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RESEARCH

Turkish Adaptation, Validity and Reliability of Compassion Fatigue Short Scale

Merhamet Yorgunluğu Kısa Ölçeği'nin Türkçe'ye Uyarlanması, Geçerlilik ve Güvenirliği

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Abstract

The aim of this study was to examine the reliability and validity of the Compassion Fatigue-Short Scale (CF-SC) in Turkish. The data of the study were obtained from 128 nurses working in a university hospital. In order to determine the factor structure of the scale, explanatory and confirmatory factor analysis, Spearman's correlation coefficient and Cronbach α coefficient, item-total correlation were used for criterion validity. In light of the results of the explanatory and confirmatory factor analysis, the scale showed a two-dimensional structure. The factor loadings of all items of the scale were found to be over 0.40, and without subtracting any item from the scale, two sub-dimensional structures were accepted similar to the original scale ($x2 = 106.72$; $df = 61$; $RMSEA = 0.007$; $p = 0.0001$). CF-SC Cronbach α coefficient is 0.876; for secondary trauma sub-dimension of 0.748 and for job burnout sub-dimension of 0.852. As a result of this study, Compassion Fatigue-Short Scale has been found to be a valid and reliable assessment tool in evaluating compassion fatigue.

Keywords: Compassion fatigue, scale adaptation, reliability, validity.

Öz

Bu araştırmada Merhamet Yorgunluğu- Kısa Ölçek (MY-KÖ)'in Türkçe'ye uyarlanarak geçerlilik ve güvenirliliğinin incelenmesi amaçlanmıştır. Araştırmanın verileri bir üniversite hastanesinde çalışan 128 hemşireden elde edilmiştir. Ölçeğin faktör yapısını belirlemek için açıklayıcı ve doğrulayıcı faktör analizi, ölçüt geçerliliği için Spearman's korelasyon katsayısı ve güvenirlilik için Cronbach α katsayısı, madde toplam korelasyonu kullanıldı. Açıklayıcı ve doğrulayıcı faktör analizi sonuçları doğrultusunda ölçeğin iki boyutlu bir yapı gösterdiği ortaya konulmuştur. Ölçeğe ait bütün maddelerin faktör yüklerinin 0.40'ın üzerinde olduğu bulunmuştur ve ölçekten hiçbir madde çıkarmadan orjinal ölçekle benzer şekilde iki alt boyutlu yapı kabul edilmiştir ($x2=106.72$; $df=61$; $RMSEA=0.007$; $p=0.0001$). MY- KÖ Cronbach α katsayısı 0.876; ikincil travma alt boyutu için 0.748 ve mesleki tükenmişlik alt boyutu için 0.852 olarak belirlenmiştir. Bu çalışma sonucunda Merhamet Yorgunluğu- Kısa Ölçeğinin merhamet yorgunluğunun değerlendirilmesinde geçerli ve güvenilir bir değerlendirme aracı olduğu saptanmıştır.

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COMPASSION is an important concept in providing health care and it is reported that health professionals should be compassionate. Compassion is defined as "A deep awareness of someone's suffering and acting or feeling motivated to help". Compassion in health care can provide significant benefits, such as improving confidence among patient-health professionals, patient satisfaction, quality of life and helping healing. (Strauss et al. 2016; Blomberg et al. 2016). Compassion and empathy, however, in most cases constitute a burden on caregivers. "Caregivers ssuffer in their effort to view the world from the perspective of the suffering." Compassion fatigue refers to physical, emotional and mental exhaustion related to caring patients with critically emotional pain and physical stress (Figley 2002). Compassion fatigue is more common in professionals such as physicians, nurses, social workers, psychologists, who provide caring with feelings of empathy and compassion (Hiçdurmaz and İnci 2015, Hevezi, 2016). Compassion fatigue experienced by health professionals causes increasing the rate of absenteeism; decreasing the quality of health care, patient satisfaction and loyalty to profession. Compassion fatigue is also one of the reasons for health professionals to leave their profession (Wentzel and Brysiewicz 2014). Physical, emotional, social and work-related symptoms are observed in individuals with compassion fatigue (Boyle 2011).

Compassion fatigue is characterized by an emotional distress condition (Boyle 2011). Failure to deal with compassion fatigue in the early stages may permanently alter the ability of health professionals' providing compassionate care (Boyle 2011, Bush and Boyle 2012, Makic 2015). Health professionals who experience compassion fatigue may exhibit behaviors that are not useful for optimal patient care (Schowalter 2010). Compassion fatigue has negative consequences for health professionals and patients by causing damage to personal and professional relationships, increased staff turnover, loss of productivity, increased medical care costs, and reduced life satisfaction (Schowalter 2010, Fu and Chen 2011).

