Awareness regarding self-prevention and response to heatwaves among the residents in several wards and communes in Thua Thien Hue province

Nguyen Thanh Gia[1], Hoang Nguyen Thanh Dat[1], Nguyen Van Hiep[1], Tran Binh Thang[1], Le Dinh Duong[1], Nguyen Minh Tu[2], Dang Thi Anh Thu[1]*

(1) Faculty of Public Health, University of Medicine and Pharmacy, Hue University

(2) Office for Undergraduate Academic Training, University of Medicine and Pharmacy, Hue University

Abstract

Background: Heatwaves pose a threat to public health in Vietnam, and unprecedented heatwaves have been recorded in Thua Thien Hue province over recent years. **Objective:** This study aimed to examine the knowledge, attitudes, and practices (KAP) regarding self-protection and response to heatwaves among residents in some Thua Thien Hue province communes and investigate their associated factors. **Materials and methods:** A cross-sectional study involving 500 participants was conducted in March 2024. Multivariate logistic regression analysis was utilized to identify the associated factors. **Results:** Our findings indicated that the prevalence of heat-related illnesses was 24.2%, while chronic diseases accounted for 41.6%. The proportions of residents demonstrating good knowledge, attitudes, and practices regarding self-protection and responses to heatwaves were 92.0%, 61.2%, and 62.2%, respectively. Factors associated with knowledge regarding prevention and responses to heatwaves included age group, educational background, heat-related illnesses, chronic diseases, nature of work, primary cooling methods, and information sources. Attitudes were influenced by profession, area of residence, financial family status, and knowledge. Factors associated with practices included age group, educational background, area of residence, chronic diseases, nature of work, primary cooling methods, information sources, knowledge, and attitudes ($p<0.05$). **Conclusion:** A high proportion of participants demonstrated good knowledge. However, attitudes and practices regarding heat prevention measures were relatively low. Our findings could help reframe and communicate Thua Thien Hue's heat wave plans in the light of climate change.

Keywords: *Knowledge; attitude; practice; heatwave.*

1. INTRODUCTION

Climate change is causing serious impacts, particularly on human health, through factors such as air pollution, infectious diseases, and heat-related illnesses. [1]. It is predicted that the frequency and duration of heatwaves will increase in the future, leading to adverse health effects for billions of vulnerable people and potentially impacting the majority of the population in the coming decades [2, 3]. Vulnerable groups, including the elderly, children, pregnant women, and those with chronic conditions such as diabetes, cardiovascular disease, and neurological disorders, will be particularly susceptible to heat-related illness [4, 5].

During the summer of 2023, Vietnam recorded nearly 100 temperature records, with provinces from Thanh Hoa to Thua Thien Hue experiencing temperatures 1 - 1.5°C above average. Consequently, prolonged heatwaves have become a significant public health concern [6]. Thua Thien Hue has a tropical monsoon climate, where the dry season is influenced by the hot and dry south-westerly monsoon (Lao wind), with air temperatures frequently exceeding 35°C and potentially lasting for several days [7, 8]. Currently, the impact of climate change is making heatwaves in the province increasingly unpredictable and potentially causing serious health consequences for residents.

Awareness of risks and adaptive behaviour are important factors in reducing the health impacts of climate change. Some studies on prevention and response to heatwaves have been conducted in various countries worldwide [9]. Studies on knowledge, attitudes, and practices regarding heatwaves have mostly been carried out in developed countries, with relatively few studies done in developing nations [10]. Although there have been such studies in Vietnam, no study has been conducted in Thua Thien Hue province until now. This study aimed to examine the knowledge, attitudes, and practices (KAP) regarding self-protection and response to heatwaves among residents in some

**Corresponding author: Dang Thi Anh Thu. Email: dtathu@huemed-univ.edu.vn*
DOI: 10.34071/jmp.2025.2.26
Received: 11/2/2025; Accepted: 15/4/2025; Published: 28/4/2025

Thua Thien Hue province communes and investigate their associated factors.

2. MATERIALS AND METHODS

2.1. Participants

The subjects were involved in our study with the following criteria: (1) residents aged 18 and over, (2) permanent residency in Thua Thien Hue province, and (3) agreed to participate in the study. Those who were absent during the study or those who did not have sufficient time to answer the questionnaire. Residents who are physically, mentally, or cognitively impaired, which affects their ability to complete the survey, were excluded.

