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Original Article

Knowledge of Heart Disease and Stroke Symptoms and Emergency Response in Thai People Aged 15–60 Years Old in Bangkok

Teerach Dheebhasit*

Jirayu Pranpreechakhul***

Lilli Prateep*****

Sirawish Akkawattananukul*****

Tanyamon Laupongpitch*****

* Sukhothai Thammathirat Open University

** Hailiang International School, CHINA

*** Triamwitpattana School

**** Samsenwittayalai School

***** Sarasas Ektra School

***** Shrewsbury International School Bangkok

***** Mahidol University International Demonstration School

***** Demonstration School of Khon Kaen University

***** Independent researcher

Pataratida Pijaranatam**

Natnakran Thupthong ****

Wasitpol Akkawattananukul*****

Patthapee Jongsathapongpan*****

Sujimon Mungkalarungsi*****

Corresponding author: Sujimon Mungkalarungsi, email: khunsujimon.m@gmail.com

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Abstract

Cardiovascular disease (CVD), including heart disease and stroke, remains a leading cause of morbidity and mortality worldwide, with increasing prevalence in Thailand. Early recognition of symptoms and appropriate emergency response are critical to reducing mortality; however, gaps between knowledge and action persist, particularly in urban populations. This study aimed to assess cardiovascular health literacy (knowledge of heart disease and stroke symptoms), evaluate emergency response readiness, and examine demographic factors associated with both domains among Thai adults aged 15–60 years in Bangkok. A descriptive cross-sectional survey was conducted among 1,122 participants using a structured and validated online questionnaire. Cardiovascular health literacy was measured using 20 multiple-choice items (score range: 0–20), while emergency response readiness was assessed using 10 scenario-based items (score range: 0–10). Data were analyzed using descriptive statistics, independent-samples t-tests, one-way ANOVA,

Pearson's correlation, and multiple linear regression. Statistical significance was set at $p < 0.05$. The results showed that overall, 56.51% of participants demonstrated good cardiovascular health literacy, 35.83% moderate, and 7.66% poor. Emergency response readiness was high, with 91.09% classified as good. Age and monthly household income were significant predictors of health literacy ($p < 0.05$), and both variables also significantly predicted emergency response readiness ($p < 0.05$). Cardiovascular health literacy was positively associated with emergency response readiness. In conclusion, Thai adults in Bangkok demonstrate moderate to high levels of cardiovascular health literacy and strong emergency response readiness. However, disparities related to age and socioeconomic status remain. These findings highlight the importance of integrated health literacy and behavioral interventions, particularly targeting younger and lower-income populations, to improve timely response to cardiovascular emergencies and promote equitable disease prevention

Keywords: cardiovascular disease; stroke awareness; health literacy; emergency response; Thailand

Introduction

Cardiovascular disease (CVD), including heart disease and stroke, remains the leading cause of mortality worldwide, accounting for over 17 million deaths annually, with a disproportionate burden in low- and middle-income countries. In Thailand, the prevalence of CVD has steadily increased over the past decade, driven by population aging, rapid urbanization, dietary transitions, and sedentary lifestyles. These trends pose significant challenges to the healthcare system, particularly in the areas of prevention and emergency response capacity, as highlighted by Aekplakorn et al.⁽¹⁾.

Timely recognition of cardiovascular symptoms and appropriate emergency response are critical determinants of survival and functional recovery. However, evidence suggests that awareness among the general population remains inconsistent, with a notable gap between the ability to recognize symptoms and the likelihood of taking appropriate emergency action. This gap reflects a broader issue in cardiovascular health literacy, which encompasses not only knowledge of disease symptoms but also the capacity

to apply that knowledge in real-life emergency situations.

In this context, cardiovascular awareness can be conceptualized as a two-stage process: ⁽¹⁾ cardiovascular health literacy, defined as the ability to recognize and understand symptoms of heart disease and stroke, and ⁽²⁾ emergency response readiness, defined as the ability and intention to respond appropriately during acute cardiovascular events, such as contacting emergency medical services or seeking immediate hospital care. While these constructs are interrelated, health literacy is considered a key determinant influencing emergency response behavior.

