Neurology Asia 2025; 30(1) : 149 – 156

Literacy at the synapse: Exploring the connection between health literacy and compliance in electroneuromyography procedures

[1]Mustafa Hüseyin Temel *MD*, [2]Elif Özyiğit *MD*, [3]Ümit Yalçın *MD*, [3]Fatih Bağcıer *MD*

[1]Physical Medicine and Rehabilitation Clinic, University of Health Sciences Sultan 2. Abdulhamid Han Training and Research Hospital, İstanbul, Turkey; [2]Physical Medicine and Rehabilitation Clinic, Kanuni Sultan Süleyman Training and Research Hospital, İstanbul, Turkey; [3]Physical Medicine and Rehabilitation Clinic, Başakşehir Çam and Sakura City Hospital, İstanbul, Turkey

Abstract

Objective: The aim of this study was to investigate a possible correlation between health literacy (HL), anxiety and compliance during electroneuromyography (ENMG) procedure. *Methods:* This cross-sectional study was conducted at Başakşehir Çam and Sakura Hospital, including a total of 222 patients. After obtaining informed consent, the patients completed demographic and disease-related questionnaires as well as the Beck Anxiety Inventory (BAI) and Health Literacy Scale (HLS). Following the ENMG procedure, patients were then asked to complete the ENMG Compliance Questionnaire (ECQ) which was developed by the authors. *Results:* A statistically significant weak negative association was found between the HLS and BAI scores and ENQ and BAI scores ($p < 0.001$, $r = -0.24$ and $p<0.001$, $r= -0.259$, respectively). Additionally, there was a statistically significant moderate positive correlation observed between the ECQ and HLS scores ($p < 0.001$, $r = 0.408$). A statistically significant difference was observed between the genders in terms of the BAI scores ($p < 0.001$). No statistically significant difference was found in the HLS and ECQ scores between genders. Analyses also revealed that individuals with no formal education exhibited significantly lower HLS scores than patients with higher education ($p=0.001$).
Conclusions: The results of this study indicated a notable link between the level of HL and increased compliance, as well as decreased anxiety, in individuals who undergo the ENMG procedure. Improving HL through targeted distribution of healthcare information via educational initiatives and ensuring broad availability of reliable health resources could potentially have a positive effect on patient compliance.

Keywords: Anxiety, compliance, electroneuromyography, health literacy, patient education

INTRODUCTION

Health literacy (HL) encompasses the skills and knowledge necessary to obtain, comprehend, assess, and utilize health information in healthcare, disease prevention, and health promotion contexts.[1] It plays a crucial role as it covers various concepts and skills that impact patient capabilities, healthcare provider influences, and wider contextual elements.[2] Individuals with strong HL skills are able to effectively obtain, understand, and apply information to promote and maintain their well-being.[3] Higher levels of HL are linked to better compliance with both medication and non-medication treatment plans, particularly within at-risk patient populations.[4]

Electroneuromyography (ENMG) is a critical assessment tool used to evaluate the function of the peripheral nervous system. It provides an objective documentation of the specific location of any impairment along the lower motor and sensory neuron.[5] When investigating the peripheral nerve, it provides comprehensive information on aspects like severity, pathophysiology, scope, timing, distribution and type of fiber engagement.[6] Additionally, conducting serial studies with ENMG aids in assessing response to treatment. In cases involving diagnosis of muscle and neuromuscular diseases, this test accurately identifies sites of lesion occurrence while also providing information on severity levels when applicable. Furthermore, it assists in understanding

Address correspondence to: Mustafa Hüseyin Temel, Barbaros, Veysi Paşa Sk. No:14, 34662 Üsküdar/İstanbul, Turkey. Tel: +905342714872; E-mail: mhuseyintemel@gmail.com

Date of Submission: 11 July 2024; Date of Acceptance: 25 October 2024

https://doi.org/10.54029/2025rxc

pathology distribution and gauges response to therapy through eliminating or confirming any associated lesions.[5] ENMG is widely employed in clinical settings to diagnose conditions such as polyneuropathies, plexopathies, neuropathies, neuritis, neural amyotrophy's, tunnel syndromes, and myasthenia gravis.[7,8] Patient cooperation is essential for the success of ENMG tests, as many patients expect these tests to be painful. The accuracy of test results can be affected by factors such as fear, discomfort, or exaggeration from the patient. Therefore, recognizing and improving elements that encourage patient cooperation with ENMG-style tests could greatly improve diagnostic and treatment procedures for patients.[9]

