Original Article

Factors Associated with Stress Levels among Elderly Workers in the Bang Saen Beach Trading Occupation Group in Saen Suk Municipality, Muang District, Chonburi Province

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Received: July 7, 2024
Revision received: December 26, 2024
Accepted after revision: February 21, 2025
BKK Med J 2025;21(1): 49-55.
DOI: 10.31524/bkkmedj.2025.11.007
www.bangkokmedjournal.com

Abstract

OBJECTIVES: The purpose of this study was to examine the relationship between various factors, including personal factors, environmental factors, uncertain attitudes regarding stress, and knowledge about stress.

MATERIALS AND METHODS: This is cross-sectional, descriptive research. The sample group comprises 104 elderly workers who are aged 60 or older from the Bang Saen beach trade group in Saen Suk Municipality. Data was collected using questionnaires from November 2023 to February 2024. The relationship was examined using correlation and chi-square statistical method

RESULTS: The study results reveal that most participants are female (59.6%) and range in age from 60 to 73 years, with an average age of 64.55 years. In terms of marital status, 45.2% are married. Additionally, 70.2% have an education level below high school, and 54.8% earn a monthly income between 10,001 and 20,000 baht. Most participants do not have an underlying medical condition (51.9%). Environmental uncertainty is generally at a moderate level (54.8%), with 44.2% experiencing high levels. Overall stress perception is moderate (51.0%) or high (49.0%), while stress management knowledge is either sufficient (51.0%) or high (49.0%). In terms of workplace stress, very high stress is reported by 60.6%, followed by high (36.5%), moderate (2.9%), and low (0.0%) levels. Statistical analysis indicates significant relationships between environmental uncertainty, stress perception, stress management knowledge, and workplace stress levels at a 0.01 level ($r = 0.247$, $p = 0.012$, $r = 0.765$, $p < 0.001$, $r = -0.196$, $p = 0.046$).

CONCLUSION: The research suggests providing information on stress and modifying stress management practices to reduce potential stress occurrences.

Keywords: elderly workers, stress, knowledge, attitude

The world's population is rapidly moving towards an aging society. And the World Health Organization has determined that if 10 % of the population is 60 years of age or older, it is considered a fully aging society. In 2015, it was found that there were approximately 900 million elderly people, and the number of elderly people is expected to double to approximately 2.1 billion people by 2050.[1] By the Ministry of Interior's civil registration, Thailand currently has 66 million people, including 13 million elderly people aged 60 years and over, which is 19 % of the total population.[2] Elderly people have physical and mental health problems and diseases that affect the elderly. Depression is seen in elderly people who are at risk of having accumulated stress. Future forms of public health services are needed to support an aging society in order to slow down the deterioration of the body and mind. Guidelines for promoting health and disease prevention for the elderly are available, both for physical and mental wellbeing.[3] Elderly people have common mental health problems, including anxiety about being dependent on their children and grandchildren. This is often clearly expressed as: fear, lack of

self-confidence, fear of no one being there to take care of them, fear of being worthless, fear of being abandoned, afraid of not being able to sleep, afraid of dying. It may manifest both emotionally and physically, in symptoms including palpitations, tightness in the chest, and shortness of breath. Most of the elderly will have their body and brain performance deteriorate, they'll experience changes in their social environment, including financial challenges, social problems, and family problems. As a result, some elderly people are unable to cope with such problems and changes, causing increased stress. And according to statistics from the Department of Mental Health, Ministry of Public Health, Thailand currently has more than 1,076,155 people with mental illness receiving treatment.[4] New options for treating mentally ill patients are needed. Nowadays, pressure arising from economic, social, and family issues is contributing to people's mental symptoms, resulting in stress, depression, and an increase in insomnia. This means the elderly often find it difficult to adapt to change. As a result, the elderly have stress, anxiety, unhappiness in life, and decreased life satisfaction.[5] Elderly workers in the merchant occupation group at Bang Saen Beach in Saen Suk Municipality work outdoors and are exposed to various weather conditions that change all the time, such as hot weather, rain, storms blowing onto the coast, etc. As a result of the weather patterns, doing business on any specific day may not be possible, hampering the ability to generate income. They may face other problems such as economic severity measures caused by politics which may lead to a drop in the number of tourists and decreased income from their occupation potentially causing the ingredients used in cooking to be lost. Or it may be that more modern technology has made the elderly unable to adapt to the situation in a timely manner. For example, some stores are being promoted on social media to make tourists more interested, which may in turn take them away from outdoor markets. From the above, the uncertainty of environmental shocks is one of the factors that cause stress among the elderly workforce. As the researchers conducted the study, it was also found that the majority of elderly people who experience stress are in the age range of 60-69 years.[6] This age is the age known as the 'early elderly', having just passed the working age, they are unable to adjust to current events, which results in more stress than other age groups.

