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Turkish Version of The Experience of Cognitive Intrusion of Pain Scale (ECIPS): Validity and Reliability Study Among Patients With Cancer*

Ağrının Bilişsel İntrüzyonu Ölçeği'nin (ABİÖ) Türkçe Versiyonu: Kanserli Hastalarda Geçerlilik ve Güvenilirlik Çalışması

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ABSTRACT

Cognitive intrusion is a critical characteristic of pain. The aim of the present study was to test the validity and reliability of the Turkish version of the Experience of Cognitive Intrusion of Pain Scale developed by Attridge et al. in 2015. This methodological study conducted in the hematology clinic of an educational research hospital between February 2018 and June 2018 included 120 patients aged between 18 and 65 years. The study data were collected with the Sociodemographic Characteristics Questionnaire, Pain Catastrophizing Scale (PCS) and Experience of Cognitive Intrusion of Pain Scale (ECIPS). The Cronbach's α coefficient of ECIPS was 0.96 and item-total correlation coefficients ranged between 0.79 - 0.89 ($p < 0.01$) and factor loadings were ranged between 0.82 - 0.91. ECIPS had a very strong correlation with PCS ($r = 0.835$, $p < 0.001$). Confirmatory factor analysis showed that the scale has good fit in revealing a single-factor structure. Item analysis, internal consistency, test-retest, face, criterion, construct validity and confirmatory factor analyses demonstrated that the Turkish version of the ECIPS was a valid and reliable tool and could be used to assess the level of cognitive intrusion of pain.

Anahtar Kelimeler: *cancer, pain, cognitive intrusion, validity, reliability*

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ÖZ

Bilişsel intrüzyon, ağrının kritik bir özelliğidir. Bu araştırmanın amacı, Attridge ve arkadaşları tarafından 2015 yılında geliştirilen Ağrının Bilişsel İntrüzyonu Ölçeği'nin Türkçe formunun geçerlik ve güvenirliğini test etmektir. Şubat 2018-Haziran 2018 tarihleri arasında bir eğitim araştırma hastanesinin hematoloji kliniğinde yürütülen bu metodolojik çalışmaya yaşları 18 ile 65 arasında değişen 120 hasta dahil edildi. Araştırmanın verileri Sosyodemografik Özellikler Anketi, Ağrıyı Felaketleştirme Ölçeği (AFÖ) ve Ağrının Bilişsel İntrüzyonu Ölçeği (ABİÖ) ile toplanmıştır. ABİÖ'nün Cronbach's α katsayısı 0.96, madde-toplam korelasyon katsayıları 0.79 - 0.89 ($p < 0.01$) ve faktör yükleri 0.82 - 0.91 arasında değişmektedir. ABİÖ'nün AFÖ ile çok güçlü bir ilişkisi vardı($r = 0.835$, $p < 0.001$). Doğrulayıcı faktör analizi, ölçeğin tek faktörlü bir yapı ortaya koymada iyi bir uyuma sahip olduğunu gösterdi. Madde analizi, iç tutarlılık, test-tekrar test, yüzey, ölçüt, yapı geçerliliği ve doğrulayıcı faktör analizleri, ABİÖ'nün Türkçe versiyonunun geçerli ve güvenilir bir araç olduğunu ve ağrının bilişsel intrüzyonunu değerlendirmek için kullanılabileceğini göstermiştir.