Despite existing research on the impact of HL on different diseases, utilization of health-related services, and patient adherence[10,11], there appears to be a dearth of studies examining its influence on the ENMG procedure. Therefore, this study seeks to investigate the potential relationship between HL and ENMG compliance, as understanding this association could have important implications for enhancing patient outcomes, optimizing diagnostic procedures, and minimizing the risk of errors or the need for repeat testing due to non-compliance. By exploring how varying levels of HL impact patients' adherence to ENMG, this research aims to provide valuable insights to guide future scholarly endeavors and clinical practices in this domain.

METHODS

Study location and ethics approval

This study was conducted in the physical medicine and rehabilitation clinic of Başakşehir Çam and Sakura City Hospital between the dates of 10/02/2024 and 30/04/2024. Ethics committee approval for the study was obtained from the ethics committee of Zeynep Kamil Women and Children's Patients Training and Research Hospital with decision number 10 dated 07/02/2024. The study was conducted in accordance with the Declaration of Helsinki. All patients were informed in detail before participation in the study and written informed consent was obtained.

Patient selection

Patients who were scheduled for ENMG examination at the physical medicine and rehabilitation clinic were part of the research. Inclusion criteria involved being within the 18-70 age range and providing consent to participate, while exclusion criteria encompassed individuals below 18 or above 70 years old, as well as those with visual, auditory, or mental disabilities that impeded form completion. 568 patients were evaluated for inclusion and exclusion criteria, and out of these, 222 patients met the criteria and were included in the study.

Data collection

Before undergoing the ENMG procedure, patients were required to complete a form. The initial section of the form sought demographic and disease-related details from the patients. Participants were then asked to complete the 'Health Literacy Questionnaire' and the 'Beck Depression and Anxiety Scale'.[12,13] After the procedure, the patients were then asked to complete the 'ENMG compliance questionnaire'.

ENMG Compliance Questionnaire (ECQ)

The ENMG compliance questionnaire (ECQ) is developed by two physical medicine and rehabilitation specialists with 15 years of expertise in this area. Five physical medicine and rehabilitation professionals were invited to take part in the evaluation of content validity. They assessed each element for language, format, comprehensibility, duplication, and alignment with the scale. After consensus was reached on all aspects of the questionnaire, the final version was developed. The questionnaire included elements such as having sufficient information about the purpose and potential benefits of the ENMG procedure, following doctor's recommendations during preparation, expressing concerns to the doctor, ease of undergoing the procedure, absence of fear during it, being adequately informed about how it would be conducted beforehand, ease in following doctor's instructions while undergoing it, compliance with doctor's instructions throughout the procedure without experiencing any pain or discomfort. Each question was scored on a 5-point Likert scale where 0 represented the lowest score and 45 signified maximum compatibility with ENMG. The Cronbach's alpha coefficient for the questionnaire was calculated to be 0.902.

Health Literacy Questionnaire (HLC)

The Health Literacy Scale (HLC), developed by Suka et al. in 2010 in Japan, aims to assess the health literacy levels of adult individuals. It

utilizes a 5-point Likert scale, with responses ranging from "strongly disagree" to "strongly agree". Each item on the scale is scored between 1 and 5 points, resulting in a total score range of 14 to 70. A higher overall score signifies an enhanced level of HL.[14] Turkish reliability and validity study of the scale was conducted by Turkoğlu *et al*. in 2021.[15]

Beck Anxiety Inventory (BAI)

The Beck Anxiety Inventory (BAI) is a self-administered questionnaire consisting of 21 items. It aims to evaluate the frequency of anxiety symptoms over a one-week duration while minimizing their correlation with depression. Fourteen questions address somatic symptoms, and seven focus on cognitive symptoms associated with anxiety. Participants use a 4-point Likert scale to rate the severity of each item. The total score is obtained by summing up the responses to all 21 items. A score of 0 – 21 indicates low anxiety, while a score of 22 – 35 suggests moderate anxiety. Scores beyond 36 indicate potentially concerning levels of anxiety.[16] The reliability and validity study of this inventory in Turkish was conducted by Avcı *et al*. in 1995.[17]

