



A Comparison of Health Literacy and Health Declaration Knowledge Levels of Check-up and Outpatients

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Abstract

Objectives: This study was conducted to compare the health literacy and health declaration knowledge levels of check-up and outpatient clinic patients attending the nutrition and diet outpatient clinic of a private hospital.

Methods: A cross-sectional descriptive method was used in the study. Sixty people (30 check-up and 30 outpatient) were included. The Informed Consent Form, General Information Form, anthropometric measurements (height, weight, Body Mass Index (BMI)), Türkiye Health Literacy Scale (TSOY-32), and the Status Information Form about Health Declarations created by the researchers were used in this face-to-face interview method. The participant groups were defined based on the hypothesis that check-up patients may show greater willingness to seek health support, potentially affecting health literacy outcomes.

Results: Sixty people were included in the study. The age range was 18–65 years. The number of female participants was higher in both groups (n=18 and n=24, respectively). In terms of TSOY-32 scale scoring, the calculated mean total scale score in the study population (n=60) was 14.74 ± 7.65 ($p=0.900$). At the health declaration knowledge level, the calculated mean total scale score was 61.11 ± 11.26 ($p=0.892$). There was no significant difference between health literacy and health declaration knowledge scores and age ($p>0.05$), gender ($p>0.05$), marital status ($p>0.05$), education level ($p>0.05$), employment status ($p>0.05$), social security status ($p>0.05$), income status ($p>0.05$), and BMI level ($p>0.05$).

Conclusion: The level of knowledge about health literacy and declarations was found to be insufficient, and it was concluded that the basic health education provided in Türkiye should be expanded and its quality improved. Health literacy has the potential to improve individuals' ability to understand and use health information, supporting better prevention, treatment adherence, and health equity. Similarly, health declaration knowledge plays a key role in enabling accurate disease surveillance, guiding public health policies, and promoting safety within communities and workplaces. In addition to planning and publicizing training in an easily accessible way, more long-term and comprehensive studies should be conducted.

Keywords: Check-up, health declaration, health literacy, outpatient.

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The concept of literacy is defined as the ability to comprehend and evaluate a read text and to correctly write what is dictated.^[1]

Health literacy refers to an individual's cognitive-social skills and abilities to access, understand, and use health information.^[2] Studies in the field of health literacy have

accelerated and increased after the 2000s. Based on journal publications, it is observed that more than 1,600 journals worldwide have published on this topic.^[3]

In addition to health literacy levels, it is important that individuals have sufficient knowledge about the foods they buy and consume. Foods play a crucial role in

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protecting and improving health, just as medicines do. For this reason, individuals should also have basic knowledge about health declarations.

A health declaration is defined as “any statement that states, asserts, or implies the relationship of any food group, food, or food component to human health”.^[4]

In this study, we aimed to compare the parameters of education level, marital status, cognitive ability level, gender, BMI, age, social security, and income status—which have been found to affect health literacy in previous studies—between check-up and outpatient clinic patients using the TSOY-32 and the Health Declaration Information Form, and to determine whether there is a significant difference between the two groups.

Our expectation was that health literacy and health declaration knowledge would be higher in outpatients than in check-up patients who came for routine check-ups.

Materials and Methods

This study was designed as a master’s dissertation. The population of the study consisted of check-up department and outpatient visitors of the Nutrition and Dietetics Clinic between February 2024 and April 2024. Outpatient clinic visitors who consented to participate were included in the study.

To ensure consistency in intergroup comparisons, the first 30 patients from the check-up department who agreed to participate were included as the second group in the study. A total of 60 people from the two groups comprised the study sample.

The study was conducted in accordance with the Declaration of Helsinki.

Data Collection Tools

Data were collected by the researchers through written scales and forms. The TSOY-32 scale was used to assess health literacy, and the “Status Information Form on Health Declarations” created by the researchers was used to measure health declaration status.

The “Informed Consent Form” and “General Information Form” were provided to the participants in written form before the survey. The Turkish Health Literacy Scale-32 (TSOY-32), developed by Okyay and Abacigil, was used to assess health literacy.^[5] This scale contains 32 items based on the experiences obtained in the ASOY-TR study. The scoring status is classified into four categories:

- Inadequate: 0–25 points
- Problematic/Limited: >25–33 points
- Adequate: >33–42 points

- Excellent Health Literacy: >42–50 points

The Health Declaration Status Information Form is a questionnaire created by the researchers. Participants’ knowledge status was assessed by providing various examples of health claims. Various examples of health claims specified by the Turkish Food Codex were used.^[6] Examples of health claims include:

- “A food advertised as having added fiber should contain at least 3 g of fiber per 100 g.”
- “The food must contain at least 1.0×10^6 CFU of live probiotic microorganisms.”