Keywords: *kanser, ağrı, bilişsel intrüzyon, geçerlilik, güvenilirlik*

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INTRODUCTION

Being one of the critical problems in healthcare, pain is a very common symptom in clinical applications, causing disturbing feelings which affect the quality of life, social functionality and family life (Dueñas etl al., 2016). Due to being internal experience, pain is subjective (Johannessen, 2019). That is the reason for why pain experience can be determined if only it is described by the individual and assessed in the pain scale (Caraceni & Shkodra, 2019). The perception of pain is shaped through situations such as the past pain experiences of the individual, the level of experienced uncertainty associated with the pain and future expectations about the pain (Sipilä et al., 2017). This subjective nature of the pain is also related to the fact that the cognitive, emotional, behavioral and environmental factors are different in each individual (Ugurlu et al., 2017; Urquhart et al., 2015). Within the context of cognitive factors, the concept of pain can be defined through the activation of pain-related cognitions (Wiech, 2016). This activation starts when the individual consciously or unconsciously thinks to what extent the actual or potential damage will occur in the body related to the pain (Attridge et al., 2015). Emotions accompany these cognitions, and individuals experience anxiety, anger, sadness and fear (Dahlke et al., 2017). Anxiety is the most common of these emotions and when it comes to the pain, anxiety is associated with general distress, fear of pain from injury, and the cognitive intrusion by pain (Attridge et al., 2015; Dahlke et al., 2017). “General distress” is an unpleasant experience in the physical, mental, social or spiritual nature of the individual and can affect how the individual thinks, feels or acts (Dahlke et al., 2017; NCCN, 2020). “Fear of pain from injury" is the fear that trauma and/or injury that impairs body integrity can cause pain to the individual (Dahlke et al., 2017). “The cognitive intrusion by pain” refers to the cognitive responses like automatic thoughts related to the pain which attacks the mind without the control of the individual (Attridge et al., 2015). These cognitive responses including the cognitive intrusion of pain are related to the concepts of attention, rumination and catastrophizing (Attridge et al., 2015; Ugurlu et al., 2017). Pain experience begins with paying attention on the pain (Attridge et al., 2015). When a person has pain, s/he shifts his/her focus from the area he/she is cognitively interested into the area where the pain occurs; and the pain is recognized (Özveren, Faydalı, & Özdemir, 2016). The studies discussing attention and pain show that the level of pain increases in cases where attention is focused on pain and the level of pain decreases with distraction (Attridge et al., 2015; Özveren et al., 2016; Ugurlu et al., 2017). The person who concentrates on the pain starts to see the pain as a threat and there begins the rumination, which is defined as being constantly engaged with a single subject or thought (Attridge et al., 2015). The general character of ruminative thinking is that it is retroactive, intrusive, uncontrollable, reversible and repetitive (Karatepe et al., 2013). In rumination, the individual focuses on recurring thoughts about how a past negative event occurred (Oral & Arslan, 2017). Therefore, rumination occurs with expecting

the pain and experiencing the pain again. In case the individual fails to notice these cognitions related to pain, s/he cannot make any attempts to solve this problem (Attridge et al., 2015).

Catastrophizing, which is another cognitive factor of pain, is defined as a continuous negative prediction of the future, based on a little evidence, without considering and evaluating other potential consequences (Türkçapar, 2018). The tendency to magnify a perceived threat and predict the severity of its potential consequences to be greater than they really are, are two other components of catastrophizing (Dahlke et al., 2017). In other words, increased attention regarding pain and its symptoms lead to catastrophizing together with rumination (Ugurlu et al., 2017). Thus, catastrophizing becomes an important cognitive factor that constantly prevents adaptation to pain (Dahlke et al., 2017).

One of the researchers of this study is certified cognitive behavioral therapist (CBT), two are candidates of CBT therapist. One of the candidates is also working in a haematology clinic where the study is carried out. As an observation of this candidate the pain is found widely met clinical problem in haematology clinic and impairs individuals' cognition, concentration and functionality even talking or thinking which, all are signs for cognitive intrusion. So the researchers wanted to find a short-easy to answer- scale which offers opportunity to understand the cognitive aspect of pain.

There are many pain scales used worldwide, some of which are Pain Catastrophizing Scale (PCS), Pain Beliefs Questionnaire (PBQ), McGill Pain Questionnaire (MPQ) and West Haven Yale Multidimensional Pain Inventory (WHYMPI) (Babadağ & Balcı Alparslan, 2017; Berk & Bahadır, 2007; Cetin et al., 2016; Hawker et al., 2011; Ugurlu et al., 2017). These questionnaires and scales are developed to determine generally the individual's beliefs and behaviors about pain, the severity of pain, the source of pain and its localization and also widely preferred in pain researches conducted in Turkey (Babadağ & Balcı Alparslan, 2017; Cetin et al., 2016; Ugurlu et al., 2017). Among these scales, only the PCS is focused on the cognitive dimension of pain and other scales have quite limited items to evaluate pain cognitively. PCS is a thirteen items scale which determines the pain in the context of rumination, magnification and helplessness (Ugurlu et al., 2017). But still there is not a specific scale intended to capture cognitive intrusions' and its effects exists although it is a critical characteristic of pain. Therefore, there is a need for a measurement tool that will provide the detailed assessment of the cognitive dimension of pain in terms of intrusion. Experience of Cognitive Intrusion of Pain Scale (ECIPS) is a ten items scale designed to evaluate the pain in terms of cognitive intrusions (Attridge et al., 2015).

This study was carried out to determine the validity and reliability of the Turkish version of *"Experience of Cognitive Intrusion of Pain Scale"* among patients with cancer.

METHOD

Study Design

This study is a methodological study conducted to determine the validity and reliability of the Turkish version of the Cognitive Intrusion of Pain Scale (Erdoğan, Nahcivan, & Esin, 2015).

