

EXAMINATION OF THE RELATIONSHIP BETWEEN HEALTH LITERACY AND THE LEVEL OF ADAPTATION TO DISEASE IN INDIVIDUALS WITH CHRONIC DISEASES

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ABSTRACT

Aim: This study aimed to determine the health literacy levels of patients applying to the Family Health Center and to investigate the relationship between their health literacy levels and their level of adaptation to chronic diseases.

Methods: Our study was planned and implemented as a single-center, cross-sectional and survey study. 328 individuals over the age of 18 and with chronic diseases who applied to Ertuğrul Education Family Health Center No. 36 between August 2020 and January 2021 were included. A 62-question survey including socio-demographic questions, Chronic Disease Adaptation Scale and Turkish Health Literacy Scale-32 (THSL-32) was applied to the participants.

Results: The study group's health literacy general index score average was found to be 33.42 ± 8.76 , and the general index score average for adaptation to chronic diseases was 80.75 ± 12.62 . According to the results of the correlation analysis, a significant and positive relationship was found between the total score of adaptation to chronic diseases and the total score of health literacy ($r = .314$, $p < .001$) and its subgroups ($p < .001$). A significant and positive relationship was found between the physical adaptation subscale score and the health literacy total score and its subgroups ($p < .001$). According to the results of the correlation analysis, a significant and positive relationship was found between the psychological adaptation to chronic diseases subscale score and the health literacy total score and subgroups ($p < .05$).

Conclusions: Healthcare personnel's awareness of the health literacy level of patients and their intervention is an important factor in ensuring that individuals comply with treatment and increasing the quality of healthcare services.

Keywords: Chronic disease, health literacy, THSL-32, disease adaptation

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INTRODUCTION

Today, chronic diseases seriously threaten healthcare systems around the world. The World Health Organization (WHO) states that chronic diseases are responsible for the vast majority of deaths, especially from major causes such as cardiovascular diseases, cancer, chronic respiratory diseases and diabetes [1]. Management of these diseases is not limited to an approach focused solely on medical treatment; At the same time, factors affecting individuals' ability to cope with the disease and their compliance with treatment are also of great importance.

Health literacy refers to individuals' abilities to access, understand, evaluate and use health-related information [2]. The health literacy level of individuals with chronic diseases is critical for their ability to obtain information about their diseases and make the best use of health services. In particular, skills such as understanding complex treatment regimens, evaluating health information, and participating in health decisions may be decisive in effectively managing chronic diseases.

In recent years, a number of studies have been conducted investigating the relationship between the level of health literacy and the level of disease adaptation in individuals with chronic diseases [3, 4]. These studies show that individuals with higher levels of health literacy tend to have better adherence in terms of health outcomes and disease management. However, more research is needed to understand the complexity of this relationship and other influencing factors.

Understanding the importance of health literacy in the disease management process is critical to increase the effectiveness of health services and contribute to the control of chronic diseases.

Therefore, the results of this study may provide valuable guidance in the development of intervention and support programs for healthcare professionals and individuals with chronic diseases. This study aims to examine the relationship between health literacy level and disease adaptation level in individuals with chronic diseases.

METHODS

Individuals over the age of 18 and with chronic diseases who applied to Ertuğrul Education Family Health Center No. 36, which operates under Bursa Uludağ University Faculty of Medicine and the Ministry of Health of the Republic of Turkey, were included in the research. The research was conducted between August 2020 and January 2021, and patients who applied to Education Family Health Center and met the inclusion criteria were included in the study.

At the time of the study, the number of individuals with chronic diseases registered to Ertuğrul Education Family Health Center was determined to be 409; The sample size was determined as those who applied to the Education Family Health Center within a 6-month period. A total of 332 people were interviewed, 4 people did not complete the survey because they wanted to leave it midway, and at the end of 6 months, 80% of the target population (n = 328) was reached.

