

Effect of Alexithymia Severity on Attitudes Toward Hypertension Prevention in Adults: A Cross-Sectional Study

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Abstract

The aim of this study was to evaluate the effect of alexithymia severity on attitudes toward hypertension prevention in adults. In the literature, the effects of alexithymia severity on attitudes toward hypertension prevention in adults have not been clearly elucidated. However, it has been reported that alexithymia is a possible risk factor for various medical conditions and may increase predisposition to diseases. This cross-sectional study included 358 adult individuals. Study data were collected with a personal information form, the Toronto Alexithymia Scale, and the Attitudes Toward Prevention of Hypertension Scale. The data was collected between December 12, 2022, and March 10, 2023. Relationships were analyzed by multiple linear regression. Findings were reported according to the STROBE guidelines. A weak negative correlation was found between the total scores of the Toronto Alexithymia Scale and Attitudes Toward Prevention of Hypertension Scale. The variables of educational status, smoking, having a family member with hypertension, and alexithymia were statistically significant predictors of attitudes toward hypertension prevention. It was further determined that these variables explained 7.6% of the variance in attitudes toward hypertension prevention. Alexithymia severity in adults affects their attitudes toward hypertension prevention. Determining the severity of alexithymia in adults may assist health professionals in implementing initiatives to improve the condition of alexithymia. In addition, new positive behaviors can be developed to prevent hypertension in adults.

Keywords: Adult, alexithymia, attitude, hypertension, prevention

1. Introduction

Hypertension is a global health problem with an ever-increasing incidence rate (Manangkot et al., 2020; Myanganbayar et al., 2019). In the Turkish Hypertension Consensus Report (2019), it was stated that hypertension is the second most common disease in Turkey (Aydođdu et al., 2019). Hypertension develops due to various unmodifiable and modifiable risk factors. Old age, a family history of hypertension, and other comorbidities such as diabetes or kidney disease are some of the unmodifiable risk factors involved in hypertension. Modifiable risk factors of hypertension include unhealthy diet, sedentary lifestyle, tobacco or alcohol consumption, and obesity (World Health Organization, 2021). Additionally, it has been reported in the literature that psychological factors also play a role in the development of hypertension (Casagrande et al., 2019; Rashidi et al., 2018). In recent years, the existence of a relationship between alexithymia, a psychological risk factor, and hypertension has been widely reported (Piotrowska-Pórolnik et al., 2019; Di Tella et al., 2023). Alexithymia is defined as a set of personality traits characterized by difficulties in recognizing, defining, and expressing one's emotions together with a tendency to think concretely, difficulties in distinguishing physical sensations from emotional sensations, and decreased imagination (Casagrande et al., 2019; Hintistan, 2012). The concept of alexithymia has been associated with psychosomatic symptoms in previous years. However, nowadays it is also commonly seen in patients with physical diseases (Asi Karakas et al., 2016). Alexithymia is observed to be particularly severe in patients with hypertension, and it has been found that alexithymia increases the severity of hypertension (Asi Karakas et al., 2016; Casagrande et al., 2019; Piotrowska-Pórolnik et al., 2019; Tolmunen et al., 2010). It was also observed that individuals with hypertension were affected more severely by alexithymia

compared to normotensive individuals (Casagrande et al., 2019). While alexithymia is observed in individuals with hypertension, it is also considered as a possible risk factor for various other medical conditions. It has been reported that alexithymia may increase the predisposition to diseases and affect health-related attitudes and behaviors (Baiardini et al., 2011; Lumley et al., 1996). Attitudes and behaviors toward the prevention of hypertension play important roles in improving the patient's quality of life and preventing the development of hypertension and various related complications (Aroian et al., 2012; Myanganbayar et al., 2019; Oliveria et al., 2005). In this context, positive attitudes contribute to the prevention of hypertension (Oliveria et al., 2005). When the literature was examined, no previous studies on the effect of alexithymia severity on attitudes toward hypertension prevention in adults were found. Identifying adult individuals who are at risk in terms of alexithymia may play an important role in the efforts of health professionals to implement appropriate approaches, foster positive attitudes toward the prevention of hypertension, and successfully prevent hypertension. This study was conducted to determine the effect of alexithymia severity on attitudes toward hypertension prevention in adults.