Sample

This is methodological study was conducted with cancer patients, who applied hematology clinic of a Training and Research Hospital between February 2018 and June 2018. The sample size was determined based on the criterion 10 fold the number of items in order to obtain more reliable results for validity and reliability studies (Boateng et al., 2018). So the sampling was consisted of 120 patients, who met the criteria for the study regarding this ten-item scale. In addition to 120 patients who were included in the sample, data were collected from another 20 patients within the scope of pre-application and the results obtained from these 20 patients were excluded from the sampling of the research. Individuals aged 18 and over, who were diagnosed with cancer, who were physically and mentally capable of continuing the interview during the application of the scale, and who agreed to participate in the study were included in the sample by using the probability sampling method.

Data Collection

Data were collected through face-to-face interviews which lasted approximately 15 to 30 minutes duration. Interviews were conducted in a clinical setting, which there were very little external stimuli and provides good communication conditions. The Sociodemographic Data Collection Form, PCS and ECIPS were used as data collection tools in the study. ECIPS was applied to 30 participants in the sample two to four weeks later.

The Sociodemographic Data Collection Form

The form contains five questions on age, gender, marital, educational and professional status.

Pain Catastrophizing Scale (PCS). The scale was developed by Sullivan et al. in 1995 in order to determine the catastrophic thoughts or feelings experienced by the patients about pain and ineffective coping strategies. It is a five-point Likert-type self-report measure with 13 items and end points of (0) “not at all” and (4) “all the time. The PCS yields a total score, indicating the degree of pain-related catastrophizing. In addition to the total score of PCS, three subscales scores which are magnification, rumination and helplessness can be calculated. There are no reversed items in the scale. The lowest score to be obtained from the scale is 0 and the highest is 52. High scores obtained from the scale indicate that the level of catastrophizing is high (Sullivan et al.,

1995). The validity and reliability of the Turkish version of the scale were conducted by Uğurlu et al. and the Cronbach's α value was found to be 0.95 (Ugurlu et al., 2017). In this study, PCS was used to test criterion validity.

Experience of Cognitive Intrusion of Pain Scale (ECIPCS). This scale was developed by Attridge et al. in 2015 in order to measure the automatic thoughts, cognitive responses, which is called the cognitive intrusion of pain that attack the minds of individuals with pain experience. The scale consists of ten items and a single dimension. It is a 7-point Likert-type self-report measure tool ranging from 0 (not at all applicable) to 6 (highly applicable). The lowest score to be obtained from the scale is 0 and the highest is 60. There is no reverse-coded item in the scale. The lowest score is 0 whereas the highest score is 60. High scores obtained from the scale indicate that individuals have high cognitive intrusion related to pain (Attridge et al., 2015).

Translation

After obtaining approval from the authors of the ECIPS, a translation and back -translation method was used for linguistic validity. The original form of the ECIPS was in English and was translated into Turkish by six academic experts in their fields who spoke English and Turkish very well and a Turkish version was created by the researchers considering these translations. The transliteration of this Turkish version, which was created in the second stage, was performed by two experts whose native language was Turkish and who lived English speaking countries for many years, along with four experts in the field who could speak both languages. In the third stage, the Turkish and English items were compared by the researchers and translation experts; and, the 6th and 7th items of the scale, which were difficult to understand were revised. It was then decided that the Turkish version that was created after these stages had linguistic validity.

Data Analysis

Statistical Package for the Social Sciences (SPSS) 22.0 for Windows was used for the statistical analysis and AMOS 22.0 was used for confirmatory factor analysis in this study. In item analysis of the scale, item-total correlation, Cronbach's α coefficient and t test in independent groups were used. Reliability analysis of the scale was evaluated with Cronbach's α coefficient, split-half method and Paired Sample Test. The validity of the scale was performed with Pearson correlation coefficient, Kaiser-Meyer-Olkin (KMO) test, Varimax rotation, principal components analysis and confirmatory factor analysis. In statistical decisions, $p < 0.05$ level was accepted as the indicator of significant difference.

Ethics Approval

The research was carried out with the approval of Non-Interventional Clinical Research Ethics Committee of the Health Sciences University dated 16.01.2018 and numbered 46418926.

The purpose of the study, the way the study would be carried out were declared to the participants and the participants were given assurance that they were free to leave the research any time they want and the data obtained from them would remain private. Written and verbal consents were obtained from all participants included in the study.

RESULTS

The participants' mean age was 38.89 ± 1.31 years. Of the participants, 66.7% were male, 52.5% were married, 49.2% were secondary and high school graduates and 36.7% were unemployed (Table 1).

