concepts is critically necessary for allowing people to make the 'right life' choices. Another systematic review indeed suggests that nutrition knowledge is one of the factors that are most consistently related to a healthy diet.[20]

Healthy food access is significant to improve population health.[21] However, we found that many populations adopt unhealthy diets, and are highly prevalent at the study site. Independent variables showed a significant relationship with dependent ones among adults. Finally, this research shows in addition to confounding, the distortion of the association between diet and risk factors cannot be generalized whether the entire population adapts to and adopts healthy diets.

Strength and limitations

As this study has many strengths, it comes with different limitations. The study was limited with less sample size, biophysical and biomarkers of respondents were not considered. Besides that, cross-sectional study in nature has limitations.

This study plays a crucial role in policy reviews, putting direction for implementers to do on awareness creation on the adoption of a healthy diet and food security issues boldly need great attention to measure the food quantity consumed with frequency. Besides, this study revealed that adult diet through life is masked, so future research outlooks studies inculcating rural and urban populations in the nation using the evidence.

Conclusions

This research revealed the prevalence of unhealthy diet practices was high. Similarly, majority of the participants had <3 time's meal frequency in a single day and predicting variables were also associated with a healthy diet.

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