2. Materials and Methods

2.1. Purpose and type of study

This cross-sectional study was conducted to evaluate the effect of alexithymia severity on attitudes toward hypertension prevention in adults.

2.2. Population and sample

The STROBE checklist was applied in the reporting of the findings. The G*Power-3.1.9.2 program was used to determine the sample size, which was calculated as a minimum of 219 for power of 0.95 ($1-\beta$) at $\alpha = 0.05$ assuming a standardized effect size of 0.06 based on the study of Arslantaş et al. (2019). Within this

framework, 358 adult individuals who met the inclusion criteria were included in the study. The inclusion criteria were literacy, age of ≥ 18 years, no previous diagnosis of a psychological/psychiatric condition, no usage of antidepressant medication, and consent to participate in the study. The chained snowball sampling method was used in this study. This sampling method is applied through contact with a single initial person in the relevant sampling universe. With the help of that initial individual, contact is repeatedly established with others in the same fashion. Through this method, the sample grows larger with a snowball effect.

2.3. Data collection tools

Data were collected using a personal information form, the Toronto Alexithymia Scale (TAS), and the Attitudes Toward Prevention of Hypertension Scale (APHS). Permission to use the scales was obtained via e-mail from the authors who developed them. Personal Information Form: The sociodemographic characteristics of the participants (age, gender, marital status, educational status, income level, family history of hypertension, health status, etc.) were recorded with this form. Toronto Alexithymia Scale (TAS): This scale was developed by Bagby et al. (1994). for the assessment of alexithymia or an individual's inability to recognize and be aware of one's own emotions and passions. The validity and reliability of the Turkish version of the TAS were confirmed by Güleç et al. (2009). The scale includes the three dimensions of difficulty identifying feelings, difficulty describing feelings, and externally oriented thinking. It is a 5-point Likert-type scale (1=never, 2=rarely, 3=sometimes, 4=often, and 5=always) with scores ranging from a possible minimum of 20 to a maximum of 100. A total score of ≤ 51 indicates the absence of alexithymia, a total score of 52-60 indicates possible alexithymia, and a total score of ≥ 61 indicates alexithymia. Cronbach's alpha value of the Turkish version of the scale is

0.78 (Güleç et al., 2009). The Cronbach alpha value of the scale was determined as 0.80 in the present study. Attitudes Toward Prevention of Hypertension Scale (APHS): This scale evaluates attitudes toward hypertension prevention. It was developed in Turkish by Albayrak & Şengezer (2022). The scale consists of 26 items and 5 subdimensions. The 15th and 20th items of the scale are negative and are scored negatively. The factors and items of the scale are as follows: 1) Prevention and control (questions 1, 4, 7, 10, 13, 18, 22, and 25), 2) Habits and lifestyle (questions 6, 12, 17, 21, 24, and 26), 3) Nutritional attitudes (questions 5, 11, 16, and 20), 4) Mental state and physical activity (questions 3, 9, and 15), and 5) Disease and risk literacy (questions 2, 8, 14, 19, and 23). Higher score indicates a better attitude toward the prevention of hypertension. The Cronbach alpha value of the scale was found to be 0.91 by its creators (Albayrak & Şengezer, 2022). The Cronbach alpha value of the scale was determined as 0.93 in the present study.

2.4. Data collection

Data were collected online with a questionnaire created via Google Forms. The data was collected between December 12, 2022, and March 10, 2023. The participants were informed about the study in accordance with the Declaration of Helsinki and their consent was obtained online via an informed consent form.

2.5. Evaluation of data

IBM SPSS Statistics 25 was used for statistical analysis of the data. Number (n), percentage (%), mean, and standard deviation (SD) were calculated as descriptive statistics. The Kolmogorov-Smirnov normality test was used to assess whether data were distributed normally. Accordingly, it was determined that the data of the study showed normal distribution. Scale scores and scale subdimension scores were reported as means and SDs. The relationship between TAS and APHS scores

was evaluated through Pearson correlation analysis whereby correlation coefficients of 0.00-0.10, 0.10-0.39, 0.40-0.69, 0.70-0.89, and 0.90-1.00 are accepted as reflecting insignificant correlations, weak correlations, moderate correlations, strong correlations, and very strong correlations, respectively (Schober et al., 2018). Additionally, multiple linear regression analysis was performed to estimate attitudes toward hypertension prevention and alexithymia severity. Statistical significance was accepted at $p < 0.05$.

