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Validity and reliability of the hypoglycemia confidence scale for patients with type 1 diabetes

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ABSTRACT

Objectives: This study aims to assess the validation and reliability of the Turkish adaptation of the Hypoglycemic Confident Scale and to investigate its relationship between the Hypoglycemia Fear survey, WHO Well-Being Index, Hba1c, sociodemographic characteristics and variables.

Method: The survey consists of a total of 81 questions concerning the sociodemographic status, clinic status variables, and the Hypoglycemic Confidence Scale formed by 35 standard questions and 46 scale questions.

Result: In this study, assessment of the reliability of the scale was achieved by internal consistency and test-retest methods, and the Cronbach alpha internal consistency reliability coefficients were 0.814 in the first test and 0.885 in the second test. It was observed that the responses given to the items of the Hypoglycemic Confidence Scale at two separate times were consistent with one another. The overall correlation of the scale ($r = 0.927$, $p < 0.0001$) was positive and highly significant ($p < 0001$). A significant, inverse, and moderate correlation was found between HbA1c values and Hypoglycemic Confidence Scale total scores ($p < 0,0001$, $r = -0,479$). Similarly, a higher hypoglycemic confidence score was observed to be associated with higher WHO Well-Being Index score and lower hypoglycemic fear.

Conclusion: This study shows that the Hypoglycemia Confidence Scale created by Polonsky et al. is a valid and reliable scale that can be put into use in our country.1 The Hypoglycemic Confidence Scale may be beneficial in diabetic patient follow-up and achieving treatment goals in diabetic patients.

Keywords: Hypoglycemia, Hypoglycemic Confidence Scale, Hypoglycemia Fear Scale, WHO Well-Being Index

Hypoglycemia is one of the most frightening complications of diabetes and diabetes treatment. It is also often considered the major limiting factor in effective glycemic contro.[1] Fear of being hypoglycemic develops in patients over time and this fear complicates the treatment and increases the cost.[2]

While insulin therapy is often considered the most effective treatment for controlling hyperglycemia when administered properly, data from previous National Health and Nutrition Examination Survey research suggest that patients using insulin therapy alone have the worst control over hyperglycemia, probably due to the severity of their diabetes and fear of hypoglycemia.[3]

Therefore, over the past decade, studies have been designed to assess and understand the anxiety about hypoglycemia among patients with diabetes have

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been primarily focused on fear and anxiety. These studies suggest that hypoglycemic fear is negatively correlated with glycemic control and life quality. In an accordance with that, efforts to intervene have been primarily designed to alleviate or completely overcome this fear. Lately, studies on hypoglycemia have been focused on a new concept, hypoglycemic confidence. The concept of hypoglycemic confidence encompasses a sense of personal strength and comfort derived from the belief that one has the necessary resources to stay safe from the problems associated with hypoglycemia. In other words, it emphasizes the thoughts on one's ability to avoid hypoglycemic problems. Therefore, it can be considered as representing the positive side of hypoglycemic fear and avoidance.[4] As new medication and devices are developing to reduce the risk of severe hypoglycemic episodes from happening, one of our goals should be not only to ensure that the patient feels less anxious and stay safe from the hypoglycemic attacks; we should also help the patient to feel safer and more confident about themselves. For this purpose, a nine-item "Hypoglycemic Confidence Scale" was developed by Polonsky *et al*. in 2017.1 The Hypoglycemic Confidence Scale is a self-report scale that assesses how safe and comfortable diabetic patients feel about their ability to avoid hypoglycemia-related problems. It is approved for use in adults with type 1 diabetes and type 2 diabetes patients administered with insulin.