Inclusion Criteria

- 1) Being registered with Ertuğrul Education Family Health Center
- 2) Being over 18 years of age and having a chronic disease
- 3) Filling out the survey completely

Exclusion Criteria

- 1) Patients with communication disabilities
- 2) Not agreeing to fill out the survey or interrupting it

3) Guest patients who are not registered at the Education Family Health Center

Data Collection Tools

In addition to questions containing demographic data, Turkey Health Literacy Scale-32 (THLS-32) and Chronic Disease Adaptation Scale were used in our research. The surveys were administered by the researcher via face-to-face interview method.

Sociodemographic Information and General Information Survey

In the survey prepared by the researcher investigating sociodemographic information and general information, patients were asked about their age, gender, marital status, educational status and chronic disease.

Turkish Health Literacy Scale-32 (THLS-32)

Turkish Health Literacy Scale; On a Likert-type scale consisting of a total of 32 items aiming to measure the level of health literacy, for each item; The options are very easy, easy, difficult, very difficult and I have no idea. The total score of the scale is calculated based on the scores given for each item. After this calculation, '0' indicates the lowest health literacy and '50' indicates the highest health literacy [5].

Chronic Disease Adaptation Scale (CDAS)

Atik and Karatepe developed the CDAS in 2016 [6]. CDAS aims to evaluate the level of adaptation of patients to the disease in chronic diseases (heart, lung, kidney, etc.), by giving some situations that include the attitudes, beliefs and behaviors that the individual may have experienced during the disease, for each item; It includes the options of strongly disagree, disagree, undecided, agree and completely agree.

The 25-item scale, which includes various situations that the patient will face, consists of 3 sub-dimensions. These sub-dimensions;

1- Physical adaptation sub-dimension (items 1, 9, 10, 13, 14, 15, 16, 18, 22, 23, 24)

2- Social sub-dimension (items 2, 3, 5, 7, 17, 19, 25)

3-Psychological sub-dimension (items 4, 6, 8, 11, 12, 20, 21)

In the scale, items 1, 2, 3, 4, 7, 8, 9, 10, 11, 13, 14, 15, 16, 18, 21, 22, 23 are normal (as 1, 2, 3, 4, 5). Items 5, 6, 12, 17, 19, 20, 24, 25 are scored reversely (as 5, 4, 3, 2, 1).

The total score obtained from the scale is 125. Increasing scores from the subscales and/or the entire scale means that patients' adaptation levels to the disease also increase.

Ethics committee approval for the study was given by Bursa Uludağ University Faculty of Medicine Clinical Research Ethics Committee (Date: 24.06.2020 and Decision No: 2020-11/9). In addition, a work permit was obtained from Bursa Provincial Health Directorate (Date: 20.07.2020). The ethics committee sample and the permission obtained from Bursa Provincial Health Directorate are attached.

Statistical Analysis

Whether the data showed normal distribution was examined with the Shapiro-Wilk test. Descriptive statistics are expressed as mean and standard deviation or median (minimum-maximum) for quantitative data, and frequency and percentage for qualitative data. Mann Whitney U or t-test was used to compare two groups. Kruskal Wallis test was used for comparisons of more than two groups. If significance was found, the Bonferroni test, one of the multiple comparison tests, was used. Relationships between variables were examined with Pearson correlation coefficient. The significance level was determined as $\alpha=0.05$. Statistical analysis of the data was performed in the statistical package program IBM SPSS 23.0 (IBM Corp. Released 2015. IBM SPSS Statistics for