2.6. Ethical approval

Ethics committee approval (Date: 19.10.2022, Decision No.: 219) was obtained before beginning the study. Participants were informed about the purpose of the study in accordance with the Declaration of Helsinki and their consent was obtained online via an informed consent form.

3. Results and Discussion

358 adult individuals who met the inclusion criteria were included in the study. Sociodemographic characteristics of the participants, who had an average age of 26.51 ± 9.45 years, are presented in Table 1.

Table 1. Characteristics of the participants (n=358)

	n	%
Age (years) 26.51±9.45		
Gender		
Female	282	78.8
Male	76	21.2
Marital status		
Single	256	71.5
Married	102	28.5
Income level		
High	56	15.6
Medium	268	74.9
Low	34	9.5
Education level		
Primary school	24	6.7
High school	78	21.8
University	256	71.5
Employment status		
Employed	104	29.1
Not employed	254	70.9
Living in the same house with a relative with hypertension		
Yes	91	25.4
No	267	74.6
Hospitalization of a family member due to hypertension		
Yes	62	17.3
No	296	82.7
Receiving hypertension treatment		
Yes	21	5.9
No	337	94.1

Table 2 provides the mean TAS and APHS total and subdimension scores of the participants. There is a significant inverse relationship between the Toronto

alexithymia scale and the attitude towards preventing hypertension scale ($r = -0.168$; $p = 0.001$).

Table 2. Mean scores of the toronto alexithymia scale and the attitudes toward prevention of hypertension scale

	Mean±SD (min-max)
Toronto Alexithymia Scale	50.32±10.22 (23-79)
Difficulty Identifying Feelings	16.88±4.92 (7-33)
Difficulty Describing Feelings	12.06±3.58 (5-23)
Externally Oriented Thinking	21.99±3.74 (10-35)
Attitudes Toward Prevention of Hypertension Scale	107.32±13.78 (34-130)
Prevention and Control	33.21±4.68 (8-40)
Habits and Lifestyle	24.51±3.71 (6-30)
Nutritional Attitudes	16.35±2.50 (8-20)
Mental State and Physical Activity	12.94±1.9 (5-15)
Disease and Risk Literacy	20.31±3.10 (5-25)

SD: Standard deviation

Multiple linear regression analysis was performed to model the relationship between attitudes toward the prevention of hypertension and alexithymia severity, and it was determined that the developed model was statistically significant ($F=5.787$, $p<0.001$). The variables included in the

model, namely alexithymia, family history of hypertension, educational status, and smoking, were found to be statistically significant predictors of attitudes toward the prevention of hypertension ($p<0.05$). These variables explained 7.6% of the variance in APHS scores ($R^2=0.076$) (Table 3).

Table 3 Regression analysis results for selected variables

Variables	Unstandardized Coefficients		Standardized Coefficients	t	p	95% CI	
	B	SE				Lower Bound	Upper Bound
Constant	108.763	4.692		23.181	0.000	99.536	117.991
Alexithymia	-0.181	0.070	-0.134	-2.572	0.011	-0.319	-0.042
Family history of hypertension	3.713	1.428	0.135	2.600	0.010	0.904	6.521
Educational status							
High school	6.542	3.153	0.196	2.075	0.039	0.341	12.744
University	7.328	2.865	0.240	2.558	0.011	1.694	12.962
Smoking	-3.290	1.650	-0.104	-1.994	0.047	-6.535	-0.044
$R=0.276$	$R^2=0.076$	$Adjusted R^2=0.063$	$F=5.787$, $p<0.001$				

Dependent variable: Attitudes Toward Prevention of Hypertension Scale score

CI: Confidence interval; SE: standard error; β : standardized regression coefficient, t=independent groups t test