2.2. Time and place

Data collection was conducted in March 2024. The study was conducted in one ward (Kim Long ward in Hue city) and one commune (Thuy Thanh commune in Huong Thuy town) in Thua Thien Hue province.

2.3. Study Design

The study design was a cross-sectional study.

2.4. Sample Size

The sample size was calculated using the formula as follows.

$$n = Z^2_{(1-\alpha/2)} \frac{p(1-p)}{d^2}$$

Where:

n: the minimum required sample size for the study

α: the significance level (α = 0.05)

Z_(1-α/2): 1.96, the Z value obtained from the Z table at α = 0.05.

d: the desired margin of error, selected as d = 0.05.

p: As the p value could not be found in similar previous studies, p=0.5 was chosen to achieve the largest sample size.

Based on this formula, the minimum sample size calculated is 384. In fact, we involved 500 individuals in our study.

2.5. Sampling Method

A multi-stage cluster sampling method was employed, detailed as follows.

Stage 1: Selecting one commune and one ward from the nine administrative units under Thua Thien Hue province using random sampling: Kim Long ward in Hue City and Thuy Thanh commune in Huong Thuy town.

Stage 2: Three groups are chosen randomly (by drawing lots) from 13 groups (groups 8, 9, and 10 from Kim Long ward) and two from 9 hamlets (Lang Xa Bau hamlet, Thanh Toan hamlet). A total of five groups/hamlets were selected for the study sample.

Stage 3: In each group/hamlet, a list of residents aged 18 and above was compiled (based on the local population management records). Sampling was conducted based on this list until the requisite sample size was achieved.

2.6. Study variables

General characteristics of the research subjects: Age group, gender (male/female), educational background, marital status (single/married/ other), profession, area of residence, and financial family status (poor/near-poor, average or above). Personal health status of the research subjects: Suffering from heat-related illnesses, chronic diseases, family history of heat-related illnesses (yes/no), working outdoors (yes/no), duration of outdoor work (under 4 hours/from 4-8 hours/more than 8 hours), methods of cooling (use/no use air conditioning) and sources of information accessed regarding prevention and response to heatwaves (Family members/Friends Neighbors/Television newspapers and radio /Internet/Books, magazines, leaflets/Media personnel). In the analysis of factors associated with KAP, sources of information were divided into 3 groups included community, media, and both.

Knowledge related to self-prevention and response to heatwaves: This includes 20 questions, with each correct answer scoring 1 point, resulting in a total score ranging from 0 to 20 points. Subjects demonstrate good knowledge when achieving ≥ 75% of the total score. Knowledge assessment: Good knowledge: ≥ 15 points; Not good knowledge: < 15 points.

Attitude towards the ability to self-prevent and respond to heatwaves: Attitude assessment using a Likert scale: Comprising 16 items, with a total score ranging from 16 to 80 points. Individuals achieve a good attitude when their responses reach ≥ 75% of the total score. The assessment of attitudes was as follows: Good attitude: ≥ 60 points; Not good attitude: < 60 points.

Practices related to self-prevention and response to heatwaves: The practice questions include 9 items, with a total score ranging from 9 to 36 points. Subjects demonstrate good practice when achieving ≥ 75% of the total score. Practice assessment: Good practice: ≥ 27 points; Not good practice: < 27 points.

2.7. Method of data collection

A development questionnaire was used based on previous related studies [11, 12]. After

developing the questionnaire, we conducted a pilot survey involving 30 subjects to test the logic and relevance of each item in the questionnaire by calculating the Cronbach's alpha coefficient, aiming for an acceptable level of >0.7. Subsequently, we reviewed and revised the questionnaire to ensure it was appropriate and understandable for residents. Once the questionnaire was finalized, it was used to train all data collectors, standardize the interview methods, and complete the survey forms.

The data collection process includes investigators randomly selecting households from the local population management list to be part of the study sample. They interviewed all individuals aged 18 and older within those households. After completing an interview with one household, the investigator proceeded to interview neighboring households. If the subject of the study was not home, that household would be skipped.

2.8. Statistical Analysis

Data collection and analysis were performed using Epidata software version 3.1 and SPSS version 20.0. Descriptive statistics for the variables included quantity (n) and percentage (%). From the Chi-square test, variables showing statistically significant relationships ($p<0.05$) were chosen for the multivariate logistic regression model to examine these relationships. Findings were reported as odds ratios (OR), 95% confidence intervals (CI), and p-values.