Previous international studies have demonstrated significant disparities in both cardiovascular knowledge and response readiness across socioeconomic groups. For instance, Swanoski et al.⁽²⁾ found that rural populations in the United States had lower levels of symptom recognition compared to urban populations, while Carrasco-Marcelo et al.⁽³⁾ and Shahu et al.⁽⁴⁾ highlighted the role of income inequality in shaping cardiovascular risk and access to preventive care. In Asia, Quah et al.⁽⁵⁾ reported that education was the

strongest predictor of cardiovascular literacy in Singapore, whereas Alrawili et al.⁽⁶⁾ found that although awareness of risk factors was relatively high in Saudi Arabia, fewer individuals were able to translate this knowledge into appropriate emergency actions.

In Thailand, Dharmasaroja et al.⁽⁷⁾ reported that only 47% of at-risk adults demonstrated adequate knowledge of stroke symptoms, with lower awareness among younger and less-educated populations. Other studies^(8,9) have similarly shown that although general awareness of cardiovascular conditions has improved, many individuals still fail to respond appropriately during emergencies. These findings highlight the existence of a “knowledge–action gap,” where individuals possess basic knowledge but lack the readiness or confidence to act.

Despite growing research in this area, several gaps remain. First, most studies have examined either cardiovascular knowledge or emergency response behavior separately, with limited integration of both constructs into a unified framework. Second, there is insufficient focus on working-age adults (15–60 years), who represent a significant and economically active population increasingly exposed to modifiable CVD risk factors. Third, the influence of socioeconomic determinants—particularly income and education—on both knowledge and response readiness has not been fully explored within Thailand’s urban context.

Bangkok, as a highly urbanized metropolitan area, presents unique health challenges, including high stress levels, environmental pollution, unhealthy dietary

patterns, and reduced physical activity. These factors may increase cardiovascular risk while simultaneously influencing access to health information and emergency services. However, empirical evidence on how these urban factors shape both cardiovascular health literacy and emergency response readiness remains limited.

This study aimed to address these gaps by examining both cardiovascular health literacy (symptom recognition) and emergency response readiness (behavioral response) among Thai adults aged 15–60 years in Bangkok. By conceptualizing these components within a linked framework, this study seeks to better understand how demographic and socioeconomic factors influence not only what individuals know, but also how they act in critical situations. The findings were expected to inform targeted health promotion strategies and improve emergency preparedness for cardiovascular disease prevention in urban Thailand.

This study aimed to assess cardiovascular health literacy, defined as knowledge of heart disease and stroke warning symptoms; evaluate emergency response readiness, defined as awareness of and intention to perform appropriate actions during cardiovascular emergencies; examine the association between demographic characteristics (age, gender, education level, and monthly household income) and both cardiovascular health literacy and emergency response readiness; and investigate the relationship between cardiovascular health literacy and emergency response readiness among Thai adults aged 15–60 years living in Bangkok.

Methods

Study Design

This study employed a descriptive cross-sectional survey design to assess cardiovascular health literacy (knowledge of heart disease and stroke symptoms) and emergency response readiness (appropriate behavioral response during cardiovascular emergencies) among Thai adults aged 15–60 years in Bangkok. This design allows for the evaluation of both knowledge and behavioral readiness, as well as their association with demographic factors at a single point in time.

Population and Sampling

The target population comprised Thai adults aged 15–60 years who were residing, studying, or working in Bangkok during the data collection period. Participants were recruited from various districts across Bangkok.

Inclusion criteria were: ⁽¹⁾ Thai nationality, ⁽²⁾ ability to read and understand Thai, and ⁽³⁾ willingness to provide informed consent. Exclusion criteria included individuals with cognitive impairment, severe mental illness, or healthcare professional backgrounds, to minimize bias from prior medical knowledge. The sample size was calculated using Cochran's formula for large populations ($n = 385$) with a 95% confidence level and a 5% margin of error. A total of 1,122 respondents were included to increase statistical power and account for incomplete responses. Participants were recruited using purposive and snowball sampling via online platforms, including Facebook, LINE, and Google Forms, between June and July 2025. While this approach enabled broad participation, it may limit the representativeness of the general Bangkok population and introduce selection bias toward

individuals with internet access and higher educational backgrounds.

Instrument

Data were collected using a structured online questionnaire developed based on literature review and previously validated instruments in both Thai and international contexts^(2,7,8).