METHODS

This study aims to assess the validity and reliability of the Turkish adaptation of the Hypoglycemic Confidence Scale. This study was conducted on 114 patients consisting of 80 women and 34 men diagnosed with type 1 diabetes. In the study, a survey created by the researcher was used to collect data for the Hypoglycemia Confidence Scale, the WHO-5 Well-Being Index, the Hypoglycemia Fear Survey, and the sociodemographic characteristics of the participants. Some of the questions concerning hypoglycemia that are involved in the sociodemographic data survey were obtained from the 'Diabetes Symptoms Checklist', which was validated by Terkes *et al*.[5] The WHO 5 Well-Being Index, which was validated in Turkish by Eser E., is a survey that consists of 5 questions and asses that how the person has been feeling during the past 2 weeks.[6] It consists of a total of 81 questions. Informed consent forms of the participants were obtained from a section in the introduction part of the questionnaire, explaining the research and asking them to participate. 146 volunteered patients with type 1 diabetes who applied to Izmir Katip Celebi University Department of Internal Medicine and Endocrinology Outpatient Clinic of the Faculty of Medicine between April 2018 and April 2019, over the age of 18, diagnosed with diabetes over a year, literate, capable of filling out the form on their own participated in the study. Diabetes patients who meet the inclusion criteria were included in the study after they were informed that their data will be confidential. The survey was completed through face-to-face interviews or patients filling out the forms by themselves. Ethics committee approval was obtained from Katip Celebi University Non-Interventional Clinical Research Ethics Committee (with decision number 110, dated 21.03.2018).

While gathering patients' data, 146 type 1 diabetic patient who met the criteria were reached, but 32 of the forms were excluded from the study due to incomplete filling. Consequently, our study is carried out with 114 type 1 diabetes patients' data. 30 patients from the same participant group was possible to reach afterward and was able to take the same survey. The Hypoglycemic Confidence Scale is a 9-item self-report scale that dwells upon 3 matters, which assess the degree of how secure and comfortable the diabetic patients feel about their ability to avoid hypoglycemia-related problems.

1-Confidence about staying safe from hypoglycemia at certain critical times. (5 items, such as driving, exercising, sleeping, etc.)

2-Self-confidence (3 items, such as having the confidence about sensing the hypoglycemia before it is too low and acting accordingly)

3-Presumed partner trust (one item; Patients presume how his/her partner feels about his/her ability to avoid serious problems due to hypoglycemia)

After the scale was translated into Turkish by the researcher, it was reviewed by two endocrinologist faculty members and a competent English lecturer, and necessary changes were made. Afterward, it was presented to the committee, which includes an academician physician, a psychologist, and a dietitian that works with diabetes and in diabetes-related fields, and then the scale was shaped into its final form. After the last changes were made, it was given to 5 people with different education levels and evaluated in terms of readability and intelligibility. Scaling scored as "I do not trust at all (1), I trust very much (4)" as in a 4-point Likert type. No cut-off value is used whereas

the average score is used (Fig. 1).

Statistical analysis of the study data was achieved by the IBM SPSS 22 statistical program. Since the variables had non-normal distribution; nonparametric tests were used in our study. Non-normal distribution of the data was identified by visual (histogram and probability graphs) and analytical (skewness and kurtosis coefficients, Kolmogorov–Smirnov/Shapiro-Wilk tests) analyses. Kolmogorov–Smirnov and Shapiro-Wilk analysis result was < 0.001, showing that the data has non-normal distribution. Descriptive statistics, Kruskal Wallis, Mann-Whitney U, Chi-square, Spearman correlation, Cronbach Alpha analysis, and regression analysis tests were used as statistical methods. for statistical significance, an error level of 5% and, p - value of < 0.05 was considered statistically significant. Confirmatory factor analysis (CFA) was achieved by the AMOS statistical package program.

RESULTS

Sociodemographic Findings

This study was carried out on 114 participants. 80 of the participants were women and 34 of the participants were men. Median age of the participants was 27,24 ± 10,28 (minimum 18, maximum 58). In the matter of education, 16.7% of participants (n = 19) had secondary school education or below, 35.1% (n = 40) were high school graduates, 48.2% (n = 55) were a university graduates or had a higher education level. The average duration of diabetes of the participants was 12.04 ± 9.87 years (minimum 1 – maximum 50 years), the average of their last measured HbA1c was 7.89 ± 1.60% (5.2% minimum – maximum 13.9%).