Table 1

Descriptive characteristics of the participants (n = 120)

Sociodemographic and individual characteristics		**n**	**%**
Age	18-29	41	34.10
	30-39	28	23.30
	40-49	21	17.50
	50-64	24	20.00
	65 years and ↑	6	5.00
Gender	Female	40	33.30
	Male	80	66.70
Martial Status	Married	63	52.50
	Single	48	40.00
	Divorsed/Lost a Spouse	9	7.50
Educational Status	Primary School	24	20.00
	Secondary and High School	59	49.20
	Bachelor Degree or Above	37	30.80
Professional Status	Retired	11	9.20
	Civil Servant	19	15.80
	Worker	28	23.30
	Not Employed	44	36.70
	Other	18	15.00

It was found that the corrected item-total correlation of all items ranged between 0.79 and 0.89. The data showed that there was no change in the Cronbach's α coefficient of the scale if any of the items were deleted (Table 2).

Table 2

Results of the item analysis based on ıtem-total point correlation of Cognitive Intrusion of Pain Scale (n = 120)

Scale Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's α if Item Deleted
Item 1	30.13	258.285	0.837	0.966
Item 2	30.07	253.676	0.869	0.965
Item 3	30.10	252.208	0.884	0.964
Item 4	30.38	254.995	0.861	0.965
Item 5	30.44	252.955	0.893	0.964
Item 6	30.56	257.375	0.833	0.966
Item 7	30.84	253.647	0.876	0.965
Item 8	30.18	252.739	0.893	0.964
Item 9	30.98	256.814	0.811	0.967
Item 10	31.04	258.192	0.792	0.968
Cronbach's α = 0.969			**Mean±Ss=33.86±17.71**	

According to the internal consistency analysis, the Cronbach's α coefficient of the ECIPS was 0.96, and the split half reliability coefficient was 0.94. The scale was reapplied to 30 participants two to four weeks after the first application. The test-retest reliability coefficient of the scale was evaluated through Pearson correlation analysis. The analysis showed that there was a highly significant and positive correlation between the scale scores obtained by the participants from the first application and reapplication ($r = 1$, $p = 0.001$).

In accordance with the opinions of the experts, the final version of the scale was created, and pre-application was performed in 20 patients. During the pre-application, the patients evaluated the items in the scale in terms of their comprehensibility, clarity and significance. According to the evaluation results, no changes were required in any of the items. PCS was used to test the criterion validity. A positive, very strong and statistically significant relationship was found between the total scores of the PCS and ECIPS ($r = 0.835$, $p < 0.001$).

Exploratory and confirmatory factor analysis was performed to test the construct validity. For exploratory and confirmatory factor analysis, Kaiser-Meyer-Olkin (KMO) value and Barlett's test results were examined, it was found that KMO = 0.92 and Barlett's test were at p = 0.001 significance level ($\chi^2 = 1448.320$). Exploratory factor analysis results showed that the scale had a factor structure. This one-factor structure explained 78.1% of the total variance of the scale. Correlations of each item within the scope of a factor in the scale ranged from r = 0.82 to 0.91, and all items were found to be above 0.40 as a reference value for exploratory factor analysis (Table 3).

Table 3

Findings about the exploratory factor analysis

Factor	Items	Factor Loading
Factor 1	Item 1	0.870
	Item 2	0.898
	Item 3	0.910
	Item 4	0.889
	Item 5	0.916
	Item 6	0.864
	Item 7	0.901
	Item 8	0.916
	Item 9	0.845
	Item 10	0.828
Explained Variance %		78.178
Cumulative Explained Variance		78.178
Eigenvalue		7.818
Cronbach's α		0.96
Total Cronbach's α Coefficient of the Scale		0.96
Kaiser–Mayer–Olkin (KMO)		0.926
Bartlett's Test		χ^2=1448.320 *df*=45 p=0.001

Confirmatory factor analysis was evaluated using the AMOS 22.0 program. In the study, the competence of the model was tested by evaluating (χ^2/df) value, sampling size and goodness of fit with RMSEA, GFI, CFI, IFI, TLI, AGFI, NFI, RFI indexes. In this study, χ^2/df ratio was found to be 1.887 (χ^2 = 60,382 df = 32, p = 0.002). When the suitability of the model obtained was tested, the values found were GFI = 0.940, CFI = 0.931, IFI = 0.933, TLI = 0.903, AGFI = 0.896, NFI = 0.868, RFI = 0.815, RMSEA = 0.08.

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

This research was carried out to investigate the validity and reliability of the Turkish version of the ECIPS. Item analysis is an analysis that is performed with the aim of evaluating the functioning of the items in the scale (Vakili & Jahangiri, 2018). In this study, it was determined that there was a significant difference for all items as a result of the sub and super group scores of 27%, and it was decided that it was not necessary to remove items from the scale. In the literature, it was stated that if the ıtem-total point correlation was 0.30 and above, the items should be interpreted as showing good discrimination. When deciding whether the items in the scale would be eliminated or not, together with this coefficient, the effect of each item on the Cronbach's α coefficient should be evaluated (Erdoğan et al., 2015). In the analysis, it was observed that the item-total correlation of all items ranged from 0.79 to 0.89, and that the Cronbach's α coefficient of the scale did not change if any of the items were removed from the scale. For this reason, it was

decided that all items should remain on the scale. According to the item analysis result, the original number of items in the scale did not change.