Statistical analysis

The behavior of quantitative variables was assessed using centralization and variance measurements: Mean ± SS. The Analysis of Variance (ANOVA) T-Test (for more than 2 groups) and Student's T-Test (for 2 groups) were utilized to demonstrate differences in group means. Bonferroni post hoc correction was applied for multiple comparisons between groups. To calculate the correlation between two numerical variables, the Pearson correlation coefficient (r) was used. The interval from +0.8 to 1.0 was classified as displaying a very strong positive association, the range of +0.6 to 0.8 indicated a strong positive association, the interval of +0.4 to 0.6 was characterized as moderate, the range from +0.2 to 0.4 signified a weaker positive association, while the interval ranging from 0.0 to +02 suggested a very weak positive association. The interval from -0.8 to -1.0 was classified as displaying a very strong negative association, the range of -0.6 to -0.8 indicated a strong negative association, the interval of -0.4 to -0.6 was characterized as moderate, the range from -0.2 to -0.4 signified a weaker negative association, while the interval ranging from 0.0 to -0.2 suggested a very weak negative association.[18] A significance level of $p = 0.05$ was set for all analyses. Statistical analyses were conducted using the IBM SPSS (Statistical Package for the Social Sciences, Version 27.0, Armonk, NY, IBM Corp.) software package.

RESULTS

Demographic characteristics

The flowchart depicting the research methodology can be observed in Figure 1. Out of the total patients, 141 (63.5%) were female and 81 (35.5%) were male, with a mean age of 49.79 ±13 years old. The distribution across different protocols was as follows: 45.9% underwent entrapment neuropathy protocol, while 37.8% underwent radiculopathy protocol, followed by polyneuropathy at 14.9%, and myopathy at 1.4%. The participants had a mean HLS score of 25,79 ±8,16; a mean ECQ score of 35,62 ±6,16; and a mean BAI score of 13,24 ±9,7. Comprehensive demographic data along with disease-related information are detailed in Table 1.

Correlation analysis

In the analysis of correlation, a statistically significant weak negative association was found between the HLS and BAI scores and ENQ and BAI scores ($p < 0.001$, $r = -0.24$ and $p<0.001$, $r= -0.259$, respectively). Additionally, there was a statistically significant moderate positive correlation observed between the ECQ and HLS scores ($p < 0.001$, $r = 0.408$) (Table 2).

Gender-based analysis

A statistically significant difference was observed between the genders in terms of the BAI scores ($p < 0.001$). No statistically significant difference was found in the HLS and ECQ scores between genders ($p = 0.344$, $p = 0.746$, respectively) (Figure 2).

Educational level analysis

In the statistical examination of educational levels, no statistically significant distinction emerged in BAI scores ($p=0.165$). However, notable differences were observed in ECQ and HLS scores ($p<0.001$, and $p=0.001$, respectively). Subsequent post-hoc analyses revealed that individuals with no formal education exhibited significantly lower HLS scores compared to those with middle school, high school, university, and master-doctorate education levels ($p=0.017$,

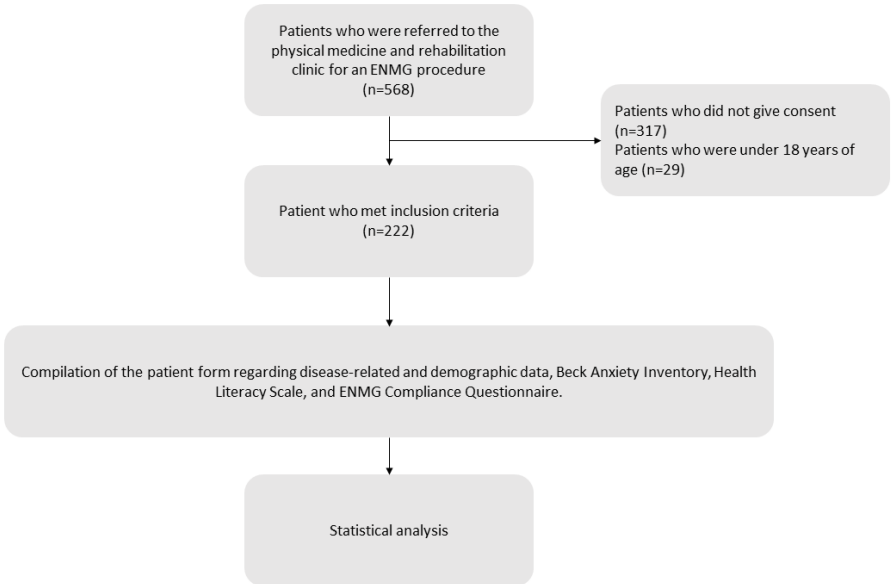

Figure 1. Flowchart of the study.