95.6% (n = 109) of the participants received a diabetes education whereas 4.4% (n = 5) of the participants did not receive a diabetes education. While 74.62% (n = 85) of the participants thought that they received a good education, 25.4% (n = 29) thought that they received a bad education. 92.1% (n = 105) of the participants stated that they received hypoglycemia training, 7.9% (n = 9) of the participants stated that they did not receive a hypoglycemia training. Among the patients who received a diabetes education, %81.6 (n = 93) state that they received a good education, whereas %18.4 stated that they received a bad

HYPOGLYCEMIC CONFIDENCE SCALE

How confident are you that you can avoid serious problems with hypoglycemia?	I do not trust.	A little	I trust.	I'm Very Confident
1. While doing sports				
2. While you sleep				
3. While driving				
4. Socializing				
5. When you are alone				

How confident are you that you can do the following?	I Never Trust	A Little Confidence	Moderately Confident	I'm Very Confident
6. That you can avoid serious problems caused by hypoglycemia				
7. Be aware of hypoglycemia and take precautions before your blood sugar drops too much.				
8. That you can continue to do the things you truly want to do in life, despite the risks of hypoglycemia.				
9. If you have a spouse or partner, what is your estimate of your partner's belief in you that we can overcome serious problems that may arise from hypoglycemia?				

Fig. 1. Hypoglycemic confidence scale

education. It was determined that 5.5% (n = 6) of the participants who stated that they have received a diabetes education did not receive hypoglycemia training. 1.9% (n = 2) of the participants who have received a hypoglycemia training stated that they did not receive a diabetes education. A statistically significant and positive correlation was found between blood glucose level dropping below 70 mg/dl and hypoglycemia symptoms occurring in the last week ($p < 0.0001$ r = 0.686).

Hypoglycemic Confidence Scale Validity Reliability Findings

Factor Analysis

The predetermined factor structure of the scale was assessed with confirmatory factor analysis. If a previously validated scale is going to be adapted into another culture, in order to test the construct validity of the scale in question, recommended use of method is to perform a direct confirmatory factor analysis without doing a re-exploratory factor analysis.[7] In confirmatory factor analysis, the factor loads of the

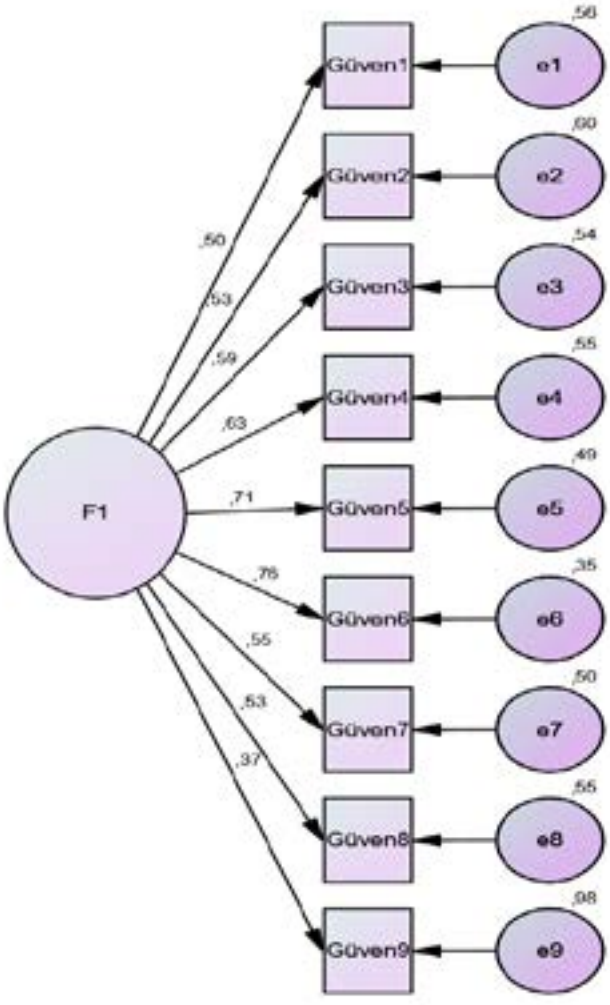

Fig. 2. Diagram of Hypoglycemic Confidence Scale Confirmatory Factor Analysis

the scale should be above 0.32.[8] In the study in which the scale was first developed, factor loads ranged from 0.52 to 0.92. According to the structural equation theory of the analysis, it was observed that the item variance values in the Turkish scale varies between 0.37 and 0.76 and the adaptation is satisfactory (Fig. 2). It was observed that the single-factor structure of the scale also is in fit.