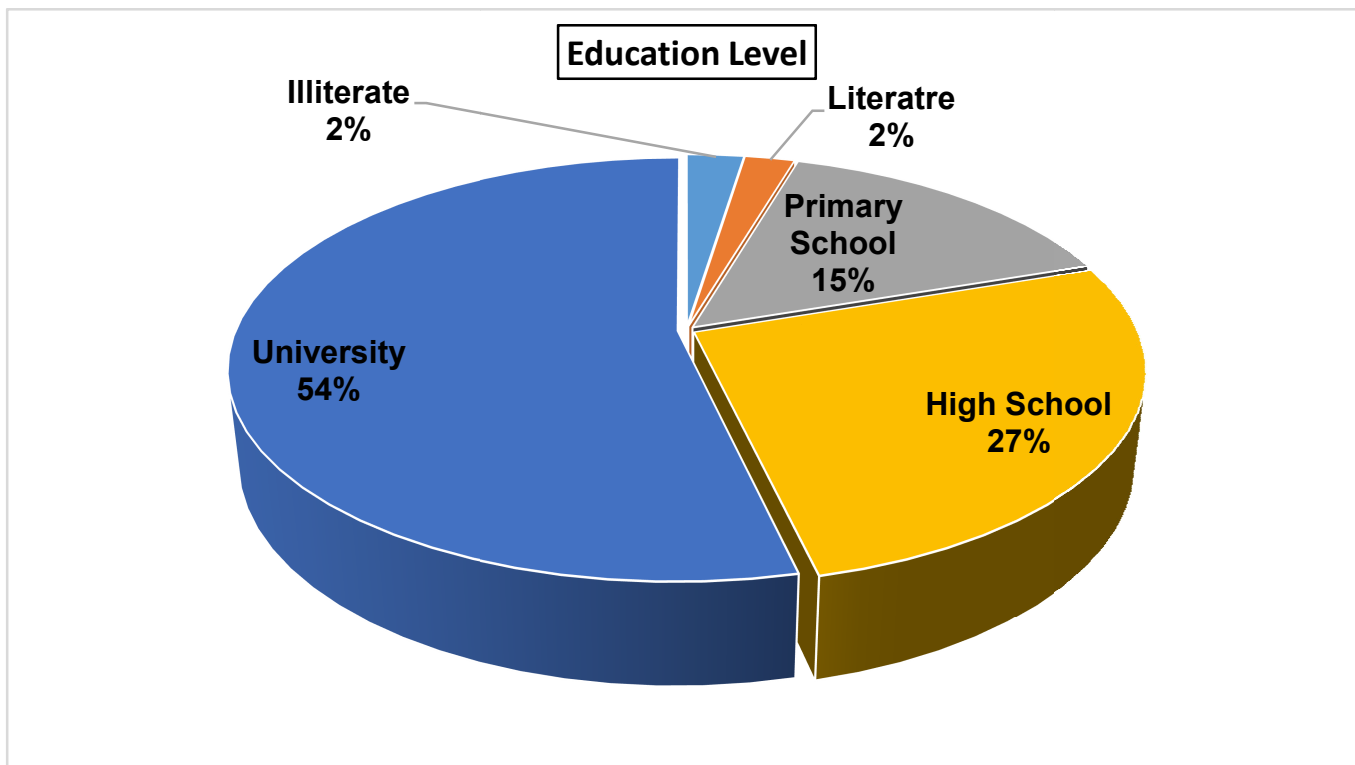
Windows, Version 23.0. Armonk, NY: IBM Corp.).

RESULTS

A total of 328 individuals, 178 (54.3%) women and 150 (45.7%) men, participated in our study. 211 (64.3%) of the individuals participating in

the research declared that they were married and 117 (31.7%) declared that they were single. The average age value is 46.56 (± 17.53) and the median age value is calculated as 48.

The distribution of the study group according to education levels is presented in Graph 1.



Graph 1. Distribution of the study group according to education level

The distribution of the participants' chronic diseases is shown in Table 1. It was determined that 300 people (91.5%) had only one chronic disease, 25 people (7.6%) had two chronic diseases, and 3 people (0.9%) had three chronic diseases.

The average health literacy general index score of the study group is 33.42 ± 8.76 , the average of the 'Treatment and service' sub-dimension is 34.71 ± 9.04 , and the average of the 'Protection from diseases and health promotion' sub-dimension is 32.15 ± 9.36 . While the 'Treatment and service-using/application of

information' sub-dimension has the highest mean, the 'Treatment and service-evaluating information' sub-dimension has the lowest mean.