In the scale grading, a cut-off study was conducted based on the participants’ mean responses, and it was determined that participants who scored ≥ 9 points had adequate health declaration knowledge. Percentage (%) calculations were used in the rating.

Among the participants who approved the Informed Consent Form, height (cm) was measured with a stadiometer (SECA), and anthropometric measurements such as weight (kg) and fat percentage were obtained using a bioimpedance analysis (BIA) device (TANITA 180MA).

Prior to the research, the necessary permissions were obtained from the Scientific Research and Publication Ethics Committee of Bahçeşehir University with the document dated 28/12/2023 and numbered 2023/11.

Statistical Evaluation of Data

Data were analyzed using the statistical package program IBM SPSS Statistics Standard Concurrent User V26 (IBM Corp., Armonk, New York, USA). Descriptive statistics were presented as the number of units (n), percentage (%), mean (\bar{X}), standard deviation (SD), median (M), minimum (min), and maximum (max) values.

The normal distribution of numerical variable data was evaluated using the Shapiro-Wilk normality test. Since the numerical descriptive characteristics and variables were not normally distributed, nonparametric tests were used. The Mann-Whitney U test was applied for two-group comparisons, and the Kruskal-Wallis test was used for three-group comparisons of descriptive characteristics.

Chi-square tests (Pearson chi-square/Fisher’s exact test) were used to compare categorical descriptive characteristics between groups. The relationship between two continuous variables was evaluated using the Spearman correlation coefficient ($p=0.05$).

Results

The assessment of internal consistency of the TSOY scale was performed using Cronbach’s alpha. The 32-item scale,

Table 1. Comparison of descriptive characteristics of participants by groups

	Group						p
	Check-up n=30		Polyclinic n=30		Total n=60		
	n	%	n	%	n	%	
Age, (year)							
Mean±SD	41.73±12.03		30.00±9.07		35.87±12.1		0.000 ^z
M (min-max)	42.5 (21–64)		26 (20–51)		34 (20–64)		
Gender							0.091 ^x
Male	12	40	6	20	18	30	
Female	18	60	24	80	42	70	
Marital status							0.069 ^x
Married	20	66.7	13	43.3	33	55	
Single	10	33.3	17	56.7	27	45	
Education status							0.054 ^x
High school	7	23.3	6	20	13	21.7	
University/College	16	53.3	23	76.7	39	65	
Master's/PhD	7	23.3	1	3.3	8	13.3	
Employment status							0.117 ^x
Unemployed	9	30	4	13.3	13	21.7	
Employed	21	70	26	86.7	47	78.3	
Availability of social security							0.999 ^x
Available	28	93.3	28	93.3	56	93.3	
Not Available	2	6.7	2	6.7	4	6.7	
Income level							0.299 ^x
Income less than expenses	6	20	4	13.3	10	16.7	
Income equal to expenses	13	43.3	19	63.3	32	53.3	
Income more than expenses	11	36.7	7	23.3	18	30	
Body mass index							0.058 ^x
Normal	9	30	18	60	27	45	
Overweight	18	60	11	36.7	29	48.3	
Obese	3	10	1	3.3	4	6.7	

^z: Mann Whitney U analysis, ^x:Chi-Square analysis. SD: Standard deviation.

which measures the health literacy levels of participants, yielded a Cronbach's alpha of 0.964, indicating excellent internal consistency. This suggests that the items on the scale are closely related and consistently measure the same underlying construct.

Table 1 compares the descriptive characteristics of the participant groups. No significant difference was observed between the groups ($p=0.000$). Female participants were the majority in both groups, and no significant difference was found between them ($p>0.05$). Married individuals were the majority in the check-up group, while single individuals were the majority in the outpatient clinic group; however, no significant difference was observed ($p>0.05$). University/college graduates constituted the majority in both groups, with no significant difference between them ($p>0.05$).

Most individuals had social security ($p>0.05$), and social security status was high in both the outpatient clinic and check-up groups, with no significant difference between them ($p>0.05$). The number of employed individuals was higher ($p>0.05$). The monthly income was equal to or greater than expenses more frequently in the check-up group, whereas in the outpatient clinic group, the monthly income was mostly equal to expenses.

In the BMI assessment, participants in the overweight category were the majority in the check-up group, whereas participants in the outpatient clinic group were mostly in the normal range. No significant difference was found in terms of BMI ($p>0.05$) (Table 1).