Confirmatory factor analysis (DFA) was achieved by the AMOS statistical package program. Testing of the fit of the tested model with the analyzed data was achieved by Chi-square test. Chi-square/degrees of freedom, Comparative Fit Index (CFI), Standardized Root Mean Square Residual (SRMR) which indicates the mean difference between the model's explained covariance and observed covariances, Root Mean Square Error of Approximation (RMSEA), Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI) of the Tested model was calculated. In confirmatory factor analysis, CMIN criteria showed a good fit; GFI, CFI, AGFI, RMSEA and RMR criteria showed acceptable fit. In conclusion; It was determined that the findings obtained from the collected data of the Turkish scale were consistent with the theoretical structure and were valid (Table 1).

In the reliability studies of the research, Cronbach alpha internal consistency coefficient and test-retest correlation coefficient were assessed. Internal consistency reliability requires that the items of the scale have a certain conceptual structure and requires items to measure the same structure in relation to one another.[9] The Cronbach alpha internal consistency reliability coefficients of the Hypoglycemic Confidence Scale were found to be 0.814 in the first calculation and 0.885 in the second calculation. A Cronbach Alpha coefficient of $0.80 \leq a < 1.00$ indicates that the reliability of the scale is high. The Cronbach Alpha reliability coefficient of the "Hypoglycemic Confidence Scale" was determined to be highly reliable. The findings show that the internal reliability of the scale is sufficient.

In the test-retest method used in the scale reliability study; scale is re-applicated to the same group after a certain interval (between 2 and 4 weeks) (Time-invariant) and the relationship between two re-application is assessed with the Pearson product-moment correlation coefficient.[9] The correlation coefficient is defined as the correlation between the groups obtained by testing the scale twice under

Table 1. **Hypoglycemic confidence scale (HCI) factor loads and regression coefficients for items**

Index	Good fit*	Acceptable fit	Hypoglycemic Confidence Scale (HCS)
CMIN/D($\chi^{2/sd}$)	< 2	< 5	1.668
GFI	> 0.95	> 0.90	0.918
CFI	> 0.95	> 0.90	0.927
AGFI	> 0.95	> 0.85	0.864
RMSEA	< 0.05	< 0.08	0.077
RMR	< 0.05	< 0.08	0,052

CMIN: Chi-square, GFI: Goodness of Fit Index, CFI: Comparative Fit Index, AGFI: Adjusted Goodness of Fit Index, RMSEA: Root Mean Square Error of Approximation, RMR: Root Mean Square Residual

Table 2. **Test-Retest Mean Scores and Comparison**

Scale and subscale	Hypoglycemic Confidence Scale Score		Analyze results	
	First Take X ± SS	Second Take X ± SS	r	*p*
HCS Overall score	2.82 ± 0.59	2.92 ± 0.64	0.927	.000

similar conditions and with a short time interval. The correlation coefficient should be approximately 1 and be above 0.70 at least. The most suitable value is 0,80.[10] According to the analyzes in the study, responses for the items of the Hypoglycemic Confidence Scale at two separate times were consistent with one another. The overall correlation of the scale (r = 0.927, $p <$ 0.0001) was positive and highly significant ($p <$ 0001). This result shows that the scale is not affected by time, assesses the same situation, and is consistent (Table 2). According to the research results, the analyzes showed that the Hypoglycemic Confidence Scale is a valid and reliable test for the Turkish sample.