The study group's general index score average for adaptation to chronic diseases is 80.75 ± 12.62 , 'physical adaptation' is the subgroup with the highest average with 38.48 ± 6.31 , while the average of the 'social adaptation' sub-dimension is 18.85 ± 4.65 , and the average of the 'psychological adjustment' sub-dimension was found to be 23.43 ± 3.97 .

Table 1. Distribution of chronic diseases

Chronic Disease	Number (n)	Percent (%)
Hypertension	66	20.1
Diabetes Mellitus	41	12.5
Allergic Diseases	26	7.9
Respiratory System Diseases	22	6.7
Thyroid Diseases	22	6.7
Digestive System Diseases	15	4.6
Neurological Diseases	17	5.2
Hyperlipidemia	12	3.7
Psychiatric Diseases	9	2.7
Rheumatic Diseases	9	2.7
Cardiovascular Diseases	9	2.7
Dermatological diseases	8	2.4
Chronic Heart Diseases	7	2.1
Chronic Liver Diseases	6	1.8
Chronic Kidney Diseases	5	1.5
Hematological Diseases	4	1.2
Cancer	3	0.9
Musculoskeletal System Diseases	2	0.6
Others	17	5.2

The results of the correlation analysis between the total and sub-dimensions of health literacy and the total score of adaptation to chronic diseases in the study group are shown in Figure 1.

According to the results of the correlation analysis, a significant and positive relationship was found between the total score of adaptation to chronic diseases and the total health literacy score ($r = .314$, $p < .001$) and its subgroups ($p < .001$).