Examining the health literacy and health declaration knowledge levels of the participants, Table 2 shows the

Table 2. Comparison of health literacy and health declaration knowledge levels of participants by groups

	Group						p
	Check-up n=30		Polyclinic n=30		Total n=60		
	n	%	n	%	n	%	
TSOY-32 total score	14.86±7.49		14.62±7.94		14.74±7.65		0.900 ^z
Level of health literacy							0.640 ^x
Inadequate	28	93.3	27	90	55	91,7	
Problematic/limited	2	6.7	3	10	5	8,3	
Knowledge of health declaration	62.22±13.02		60.00±9.26		61.11±11.26		0.892 ^z
True (min-max)	9 (7–14)		9 (6–12)		9 (6–14)		0.892 ^z
False (min-max)	6 (1–8)		6 (3–9)		6 (1–9)		0.892 ^z

^z: Mann Whitney U analysis, ^x: Chi-Square analysis.

average health literacy levels determined by TSOY-32. No significance was found in terms of P score ($p>0.05$). Health literacy status appeared to be mostly inadequate in both groups, with no significant relationship between them ($p>0.05$). The level of health declaration knowledge also appeared to be mostly inadequate in both groups. The average number of correct answers regarding health statements was 9 points. No significant results were found in either group ($p>0.05$) (Table 2).

Table 3 shows the relationships between participants' health literacy and knowledge of health statements scores with gender, marital status, educational status, employment status, social security status, income level, and BMI. There was no significant difference between TSOY-32 total scores and health declaration knowledge levels among genders ($p=0.640$, $p>0.05$).

Regarding marital status, there were no significant differences in the TSOY-32 total score and health declaration knowledge level between married and single individuals ($p=0.360$, $p>0.05$).

According to education level, university graduates had the highest TSOY-32 total score ($p>0.05$). The health declaration knowledge level was highest among individuals with a master's degree and above ($p>0.05$).

Regarding employment status, the mean TSOY-32 score and health declaration knowledge mean scores were higher for the unemployed group ($p>0.05$).

There were no significant differences between the TSOY-32 total score and health declaration knowledge mean score according to the social security status of the groups ($p>0.05$). No significant differences were found between the mean TSOY-32 score and health declaration knowledge levels based on individuals' income status ($p>0.05$).

The mean TSOY-32 score was highest for obese individuals, although there were no significant differences among different BMI categories. Similar to the TSOY-32 results, health declaration mean scores did not show significant differences among groups, with overweight individuals holding the highest scores ($p>0.05$) (Table 3).

Discussion

According to our findings, there is no significant difference between the outpatient clinic and check-up groups in terms of accessing information about treatment and services, understanding, evaluating, and using/applying the information. No significant difference was found in accessing information on disease prevention, understanding, evaluating, and using/applying information. The higher education level and easy access to health services among our study population may have played a role in this outcome.

There was no significant relationship between educational level and health claim knowledge level, which may be due to the relatively homogeneous distribution of educational levels in the group. No statistically significant differences were found in health literacy and knowledge level scores regarding health statements based on gender, age, marital status, educational status, social security status, income level, or BMI levels. Looking at the literature on health literacy knowledge levels, studies indicate that the knowledge level of people in our country is generally inadequate.^[7,8]

Although the level of health declaration knowledge was similar in both groups, participants were able to answer 9 out of 15 questions correctly on average. As a result, the health declaration knowledge level of the participants was found to be insufficient.

When current studies are examined, participants generally pay the most attention to reading expiration dates on food

Table 3. Comparison of health literacy and knowledge of health declarations scores according to complementary characteristics

	Gender			p
	Male	Female		
TSOY-32 total score	15.08±8.56	14.60±7.34		0.640 ^z
Health declaration knowledge score	60.37±10.09	61.43±11.83		0.705 ^z
	Marital status			p
	Married	Single		
TSOY-32 total score	15.56±7.90	13.73±7.36		0.360 ^z
Health declaration knowledge score	62.22±11.01	59.75±11.62		0.339 ^z
	Education level			p
	High school	University	Master's and above	
TSOY-32 total score	13.54±9.40	15.50±7.17	12.96±7.33	0.704 ^H
Health declaration knowledge score	61.03±8.96	60.34±12.13	65.00±10.54	0.496 ^H
	Employment status			p
	Unemployed	Employed		
TSOY-32 total score	16.19±7.87	14.34±7.63		0.250 ^z
Health declaration knowledge score	65.64±14.10	59.86±10.17		0.241 ^z
	Social insurance status			p
	Available	Not available		
TSOY-32 total score	14.73±7.88	14.84±3.62		0.744 ^z
Health declaration knowledge score	60.83±10.41	65.00±22.03		0.774 ^z
	Income status			p
	Income less than expenses	Income equals expenses	Income more than expenses	
TSOY-32 total score	14.95±8.08	14.91±7.18	14.32±8.63	0.894 ^H
Health declaration knowledge score	61.33±13.63	60.00±10.02	62.96±12.36	0.692 ^H
	BMI			p
	Normal	Overweight	Obese	
TSOY-32 total score	12.52±7.87	16.42±6.47	17.58±11.97	0.122 ^H
Health declaration knowledge score	58.77±8.48	64.37±13.13	53.33±5.44	0.085 ^H