As far as we have examined, there is only a qualitative study on compassion fatigue in intensive care nurses in Turkey (2015) (Gök 2015). It is obvious that there is a need for extensive research that reveals the different aspects of compassion fatigue experienced in health care professionals. In addition to this, there is no standard measurement tool for determining compassion fatigue in the country. In studies, it is often observed that compassion fatigue is identified as a sub-dimension that determines quality of life by using Stamm's (2009) Professional Quality of Life Scale (PROQOL). (Bride et al. 2004, Neville et al. 2013, Craigie et al. 2016, Flarity et al.2016). The Secondary Traumatic Stress Scale is one of the scales used to evaluate compassion fatigue in other studies (Bride et al. 2004). Of these scales, only the PROQOL was adapted to Turkish and found to be a valid and reliable assessment tool. In the scale, compassion fatigue is considered as a sub-dimension that determines the quality of life (Yeşil et al. 2010).

At this point, it is thought that validity and reliability studies have been performed for our country which can evaluate compassion fatigue in health professionals. Compassion Fatigue-Short Scale (CF-SC) which is developed by Adams et al. (2006) can evaluate compassion fatigue as valid and reliable with 13 items (Adams et al. 2006). There is no Turkish adaptation of the scale.

The aim of this study was to determine the psychometirc properties of CF-SC in Turkish. Thus the hypotheses of the research was to establish whether CF-SC adapted

to Turkish is a valid and reliable tool for determining compassion fatigue or not. .

Method

The research conducted for the adaptation of CF-SC to Turkish is a methodological research. The population of the study consisted of nurses working in a university hospital at the time of the study. In the scale adaptation studies, it is stated that the sample size should be at least 5 times the number of scale items (10 times if possible) (Karakoç 2014). The original scale consists of 13 items. Therefore, 65 or 130 nurses could be sufficient for the sample size. Without selecting the sample, 139 nurses were reached who voluntarily accepted to participate in the study. Eleven nurses, with missing data in the data collection forms, could not be included in the study and the study was completed with 128 nurses.

Ethics committee approval was received from Atatürk University Faculty of Nursing Ethics Committee on 17.04.2017 with the decision number 2017-3 / 1. The permission of the institution was obtained from the General Secretariat of Karabuk Public Hospitals Association (88919140 / 604.01.02 decision number). The purpose of the research and the method of the study were discussed with the education unit of the institution, nursing services directorate and clinical staff. The nurses participating in the study were informed that the study was based on the principle of volunteering and their written and verbal consent was obtained. The nurses participating in the study signed the informed consent form .

Sample

80.5% of nurses are women, 64.1% are married and 65.6% are undergraduate. 21.1% of the nurses work in intensive care, 83.6% work in shifts, and 53.1% of them love their job. 40.6% of the nurses stated that they were not satisfied with the working conditions and 35.9% wanted to change the profession. 61.7% of nurses have had negative life experience in the last two years, and 59.4% have experienced at least one traumatic event throughout their lives. The average age of the nurses is 32.26 ± 8.06 years, and the average working age is 14.41 ± 8 years.

Measures

Personal Information Form, CF-SC and PROQOL were used to collect data.

Personal Information Form

It is a form which is prepared by the researcher based on relevant literature (Meadors and Lamson.2008, Gélinas et al 2012, Neville and Cole 2013, Wentzel and Brysiewicz 2014, Duarte et al. 2016, Magtibay and Chesak 2017). It is composed of 13 questions including information about age, gender, marital status, education level and working year about the descriptive characteristics of the participants .

Compassion Fatigue-Short Scale (CF-SC)

CF-SC was developed by Adams et al. (2006). The scale was found to be a valid and reliable measurement tool in the assessment of compassion fatigue (Adams et al. 2006). The scale is a self-report assessment tool that asks participants to indicate to what extent each scale item reflects their experience. It is a 10-point Likert type scale that rarely / never (1) and very often (10). The scale consists of two sub-dimensions: secon-

dary trauma and occupational burnout. Items "c, e, h, j, l of the scale measure secondary trauma; "a, b, d, f, g, i, k, m" are the items that measure occupational burnout. Cronbach's alpha coefficients of the sub-dimensions of the scale ranged from 0.80 to 0.90 and showed sufficient internal reliability (Adams et al. 2006). No scoring algorithm and cut-off point were specified for the scale. The lowest score is 13 and the highest score is 130. As the scores of the scale increase, the level of compassion fatigue experienced by individuals increases (Adams et al. 2006).

Professional Quality Of Life Scale (PROQOL)

In the study, PROQOL was used to predict the validity of the scale simultaneously. Turkish validity and reliability of the scale is studied by Yeşil et al. 2010. The scale is a self- report assessment tool consisting of thirty items and three sub-dimensions. The scale is a 6- point Likert-type scale ranging from "Never" (0) to "Very frequent "(5). During the evaluation of the scores obtained from the scale, items 1, 4, 15, 17 and 29 are the items that must be calculated by reversing. The items that measure occupational satisfaction are 3, 6, 12, 16, 18, 20, 22, 24, 27, 30; The items that measure burnout are 1, 4, 8, 10, 15, 17, 19, 21, 26, 29 and the items that measure co-sensation fatigue are 2, 5, 7 , 9, 11, 13, 14 ,23, 25 ,28 (Yeşil et al. 2010). The scale consists of sub-dimensions of compassion satisfaction, burnout and compassion fatigue. Cronbach alpha coefficient specified for the sub-dimensions was .87; .72 and .80 (Green et al. 2010).