2.9. Ethics statement

The study received approval from the Ethics Committee in Biomedical Research at Hue University of Medicine and Pharmacy (No: H2024/025 dated January 30, 2024) and obtained consent to conduct research at the study sites from the governmental authorities of wards and communes in Thua Thien Hue Province.

3. RESULTS

3.1. General characteristics

Table 1. General characteristics of research subjects (n=500)

Characteristics		Frequency (n)	Percentage (%)
Gender	Male	200	40.0
	Female	300	60.0
	(Average ± SD: 40.7 ± 15.6)		
Age group	18 - 35	220	44.0
	36 - 60	221	44.2
	≥60	59	11.8
Education background	Lower secondary school or below	129	25.8
	Upper secondary school	371	74.2
Marital Status	Married	349	69.8
	Other	151	30.2
Profession	Famer	51	10.2
	Civil servant	65	13.0
	Student	64	12.8
	Housewife	31	6.2
	Business	98	19.6
	Retired	28	5.6
	Employee	88	17.6
	General labor	64	12.8
	Other	11	2.2
Financial family status	Poor/Near-poor	84	16.8
	Average or above	416	83.2

Among the 500 subjects studied, females comprised almost two-thirds. The age bracket of 36-60 accounted for 44.2% (mean age 40.7 ± 15.6), with the highest educational attainment being university at 43.4%. Furthermore, 69.8% were married, and most of the participants reported an average income or higher.

3.2. Health status and information accessibility of the research subjects

Table 2. Health status and information accessibility of the research subjects (n=500)

Characteristics		Frequency (n)	Percentage (%)
Heat-related illness	Have a disease	121	24.2
	No disease	379	75.8
Chronic diseases	Have a disease	208	41.6
	No disease	292	58.4
The family has someone with heat-related illness	Yes	158	31.6
	No	342	68.4
Sources of information for prevention and response to heatwave occurrences.	Family members	381	76.2
	Friends	289	57.8
	Neighbors	281	56.2
	Television, newspapers, and radio	380	76.0
	Internet	284	56.8
	Books, magazines, leaflets	131	26.2
	Media personnel	52	10.4

In the study, 24.2% of participants experienced heat-related illnesses. The prevalence of chronic diseases was notably high at 41.6%. The primary sources of information were family members (76.2%) and television/ radio (76.0%).

3.3. Work characteristics and cooling method of the research object

Table 3. Work characteristics and cooling method of the research object (n=500)

Characteristics		Frequency (n)	Percentage (%)
Outdoor work	Yes	225	45.0
	No	275	55.0
Primary cooling method	No air conditioning	249	49.8
	Air conditioning	251	50.2

45.0% of respondents work outdoors. Air conditioning was the preferred cooling method for 251 respondents (50.2%).

3.4. Knowledge, attitudes, and practices regarding self-prevention and response to heatwaves

Table 4. Knowledge, attitudes, and practices regarding self-prevention and response to heatwaves (n=500)

	Frequency (n)	Percentage (%)
Knowledge		
Good	460	92.0
Not good	40	8.0
Attitude		
Good	306	61.2
Not good	194	38.8
Practice		
Good	311	62.2
Not good	189	37.8

Out of the 500 surveyed individuals, 92.0% demonstrated good knowledge; however, their attitudes and practices concerning heatwave prevention and response were notably low, at 61.2% and 62.2%, respectively.

3.5. Factors related to knowledge, attitude, and practice about the ability to self-protect and respond to heatwaves

Table 3.5. Factors related to knowledge regarding the ability to self-protect and respond to heatwaves (n=500)

Variables		OR	95% CI	p
Age group	18 - 35	3.97	1.65 - 9.54	**0.002**
	36 - 60	2.75	1.21 - 6.25	**0.016**
	≥ 60	1		
Education background	Lower secondary or below	1		
	Upper secondary or above	4.03	2.09 - 7.80	**< 0.001**
Heat-related illness	Have a disease	1		
	No disease	2.00	1.02 - 3.94	**0.044**
Chronic diseases	Have a disease	1		
	No disease	2.25	1.16 - 4.35	**0.016**
Outdoor work	Yes	1		
	No	2.41	1.23 - 4.74	**0.011**
Cooling method	No use of air conditioning	1		
	Use air conditioning	6.46	2.66 - 15.68	**< 0.001**
Source of information	Community	1		
	Media	4.44	1.38 - 14.28	**0.012**
	Both	6.49	3.14 - 13.42	**< 0.001**