Reliability analysis is an analysis that required for determining the stability, sensitivity and consistency of the feature measured by an assessment tool (Boateng et al., 2018). When evaluating the internal consistency of the scales, if the scale has a Likert structure, Cronbach's α and the split half reliability coefficient should be calculated and these values should be over 0.70 (Erdoğan et al., 2015). In this study, the Cronbach's α value of the scale was calculated as 0.96, similar to the original study of the scale, and the split half reliability coefficient was found to be 0.94 (Attridge et al., 2015). Considering the values obtained, it can be said that the Turkish version of the scale has internal consistency.

Test and retest method are used in calculating the stability of an assessment instrument (Boateng et al., 2018). In this method, when the relationship between the first assessment and the assessment after a certain period is evaluated, the absence of a significant difference between the two measurements shows the stability of the scale (Erdoğan et al., 2015). It was stated that 25 - 50% of the sampling was sufficient for performing the test-retest assessment (Vakili & Jahangiri, 2018). In this study, with respect to the evaluation of the test-retest reliability of the scale, the scale was applied to 30 patients two to four weeks after the first application. The total mean score of the scale in the first application was 35.26 ± 15.48 and mean score of the scale in the retest was 34.13 ± 16.97 and, there was no statistically significant difference between these two mean scores ($t = 1.125$, $p = 0.270$). In test-retest reliability, the correlation coefficient (r value) of at least 0.80 means that the scale performs a stable and steady measurement against time (Vakili & Jahangiri, 2018). In this study, in the correlation analysis of the scale, it was found that there was a highly significant and positive correlation between the scale scores of the participants after the test-retest ($r = 1$, $p = 0.001$). According to these results, it was agreed that the scale gave consistent results over time and provided test-retest reliability.

In addition to testing that a scale is reliable, it should be evaluated whether it is valid or not. Validity analysis is a method that evaluates whether a scale measures the desired feature fully and accurately (Boateng et al., 2018). In this study, the face, criteria and construct validity of the scale were evaluated.

Face validity is an analysis method performed by a group representing the sample suitable for the purpose of the scale, by evaluating the clarity, clarity, significance and similar qualities of the scale items (Boateng et al., 2018). With respect to face validity, in order to evaluate the scale in terms of these qualities, the scale was applied to 20 patients hospitalized in the hematology clinic. The patients stated that the items in the scale were clear and understandable and that they

did not have any problems in responding. When these expressions were evaluated, it was agreed that the scale met the face validity criterion.

Criterion validity is a method that evaluates the similarity of the tested scale with another validity and reliability scale (standard test) in terms of the feature to be assessed (Vakili & Jahangiri, 2018). The fact that the criterion validity coefficient is close to 1 indicates that the scale is similar to the standard test (Vakili & Jahangiri, 2018). In this study, "PCS" was used for criterion validity. Correlation coefficients of the scores obtained from the two scales were calculated, and the relationship between ECIPS and PCS was found to be positively significant ($r = 0.82$, $p < 0.001$). It was concluded that ECIPS was similar to PCS in terms of the feature that was desired to be assessed.

Construct validity is a method used in testing the integrity of the scale, bringing together the related items and discovering new factors (Sönmez & Gülderen Alacapınar, 2016; Yaşlıoğlu, 2017). Factor analysis, which is used to evaluate the construct validity, not only tests the integrity of the scale, but also helps to clear the subject to be assessed from unrelated variables (Orcan, 2018; Yaşlıoğlu, 2017). With the factor analysis used for this purpose, the integrity of the scale is tested (Erdoğan et al., 2015). In this study, exploratory factor analysis and confirmatory factor analysis were performed to test the construct validity and determine the factors. In order to perform these analyses, the size of sampling should be appropriate; in this study, the suitability of the sampling size was evaluated by Kaiser Meyer-Olkin (KMO) and Bartlett test. According to the literature, Kaiser Meyer-Olkin test should be higher than 0.5. In this study, Kaiser-Meyer-Olkin (KMO) value was 0.92. Bartlett's test was also expected to be zero. In this study, Bartlett's test was at the level of $\alpha = 0.000$. Since these values were considered significant when evaluated in accordance with the relevant literature, it was decided that the sampling size was sufficient to apply factor analysis (Orcan, 2018; Yaşlıoğlu, 2017).