Alexithymia is a disorder of the regulatory mechanism of emotional awareness and it is characterized by difficulties in distinguishing and describing emotions. Alexithymia is reported to be a possible cause of increased predisposition to disease as a possible risk factor for various medical conditions and it may lead to negative attitudes and behaviors (Baiardini et al., 2011; Lumley et al., 1996). The negative attitudes and behaviors of

individuals may play a role in their development of hypertension (Myanganbayar et al., 2019; Oliveria et al., 2005). The present study was conducted to determine the effects of alexithymia severity on attitudes toward hypertension prevention in adults. In this study, it was found that alexithymia severity in adults affected their attitudes toward hypertension prevention. When the literature to date was examined, no studies exploring this effect

were found. Alexithymia and attitudes toward hypertension prevention have only been examined separately to date. In various studies, it was observed that individuals with hypertension have a high prevalence of alexithymia (Asi Karakas et al., 2016; Piotrowska-Półrolnik et al., 2019). Healthy individuals were found to have a more moderate prevalence of alexithymia (Aksoy and Çoban, 2017). In prior studies, it was observed that patients' knowledge of and attitudes toward hypertension were poor (Chimberengwa et al., 2019; Oskay et al., 2010). Thus, the finding of the present study that alexithymia affects attitudes toward hypertension prevention is unsurprising. This finding may be due to the design of our research or the sociodemographic, geographical, and cultural characteristics of the participants. In this study, it was determined that individuals with a family history of hypertension had better attitudes toward hypertension prevention. A family history of hypertension is considered to be a risk factor for the development of hypertension (Arslantaş et al., 2019). Our finding in the present study may be due to the fact that individuals with a family history of hypertension are familiar with the disease and have experience with it via their family members. Since these individuals are included in the group at risk of hypertension, they may have more proactive attitudes in terms of protecting themselves from this disease. We also found that individuals who had graduated from high school or university had better attitudes toward the prevention of hypertension. When the literature was examined, no studies of the attitudes of high school and university graduates toward hypertension prevention were found. It is thought that individuals with higher levels of education are more health-literate and research-oriented; thus, they may have better attitudes toward the prevention of hypertension. It was found that the attitudes of smokers toward the prevention of hypertension were poor. In a previous

study, 98.5% of adults advocated the avoidance of smoking in order to prevent hypertension (Rahman et al., 2018). In another study examining the preventative attitudes and behaviors of individuals, 68% of participants stated that quitting smoking would help avoid hypertension (San and Plianbangchang, 2018). The participants of the present study who were smokers may have thought that smoking was not important in protection from hypertension, or they may not have had enough information about smoking and hypertension.

4. Limitations and suggestions for further research

This study is the first study examining the effect of alexithymia severity on attitudes toward hypertension prevention in adults. This study also provides a different perspective on attitudes toward hypertension prevention in the context of the increasing prevalence of hypertension. However, the study has a few limitations. The first limitation of the study is that the information collected about alexithymia severity and attitudes toward hypertension prevention were based on the self-reports of the participants. Another limitation is that, due to the cross-sectional design of the study, it only explains the effect of alexithymia severity on attitudes toward hypertension prevention. Longitudinal studies may provide more information on the underlying mechanisms of the relationships identified in this study.

5. Conclusion

In this study, it was found that alexithymia severity in adults affected their attitudes toward hypertension prevention. This highlights the fact that alexithymia is an important consideration in the prevention of hypertension. In this context, it is important that nurses be educated about alexithymia. Individuals receiving healthcare should be evaluated by nurses with alexithymia scales. This is because severe alexithymia can put individuals at

risk of hypertension or cause them to experience hypertension. In order for nurses to provide holistic care to their patients, they need to be educated to understand the feelings and thoughts of their patients and must be informed about the effects of motivating patients. Determining the severity of alexithymia in adults may support health professionals in implementing initiatives to improve the condition of alexithymia. Thus, attitudes and behaviors that pose a risk for hypertension may be changed and attitudes and behaviors supporting hypertension prevention can be reinforced. This may allow a reduction in the number of patients in clinics suffering from hypertension with a decrease in the costs of treatment and care. Identifying alexithymia in patients may be an alternative approach to the prevention of hypertension.

Declaration of Author Contributions

The authors declare that they have contributed equally to the article. All authors declare that they have seen/read and approved the final version of the article ready for publication.

Declaration of Conflicts of Interest

All authors declare that there is no conflict of interest related to this article.

Ethics approval

The study was approved by the Ethics Committee of Bayburt University (No: 219). Informed consent was required before the investigation. All data were accessible only to the researchers.

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