Research indicates that factors such as age, educational background, history of heat-related illnesses, chronic conditions, outdoor employment, cooling strategies, and information sources significantly influence awareness of heatwave prevention and response ($p<0.05$). Younger people demonstrate greater knowledge; individuals with at least a secondary education possess knowledge that is 4.03 times higher than those with lower secondary education. Those without prior heat-related illnesses have knowledge levels twice as high ($p=0.044$), while individuals free of chronic diseases exhibit knowledge 2.25 times greater ($p=0.016$). Additionally, those who do not engage in outdoor work show increased awareness ($p=0.011$). Insights gained from people and television also play a role in boosting knowledge.

Table 6. Factors associated with attitudes towards self-protection and response to heatwaves (n=500)

Variables		OR	95% CI	p
Profession	Stable income	1		
	No income	1.41	0.79 - 2.50	0.247
	Unstable income	1.82	1.14 - 2.91	**0.012**
Area of residence	Urban	1		
	Rural	1.83	1.25 - 2.68	**0.002**
Financial family status	Poor/Near-poor	1		
	Above average	1.74	1.08 - 2.78	**0.022**
Knowledge	Not good	1		
	Good	2.05	1.07 - 3.92	**0.031**

Factors such as profession, place of residence, financial family status, and general knowledge affect attitudes toward heat prevention and response ($p<0.05$). People residing in rural areas show attitudes that are 1.83 times more favorable than those in urban locations. Additionally, individuals with an average or higher income and a solid understanding demonstrate more positive attitudes ($p<0.05$).

Table 7. Factors associated with practices regarding self-protection and response to heat waves (n=500)

Variables		OR	95% CI	p
Age group	18 - 35	2.11	1.17 - 3.79	**0.013**
	36 - 60	1.20	0.67 - 2.13	0.539
	≥ 60	1		
Education background	Lower secondary or below	1		
	Upper secondary or above	2.02	1.35 - 3.04	**0.001**
Marital Status	Married	1		
	Other	1.81	1.20 - 2.73	**0.005**
Area of residence	Urban	1		
	Rural	2.75	1.89 - 4.00	**< 0.001**
Chronic disease	Have a disease	1		
	No disease	1.59	1.11 - 2.30	**0.013**
Outdoor work	Yes	1		
	No	1.54	1.07 - 2.23	**0.020**
Primary cooling method	No air conditioning	1		
	Air conditioning	1.85	1.28 - 2.67	**0.001**
Source of information	Community	1		
	Media	6.46	2.79 - 14.97	**< 0.001**
	Both	2.89	1.66 - 5.05	**< 0.001**
Knowledge	Not good	1		
	Good	3.82	1.92 - 7.61	**< 0.001**
Attitude	Not good	1		
	Good	2.50	1.72 - 3.64	**< 0.001**

Factors affecting heat prevention and response practices include age, education level, residence, chronic illnesses, outdoor work, cooling methods, information sources, knowledge, and attitudes ($p<0.05$). Individuals aged 18-35 practice heat prevention 2.11 times more effectively than those aged 60 and older. A higher education level, residing in rural areas, absence of chronic illnesses, not working outdoors, using air conditioning, and obtaining information from people or television all enhance practice capability. Strong knowledge and a positive attitude increase the likelihood of effective practices by 3.82 times and 2.50 times, respectively.

4. DISCUSSION

Our research evaluates the participants' knowledge, attitudes, and practices regarding their ability to self-prevent and respond to heatwaves while exploring related factors. As extreme weather events become more common, heat waves significantly threaten human health. Therefore, raising awareness and implementing protective measures against heat impacts is crucial to reducing potential risks. Our findings show that most participants exhibit a solid understanding of heat prevention and response strategies. Similarly, a study by Adeela Mustafa et al. (2018) found that 87.9% had good knowledge [13]. Jing Li et al.'s (2016) research also showed that over 80.0% of participants answered the knowledge questions correctly [14]. Our results also reported that primary sources of information for prevention and response to heatwave occurrences were family members (76.2%) and television/radio (76.0%), followed by friends (57.8%) and internet (56.8%). Focusing on these channels will help improve the information for dealing with the heatwave.