^z: Mann Whitney U Test, ^H: Kruskal Wallis Test.

labels.^[9] Kudret and Nişancı Kılınç^[10] reported a significant relationship between education levels and label-reading habits, but individuals who pay attention to the expiration date constitute only a small proportion. Kurt et al.^[11] reported that 186 (62%) people sometimes read food labels in their study. While social media (53.3%) and television/radio (49.0%) were the most common sources of information, product price (68.7%) and brand (68.0%) were the most frequently cited factors in purchasing decisions. Our results were similar

to other studies conducted in Türkiye. These results may be related to the lack of health lessons in the education system. Female participants were the majority in both groups (check-up n=18, outpatient clinic n=24). No significant difference was observed between genders in terms of health declaration and health literacy levels. Similar results have been reported in previous studies.^[12,13] Kılınç examined the label-reading habits and nutritional status of female consumers (n=250) and found no significant difference

between food label reading habits and basic nutrition knowledge levels^[14] ($p>0.05$). Bulak et al.^[15] found that female parents pay attention to label reading when choosing food ($p=0.015$). No significant difference was found between the groups in terms of health literacy. The difference in results in our study may be related to the higher socioeconomic levels of participants admitted to this private health facility.

Akpınar et al.^[16] reported that the health literacy of individuals aged 18–40 years was lower. Örsal et al.^[17] found that the health literacy levels of individuals aged 36–45 years were at the highest level and decreased with increasing age.

Marital status also did not affect the results. Contrary to our findings, previous studies conducted in Türkiye have shown that health literacy levels are generally higher in single people.^[18,19] Differences in socioeconomic and educational levels from the general population may have influenced this outcome.

When educational status was analyzed, most participants were university/college graduates. No statistically significant difference was found between these groups in terms of accessing, understanding, evaluating, using, and applying information. In previous studies conducted in Türkiye, results contrary to our findings have been observed.^[19,20] Erem and Bektaş found a significant positive correlation between the nutritional literacy levels of university students and quality of life.^[21]

Although employment and social security status did not create a statistical difference ($p=0.250$), the high proportion of participants with social security may have influenced the results. Previous studies conducted both in Türkiye and abroad have generally found low levels of health literacy in people who are unemployed and deprived of social security.^[22]

When income level parameters were analyzed, it was observed that monthly income was equal to ($n=13$) or more than ($n=11$) expenses more frequently in the check-up group, whereas in the outpatient clinic group, monthly income was mostly equal to expenses ($n=19$). Although income status did not cause a significant difference in health literacy between the two groups in this study, this may be due to the similar income levels of the population. Özdemir et al.^[23] found a significant relationship between health literacy and income level. A weak positive association was also found between income level and nutrient content reading^[11] ($p=0.018$).

In the BMI assessment, participants in the overweight category were the majority in the check-up group, while participants in the outpatient clinic group were in the normal range. The outpatient group admitted with health complaints and BMI deprivation may be related to existing health problems. Enomoto et al.^[24] stated that health literacy levels in Japanese adults cannot be associated

with low or high BMI. When body mass index (BMI) was compared, no statistically significant difference was found. In İbiş and Öztürk's study, insufficient nutritional literacy was found to be significantly higher in obese subjects.^[25]

Conclusion

One of the hypotheses in this study was that the health literacy and health declaration knowledge levels of people who apply for polyclinic purposes would be higher than those of check-up patients. However, the expected results were not observed, and no significant difference was detected between the two groups.

The fact that both groups included in this study had similar demographic and socio-economic characteristics was evaluated as a factor affecting the results. Both groups are above a certain socio-economic level, allowing them to more easily afford necessary healthcare expenses, access private hospitals and qualified examinations, and obtain information from various sources more easily in today's conditions. Additionally, the study's single-center design and the limited time frame for data collection contributed to the small number of participants.

The level of health declaration knowledge was found to be insufficient in both groups. The different results obtained in this study can be attributed to the relatively low average age of the participants and their ability to easily access the internet and other information sources.

It is important to expand and improve the quality of basic health education in our country, regardless of socio-economic status, income level, gender, or social security, and to ensure that information is obtained from accurate and reliable sources. Education should be planned and announced in a way that makes it accessible to the public. Longer-term and more comprehensive studies are needed for future research.

Disclosures

Ethics Committee Approval: The study was approved by the Bahçeşehir University Ethics Committee (no: 2023/11, date: 28/12/2023).

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