As described above, stress among elderly workers is caused by a combination of factors.[7] By understanding the factors that cause stress and having an positive approach and knowledge on how to manage stress, the elderly will become more adaptable and will be able to find ways to deal with those stresses. The researcher is interested in studying the factors that are related to the stress levels of elderly workers in the merchant occupation group at Bang Saen Beach in Saen Suk Municipality, Mueang District, Chonburi Province, in order to use the information obtained from the study to plan the promotion of mental health among the elderly in the area. This plan is designed to help prevent stress so the elderly can live happily in their old age.

The purpose of this study was:

1. To study the stress levels of elderly workers in the Bang Saen beach merchant occupation group in Saen Suk Municipality, Mueang District, Chonburi Province.
2. To study various factors including personal factors, uncertain environmental factors, attitudes about stress, and knowledge in managing stress, among elderly workers in the Bang Saen beach merchant occupation group in Saen Suk Municipality, Mueang District, Chonburi Province.
3. To study the relationship between personal factors, uncertain environmental factors, attitudes about stress, and knowledge in managing stress, among elderly workers in the Bang Saen beach merchant occupation group in Saen Suk Municipality, Mueang District, Chonburi Province.

Materials and Methods

This study was a cross-sectional descriptive study at one point in time to study factors associated with stress levels among elderly workers in the Bang Saen beach merchant occupation group in Saen Suk Municipality, Mueang District, Chonburi Province.

Population and sample

The population included in this study comprises 141 elderly workers from the Bang Saen beach Merchant occupation group in Saen Suk Municipality, Mueang District, Chonburi Province.[8] The sample size was determined by knowing the population and calculating the sample size.[9] We determined the proportion of the characteristics of interest in the population set at 0.5, with a tolerance level of 5%, and a confidence level of 95%. The calculated sample size is equal to 104 people, which is based on simple sampling. We drew names of 141 elderly workers to meet the required number and meet the criteria with inclusion criteria, namely, elderly workers in the Bang Saen beach merchant occupation group. Elderly workers aged 60 years and over who were willing to voluntarily participate in this research were included. Exclusion criteria: withdrawal from participation in the research.

Research tools

The data collection tool was a questionnaire reviewed by 3 experts, ensuring content validity. Additionally, the questionnaire demonstrated internal consistency, meeting all required criteria, and was composed of 5 parts:

1. Personal factors have a total of 6 questions, open-ended and closed-ended, consisting of gender, age, marital status, educational level, average monthly income and underlying medical condition.
2. Uncertain environmental factors have a total of 7 questions, consisting of economic aspects, political aspects, local politics, and technology. This section has a total score of 35, which is divided into 5 levels: most agree (5 points), strongly agree (4 points), moderately agree (3 points), slightly agree (2 points), and least agree (1 point) using criterion-based grouping criteria, including low opinion

ISSN 2287-0237 (online)/ 2228-9674 (print)

level (7-11 points), moderate opinion level (12-23 points), and high opinion level (24-35 points).

3. Attitudes about stress has a total score of 60 points, which is divided into 5 levels: most agree (5 points), strongly agree (4 points), moderately agree (3 points), slightly agree (2 points), and least agree (1 point) using criterion-based grouping criteria: attitude towards stress at a poor level (less than 19 points), attitude towards stress at a moderate level (20-40 points), and attitude towards very good level of stress (41-60 points).
4. Knowledge of stress management has a total of 10 questions. This section has a total score of 50 points, which is divided into 5 levels: most agree (5 points), strongly agree (4 points), moderately agree (3 points), slightly agree (2 points), and least agree (1 point) using criterion-based grouping criteria: having poor knowledge (less than 3 points), having moderate knowledge (3-7 points), and having very good knowledge (8-10 points).
5. Assessment of stress levels using the Suan Prung Stress Assessment form.[10] The Cronbach's alpha reliability coefficient was calculated at more than 0.7. There are 20 questions in total. This section has a total score of 100 points, which is divided into 5 levels: most agree (5 points), strongly agree (4 points), moderately agree (3 points), slightly agree (2 points), and least agree (1 point) using criterion-based grouping criteria: low stress level (0-23 points), moderate stress level (24-41 points), high stress level (42-61 points), and very high stress level (62 points or more).