The residents of central Vietnam, especially in Thua Thien Hue, have faced considerable challenges like storms, floods, and extreme heat in recent years. Nevertheless, they possess a solid understanding of heat prevention measures. Their awareness

has improved, thanks to knowledge handed down through generations, keen observations of nature, and their adaptation to the tropical monsoon climate. This enhanced awareness is a commendable highlight of our research.

Our findings indicated that 61.2% of the study participants had a good attitude regarding self-prevention and response to heatwaves. This result is higher than that of Saber Yerli et al. (2019), who found that 34.0% had a good attitude and 31.0% had good practices. [15]. Additionally, the rate of good practices in our study was 62.2%. It can be observed that, overall, attitudes and practices regarding heat prevention remain low. This may be explained by the fact that residents have habitual lifestyles and cultural factors that could influence their heat prevention practices. For example, individuals may be used to working outside in hot weather without taking protective measures. Additionally, while residents may be aware of heat prevention techniques, they often underestimate the severe effects of heat on health, resulting in insufficient focus on practicing these protective measures.

Multivariate logistic regression analysis showed that individuals under 60 demonstrated better knowledge and practice than those over 60. Younger people have easier access to information through various channels, while older people experience difficulties with new technologies such as the internet and smartphones [16]. Reports from Australia, the UK, and the US/Canada indicate that, despite awareness of the dangers, many older people are not concerned about heat-related illnesses [9, 17, 18]. A significant number of older people also continue with their normal activities even during heat warnings [16].

Individuals with a higher level of education possess better knowledge and practices. The results align with a study conducted in Greece (2024), which suggests that lower educational attainment predicts a poorer understanding and practice of heat prevention measures. [19]. It can be explained that those with higher education have better access to information regarding the harmful effects of heat. Research by Jing Li et al. (2016) indicates that individuals with a lower educational background, due to insufficient knowledge, are often unaware of preventive measures during hot days, and their practices are also infrequent [14]. Educational background is also related to employment, as those with lower education may work outdoors and be more exposed to heat. Additionally, we found that individuals with a medium to high financial status have a more positive attitude towards heat prevention, in contrast to those with low income, who are less equipped with sun protection items and practice prevention poorly [14].

We found a positive relationship between health status and knowledge and practices for preventing heat exposure, with individuals without chronic disease demonstrating better knowledge and practices. Moisoglou et al. (2024) also indicate that health status is a predictive factor for knowledge, attitudes, and practices regarding heat prevention, with good health contributing to the improvement of these factors [19]. Our research also shows that individuals who do not work outdoors have better knowledge and practices. This may stem from the fact that this group typically has greater access to public health information and more favourable conditions to implement protective measures, such as using air conditioning or adjusting working and resting times appropriately. A working environment not directly affected by heat also helps them maintain better health compared to outdoor workers, who frequently face health risks from high temperatures and solar radiation.

We also discovered that urban residents can better practice coping strategies and self-protection against heat due to better economic conditions, information technology, and more common and developed cooling devices than those in rural areas. However, people living in rural areas tend to have a better attitude towards heat prevention; these individuals primarily engage in agricultural work and are accustomed to harsh weather, a lifestyle close to nature, and a strong sense of community, which helps them develop measures based on experience and mutual support. Diverse and reliable sources of information from television, newspapers, and media personnel can assist the public in effectively comparing and selecting information, thereby applying better heat prevention measures. Good knowledge and attitudes also promote more effective practices. This result suggests that local authorities need to raise awareness about the negative impacts of heat, particularly for vulnerable groups such as the elderly, those with low education, low income, and those living in rural areas.

5. CONCLUSION

A survey of 500 residents in Thua Thien Hue province showed that the rates of people with good knowledge, attitudes, and practices regarding

heat prevention and response were 92.0%, 61.2%, and 62.2%, respectively. Factors associated with knowledge included age group, education background, heat-related illnesses, chronic diseases, nature of work, primary cooling methods, and information sources; attitudes were influenced by profession, area of residence, financial family status, and knowledge; practices were associated with age group, education background, area of residence, chronic diseases, nature of work, primary cooling methods, information sources, knowledge, and attitudes ($p < 0.05$). The results indicate that participants had good knowledge but low attitudes and practices. Local authorities must enhance communication efforts to improve knowledge, attitudes, and practices for heat prevention.

REFERENCES

1. Patz JA, Frumkin H, Holloway T, Vimont DJ, Haines A. Climate change: challenges and opportunities for global health. JAMA. 2014;312(15):1565–80.