The questionnaire was informed by Nutbeam's Health Literacy Framework and the Health Belief Model (HBM). The knowledge section reflects functional health literacy (recognition of symptoms), while the emergency response section reflects behavioral readiness, including elements of perceived self-efficacy and action intention. The questionnaire consisted of three main parts:

Demographic information consisted of 5 question items (age, gender, education level, occupation, and monthly household income)

Cardiovascular health literacy consisted of 20 multiple-choice questions assessing recognition of symptoms such as chest pain, shortness of breath, facial drooping, and arm weakness. The total score will be calculated based on the number of correct responses, with a possible score range 0 to 20.

Emergency response readiness consisted of 10 items, scenario-based questions assessing appropriate actions, including contacting emergency medical services (1669), seeking hospital care, and basic first-aid responses. The total score will be calculated based on the number of correct responses, with a possible score range 0 to 10.

Each knowledge and awareness item was scored 1 point for a correct answer and 0 for incorrect or uncertain responses. Total scores were interpreted as follows⁽¹⁰⁾:

Good: $\geq 80\%$ of total score

Moderate: 60–79%

Poor: $< 60\%$

Validity and Reliability

Content validity was assessed by three experts in public health and cardiovascular nursing using the Index of Item–Objective Congruence (IOC), with all items achieving an $\text{IOC} \geq 0.80$ (overall $\text{IOC} = 1.00$), indicating excellent content validity.

Reliability was evaluated through a pilot test with 30 participants, yielding a Cronbach’s alpha coefficient of 0.84, indicating good internal consistency.

Data Collection Procedure

Participants were invited to complete an anonymous online questionnaire via Google Forms. Informed consent was obtained electronically before participation. The questionnaire included clear instructions, and participants were able to withdraw at any time without consequence. The average completion time was approximately 10–15 minutes. All data were collected anonymously and stored securely in a password-protected database accessible only to the researcher.

Data Analysis

Data were analyzed using IBM SPSS Statistics version 28.0. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to describe participants’ demographic characteristics and to summarize levels of cardiovascular health literacy and emergency response readiness. For inferential analysis, independent-samples t-tests were performed to compare mean scores between two-group variables, such as gender, while one-way analysis of variance (ANOVA) was used to examine differences in mean scores across

variables with more than two categories, including age group, education level, and monthly household income. Pearson’s correlation coefficient was applied to assess the relationship between cardiovascular health literacy and emergency response readiness. Furthermore, multiple linear regression analyses were conducted to identify factors associated with the two primary outcome variables: cardiovascular health literacy and emergency response readiness. In the regression model for emergency response readiness, cardiovascular health literacy was additionally entered as an independent variable in order to examine its potential influence on behavioral readiness. Statistical significance was set at $p < 0.05$ for all analyses. Model fit was evaluated using the correlation coefficient (R) and coefficient of determination (R^2).

Ethical Considerations

This study ensured ethical standards by obtaining informed consents from all participants, and they were provided with clear information about the study’s objectives, procedures, and potential risks. Participation was entirely voluntary, and participants had the right to withdraw from the study at any time without any consequences. All personal information collected remained confidential and was anonymized to protect the identity of the respondents. Data was securely stored and used solely for the purposes of this research.

Results

There were 1,122 respondents participated in this study.

The majority of participants were female (approximately 67%), reflecting a common trend in online health surveys where women tend to engage more actively in community-based health research. In

terms of age, most respondents were within the 31–45 years age group (41%), followed by 18–30 years (33%), indicating that the sample predominantly represented Thailand’s working-age population—a demographic highly relevant to cardiovascular risk prevention and emergency response education (Table 1).

Regarding education, over half of the participants (53.2%) held a bachelor’s degree, and 22.7% had completed postgraduate education, suggesting that the sample was relatively well-educated and likely to have higher baseline health literacy. Occupation data revealed that the largest proportion were private-sector employees (38.5%), followed by students (21.6%) and government officers (16.4%), aligning

with Bangkok’s socioeconomic composition as an urbanized and economically active region.

In terms of monthly household income, the majority (45.3%) reported earning between 20,001–40,000 THB, while 27.8% earned below 20,000 THB per month. This distribution indicates a broad socioeconomic representation, allowing the analysis to examine the influence of income disparities on knowledge and emergency response behavior.

Out of 1,122 participants, 56.51% demonstrated good knowledge of heart disease and stroke symptoms, while 35.83% showed moderate knowledge and 7.66% had poor knowledge (Table 2).