Table 1: Demographic and disease-related data, Beck anxiety inventory scores, ENMG compliance Questionnaire scores, and health literacy scale values of the patients

	n	%		
Gender				
Female	141	63,5		
Male	81	36,5		
Education				
No formal education	6	2,7		
Primary School	78	35,1		
Middle School	45	20,3		
High School	63	28,4		
University	15	6,8		
Master- doctorate	15	6,8		
ENMG Protocol				
Entrapment Neuropathy Protocol	102	45,9		
Radiculopathy Protocol	84	37,8		
Polyneuropathy Protocol	33	14,9		
Myopathy Protocol	3	1,4		
	Min	**Max**	**Mean**	**Sd**
Age	18,00	81,00	49,7838	13,82038
BMI	17,26	41,02	28,9259	5,04948
Health Literacy Scale	8,00	40,00	25,7973	8,16567
ENMG Compliance Questionnaire	14,00	46,00	35,6216	6,16449
The Beck Anxiety Inventory	1,00	40,00	13,2432	9,37428

n: total number of patients, %: percent, Min: minimum, Max: maximum, Sd: standard deviation.

Table 2: Correlations between the Health Literacy Scale, the ENMG Compliance Questionnaire and the Beck Anxiety Inventory

		Health Literacy Scale	ENMG Compliance Questionnaire	The Beck Anxiety Inventory
Health Literacy Scale	r	1	,408	-,240
	p		<0.001	<0.001
ENMG Compliance Questionnaire	r	,408	1	-,259
	p	<0.001		<0.001
The Beck Anxiety Inventory	r	-,240	-,259	1
	p	<0.001	<0.001	

r: Pearson correlation coefficient

p=0.015, <0.001, and p=0.011, respectively). Moreover, patients with a university education displayed significantly higher HLS scores than those with primary school, middle school, and high school education levels (p<0.001, p<0.001, p=0.009, p=0.005, respectively). In the post - hoc analysis of ECQ, patients with a university education level demonstrated notably higher ECQ scores compared to those with primary school education (p<0.001).

DISCUSSION

Health literacy, compliance and anxiety

The study findings revealed weak negative associations between HLS and BAI scores, as well as ENQ and BAI scores. Meanwhile, a moderate positive correlation was identified between ECQ and HLS scores. Significant gender-based differences were observed in BAI scores, with no distinctions found in HLS and ECQ scores. Education level also showed significant variations with lower HLS scores among individuals without