2. White-Newsome JL, McCormick S, Sampson N, Buxton MA, O'Neill MS, Gronlund CJ, et al. Strategies to reduce the harmful effects of extreme heat events: a four-city study. International journal of environmental research and public health. 2014;11(2):1960–88.

3. Oray NC, Oray D, Aksay E, Atilla R, Bayram B. The impact of a heat wave on mortality in the emergency department. Medicine. 2018;97(52):e13815.

4. Gaudio FG, Grissom CK. Cooling Methods in Heat Stroke. The Journal of emergency medicine. 2016;50(4):607–16.

5. Hifumi T, Kondo Y, Shimizu K, Miyake Y. Heat stroke. Journal of Intensive Care. 2018;6(1):30.

6. Ministry of Natural Resources and Environment. Climate Change and Sea Level Rise Scenarios in Vietnam. 2016.

7. Thua Thien Hue Provincial People's Committee. Comprehensive report on the assessment of climate in Thua Thien Hue Province. 2021.

8. Thua Thien Hue Province E-Portal. Overview of Thua Thien Hue. 2024.

9. Sheridan SC. A survey of public perception and response to heat warnings across four North American cities: an evaluation of municipal effectiveness. International journal of biometeorology. 2007;52(1):3–15

10. Akerlof K, Debono R Fau - Berry P, Berry P Fau - Leiserowitz A, Leiserowitz A Fau - Roser-Renouf C, Roser-Renouf C Fau - Clarke K-L, Clarke Kl Fau - Rogaeva A, et al. Public perceptions of climate change as a human health risk: surveys of the United States, Canada and Malta. International journal of environmental research and public health. 2010;7(6):2559–606.

11. Liu T, Xu YJ, Zhang YH, Yan QH, Song XL, Xie HY, et al. Associations between risk perception, spontaneous adaptation behavior to heat waves and heatstroke in Guangdong province, China. BMC Public Health. 2013;13(1):913.

12. Lohrey S, Chua M, Gros C, Faucet J, Lee JKW. Perceptions of heat-health impacts and the effects of knowledge and preventive actions by outdoor workers in Hanoi, Vietnam. The Science of the total environment. 2021;794:148260.

13. Mustafa A, Khan HM, Hussan J, Khan SZ, Ullah MIJJoKCoD. Knowledge, attitude and practices regarding heat stroke in general public of Islamabad and Rawalpindi. 2018;8(01):41-3.

14. Li J, Xu X, Ding G, Zhao Y, Zhao R, Xue F, et al. A Cross-Sectional Study of Heat Wave-Related Knowledge, Attitude, and Practice among the Public in the Licheng District of Jinan City, China International Journal of Environmental Research and Public Health 2016;13(7):648.

15. Yezli S, Mushi A, Yassin Y, Maashi F, Khan A. Knowledge, Attitude and Practice of Pilgrims Regarding Heat-Related Illnesses during the 2017 Hajj Mass Gathering. International journal of environmental research and public health. 2017;16(17):3215.

16. Nitschke M, Hansen A Fau - Bi P, Bi P Fau - Pisaniello D, Pisaniello D Fau - Newbury J, Newbury J Fau - Kitson A, Kitson A Fau - Tucker G, et al. Risk factors, health effects and behaviour in older people during extreme heat: a survey in South Australia. International journal of environmental research and public health. 2013;10(12):6721–33.

17. Abrahamson V, Wolf J Fau - Lorenzoni I, Lorenzoni I Fau - Fenn B, Fenn B Fau - Kovats S, Kovats S Fau - Wilkinson P, Wilkinson P Fau - Adger WN, et al. Perceptions of heatwave risks to health: interview-based study of older people in London and Norwich, UK. Journal of public health (Oxford, England). 2009;31(1):119–26.

18. Wolf J, Adger WN, Lorenzoni I, Abrahamson V, Raine R. Social capital, individual responses to heat waves and climate change adaptation: An empirical study of two UK cities. Global Environmental Change. 2010;20(1):44-52.

19. Moisoglou I, Katsiroumpa A, Kolisiati A, Meimeti E, Prasini I, Tsiachri M, et al. Predictors of Knowledge, Attitudes and Practice Regarding Heat Waves: An Exploratory Cross-Sectional Study in Greece. 2024;12(3):36.