There were 1,022 individuals (91.09%) demonstrated a good level of emergency response awareness, indicating that most respondents were able to correctly identify immediate and appropriate actions during cardiovascular emergencies, such as calling the national emergency hotline (1669) and seeking prompt hospital care. Meanwhile, 35 participants (3.12%) had a moderate level of awareness, and 65

Table 1 Demographic characteristics of participants (n=1,122)

Variable	Number (%)
Gender	
Male	375 (33.42)
Female	747 (66.58)
Age (year)	
15–20	168 (14.97)
21–30	157 (13.99)
31–40	200 (17.83)
41–50	284 (25.31)
>50	313 (27.90)
Education Level	
High school	248 (22.10)
Bachelor Degree	597 (53.21)
Master Degree and Above	277 (24.69)
Monthly Household Income (Baht)	
<20,000	269 (23.98)
20,001–40,000	283 (25.22)
40,001–80,000	261 (23.26)
80,001–150,000	154 (13.73)
>150,000	155 (13.81)

Table 2 Distribution of Cardiovascular health literacy scores (n=1,122)

Number (%)	Score	Interpretation of knowledge
634 (56.51)	16–20	Good
402 (35.83)	12–15	Moderate
86 (7.66)	<12	Poor

Table 3 Levels of emergency response readiness (n=1,122)

Number (%)	Score	Interpretation of emergency response awareness
1,022 (91.09)	8–10	Good
35 (3.12)	6–7	Moderate
65 (5.79)	<6	Poor

participants (5.79%) showed poor awareness (Table 3).

Table 4 presents the multiple linear regression analysis examining demographic predictors of knowledge about heart disease and stroke symptoms. The overall regression model was statistically significant ($F(5, 1116) = 9.478$, $p < 0.001$), with an $R = 0.202$, explaining approximately 4.1% of the variance ($R^2 = 0.041$) in participants' knowledge scores. Among the independent variables, age and monthly household income emerged as significant predictors of knowledge. Specifically, age ($\beta=0.113$, $p=0.001$) showed a positive relationship with knowledge level, indicating that older participants tended to possess greater awareness of heart disease and stroke symptoms compared with younger adults. Similarly, monthly

household income ($\beta=0.139$, $p<0.001$) was significantly associated with knowledge (Table 4).

Table 5 presents the results of the multiple linear regression analysis examining the influence of demographic variables on emergency response awareness related to heart disease and stroke. The overall model was statistically significant ($F(5, 1116) = 16.857$, $p<0.001$), indicating that the predictor variables collectively explained a meaningful portion of the variance in emergency response awareness ($R = 0.265$, $R^2 = 0.070$, Adjusted $R^2 = 0.066$). Among the predictors, both age and monthly household income were statistically significant. Age ($\beta=0.171$, $p<0.001$) showed a positive association, indicating that older individuals demonstrated greater readiness to respond appropriately during cardiovascular emergencies.

Table 4 Linear regression analysis of predictive factors for cardiovascular health literacy

Variable	B	Std. Error	Beta	t	p-value
Gender	-0.019	0.194	-0.003	-0.095	0.924
Age	0.250	0.075	0.113	3.311	0.001
Education Level	-0.062	0.156	-0.014	-0.396	0.692
Monthly Household Income	0.321	0.076	0.139	4.225	0.000

Remark: Dependent variable: cardiovascular health literacy

$R = 0.202$, $R^2 = 0.041$, Adjusted $R^2 = 0.036$, $SE = 3.051$, $df = 5$, $F = 9.478$

Table 5 Linear regression analysis of predictive factors for emergency response readiness

Variable	B	Std. Error	Beta	t	p-value
Gender	0.059	0.108	0.016	0.542	0.588
Age	0.215	0.042	0.171	5.114	0.000
Education Level	-0.051	0.087	-0.020	-0.590	0.555
Monthly Household Income	0.208	0.042	0.159	4.922	0.000

Remark: Dependent variable: Emergency response readiness

$R = 0.265$, $R^2 = 0.070$, Adjusted $R^2 = 0.066$, $SE=1.698$, $df = 5$, $F = 16.857$

Similarly, monthly household income ($\beta=0.159$, $p<0.001$) was a significant predictor