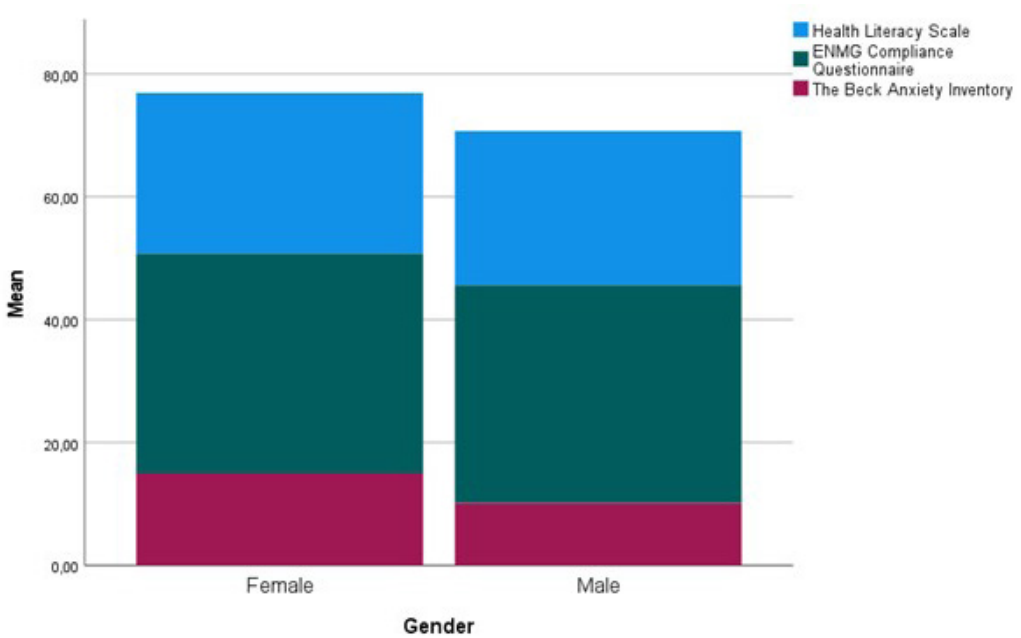

Figure 2. Comparison of the Health Literacy Scale, the ENMG Compliance Questionnaire and the Beck Anxiety Inventory between genders.

formal education but higher HLS and ECQ scores among those with a university education. To best of our knowledge, this study is the first to explore the correlation between ENMG compliance and HL levels.

Health literacy plays a significant role in shaping patient adherence across various health conditions and treatment scenarios. Improving one's understanding of health-related information leads to better self-care, effective utilization of support networks, and an increased willingness to adhere to treatment plans.[19] Also, many studies in academic research have shown a link between increased HL and reduced anxiety, consistent with the results of this study.[20,21] Bae *et al*.[22] emphasized the pivotal role of health literacy in influencing compliance among organ transplant recipients. Similarly, Jung *et al*.[23], in their comparative analysis on treatment adherence and health literacy levels among patients with coronary artery disease, highlighted the association between health literacy and adherence to health behaviors. These findings align with the study's results, as a moderate positive correlation was identified between HL and adherence to ENMG. To enhance HL, a comprehensive strategy could involve improving fundamental literacy skills, delivering specific health information through educational initiatives, and ensuring extensive access to reliable health information. Cooperative efforts among healthcare professionals, educators, policymakers, and community influencers are essential in establishing an environment that fosters increased health literacy and better outcomes for individuals and communities.

Gender differences in anxiety and compliance

As a result of this research, a notable variation in anxiety levels between genders was observed, while no statistically significant variance was detected in the other scores. Also, a weak negative correlation was observed between anxiety levels and compliance. The existing literature supports the findings of this study by indicating that anxiety associated with specific procedures may reduce adherence [24]. Nevertheless, women may experience heightened levels of fear and have a greater tendency to develop anxiety disorders compared to men, regardless of the situation. This discrepancy can be linked, in part, to gender-based variations in physiological influences, inherent traits, stress and traumatic experiences, thinking patterns, and environmental influences.[25] Various interventions such as pharmacological treatment, music, cognitive behavioral therapy relaxation, massage, acupuncture/acupressure, hypnosis, and natural sounds can be employed to decrease anxiety and enhance compliance during ENMG procedures, especially for women experiencing anxiety before the procedure.[26,27]

Educational impact on health literacy and compliance

Higher levels of education are associated with improved understanding of health information and more effective communication with healthcare providers. This, in turn, leads to healthier behaviors and utilization of healthcare services. Health literacy plays a crucial role as a bridge between academic attainment and health-related actions, where achieving higher educational levels enhances individuals' ability to comprehend health information and interact effectively with the healthcare system. As a result, it can influence the utilization of healthcare resources for better health outcomes.[28,29] The study's findings of statistical disparities in HL based on educational attainment can be ascribed to the intricate interaction between these two factors. Increasing participation in education could lead to improved levels of HL, making a positive contribution to both individual and societal health.

As a result of the study, patients at the university education level were found to exhibit significant higher compliance compared to those at the primary school education level. In the literature, it is possible to encounter findings parallel to this evidence. For instance, Ramirez *et al*.[30] found that patient education has a significant impact on improving compliance with medication regimens, as educated patients demonstrate higher rates of compliance. Additionally, Cherkaskov *et al*.[31] observed that higher levels of education influence the adherence to doctor's prescriptions in elderly men These consistent results highlight the crucial influence of education on shaping health behaviors and adherence to medical procedures, treatments and advices.

There are several limitations to be acknowledged. The study's cross-sectional design prevents the establishment of causal relationships. Moreover, while the ENMG Compliance Questionnaire was developed by experts, further testing and validation would be beneficial. Additionally, the restriction to a single center and predominantly Turkish participants limits its generalizability to diverse populations. More extensive studies with larger populations are needed.