Data collection

1. The researcher has studied information from documents, academic works, and related research. To provide a framework for conducting research and collecting public health data by submitting a request for permission to collect data from the field of industrial hygiene and safety, Faculty of Public Health, Burapha University.
2. Permission was sought to examine studies at the Public Health and Environment Division of Saen Suk Municipality, Mueang District, Chonburi Province, to clarify the purpose and details of data collection and to request permission for data collection. The researcher then interviewed and administered questionnaires to the sample group of elderly workers in the Bang Saen beach Merchant occupation group in Saen Suk Municipality, Mueang District, Chonburi Province. Replies were collected starting from November 2023 - February 2024.
3. All collected questionnaires were checked for completeness and correctness before collecting and summarizing the data in a ready-made computer program for analysis and evaluation using statistical methods and to draw conclusions and to write a research report.

Results

Personal factors

The study found that the majority were female at 59.6%, aged between 60-64 years at 51.0%, average age 64.5 5 ± 3.54 years, marital status was married at 45.2%. 70.2% had an education level lower than high school, 54.8% had an income of 10,001-20,000 baht/month, and 51.9% had no underlying medical condition, as shown in Table 1.

Uncertain environmental factors

Uncertain environmental factors: more than 77.0% of the sample group responded that they had a moderate to high level of opinion, and the highest was in the matter of local politics, regarding the issue of refraining from setting up canvas tents causing less income (87.5%). Followed by the technology aspect, regarding technology affecting trading careers (78.8%), and the economic aspect, regarding the current economic conditions causing informal debt (77.9%). As for the question that the sample had the least agreement with, including the least: "this year you made more profits from trading" (44.2%). The level of uncertain environmental factors of the sample found that the overall level of opinions regarding uncertain environmental factors was at a moderate level 54.8 %, followed by a high level 44.2%, and a low level 1.0%, as shown in Table 2

Table 1: Number and percentage of the sample. Classified according to personal factors (n = 104).

Personal factors	n (%)
Gender	
Male	42 (40.4)
Female	62 (59.6)
Age (Years)	
60 - 64	53 (51.0)
65 - 69	42 (40.4)
≥ 70	9 (8.7)
Mean ± SD	64.55 ± 3.54
Min - Max	60 - 73
Marriage status	
Single	36 (34.6)
Married	47 (45.2)
Widowed/divorced/separated	21 (20.2)
Highest level of education	
Below high school	73 (70.2)
Associate degree/Vocational Certificate	27 (26.0)
Bachelor's degree	4 (3.8)
Average monthly income (baht)	
≤ 5,000	3 (2.9)
5,001 - 10,000	44 (42.3)
10,001 - 20,000	57 (54.8)
> 20,000	0
Underlying medical condition	
Yes	50 (48.1)
No	54 (51.9)

Table 2: Number and percentage of the sample. Classified according to level of uncertain environmental factors (n = 104).

Level of uncertain environmental factors	n (%)
High (24-35 points)	46 (44.2)
Medium (12-23 point)	57 (54.8)
Low (7-11 point)	1 (1.0)
Mean±SD	22.06 ± 4.23
Min-Max	11 - 31

Attitudes about stress

Attitudes about stress among elderly workers in the merchant occupation group in Saen Suk Municipality: it was found that more than 80.0% of the sample answered that they strongly agreed and agreed that people who are optimistic tend not to have stress (93.3%). People who are proud of themselves are less likely to experience stress (87.5%). People who are stable and secure are less likely to experience stress (83.6%). When feeling worthless and disappointed in ourself makes a person feel stressed (81.8%). And when things don't go as expected, it makes one feel stressed (81.7%). Attitude level about stress: it was found that the sample group's overall attitude about stress was at a moderate level 51.0%, followed by at a very good level 49%, as shown in Table 3.

Knowledge of stress management

Knowledge of stress management among elderly workers in merchant occupation group in Saen Suk Municipality: it was found that the sample group answered correctly regarding stress, divided by time period into two types: acute stress and chronic stress (88.5%). As for when symptoms of stress occurred, it was found that the sample had incorrect knowledge about when there is stress, blood pressure drops and the heart beats slowly, with 46.2% incorrect answers. And regarding stress management methods, it was found that the sample had incorrect knowledge about eating more food can help relieve stress, with only 41.3% correct answers and 58.7 % incorrect answers. Level of knowledge of stress management, it was found that the sample's overall knowledge of stress management was at a moderate level 64.4%, followed by a very good level 25.0%, and a poor level 10.6%, as shown in Table 4.