In evaluating the exploratory factor analysis, eigenvalue, factor loading, and cumulative explained variance values were taken into consideration. In the literature, it is recommended to examine the factor loading and it is stated that it is appropriate to have a factor loading value of 0.40 and higher in order to agree that the factor measures the item defined. If this value is below 0.40, it is recommended to exclude the item from the scale (Yaşlıoğlu, 2017). Items with 1 of higher Eigenvalue are considered to be important factors (Orcan, 2018; Yaşlıoğlu, 2017). In this study, there was only one factor with an Eigenvalue exceeding 1 and explaining the 78.17% of the total variance. The factor loading of the ten items under this factor ranged between 0.82 - 0.91. The results of our study were similar to the original study of the scale whose factor loadings were calculated to be between 0.68 - 0.92. Since the factor loadings were over 0.40, no item was removed from the scale as a result of the factor analysis.

Confirmatory factor analysis was performed on the assessment model of the research using the AMOS 22.0 program. In the study, the competence of the model was tested by evaluating χ2/df value, sampling size and goodness of fit with RMSEA, GFI, CFI, IFI, TLI, AGFI, NFI, RFI indexes. In the study, the χ^2/df ratio was found to be 1.887 (χ^2 = 60.382 df = 32, p = 0.002) and the sampling size was considered to be appropriate since χ2/df ratio was expected to be between 0.10 and 3 (Yaşlıoğlu, 2017). When the suitability of the obtained model was tested, the values found were GFI = 0.940, CFI = 0.931, IFI = 0.933, TLI = 0.903, AGFI = 0.896, NFI = 0.868, RFI = 0.815. That these values between 0.80 and 0.90 were generally acceptable, the values obtained above 0.90 indicates good fit (Sönmez & Gülderen Alacapınar, 2016; Yaşlıoğlu, 2017). The RMSEA value, which is the other goodness of fit index, was found to be 0.08; and that the RMSEA index was in the range of 0.05-0.08 indicated goodness of fit (Yaşlıoğlu, 2017). When these results were evaluated, it could be stated that the ECIPS had an acceptable goodness of fit.

This study has several limitations. The fact that the study was conducted only with individuals who applied to the hematology clinic, were hospitalized and were diagnosed with cancer is considered as a limitation for this study. Similar studies can be conducted in different groups with different diagnosis, using the Experience of Cognitive Intrusion of Pain Scale. During the collection of the data, a significant limitation was observed due to the inability of the sampling to continue the interview because of the strength of the pain experienced.

The validity and reliability study of the Turkish version of the ECIPS was carried out successfully among 120 patients with cancer applied hematology clinic of a Training and Research Hospital in Ankara. The application of Turkish version ECIPS has a good reliability and validity and it can be used with confidence in assessing the level of cognitive intrusion of pain in patients with cancer.

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GENİŞLETİLMİŞ ÖZET

Giriş

Ağrıya ilişkin bilişsel tepkiler değerlendirildiğinde karşımıza dikkat, ruminasyon ve felaketleştirme kavramları çıkmaktadır (Attridge vd., 2015; Ugurlu vd., 2017). Dikkatini ağrıya veren kişi giderek ağrıyı bir tehdit olarak görür ve tek bir konu ya da düşünce ile sürekli meşgul olma durumu olan ruminasyon başlar (Attridge vd., 2015). Ağrının diğer bilişsel faktörü olan felaketleştirme ise, olası diğer sonuçları hesaba katmadan ve değerlendirmeden küçük bir kanıttan yola çıkarak sürekli olarak geleceği olumsuz öngörme şeklinde tanımlanır (Türkçapar, 2018). Araştırmalar incelendiğinde ağrının değerlendirilmesinde Ağrı İnançları Ölçeği, McGill Ağrı Ölçeği, West Haven Yale Çok Boyutlu Ağrı Envanteri ve benzeri ölçekler kullanıldığı görülmüştür. Bu ölçekler ile ağrı şiddeti, lokalizasyonu, ağrının kaynağı değerlendirilmekte ve ağrısı olan hastaların tedavi şekliyle ilgili inançlarının yanı sıra bilişsel ve davranışsal bakış açıları değerlendirilmektedir (Babadağ & Balcı Alparslan, 2017; Berk & Bahadır, 2007; Cetin vd., 2016; Hawker vd., 2011; Ugurlu vd., 2017). Ağrının bilişsel boyutunun detaylı değerlendirilmesini sağlayacak bir ölçüm aracına ihtiyaç duyulmaktadır. Bu çalışma, Attridge ve arkadaşları (2015) tarafından geliştirilen "Ağrının Bilişsel İntrüzyonu Ölçeği" nin Türkçe geçerlik ve güvenirliğini incelemek amacı ile yapılmıştır.