In conclusion, the study revealed a significant association between health literacy and enhanced compliance as well as reduced anxiety in individuals undergoing the ENMG procedure. Strategies to improve health literacy, including targeted dissemination of healthcare information through educational campaigns and ensuring widespread access to credible health resources, have the potential to positively impact patient compliance. Further research involving larger sample sizes is essential for deeper insights into this area.

ACKNOWLEDGEMENTS

The authors express their gratitude to Mustafa Turgut Yıldızgören, Selçuk Sayılır, Burak Tayyip Dede, Bülent Alyanak, and Seda Özcan İşler for their valuable contributions in the development of the ENMG Compliance Questionnaire.

DISCLOSURE

Data availability: All data generated or analyzed during this study are included in this published article. The data that support the findings of this study are available from the corresponding author, [MHT], upon reasonable request.

Financial support: None

Conflict of interest: None

Use of Artificial Intelligence: The manuscript preparation process involved using Jenni AI, a generative AI tool, to enhance the readability and the language of the text. This technology was applied solely to improve grammar, syntax, and clarity without influencing the scientific content, data interpretation, or conclusions. The authors thoroughly reviewed, verified, and edited all AI-generated outputs to ensure accuracy, completeness, and neutrality. The tool was used under strict human oversight, with full accountability for the final manuscript resting with the authors.

REFERENCES

1. Sørensen K, Van den Broucke S, Fullam J, *et al*. Health literacy and public health: a systematic review and integration of definitions and models. *BMC public health* 2012;12:1-13. DOI: 10.1186/1471-2458-12-80
2. Buchbinder R, Batterham R, Ciciriello S, *et al.* Health literacy: what is it and why is it important to measure? *J Rheumatol* 2011;38:1791-7. 10.3899/jrheum.110406
3. Rowlands G. Health literacy: Ways to maximise the impact and effectiveness of vaccination information. *Hum Vaccin Immunother* 2014;10:2130-5. doi: 10.4161/hv.29603.
4. Miller TA. Health literacy and adherence to medical treatment in chronic and acute illness: a meta-analysis. *Patient Educ Couns* 2016;99:1079-86. DOI: 10.1016/j.pec.2016.01.020
5. Mansukhani KA, Doshi BH. Interpretation of electroneuromyographic studies in diseases of neuromuscular junction and myopathies. *Neurol India* 2008;56:339. DOI: 10.4103/0028-3886.43453
6. Akhrorova P, Akhmatova N. Electroneuromyographic analysis of acute neuropathy of the facial nerve in the aspect of sexual dimorphism. *Int J Res* 2018; 5:23.
7. Morozov A, Sorokovikova T, Minakova Yu E. Electroneuromyography: a modern view on the possibilities of application (literature review). *Bulletin of the Medical Institute" REAVIZ"* 2022;12:107-16. DOI: 10.20340/vmi-rvz.2022.3.CLIN.6
8. Sönmezler A, Yoldas TK. Who presents to our electroneurophysiology laboratory? *Evoked potentials (VEP, SEP, BAEP, ERG). J Pak Med Assoc* 2015;65(3):245-7.
9. Gutmann L. Pearls and pitfalls in the use of electromyography and nerve conduction studies. *Semin Neurol* 2003;23(1):77-82. doi: 10.1055/s-2003-40754.
10. Liu H, Shen J, Li S, Song Y, Song Y, Ju M. Research on the health literacy status and compliance behavior of patients with acute coronary syndrome. *Comput Math Methods Med* 2021;2021: 9648708. DOI: 10.1155/2021/9648708
11. Hussey LC, Gilliland K. Compliance, low literacy, and locus of control. *Nurs Clin North Am* 1989;24:605-11.
12. Lemos MF, Lemos-Neto SV, Barrucand L, Verçosa N, Tibiriçá E. Preoperative education reduces preoperative anxiety in cancer patients undergoing surgery: Usefulness of the self-reported Beck anxiety inventory. *Braz J Anesthesiol* 2018;69:1-6. DOI: 10.1016/j.bjane.2018.07.004
13. Wetherell JL, Areán PA. Psychometric evaluation of the Beck Anxiety Inventory with older medical patients. *Psychological Assessment* 1997;9:136-44. DOI: 10.1037/1040-3590.9.2.136
14. Suka M, Odajima T, Kasai M, *et al.* The 14-item health literacy scale for Japanese adults (HLS-14). *Environ Health Prev Med* 2013;18:407-15. DOI: 10.1007/s12199-013-0340-z
15. TÜRKOĞLU N, KILIC D. SAĞLIK OKURYAZARLIĞI ÖLÇEĞİ'NİN TÜRKÇEYE UYARLANMASI: GEÇERLİLİK VE GÜVENİLİRLİK ÇALIŞMASI. *Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi* 2021;24:25-33. DOI: 10.17049/ataunihem.662054
16. Beck AT, Epstein N, Brown G, Steer RA. An inventory for measuring clinical anxiety: psychometric properties. *J Consult Clin Psychol* 1988;56:893-7. DOI: 10.1037//0022-006x.56.6.893
17. Avcı MG. Beck Anksiyete Ölçeği'nin geçerlik ve güvenirlik çalışması. Ege Üniversitesi; 1995.
18. Schober P, Boer C, Schwarte LA. Correlation coefficients: appropriate use and interpretation. *Anesthesia Analgesia* 2018;126:1763-8. DOI: 10.1213/ANE.0000000000002864