Discussion

This study was guided by two complementary theoretical frameworks: the Health Belief Model (HBM)⁽¹¹⁾ and Nutbeam's Health Literacy Framework⁽¹²⁾. Nutbeam's framework was used to conceptualize cardiovascular health literacy as the ability to access, understand, and apply knowledge related to heart disease and stroke symptoms. In particular, functional health literacy refers to basic recognition and understanding of warning signs, while interactive and critical health literacy relate to the ability to interpret health information and make appropriate decisions in real-life emergency situations. The Health Belief Model was applied to explain how individual beliefs, particularly perceived susceptibility, perceived severity, and self-efficacy, may influence a person's readiness to respond appropriately during cardiovascular emergencies. In this study, these two frameworks were integrated to support a two-stage conceptual model in which cardiovascular health literacy represents symptom recognition and understanding, while emergency response readiness reflects the application of that knowledge in behavioral decision-making. Demographic and socioeconomic factors, including age, gender, education level, and monthly household income, were considered potential influencing factors for both constructs. Together, these frameworks provided the theoretical basis for examining how knowledge of cardiovascular symptoms may contribute to appropriate emergency response behavior among Thai adults in Bangkok.

The findings indicate that among 1,122

participants, 56.51% demonstrated good knowledge of heart disease and stroke symptoms, while 91.09% exhibited good emergency response awareness. These results suggest that Thai adults in Bangkok generally possess moderate to high levels of cardiovascular health literacy and particularly strong readiness to respond to emergency situations. However, disparities were observed across age and income groups, with older individuals and those with higher monthly household income consistently demonstrating better performance in both domains. This highlights that although urban populations may benefit from improved access to health information and public health campaigns, inequalities in health literacy and behavioral readiness persist, reflecting the influence of socioeconomic determinants on cardiovascular awareness and response behavior.

The relatively high level of cardiovascular health literacy observed in this study may be attributed to several factors, including the high educational attainment of participants and increased exposure to health information through digital media and public health initiatives. Older adults, in particular, demonstrated greater knowledge, which may be explained by increased exposure to healthcare services, accumulated life experience, and higher perceived susceptibility to cardiovascular disease. According to the Health Belief Model (HBM)⁽¹¹⁾, individuals who perceive themselves to be at greater risk are more likely to seek and retain health-related information. This finding is consistent with Thai studies by Chang et al.⁽⁸⁾ and Kittiboonthawan et al.⁽⁹⁾, which reported moderate to good awareness of cardiovascular symptoms among educated populations, as well as with Dharmasaroja et al.⁽⁷⁾, who found higher levels of stroke knowledge among older and at-risk individuals. International

evidence also supports this pattern, with studies in Spain⁽¹³⁾ and Singapore⁽⁵⁾ identifying education and socioeconomic status as key determinants of cardiovascular knowledge. From the perspective of Nutbeam's Health Literacy Framework⁽¹²⁾, these findings reflect functional health literacy, where individuals are able to access and understand basic health information, as well as aspects of interactive literacy, where knowledge is applied in everyday contexts.

Emergency response readiness in this study was notably high, with most participants correctly identifying appropriate actions during cardiovascular emergencies. This may reflect the effectiveness of Thailand's public health communication strategies, particularly campaigns promoting the use of the emergency medical service hotline (1669). Repeated exposure to such messages through mass media, healthcare settings, and digital platforms likely enhances both recall and confidence in responding to emergencies. This finding is supported by Dharmasaroja et al.⁽⁷⁾, who reported high levels of awareness regarding emergency services among Thai populations, as well as by evidence from the Czech Republic⁽¹⁴⁾, where strong national campaigns were associated with improved response behaviors. From a theoretical perspective, these findings align with Bandura's Social Cognitive Theory⁽¹⁵⁾, which emphasizes the role of observational learning and environmental reinforcement in shaping behavior, as well as the Theory of Planned Behavior⁽¹⁶⁾, which highlights the importance of perceived behavioral control in influencing individuals' intention to act. Together, these frameworks suggest that continuous exposure to health messages and clear behavioral cues can significantly enhance emergency preparedness.