Yöntem

Metodolojik tipteki bu araştırma, Şubat-Haziran 2018 tarihleri arasında bir Eğitim ve Araştırma Hastanesi hematoloji polikliniğine başvuran ve klinikte yatışı devam eden 120 kanser tanısı alan hasta ile yürütülmüştür. 18 yaş ve üzeri, kanser tanısı alan, görüşmeyi yapabilecek fiziksel ve zihinsel yeterlilikte olan ve araştırmaya katılmayı kabul eden bireyler örneklemi oluşturmuştur.

Katılımcılara araştırma hakkında bilgi verilerek onam formu imzalatılmıştır. Veriler, yüz yüze görüşme yöntemiyle toplanmıştır. İki-dört hafta sonra test-tekrar test uygulaması için örneklemdeki 30 hastanın verileri tekrar toplanmıştır. Veri toplamada Sosyodemografik veri toplama formu, Ağrıyı Felaketleştirme Ölçeği (AFÖ) ve Ağrının Bilişsel İntrüzyonu Ölçeği (ABİÖ) kullanılmıştır. Orijinal ölçeği geliştiren yazarlardan izin alındıktan sonra ölçeğin dil geçerliği çalışması yapılmıştır. Ölçek maddeleri alanında uzman, dil bilen altı kişi tarafından Türkçeye çevrilmiş ve bu çeviriler değerlendirilerek Türkçe bir form oluşturulmuştur. Oluşturulan bu Türkçe formun geri-çevirisi, anadili Türkçe olan ve yurtdışında yaşayan iki uzman ve her iki dili bilen alanında uzman dört kişi tarafından yapılmıştır. Araştırmacılar ve çeviri yapan uzmanlar tarafından Türkçe ve İngilizce ifadeler karşılaştırılmış ve ölçeğin anlaşılmayan 6. ve 7. maddesi düzeltilmiştir. Bu aşamalardan sonra oluşturulan Türkçe formun dil geçerliğe sahip olduğu

düşünülmüştür. Ölçeğin dil yapısı ve anlaşılırlığının test edildiği yüzey geçerliği 20 hastanın katılımı ile gerçekleşmiştir. Değerlendirme sonucuna göre herhangi bir maddede değişiklik yapılmasına ihtiyaç duyulmamıştır.

Ölçeğin madde analizinde, madde-bütün korelasyonu, Cronbach alfa katsayısı ve bağımsız gruplarda t testi kullanılmıştır. Ölçeğin güvenirlik analizi Cronbach alfa katsayısı, yarıya bölme yöntemi ve Paired Sample Test ile değerlendirilmiştir. Ölçeğin geçerliği ise Pearson korelasyon katsayısı, Kaiser-Meyer-Olkin (KMO) testi, Varimax rotasyonu (döndürmesi), temel bileşenler analizi ve doğrulayıcı faktör analizi ile yapılmıştır. İstatistiksel kararlarda $p<0.05$ seviyesi anlamlı farklılığın göstergesi olarak kabul edilmiştir.

Ölçeğin madde analizinde madde-toplam korelasyonu, Cronbach α katsayısı ve bağımsız gruplarda t testi kullanılmıştır. Güvenirlik analizi Cronbach alfa katsayısı, yarıya bölme güvenirlik katsayısı ve bağımlı grupta t testi ile değerlendirilmiştir. Geçerlik analizinde ise Pearson korelasyon analizi, Kaiser-Meyer-Olkin (KMO) katsayısı ve Bartlett küresellik testi, temel bileşenler analizi ve uyum iyiliği istatistikleri kullanılmıştır.