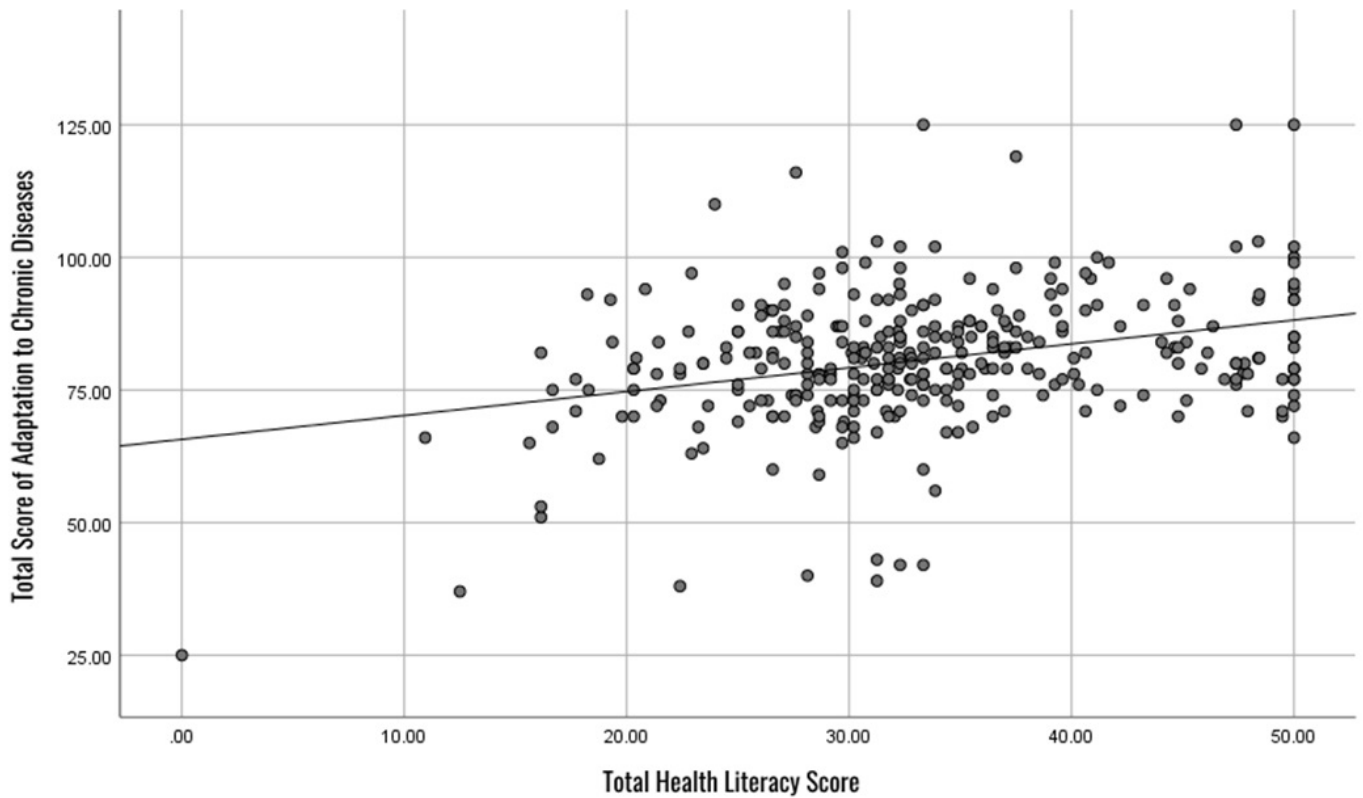


Figure 1. Correlation analysis of total score of study group health literacy and adaptation to chronic diseases

The results of the correlation analysis between the total and sub-dimensions of health literacy and the sub-dimension score of physical adaptation to chronic diseases in the study group are shown in Figure 2.

According to the results of the correlation analysis, a significant and positive relationship was found between the subscale score of physical adaptation to chronic diseases and the total score and subgroups of health literacy ($p < .001$).