Assessment of stress levels

From studying symptoms or feelings from stress among elderly workers in merchant occupation group in Saen Suk Municipality: it was found that there were more than 50.0% of moderate and low stress events, including frequent colds (68.3%), followed by changes in appetite (58.7%) As for the high stressful event, together with the most stressful, more than 50.0% were afraid of making mistakes (59.6%), followed by muscle stiffness or pain (58.6%). Stress level of the sample: it was found that the overall stress level of the sample was at the very high level 60.6%, followed by at the high level 36.5%, and at the moderate level 2.9%, as shown in Table 5.

Relationship between personal factors and stress levels of elderly workers

Results from the analysis of the relationship between personal factors and stress levels of elderly workers found that personal factors including gender, age, marital status, the highest level of education, average monthly income and underlying medical condition, are not related to the stress level of elderly workers, as shown in Table 6.

Relationship between Uncertain environmental factors, Attitudes about stress and Knowledge of stress management with the stress of elderly workers in the merchant occupation group in Saen Suk Municipality

Results from the analysis of the relationship between uncertain environmental factors found that overall uncertain environmental factors were significantly related to stress at the 0.01 level (r = 0.247, p = 0.012). Attitudes about stress were significantly related to stress at the 0.01 level (r = 0.765, $p < 0.001$). And knowledge of stress management was significantly related to stress at the 0.01 level (r = -0.196, p = 0.046) as shown in Table 7.

Table 3: Number and percentage of the sample. Classified according to level of Attitudes about stress (n = 104).

Level of Attitudes about stress	n (%)
Very good (41 - 60 points)	51 (49.0)
Moderate (20 - 40 points)	53 (51.0)
Poor (less than 19 points)	0 (0.0)
Mean ± SD	38.86 ± 7.22
Min - Max	21 - 53

Table 4: Number and percentage of the sample. Classified according to level of Knowledge of stress management (n = 104).

Level of Knowledge of stress management	n (%)
Very good (8 - 10 points)	26 (25.0)
Moderate (3 - 7 points)	67 (64.4)
Poor (less than 3 points)	11 (10.6)
Mean ± SD	6.12 ± 1.88
Min-Max	1 - 9

Table 5: Number and percentage of the sample. Classified according to stress levels (n=104).

Stress levels	n (%)
Very high level (62 points or more)	63 (60.6)
High level (42 - 61 points)	38 (36.5)
Moderate level (24 - 41 points)	3 (2.9)
Low level (0 - 23 points)	0 (0.0)
Mean ± SD	64.92 ± 13.93
Min-Max	39 - 68

ISSN 2287-0237 (online)/ 2228-9674 (print)

Table 6: Relationship between personal factors and stress levels of elderly workers in Merchant occupation group in Saen Suk Municipality.

Personal factors	Stress levels (n = 104)			x^2	*p*-value
	Very high n (%)	High n (%)	Moderate n (%)		
Gender				3.621	0.164
Male	21 (50.0)	19 (15.3)	2 (1.2)		
Female	42 (37.6)	19 (22.7)	1 (1.8)		
Age (Years)				6.104[a]	0.192
60-64	30 (56.6)	21 (39.6)	2 (3.8)		
65-69	30 (25.4)	11 (26.2)	1 (2.4)		
≥70	3 (33.3)	6 (66.7)	0 (0.0)		
Marriage status				0.853[a]	0.931
Single	23 (63.9)	12 (33.3)	1 (2.8)		
Married	27 (57.4)	19 (40.4)	1 (2.1)		
Widowed/Divorced	13 (61.9)	7 (33.3)	1 (4.8)		
Highest level of education				4.624[a]	0.328
Below high school	48 (65.8)	24 (32.9)	1 (1.4)		
Associate degree/Vocational Certificate	13 (48.1)	12 (44.4)	2 (7.4)		
Bachelor's degree	2 (50.0)	2 (50.0)	0 (0.0)		
Average monthly income (baht)				3.839[a]	0.428
≤ 5,000	2 (66.7)	1 (33.3)	0 (0.0)		
5,001 - 10,000	22 (50.0)	20 (45.5)	2 (4.5)		
10,001 - 20,000	39 (68.4)	17 (29.8)	1 (1.8)		
Underlying medical condition				3.213	0.201
Yes	34 (68.0)	14 (28.0)	2 (4.0)		
No	29 (53.7)	24 (44.4)	1 (1.9)		

a = Fisher's exact test

Table7: The correlation coefficient between the Relationship between Uncertain environmental factors, Attitudes about stress and Knowledge of stress management with the stress of elderly workers in the merchant occupation group in Saen Suk Municipality (n = 104).