Bulgular

Katılımcıların yaş ortalaması 38.89 ± 1.31 idi. Katılımcıların %66.7'si erkek, %52.5'i evli, %49.2'si ortaokul ve lise mezunu ve %36.7'si işsizdir. Tüm maddelerin madde-bütün korelasyon katsayılarının 0,79 ile 0,89 arasında değiştiği belirlenmiştir. Her bir madde için ölçekten çıkarılmaları durumunda ölçeğin Cronbach alfa katsayısında değişme olmadığı görülmüştür. İç tutarlılık analizine göre ölçeğin Cronbach alfa katsayısı 0.96, yarıya bölme güvenirlik katsayısı ise 0.94 olarak belirlenmiştir. Ölçek ilk uygulamadan iki-dört hafta sonra 30 hastaya tekrar uygulanmıştır. Yapılan korelasyon analizinde, katılımcıların ilk uygulama ve tekrar uygulama sonucunda aldıkları ölçek puanları arasında ileri derecede anlamlı ve pozitif bir korelasyon olduğu saptanmıştır (r=1; p=0.001). Uzman görüşleri doğrultusunda ölçeğin son hali oluşturulmuş ve 20 hasta ile ön uygulama yapılmıştır. Ön uygulama sırasında hastalar, ölçekte yer alan maddeleri anlaşılırlığı, açıklığı, anlamlılığı konusunda değerlendirmişlerdir. Değerlendirme sonucuna göre herhangi bir maddede değişiklik yapılmasına gerek duyulmamıştır. AFÖ ile ABİÖ arasında pozitif, çok kuvvetli ve istatistiksel olarak anlamlı bir ilişki olduğu saptanmıştır (r= 0,835; $p<0.001$). Keşfedici ve doğrulayıcı faktör analizi için öncesinde KMO=0.92 ve Barlett's testi p=0.001 anlamlılık düzeyinde bulunmuştur ($\chi2$= 1448,320). Keşfedici faktör analizi sonuçları ölçeğin bir faktörlü yapıda olduğunu göstermiştir. Bu bir faktörlü yapı ölçeğin toplam varyansın %78.1'ini açıklamaktadır. Ölçekteki bir faktör kapsamındaki her bir maddenin korelasyonları r=0.82 ile 0.91 arasında değişmekte olup tüm maddeler keşfedici faktör analizi için referans değer olarak alınan 0.40'ın üzerinde bulunmuştur. Doğrulayıcı faktör analizinde $\chi2$/df oranı 1,887 ($\chi2$=60,382 df=32; p=0.002) olarak bulunmuştur. Elde edilen modelin uygunluğu test edildiğinde;

GFI=0.940; CFI=0.931; IFI=0.933; TLI=0.903; AGFI=0.896; NFI=0.868; RFI=0.815; RMSEA= 0.08 değerleri bulunmuştur.

Tartışma ve Sonuç

Literatüre bakıldığında, bu katsayının 0.30 ve üzeri olması maddelerin iyi düzeyde ayırıcılık gösterdiği şeklinde yorumlanır. Bu katsayı ile birlikte maddenin Cronbach alfa katsayısı üzerine etkisi değerlendirilerek ölçekteki maddelerin elenip elenmeyeceğine karar verilir (Erdoğan vd., 2015). Bu çalışmada, ölçekte yer alan on maddenin ölçeğin toplam puanı ile yüksek korelasyon gösterdiği görülmektedir. İlaveten yapılan değerlendirmede, her bir madde için ölçekten çıkarılmaları durumunda ölçeğin Cronbach alfa katsayısında değişme olmadığı görülmüş ve bu nedenle tüm maddelerin ölçekte yer almasına karar verilmiştir. Madde analizi sonucuna göre orjinal ölçek madde sayısı değişmemiştir. Ölçeklerin iç tutarlılığının değerlendirilmesinde, ölçeğin likertli bir yapıya sahip olması durumunda Cronbach alfa ve yarıya bölme güvenilirlik katsayısının hesaplanması önerilmekte ve bu değerlerin 0.70'in üzerinde olması gerekmektedir (Erdoğan vd., 2015). Çalışmada elde edilen değerlere bakıldığında, ölçeğin Türkçe formunun iç tutarlığa sahip olduğu söylenebilir. Test-tekrar test güvenilirliğinde, korelasyon katsayısının en az 0.80 olması ölçeğin zamana karşı değişmeyen, kararlı bir ölçüm yaptığı anlamına gelmektedir (Erdoğan vd., 2015). Korelasyon analizi sonucuna göre, ölçeğin zamana göre tutarlı sonuçlar verdiği ve test-tekrar test güvenirliğini sağladığı kabul edilmiştir. Ölçüt geçerliliği katsayısının 1'e yakın olması, ölçeğin standart test ile benzer olduğunu gösterir (Erdoğan vd., 2015). ABİÖ ile AFÖ arasındaki ilişkiye bakıldığında, ABİÖ'nün, AFÖ ile ölçülmek istenen özellik açısından benzer olduğu sonucuna varılmıştır. Açıklayıcı faktör analizinde faktör yükleri 0.68-0.92 arasında hesaplanan ölçeğin orijinal çalışma ile benzerlik gösterdiği saptanmıştır. Doğrulayıcı faktör analizi ile ise ABİÖ'nün kabul edilebilir bir uyum iyiliğine sahip olduğu söylenebilir.

Bu ölçeğin ağrı deneyimi olan bireylerin ağrı yaşantısı ile ilgili zihnine hücum eden otomatik düşünceleri değerlendirebileceği ve konu ile ilgili planlanan çalışmalara katkı sağlayabileceği düşünülmüştür.