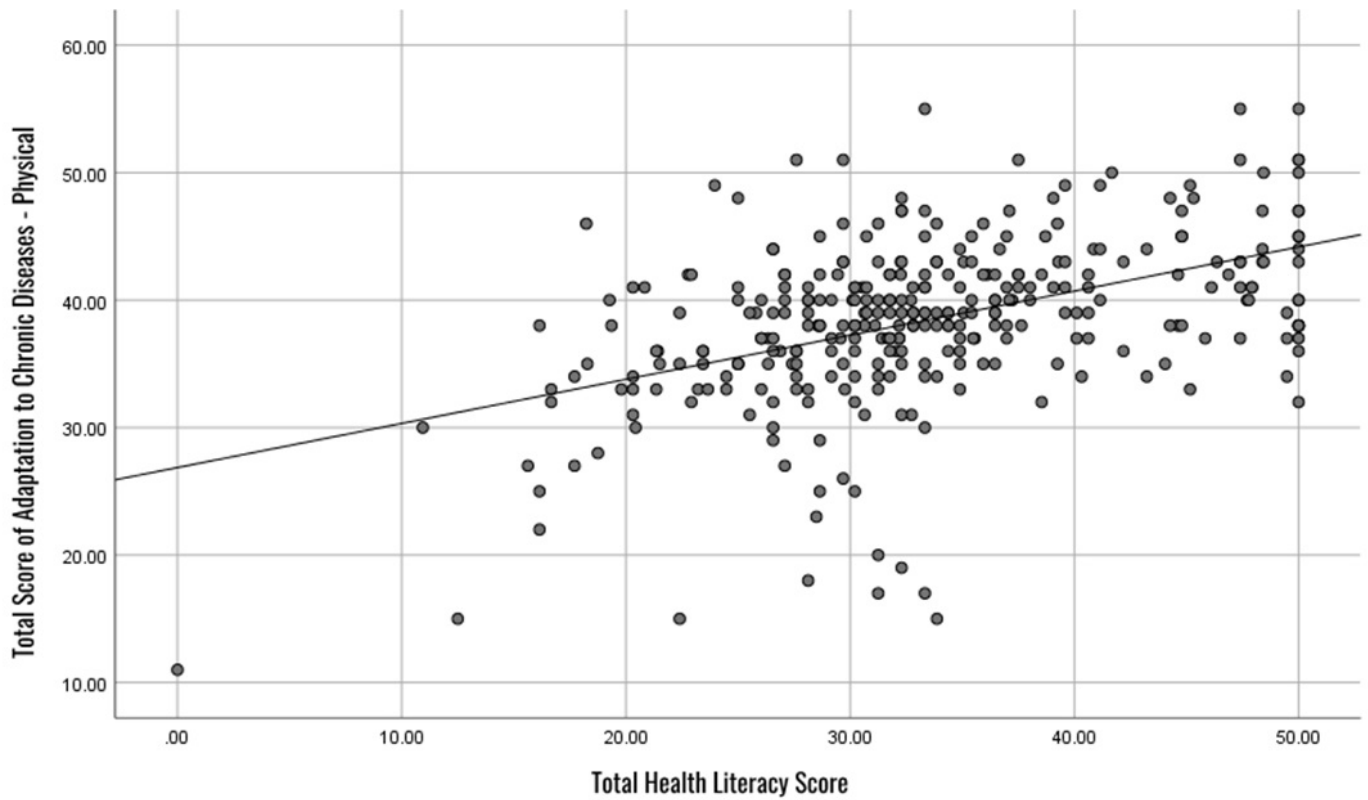


Figure 2: Correlation analysis of study group health literacy and physical adaptation to chronic diseases

The results of the correlation analysis between the total and sub-dimensions of health literacy and the sub-dimension score of social adaptation to chronic diseases in the study group are shown in Figure 3.

According to the results of the correlation analysis, no significant relationship was found between the subscale score of social adaptation to chronic diseases and the total score and subgroups of health literacy.