A key contribution of this study is the integration of cardiovascular health literacy and emergency response readiness within a single analytical framework. The findings support the conceptualization of cardiovascular awareness as a two-stage process, in which knowledge of symptoms (health literacy) influences the ability to respond appropriately during emergencies (behavioral readiness). Individuals with higher levels of knowledge are more likely to recognize the urgency of symptoms and take appropriate action. However, this relationship may not be entirely linear, as some individuals with adequate knowledge may still fail to act due to psychological barriers, lack of confidence, or situational constraints. This phenomenon reflects the "knowledge–action gap" identified in previous studies^(2,13), where awareness does not always translate into behavior. Therefore, interventions should not only focus on improving knowledge but also on strengthening self-efficacy and decision-making skills in emergency contexts.

The regression analysis further demonstrated that age and income were significant predictors of both cardiovascular health literacy and emergency response readiness, whereas education level and gender were not statistically significant. This suggests that health literacy is influenced not only by formal education but also by life experience and access to resources. Older individuals may have greater familiarity with healthcare systems and more personal or familial exposure to chronic diseases, while higher-income groups may benefit from better access to healthcare services, health information, and preventive care. These findings are consistent with Aekplakorn et al.⁽¹⁾, who reported limitations in cardiovascular prevention capacity among lower-income populations in Thailand, as well as with

international evidence demonstrating the impact of income inequality on cardiovascular risk and health-care utilization^(3,4). From the perspective of the Social Determinants of Health framework⁽¹⁷⁾, socioeconomic conditions shape access to resources and opportunities, thereby influencing health knowledge and behavior. Similarly, the Andersen Health Behavior Model⁽¹⁸⁾ explains that predisposing factors (age), enabling factors (income), and perceived need jointly determine health-related behavior, which is consistent with the patterns observed in this study.

Conversely, individuals with lower income and younger age groups demonstrated comparatively lower levels of knowledge and preparedness. This may be due to limited access to health information, lower perceived risk, or fewer opportunities for health education. Younger individuals, in particular, may not perceive themselves to be at risk of cardiovascular disease, leading to lower motivation to acquire relevant knowledge, as explained by the HBM⁽¹⁾. These findings highlight the need for targeted health promotion strategies that specifically address vulnerable groups, particularly through accessible and engaging digital platforms.

The urban context of Bangkok may also have influenced the findings. As a highly urbanized setting, Bangkok offers greater access to healthcare services, digital information, and public health campaigns, which may contribute to higher overall awareness levels. However, urban lifestyles characterized by stress, time constraints, and sedentary behavior may increase cardiovascular risk, making timely recognition and response even more critical. Therefore, public health strategies in urban areas should focus not only on increasing knowledge but also on

strengthening individuals' ability to act effectively during emergencies.

Overall, the findings of this study suggest that while Thai adults in Bangkok demonstrate relatively high levels of cardiovascular awareness and emergency response readiness, disparities related to age and income remain. These results reinforce the importance of integrating both cognitive (knowledge) and behavioral (response) components in cardiovascular health promotion. Addressing these gaps through targeted, theory-based interventions will be essential for improving equitable access to health information and enhancing timely response to cardiovascular emergencies.

This study has several limitations. First, the use of an online survey with purposive and snowball sampling may have introduced selection bias and limited the representativeness of the sample. Second, the cross-sectional design does not allow causal inference. Third, self-reported data may be affected by recall and social desirability bias, particularly for intended emergency responses. Finally, because the study was conducted in Bangkok, the findings may not be generalizable to other regions of Thailand.

Emerging Knowledge

This study contributes to the growing body of evidence on cardiovascular awareness by integrating cardiovascular health literacy (symptom recognition) and emergency response readiness (behavioral action) within a single conceptual framework. Unlike previous studies in Thailand that have examined stroke or heart disease awareness separately, this research demonstrates that knowledge and action are inter-related yet influenced by distinct demographic and socioeconomic factors. The findings suggest that while

functional health literacy (basic knowledge) is moderately developed, behavioral readiness can be substantially enhanced through effective public health communication and repeated exposure to emergency response messaging. This reflects an emerging transition from functional to interactive and behavioral health literacy, particularly in urban populations with greater access to digital media and healthcare information. The study therefore highlights the importance of addressing both cognitive and behavioral dimensions of health literacy in cardiovascular disease prevention.