19. Kelly GR, Scott JE. Medication compliance and health education among outpatients with chronic mental disorders. *Med Care* 1990:1181-97. doi: 10.1097/00005650-199012000-00006.
20. Ying Y, Jing C, Zhang F. The protective effect of health literacy on reducing college students' stress and anxiety during the Covid-19 pandemic. *Front Psychiatry* 2022;13:878884. DOI: 10.3389/fpsyt.2022.878884
21. Shams JH, Mohammadzadeh KA, Maher A. Correlation between health literacy and quality of life with health anxiety in outpatient patients referred to Shahid Beheshti Specialized Polyclinic in Karaj. *J Health Promot Manag* 2020;9:1-9.
22. Bae SH, Lee JJ, Son SY, Kim HY, Ju MK. A cross-sectional analysis of health literacy and compliance to treatment in organ transplant recipients. *J Clin Med* 2023;12:977. DOI: 10.3390/jcm12030977. DOI: 10.7475/kjan.2015.27.3.251
23. Jung EY, Hwang SK. Health literacy and health behavior compliance in patients with coronary artery disease. *Korean J Adult Nurs* 2015;27:251-61.
24. Dolinski D, Nawrat R. "Fear-then-relief" procedure for producing compliance: Beware when the danger is over. *J Experimental Social Psychol* 1998;34:27-50. DOI: 10.1006/jesp.1997.1341
25. McLean CP, Anderson ER. Brave men and timid women? A review of the gender differences in fear and anxiety. *Clin Psychol Rev* 2009;29:496-505. DOI: 10.1016/j.cpr.2009.05.003
26. Weisfeld CC, Turner JA, Dunleavy K, *et al.* Dealing with anxious patients: a systematic review of the literature on nonpharmaceutical interventions to reduce anxiety in patients undergoing medical or dental procedures. *J Altern Complement Med* 2021;27:717-26. DOI: 10.1089/acm.2020.0504
27. Dubovsky SL. Generalized anxiety disorder: new concepts and psychopharmacologic therapies. *J Clin Psychiatry* 1990;51 Suppl:3-10.
28. Ross CE, Wu C-l. The links between education and health. *Am Sociological Rev* 1995:719-45. DOI: 10.2307/2096319
29. Aaby A, Friis K, Christensen B, Rowlands G, Maindal HT. Health literacy is associated with health behaviour and self-reported health: A large population-based study in individuals with cardiovascular disease. *Eur J Prev Cardiol* 2017;24:1880-8. DOI: DOI: 10.1177/2047487317729538
30. Robina Ramirez R, Palos-Sanchez PR. Willingness to comply with corporate law: An interdisciplinary teaching method in higher education. *Sustainability* 2018;10:1991. DOI: 10.3390/su10061991
31. Черкасов С, Полозков О, Федяева А, Авсаджанишвили В. ВЛИЯНИЕ УРОВНЯ ОБРАЗОВАНИЯ НА СТЕПЕНЬ КОМПЛАЕНТНОСТИ НАСЕЛЕНИЯ СТАРШИХ ВОЗРАСТНЫХ ГРУПП. Медико-фармацевтический журнал «Пульс». 2021;23:55-61. DOI: 10.26787/nydha-2686-6838-2021-23-7-55-61