Stress level	n	*r* value	*p*-value
Uncertain environmental factors	104	0.247*	0.012
Attitudes about stress	104	0.765**	< 0.001
Knowledge of stress management	104	-0.196*	0.046

* Statistically significant at the 0.05 level, **Statistically significant at the 0.01 level.

Discussion

Results from the stress study found that elderly workers in the merchant occupation group in Saen Suk Municipality had overall stress at a very high level of 60.6%, with very high and high stress at 97.1%. This is consistent with past research [11] which found that the majority of the sample aged between 21 and 48 years had high levels of stress (42.4%). But the results of this study did not meet the stated assumption that elderly workers in the merchant occupation group in Saen Suk Municipality had moderate levels of stress. Results from the analysis of the relationship between personal factors and stress levels of elderly workers found that personal factors, including gender, age, marital status, highest level of education, average monthly income and underlying medical condition, are not related to the stress level of elderly workers. This is not consistent with research [12] that studied factors related to work stress among employees of the Provincial Electricity Authority in Samut Songkhram Province. It was found that personal factors such as education level and job position were significantly related to work stress at the 0.05 level, making the results of this study not in accordance with the stated assumptions that gender, age, marital status, highest level of education, average monthly income and underlying medical condition, are related to the stress level of elderly workers in the Bang Saen beach merchant occupation group, Mueang District, Chonburi Province. This may be because the sample group used in this research study were elderly workers in the Bang Saen Beach Trading Occupation Group, Mueang District, Chonburi Province, and were informal workers and had an education level lower than high school (70.2%) and are the elderly group. As for the results from the analysis of the

relationship between uncertain environmental factors, attitudes about stress and knowledge of stress management that are related to stress, it was found that uncertain environmental factors correspond to stress. This makes the results of this study consistent with the research.[13] It was found that political factors, economic factors, and environmental factors have had an effect on the stress of food delivery service career group since the situation of the spread of coronavirus disease in 2019 in the highest and strictly controlled areas. This is statistically significant at the 0.05 level and consistent with past research[14] that has studied attitudes and learning processes that influence work stress among middle managers in the information technology group. The study found that attitudes influence work stress levels, with positive attitudes having an inverse relationship with negative attitudes and not expressing attitudes, statistically significant at the 0.05 level. And the process of learning by observation or imitation influences work stress levels. This makes the results of this study in line with the stated hypothesis that Uncertain environmental factors, Attitudes and Knowledge in managing stress are related to stress in elderly workers in the merchant occupation group at the Bang Saen Beach, Saen Suk Municipality, Mueang District, Chonburi Province. This may be because of their attitude to work. And an uncertain environment, such as the surrounding environment, can cause stress in the elderly.

Conclusion

This study highlights the high levels of stress among elderly workers in the Bang Saen Beach merchant occupation group, with environmental uncertainty, attitudes towards stress, and knowledge of stress management being significant contributing factors. While personal factors such as gender, age, and education level did not show a direct relationship to stress, workplace and economic uncertainties played a crucial role in influencing mental wellbeing.

To address these challenges, targeted stress management interventions, educational programs, and workplace support initiatives should be implemented. Enhancing stress management knowledge and fostering positive attitudes toward stress can help reduce its impact. Future research should focus on broader population studies, interventional approaches, and qualitative insights to develop more effective strategies for managing stress among elderly workers. By promoting mental health awareness and supportive work environments, stakeholders can improve the quality of life for this vulnerable population.

Recommendations

Elderly workers in the Bang Saen Beach merchant occupation group experience severe stress, impacting their trading lives and overall health. Stress therapy programs and targeted activities should be introduced to help reduce stress. Since attitudes toward stress have a significant impact, fostering a positive mindset about trading could lower stress levels and improve efficiency. Additionally, enhancing knowledge of stress management through educational initiatives can further help reduce stress and improve coping strategies.

Future studies should include workers of all ages at Bang Saen Beach to gain a broader understanding of stress levels across different demographics. Experimental research should assess stress-reduction activities to develop effective programs that enhance wellbeing among elderly workers. Additionally, exploring other stress-related factors, such as stress management behaviors, could help establish effective coping strategies. Qualitative research through focus groups would also provide deeper insights into stress triggers and coping mechanisms, contributing to more targeted interventions.

Conflict of interest

The authors declare no conflict of interest

Acknowledgments

The research team would like to thank the Public Health and Environment Division Saen Suk Municipality and elderly workers in the Bang Saen Beach merchant occupation group, Saen Suk Municipality, Mueang District, Chonburi Province, who were kind in collecting sample data for the research and cooperated very well in answering the research questionnaires, helping to make this research work a success.

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