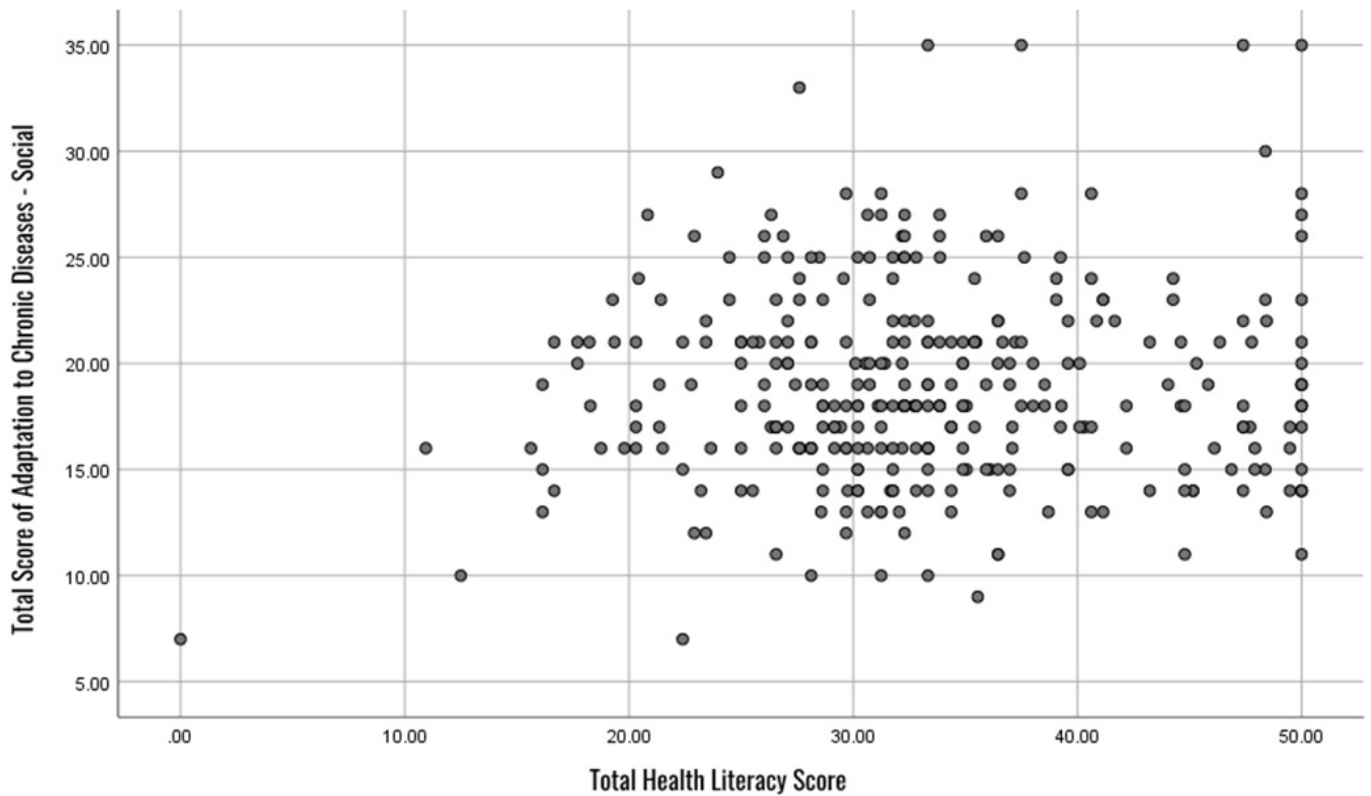


Figure 3. Correlation analysis of study group health literacy and social adaptation to chronic diseases

The results of the correlation analysis between the total and sub-dimensions of health literacy and the sub-dimension score of psychological adaptation to chronic diseases in the study group are shown in Figure 4.

According to the results of the correlation analysis, a significant and positive relationship was found between the sub-dimension score of psychological adaptation to chronic diseases and the total score and subgroups of health literacy ($p < .05$).

