

Women and Non-communicable Diseases during COVID-19 Pandemic

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Abstract

Introduction: This study investigated the prevalence of NCDs in women and examined association between potential factors and NCDs in Thailand during the COVID-19 pandemic.

Methods: The study used data on 2,665 women age 15 years or older from a nationally-representative sample survey of Thai households, conducted during the COVID-19 pandemic. The respondents were asked about NCDs, socio-demographic characteristics, lifestyle behaviours, and food provision. Binary logistic regression analysis was used to investigate the association between the variables and NCDs.

Results: Of the total sample, 40.8% had NCDs. The highest probability of having NCDs insecurity was observed in women age 60 years or older ($p \leq 0.001$) and being unemployed ($p \leq 0.01$). Respondent who bought less medication than prescribed, had insufficient physical activity and had insufficient fruit intake was 1.4 ($p \leq 0.05$), 1.2 ($p \leq 0.05$) and 1.3 ($p \leq 0.01$) times, respectively, as likely to have NCDs as reference groups.

Conclusion: This suggests that government attention is required in developing gender-sensitive prevention policies and strategies for NCDs through addressing the socio-economic determinants, and food and health-related behaviours among women. Investment to empower women by promoting their ownership and access to resources and services for health promotion is needed.

Extended abstract

Introduction

Globally, non-communicable diseases (NCDs) are among top issues for women's health. In 2016, NCDs caused 73% of deaths among women [1]. They include 8.8 million deaths from cardiovascular diseases, 1.5 million deaths from 861,000 deaths from diabetes, and 300,000 deaths from cervical cancer. Women also have higher rates of obesity than men which lead to their increased vulnerability to NCD, particularly diabetes [2].

Women's health affect child's health. Women's poor physical and mental health had strong association with children's physical health, delayed language and behavior problems [3]. Being born to a mother with poor health increases vulnerability to NCDs and other health problems in adulthood. Addressing NCDs in women including in women of reproductive age is recognised as central to the post-2015 agenda [4]. Accordingly, this can drive forward the sustainable development agenda. Women's health is therefore critically important to the health of future generations.

The aim of this study was to investigate the prevalence of NCDs in women and examine association between potential factors and NCDs, using data from a nationally representative population-based survey in Thailand. Taking a gender lens in this study is crucial to inform policy implementation to ensure an equitable response to NCDs and accelerate progress toward the SDG agenda.

Materials and Methods

Study design and data collection

This study used national-representative survey data that were collected in 2021 (during the 3rd and 4th waves of the COVID-19 pandemic in Thailand). For the purpose of this study, a subsample of the dataset was selected for women age 15 years or older. A multi-stage sampling design was used for the survey sampling, performed by the National Statistical Office of Thailand.

Data were collected during June-December 2021 using Qualtrics offline survey application. The data includes socio-demographic characteristics, health status, lifestyle behaviours, and food provision. The data collection was carried out by a trained research team.

Study variables

Outcome variables

This study used presence of chronic disease(s) (or NCDs) as an outcome variable. Each respondent was asked “Do you currently have any chronic disease(s)?” Response to the question was coded either “yes” or “no.”

Independent variables

Socio-demographic variables: Age was coded as age 15–29 years, age 30–44 years, age 45–59 years and 60 years or older. Place of residence was coded as urban and rural. Marital status was coded as married, single, or widowed/divorced/separated. Education was coded as currently studying, primary school or less, secondary school, and bachelor’s degree or higher. Occupation was coded as unemployment, government employee&company-hired worker, own business, wage labor, and Farmer. Monthly income was coded as less than 10,000 Baht, 10,001-29,999 baht, and 30,001 Baht or above.

Buying medicine: Each respondent was asked “In the past year did you buy less medication than prescribed because of lack of money?” Response to the question was coded either “yes” or “no.”

Sufficient physical activity: Each respondent was assessed whether she achieved a sufficient level of physical activity per day with the following question: “Do you engage in physical activity for at least 30 min per day and at least 3 days per week?” Response was coded “yes” or “no.”

Sufficient vegetable and fruit intake: Each respondent was assessed whether she had sufficient vegetable and fruit intake. Response was coded “yes” for sufficient intake, or “no” for insufficient intake. Daily sufficient levels of vegetable and fruit intake were at least 240 gram and 160 gram, respectively.

Household’s food provider: Each respondent was asked whether she is a main food provider for the household. Response was coded “yes” or “no.”

Statistical analysis

This study used descriptive statistics (i.e., frequencies and percentages) in describing the prevalence of NCDs and other variables in Thai women. Binary logistic regression analysis was also employed to test for statistically-significant associations between NCDs and independent variable. All analyses were conducted using SPSS version 22.

Results

Table 1 presents prevalence of NCDs by sociodemographic characteristics of the sample. Women who were in older age from 45 years or older, lived in a rural area, were married had the highest prevalence of NCDs. Women with lower social status – with low education, unemployed status, wage labour and low income also had the high percentage of NCDs. The high NCDs was also observed in women who reported buying medicine as prescribed, had insufficient physical activity, insufficient fruit and vegetable consumption and a role of food provider to a household.