The hypoglycemic fear survey (HFS) was developed to assess the fear of hypoglycemia in individuals with diabetes.[11] Turkish validity and reliability study of HFS was conducted by Erol *et al*. in 2009 and the total scale Cronbach's alpha coefficient of HFS was found r = 0.9 . The scale consists of two factors, behavior and anxiety, and a total of 32 items of 5-point Likert type. In the behavior factor, 15 items are asked to patients about their practices to prevent their glucose levels from dropping low within six months. In the anxiety factor, 17 items are asked of patients about how often

Table 3. **The relationship between the participants' total score of HAI and its variables**

Variables	Spearman's correlation coefficient	*p*
Age	-0,134	0,15
Duration of Diabetes	0,033	0,72
HbA1C	**-0,479**	**<0,001**
BMI	-0,166	0,07
WHO Index Score	**0,417**	**<0,001**
HFS total score	**-0,385**	**<0,001**
HFS (behavioral)	**-0,243**	**0,009**
HFS (anxiety)	**-0,331**	**<0,001**

Table 4. **Comparison of Mean HCS Scores According To Control Visit Frequency**

Control Visit Frequency	n	HCS Mean Score	SS	Kruskal-Wallis	*P* value
Control Visit Frequency for Diabetes					
Bimonthly	18	2,86	0,56	8,368	**0,015**
Every 3-6 months	85	2,87	0,57		
Once a Year	11	2,31	0,58		
Perception of Quality of Life in Participants					
Bad	11	2,55	0,31	8,908	**0,012**
Moderate	56	2,73	0,57		
Good	47	2,98	0,61		

Table 5. Comparison of Independent Variable and Mean Scores Of HCS

	n	Mean Score of HCS	SS	Mann Whitney-U	P value
Exercise					
Yes	87	2,88	0,58	-2,299	**0,021**
No	27	2,60	0,54		
Number Of Measurements of Blood Glucose Per Day					
4 or less	87	2,72	0,56	-2,265	**0,008**
5 or more	27	3,04	0,58		
Diabetes Education Wellness Perception					
Yes	85	2,89	0,56	-2,218	**0,027**
No	29	2,59	0,60		
Hypoglycemia Training Wellness Perception					
Yes	93	2,89	0,58	-2,983	**0,003**
No	21	2,42	0,49		
Practice of Nutrition Therapy for Diabetes					
Yes	79	2,90	0,60	-2,366	**0,018**
No	35	2,63	0,51		

they feel anxious due to a decrease in glucose level within six months.

The total mean of the participants' responses to the Hypoglycemic Fear Scale was found to be 1.58 ± 0.68. The mean response to the behavior sub-factor was found to be 1.43 ± 0.70. The mean response to the anxiety sub-factor was found to be 1.71 ± 0.91. The Turkish validity and reliability analysis of the WHO Well-Being Index (Eser *et al*. 1999) was carried out and it consists of five single-factor and six-point Likert-type questions. The lowest score is 0 and the highest score is 25. Scores below 13 indicate poor quality of life and should be evaluated for depression. The mean score of the participants' WHO Well-Being Index was found to be 13.81 ± 4.78. In our study, a statistically significant and weak inverse correlation was found between the WHO Well-Being Index score and the Hypoglycemic Fear Scale score (p = 0.019, r =-0.219). No significant correlation was found between HFS, WHO Index, and HbA1c values.

A significant, inverse and moderate correlation was found between the participants' HbA1c values and their Hypoglycemic Confidence Scale total scores (p < 0.0001, r = -0.479). A statistically significant and moderately positive correlation was found between the WHO Index score and the Hypoglycemic Confidence Scale score (p < 0.0001, r = 0.417). Statistically significant weak inverse correlation was found between the total score of HFS and HCS score (p < 0.0001, r = -0.385). Similarly, weak and inverse correlations were found between HFS sub-factors. No significant correlation was found between other variables (Table 3).