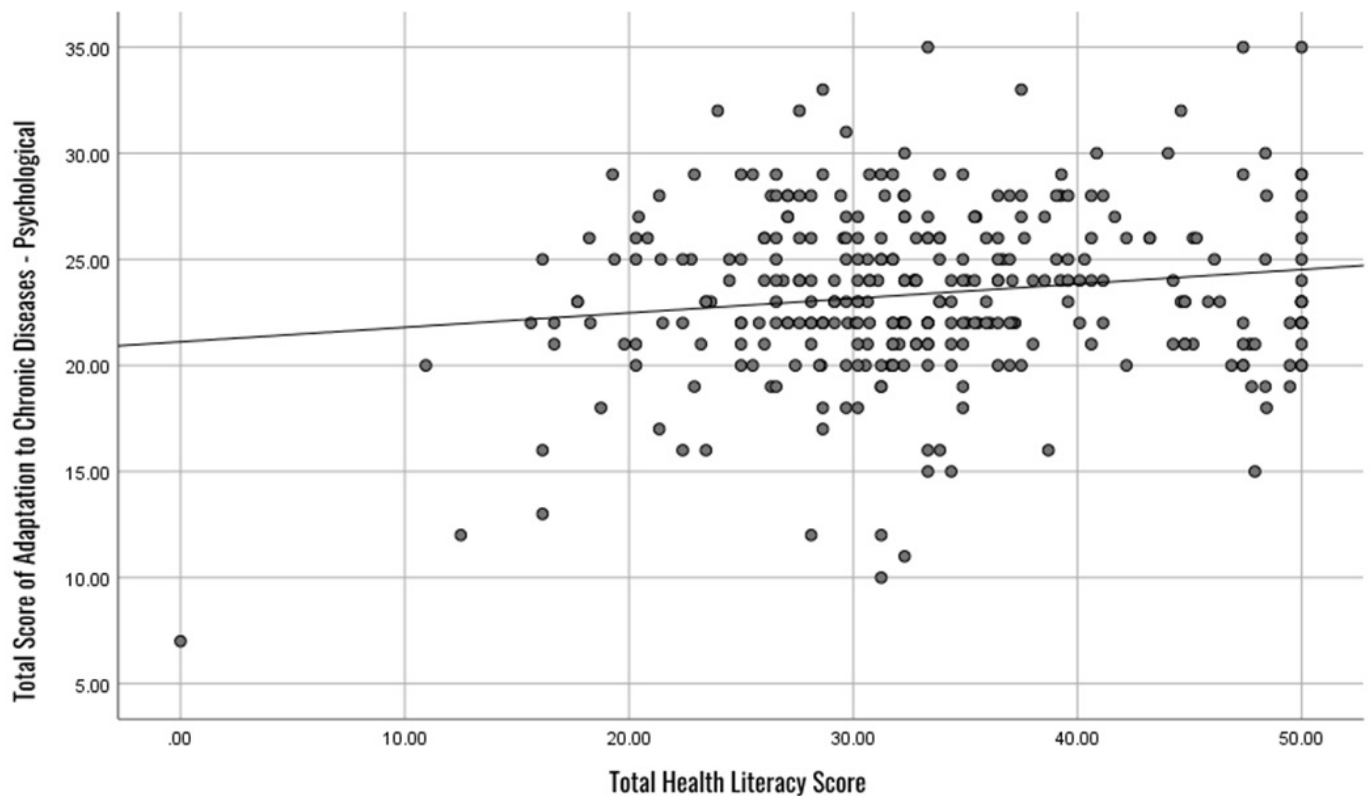


Figure 4. Correlation analysis of study group health literacy and psychological adaptation to chronic diseases

DISCUSSION

According to the correlation analysis results, a significant and positive relationship was found between the total score of adaptation to chronic diseases and the health literacy total score and its subgroups. Similarly, according to the correlation analysis results, a significant and positive relationship was found between the physical adaptation to chronic diseases subscale score and health literacy total score and subgroups. According to the correlation analysis results, no significant relationship was found between the social adaptation to chronic diseases subscale score and health literacy total score and subgroups. According to the results of the correlation analysis, a significant and positive relationship was found between the subscale score of psychological adaptation to chronic diseases and the total health literacy score and its subgroups.

This study aimed to examine the relationship between health literacy and adaptation to chronic diseases. Chronic diseases are considered a major health problem worldwide and significantly affect the quality of life of affected individuals [7, 8]. Health literacy refers to individuals' abilities to access, understand, evaluate and use health-related information [2]. Understanding the effects of health literacy on the management of chronic diseases is an important step to improve the quality of healthcare and improve health outcomes [9-11].

Studies support that health literacy plays a critical role in the management of chronic diseases [12, 13]. In this context, it has been observed that there is a positive and significant relationship between the level of health literacy and the level of adaptation to chronic diseases. In particular, the treatment and service-use/application of information sub-dimension of health literacy has the highest mean score, suggesting that

this skill plays a critical role in the process of coping with chronic diseases.

It is noteworthy that there is no significant relationship between the social adaptation sub-dimension and health literacy. This result highlights the need for further research to understand the effects of social factors in the management of chronic diseases. Social support, economic status, and social environment affect individuals' ability to cope with chronic diseases [14-17].

The positive relationship between the psychological adjustment subscale and health literacy suggests that individuals' skills in evaluating and using health information may have a positive impact on their psychological resilience. At this point, it should be considered that psychosocial support and mental health services play an important role in coping with chronic diseases [18-20].

The limitations of this study should also be considered. For example, the fact that the study group was selected from a specific region and the sample size was limited limits the generalizability of the results. Therefore, it is important to use a larger and more diverse sample in future studies. Additionally, the impact of demographic and socio-economic factors should be examined in greater depth across this study.

In conclusion, this study emphasizes the importance of health literacy in the management of chronic diseases and suggests that health policies should focus more on this area. In this context, developing health education programs and increasing the accessibility of health services can be important steps in reducing the effects of chronic diseases. Additionally, it is important to conduct further research and adopt multidisciplinary approaches to identify effective strategies in the management of chronic diseases. Therefore, health policy makers need to

increase their efforts in developing and implementing strategies to increase health literacy. Additionally, healthcare services need to be made more user-friendly to facilitate and strengthen individuals' access to health information and skills. In this way, the role of health literacy in the management of chronic diseases can be increased more effectively.

Conflicts of interest: The authors have nothing to disclose.

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