Conclusion

In conclusion, this study demonstrates that Thai adults in Bangkok exhibit moderate to high levels of cardiovascular health literacy and strong emergency response readiness. These findings reflect the positive impact of public health initiatives and widespread access to health information in urban settings. However, significant disparities related to age and socioeconomic status persist, indicating that the benefits of health education are not evenly distributed. Addressing these gaps will require targeted and inclusive strategies that go beyond knowledge dissemination to strengthen behavioral readiness, particularly among younger and lower-income populations. Leveraging digital platforms, community-based interventions, and theory-driven health promotion approaches will be essential to enhance both recognition and timely response to cardiovascular emergencies, ultimately contributing to more equitable and effective cardiovascular disease prevention in Thailand.

Recommendations

At the individual level, efforts should focus on

strengthening health literacy and fostering proactive health behavior. Continuous learning should be encouraged through accessible online courses, infographics, and interactive mobile applications designed to teach symptom recognition and first-response actions for heart disease and stroke. Individuals can also benefit from self-assessment tools and digital reminders that help reinforce early symptom identification and appropriate emergency response behavior. Moreover, community engagement through peer learning can be a powerful approach; establishing workplace or neighborhood “Health Champions” can promote cardiovascular awareness within social networks and foster a culture of shared responsibility for health.

At the policy level, health promotion strategies must be both targeted and systemic. Region-specific health campaigns should focus on reaching younger and low-income populations—groups shown in this study to have lower awareness—through popular digital platforms such as TikTok, LINE, and Facebook to enhance engagement and accessibility. Cardiovascular health and first-response education should also be formally integrated into school and university curricula, ensuring that knowledge of symptom recognition and emergency procedures becomes part of early education. Strengthening primary healthcare capacity is equally important; community nurses and volunteers should receive regular training in CVD risk communication, preventive counseling, and first-aid protocols. Additionally, the government should advance digital health policies by supporting mobile applications and emergency systems that incorporate BE-FAST and heart attack recognition modules, bridging technology and public health. Finally, a

robust monitoring and evaluation framework should be established to conduct longitudinal assessments of cardiovascular health literacy and emergency response behaviors, ensuring that national CVD prevention strategies remain evidence-based, adaptive, and sustainable

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ความรู้เกี่ยวกับอาการโรคหัวใจและโรคหลอดเลือดสมอง รวมถึงการตอบสนองภาวะฉุกเฉิน ของประชาชนไทยอายุ 15–60 ปี ในกรุงเทพมหานคร

ธีรัช เทภาสิต*, ภัทรธิดา พิจารณาธรรม**, จิรายุ ปรามปรีชากุล***; ณัฐณกานต์ ฐูปทอง****; ลิลลี่ ประทีป*****;
วสิษฐพล อัครวัฒนกุล*****; สิริวิญญ์ อัครวัฒนกุล*****; ปฐวี จงสภาพงษ์พันธ์*****;
อัญมรินทร์ เหล่าพงศ์พิชัย*****; ศุจิน มังคลรังษี*****

* มหาวิทยาลัยสุโขทัยธรรมาธิราช; ** โรงเรียนนานาชาติไผ่เสียง; *** โรงเรียนเตรียมวิทย์พัฒนา; **** โรงเรียนสามเสนวิทยาลัย;
***** โรงเรียนสารสาสน์เอกตรา; ***** โรงเรียนนานาชาติไชร์สเบอรี กรุงเทพมหานคร; ***** โรงเรียนสาธิตนานาชาติ
มหาวิทยาลัยมหิดล; ***** โรงเรียนสาธิตมหาวิทยาลัยขอนแก่น ฝ่ายมัธยมศึกษา; ***** นักวิจัยอิสระ
วารสารการแพทย์ฉุกเฉินแห่งประเทศไทย 2569;6(1):42–55.