Table 1 Characteristics of the sample by prevalence of NCDs (N = 2,665)

	Number (%)	% NCDs
Total	2,665 (100)	40.8
Age group (years)		
15-29 years	471 (17.7)	3.5
30-44 years	522 (19.6)	9.4
45-59 years	1,009 (37.9)	44.1
60 or older	662 (24.9)	43.0
Place of residence		
Urban	1,225 (46.0)	44.8
Rural	1,440 (54.0)	55.2
Marital status		
Single	492 (18.5)	9.1
Married	1,666 (62.5)	65.2
Widowed/divorced/separated	507 (19.0)	25.8
Education		
Studying	244 (9.1)	1.7
Primary school or less	1,380 (51.8)	70.8
Secondary school	774 (29.1)	21.4
Bachelor's degree or higher	267 (10.0)	6.1
Occupation		
Unemployment	1,168 (43.8)	49.8
Government employee&Company-hired worker	216 (8.1)	2.9
Own business	550 (20.7)	2.1
Wage labor	337 (12.6)	19.5
Farmer	393 (14.8)	14.8
Income (Baht per month)		
Less than 10,000	2,059 (77.3)	83.6
10,001-29,999	461 (17.3)	11.5
30,001 or above	145 (5.4)	4.9
Buying medicine		
Yes	182 (6.9)	8.9
No	2,480 (93.1)	91.1
Sufficient physical activity		
Yes	888 (33.3)	30.3
No	1,777 (66.7)	69.7
Sufficient vegetable intake		
Yes	785 (29.6)	38.4
No	1,867 (70.4)	61.6
Sufficient fruit intake		
Yes	1,463 (55.2)	55.2
No	1,187 (44.8)	44.8
Household food provider		

	Number (%)	% NCDs
Yes	1,861 (69.8)	71.8
No	804 (30.2)	28.2

Table 2 shows results from the binary logistic regression analysis that tested the association between various factors and NCDs. The analysis found that sociodemographic factors (i.e., age and occupation) were significantly associated with NCDs among women. The highest probability of having NCDs was observed among women aged 60 years or older (95% CI 14.096–40.457) and being unemployed (95% CI 1.200–2.077). Respondent who bought less medication than prescribed was 1.4 times as likely to have NCDs as a reference group. Women with insufficient physical activity and fruit intake had the highest probability of having NCDs (95% CI 1.102-1.596).

Table 2 Binary logistic regression of sample characteristics and NCDs (N = 2,665)

	Exp (B)	Adjusted OR (95% CI)	
		Lower	Upper
Age group (years) (Reference = 15-29 years)			
30-44 years	3.145***	1.877	5.269
45-59 years	10.844***	6.561	17.921
60 or older	23.881***	14.096	40.457
Place of Residence (Reference = Rural)			
Urban	0.976	0.814	1.171
Marital status (Reference = Widowed/divorced/separated)			
Single	1.233	0.840	1.812
Married	1.155	0.914	1.461
Education (Reference = Bachelor's degree or higher)			
Studying	0.667	0.325	1.411
Primary school or less	1.321	0.891	1.959
Secondary school	1.172	0.801	1.714
Occupation (Reference = Farmer)			
Unemployment	1.579**	1.200	2.077
Government employee & company-hired worker	1.435	0.900	2.287
Own business	1.220	0.892	1.669
Wage labor	0.972	0.700	1.350
Income (Baht per month) (Reference = <10,000)			
10,001-29,999	1.066	0.691	1.642
30,001 or above	0.697	0.453	1.073
Buying medicine (Reference = No)			
Yes	1.433*	1.011	2.029
Sufficient physical activity (Reference = Yes)			
No	1.217*	1.002	1.477
Sufficient vegetable intake (Reference = Yes)			
No	0.963	0.792	1.171
Sufficient fruit intake (Reference = Yes)			
No	1.326**	1.102	1.596
Household food provider (Reference = Yes)			
No	1.163	0.926	1.461
Cox & Snell R Square		0.227	

P value: *p≤0.05, **p≤0.01, ***p≤0.001

References

1. NCD Alliance. Women and NCDs: NCD Alliance; [updated 8 March 2023. Available from: <https://ncdalliance.org/why-ncds/ncds-and-sustainable-development/women-and-ncds>.
2. Global Nutrition Report. Country Nutrition Profiles: The Global Nutrition Report; [Available from: <https://globalnutritionreport.org/resources/nutrition-profiles/>.
3. Kahn RS, Zuckerman B, Bauchner H, Homer CJ, Wise PH. Women's health after pregnancy and child outcomes at age 3 years: a prospective cohort study. American journal of public health. 2002;92(8):1312-8.
4. Nations. U. The 17 Goals: United Nations; [Available from: <https://sdgs.un.org/goals>.