A statistically significant relationship was found between the control visit frequency of the participants for diabetes and the participants' perception of quality of life (p = 0.012) and their Hypoglycemic Confidence Scale scores (p = 0.015). Determining the group that made the difference in control visit frequency was achieved by using a nonparametric post-hoc (Tamhane) test and a statistically significant difference was found between those who went for a check-up between 3-6 months and those who went once a year (p = 0.030) (Table 4).

Exercising status (p = 0.021), number of blood glucose measurements per day (p = 0.008), perception of quality of life (p = 0.012), diabetes education wellness perception (p = 0.027), hypoglycemia training wellness perception (p = 0.021). 0.003) practice state of nutritional therapy for diabetes (p = 0.018) of the participants was found to be statistically significantly correlated with the hypoglycemia confidence scale

Table 6. Hierarchical Regression Analysis (Hypoglycemic Confidence Scale)

Model	R	R Square	Adjusted R Square	Durbin-Watson	ANOVAF	ANOVAp
1	0,461[a]	0,213	0,11	1,810	2,273	0,13[a]
2	0,476[b]	0,226	0,11		2,066	0,20[b]
3	0,616[c]	0,379	0,28		3,993	< 0,0001[c]

Table 7. Excluded Variables in Regression.

Model		Beta	t	*p*	Partial Correlation
2	Hypoglycemic Fear Behavior	0,126[b]	1,317	0,191	0,131
	Hypoglycemic Fear Anxiety	0,052[b]	0,561	0,576	0,056
3	Hypoglycemic Confidence Scale	-0,444[c]	-4,919	< 0,0001	-0,445

(Table 5).

In our study, we investigated the efficiency of the Hypoglycemic Confidence Scale after removing all the factors that may influence the HbA1c level. To achieve this, we used the hierarchical regression analysis method and the durbin-watson coefficient was calculated to be between 1.5 and 2.5, which is acceptable. In the first step, we analyzed demographic situations that could have an effect. In the second step, sub-factors of the Hypoglycemic Fear Scale were included in the analysis. Finally, in the third step, we studied the effect of the Hypoglycemic Confidence Scale on HbA1c independently from other factors (Table 6). As a result of our analysis, it was found that the HCS score alone is associated with HbA1c independently from other factors (significantly and inversely correlated). (Table 7).

First step a: Age, gender, marital status, education level, exercise status, smoking, alcohol consumption

Second step b: Hypoglycemic Fear Scale anxiety, Hypoglycemic Fear Scale behavior

Third step c: Hypoglycemic Confidence Scale

Dependent variable: HbA1c

In our study, we analyzed the relationship between the Hypoglycemic Confidence Scale and these independent variables one by one such as age, education status, income status, place of residence, housemates, occupation, smoking, alcohol consumption, exercise, diabetes education status, hypoglycemia training status, or to have an additional disease, and we found no statistically significant difference in-between.

DISCUSSION

In this study, confirmatory factor analysis was used to investigate the validity and reliability of the scale, reliability was also calculated using internal consistency and test-retest methods. In the study of Polonsky *et al*., factor loadings ranged from 0.52 to 0.92.[1] The factor loads of the items in our study ranged from 0.37 to 0.76 and were above the acceptable factor load value of 0.32. The Cronbach alpha internal consistency reliability coefficients were found to be 0.814 in the first test and 0.885 in the retest. The findings showed that the internal reliability of the scale is sufficient and thus can be put into use in our country as a reliable scale. According to the analyzes in the study, it was observed that the responses given to the items of the Hypoglycemic Confidence Scale at two separate times were consistent with one another. The overall correlation of the scale ($r = 0.927$, $p < 0.0001$) is positive and highly significant ($p < 0001$). This result shows that the scale is time-invariant, assess the same situation and is consistent.

In the study of Polonsky *et al*., the average of the responses given to the hypoglycemia confidence scale items by patients was found to be 3.06 ± 0.59.[1] Demographic data in the study suggested that the degree of confidence in hypoglycemia was independent from age, gender, duration of diabetes, and type of diabetes. The only exception to these is the education level; higher education was found significantly associated with higher HCS scores.