ติดต่อผู้เขียน: ศุจิน มังคลรังษี email: khunsujimon.m@gmail.com

บทคัดย่อ โรคหัวใจและหลอดเลือด (cardiovascular disease: CVD) รวมถึงโรคหัวใจและโรคหลอดเลือดสมอง ยังคงเป็นสาเหตุสำคัญของการเจ็บป่วยและการเสียชีวิตทั่วโลก และมีแนวโน้มเพิ่มขึ้นอย่างต่อเนื่องในประเทศไทย การรับรู้สัญญาณอาการตั้งแต่ระยะเริ่มต้นและการตอบสนองต่อภาวะฉุกเฉินอย่างเหมาะสมเป็นปัจจัยสำคัญในการลดอัตราการเสียชีวิต อย่างไรก็ตาม ยังพบช่องว่างระหว่างความรู้และการนำไปปฏิบัติ โดยเฉพาะในประชากรเขตเมือง การศึกษานี้มีวัตถุประสงค์เพื่อประเมินความรู้ด้านสุขภาพหัวใจและหลอดเลือด (ความรู้เกี่ยวกับอาการของโรคหัวใจและโรคหลอดเลือดสมอง) ประเมินความพร้อมในการตอบสนองต่อภาวะฉุกเฉิน และศึกษาปัจจัยทางประชากรศาสตร์ที่เกี่ยวข้องกับทั้งสองด้านในประชาชนไทยอายุ 15–60 ปี ในเขตกรุงเทพมหานคร การศึกษานี้เป็นการวิจัยเชิงพรรณนาแบบภาคตัดขวาง โดยเก็บข้อมูลจากกลุ่มตัวอย่างจำนวน 1,122 คน ด้วยแบบสอบถามออนไลน์ที่มีโครงสร้างและผ่านการตรวจสอบความตรงและความเชื่อมั่น ความรอบรู้ด้านสุขภาพหัวใจและหลอดเลือดวัดด้วยแบบทดสอบปรนัยจำนวน 20 ข้อ (ช่วงคะแนน 0–20) ขณะที่ความพร้อมในการตอบสนองต่อภาวะฉุกเฉินประเมินด้วยคำถามเชิงสถานการณ์จำนวน 10 ข้อ (ช่วงคะแนน 0–10) วิเคราะห์ข้อมูลด้วยสถิติเชิงพรรณนา การทดสอบ t-test แบบกลุ่มอิสระ การวิเคราะห์ความแปรปรวนทางเดียว (ANOVA) สหสัมพันธ์เพียร์สัน และการวิเคราะห์ถดถอยพหุคูณ โดยกำหนดระดับนัยสำคัญทางสถิติที่ $p < 0.05$ ผลการศึกษาพบว่า กลุ่มตัวอย่างร้อยละ 56.51 มีความรอบรู้ด้านสุขภาพหัวใจและหลอดเลือดอยู่ในระดับดี ร้อยละ 35.83 อยู่ในระดับปานกลาง และร้อยละ 7.66 อยู่ในระดับต่ำ ในขณะที่ความพร้อมในการตอบสนองต่อภาวะฉุกเฉินอยู่ในระดับสูง โดยร้อยละ 91.09 อยู่ในระดับดี อายุ ($p < 0.05$) และรายได้ครัวเรือนต่อเดือน ($p < 0.05$) เป็นปัจจัยที่มีนัยสำคัญในการทำนายความรอบรู้ด้านสุขภาพ และทั้งสองปัจจัยยังสามารถทำนายความพร้อมในการตอบสนองต่อภาวะฉุกเฉินได้อย่างมีนัยสำคัญ ($p < 0.05$) นอกจากนี้ ความรอบรู้ด้านสุขภาพหัวใจและหลอดเลือดยังมีความสัมพันธ์เชิงบวกกับความพร้อมในการตอบสนองต่อภาวะฉุกเฉิน โดยสรุปประชาชนไทยในเขตกรุงเทพมหานครมีระดับความรอบรู้ด้านสุขภาพหัวใจและหลอดเลือดในระดับปานกลางถึงสูง และมีความพร้อมในการตอบสนองต่อภาวะฉุกเฉินในระดับสูง อย่างไรก็ตาม ยังคงพบความเหลื่อมล้ำตามอายุและสถานะทางเศรษฐกิจและสังคม ผลการศึกษานี้ชี้ให้เห็นถึงความสำคัญของการพัฒนาแนวทางส่งเสริมความรอบรู้ด้านสุขภาพควบคู่กับการเสริมสร้างพฤติกรรมตอบสนอง โดยเฉพาะในกลุ่มประชากรวัยหนุ่มสาวและผู้มีรายได้น้อย เพื่อเพิ่มประสิทธิภาพในการตอบสนองต่อภาวะฉุกเฉินทางหัวใจและหลอดเลือดอย่างทันท่วงที และส่งเสริมการป้องกันโรคอย่างเท่าเทียม

คำสำคัญ: โรคหัวใจและหลอดเลือด; การรับรู้โรคหลอดเลือดสมอง; ความรอบรู้ด้านสุขภาพ; การตอบสนองภาวะฉุกเฉิน; ประเทศไทย