In our study, the average of the responses to the hypoglycemia confidence scale was found to be 2.82 ± 0.59. Likewise, in our study, no significant relationship was found between age, gender, duration of diabetes, and HCS. On the contrary, no relationship was found between educational status and the Hypoglycemic Confidence Scale in our study. Moreover, no statistically significant relationship was found between the Hypoglycemia Confidence scale and the variables that are additionally investigated in this study; such as BMI, age, education level, income status, place of residence, housemates, occupation, smoking, alcohol consumption, exercise, diabetes education status, hypoglycemia training status, additional disease presence, presence of diabetes complications or having attacks of hypoglycemia. Considering that it may be related to the sociodemographic data, we added exercising status ($p = 0.021$), number of blood glucose measurements per day ($p = 0.008$), diabetes education wellness perception ($p = 0.027$), hypoglycemia training wellness perception (0.003) practice state of nutritional therapy for diabetes ($p = 0.018$) into the analysis and found a statistically significant correlation

with the hypoglycemia confidence scale. In addition, the relationship between the control visit frequency of patients for diabetes ($p = 0.015$) and the participants' perception of quality of life ($p = 0.012$) and their Hypoglycemic Confidence Scale scores were found statistically significant.

Similar to Polonsky *et al*'s study, we observed a significant, inverse, and moderate correlation between the HbA1c values and the Hypoglycemic Confidence Scale total scores of the participants ($p < 0.0001$, r = -0.479).1 Once again similar to Polonsky *et al*. study, higher hypoglycemic confidence was found to be associated with higher scores on the WHO Well-Being Index and lower hypoglycemic fear. A statistically significant and moderately positive correlation was found between the WHO Index and the Hypoglycemic Confidence Scale ($p < 0.0001$, r = 0.417).1 A statistically significant weak inverse correlation was found between the total score of HFS and the HCS score ($p < 0.0001$, r = -0.385). Likewise, weak and inverse correlations were observed in HFS sub-factors. A statistically significant and weak inverse correlation was found between the WHO Index and the Hypoglycemic Fear Scale ($p = 0.019$, r = -0.219). In our study, no significant relationship was found between the HFS, WHO Index Score and HbA1c values.

In the study of Polonsky *et al*., evaluation of the independence of the relationship between HCS and HbA1c values was achieved by hierarchical regression analysis, and an independent effect of HCS on HbA1c was observed only in type 2 DM patients administered with insulin.[1] Hierarchical regression analysis of the study revealed that HCS was significantly and inversely correlated with HbA1c alone independently from other factors $p < 0.0001$, r = -0.445).

Turkish adaptation of the Hypoglycemia Confidence Scale created by Polonsky *et al*. is a valid and reliable scale that can be put into use in our country.[1] HCS should be put into use in our country and the HCS score of diabetes patients should be evaluated, and the HCS score should be aimed to use in the plan the improving the patients' HCS score. In addition, since the relationship between the Hypoglycemic Confidence Scale and HbA1c is statistically significant and inversely correlated independently from other factors, the use of this scale in the follow-up of diabetic patients will be beneficial for achieving the treatment goal.

CONCLUSION

Turkish adaptation of the Hypoglycemia Confidence Scale created by Polonsky *et al*. is a valid and reliable scale that can be used in the follow-up of diabetes patients in our country.[1] Although, our study is carried with type 1 diabetes patients, we suggest that a reliability and validity study of the HCS scale should also be conducted with type 2 diabetes patients. Further studies are needed on this subject that should be conducted with larger and variable patient groups.

Conflict of Interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Ethical Approval

The protocol of the study was approved by the Medical Ethics Committee of İzmir Katip Celebi University Faculty of Medicine, İzmir, Turkey. (Decision number: 110, date: 21.03.2018).

Authors' Contribution

Study Conception: BÖP, GŞ, İD; Study Design: İD, GŞ; Literature Review: GŞ; Critical Review: BÖP, GŞ, İD; Data Collection and/or Processing: GŞ, İD; Analysis and/or Data Interpretation: GŞ, İD; Manuscript preparing: GŞ, İD.

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