Translation Process of the Scale

Prior to the adaptation of the scale, the necessary permission from Richards E. Adams, who developed and updated the scale, was obtained via e-mail. The scale was translated into Turkish by 5 persons with PhD who speak English well. After the translation, the statements in the scale items were reviewed and a single form was created. Back translation technique was used to ensure the language validity of the scale. Back translation is one of the most commonly used methods for ensuring the language validity of the scale with at least two independent translators (Aksayan and Gözüm 2002). One independent translator translated the original scale into the target language and the other translated the scale back to the original language. The Turkish form of the scale was found to be similar to the English form after the translation.

After the completion of the translation process, the scale was sent by e-mail to the evaluation of 5 professional people (1 psychologist; 1 Professor; 1 Associate Professor from Psychiatric Nursing Department; 2 PhD from Psychiatric Nursing Department). They were asked to evaluate the suitability of the scale items with our language and culture in English and Turkish forms together. Content Validity Index (CVI) was used to evaluate expert evaluations. According to professional evaluations, items with a score of 1 and 2 are classified unacceptable and items with a score of 3-4 as acceptable. In the evaluation of the scale items, the number of professionals marking 3 and 4 is divided by the total number of professionals and CVI scores are obtained. A value of 0.80 is acceptable.

CVI scores of all items belongs to CF-SC were 1.0 (100%). Therefore, in terms of content validity, no item was excluded from the scale and only minor changes indicated by professionals were discussed. It was concluded that the content validity of the scale was good for the applicability and comprehensibility of the scale. After the content validity of the scale was evaluated, a pilot study was conducted with 10 nurses to exami-

ne its applicability and intelligibility. With the pilot application, it was decided that the items were understandable. The data obtained from the pilot application were not included in the research..

Statistical Analysis

The data of the study was evaluated using the Statictical Package for Social Science (SPSS) 17.00 package program. Arithmetic mean, standard deviation, percentage, min-max values were used to evaluate the descriptive characteristics of the participants; content validity index (CVI) for assessing content validity; Kaiser-Meyer-Olkin (KMO) Proficiency Criterion for assessing construct validity; Bartlett's Sphericity Test, factor analysis, confirmatory factor analysis, x2 / SD value, GFI (goodness of fit index), AGFI (adjusted goodness of fit index), CFI (comparative fit index), RMSEA (root mean square error of approximation), SRMR (standardized root mean square residual) fit indices and PATH diagram; Spearman's correlation coefficient was used to evaluate criterion validity. Cronbach's α coefficient and item total correlation were used to evaluate reliability.

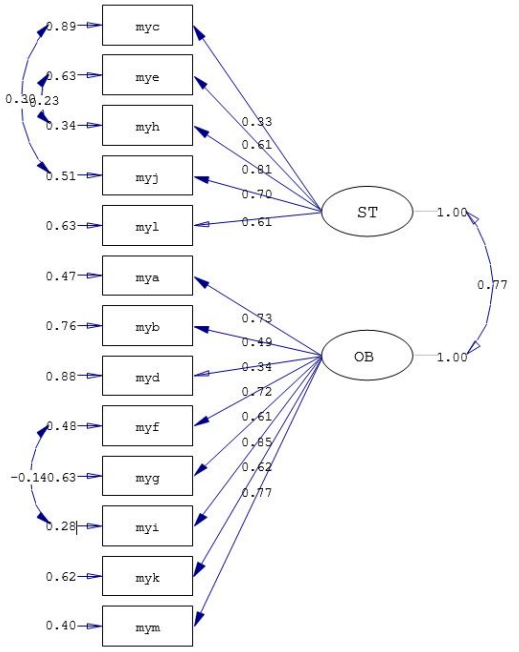
Table 1. Compassion Fatigue - Short Scale factor analysis matrix

	Secondary Trauma	Occupationa Burnout
c. I have had flashbacks connected to my clients.	0.623	-0.040
e. I experience troubling dreams similar to those of a client of mine.	0.493	0.312
h. I have experienced intrusive thoughts after working with especially difficult client/patients.	0.676	0.382
j. I have suddenly and involuntarily recalled a frightening experience while working with a client/patient.	0.828	0.168
l. I am losing sleep over a client's traumatic experiences.	0.686	0.199
a. I have felt trapped by my work.	0.248	0.744
b. I have thoughts that I am not succeeding in achieving my life goals.	0.023	0.688
d. I feel that I am a "failure" in my work.	-0.012	0.577
f. I have felt a sense of hopelessness associated with working with clients/patients..	0.423	0.565
g. I have frequently felt weak, tired or rundown as a result of my work as a caregiver.	0.271	0.626
i. I have felt depressed as a result of my work.	0.445	0.694
k.I feel I am unsuccessful at separating work from my personal life.	0.387	0.539
m. I have a sense of worthlessness, disillusionment, or resentment associated with my work.	0.386	0.693
Explained Variance (%)	41.408	10.057
Total Explained Variance (%)	51.46	

Results

Structure Validity

Explanatory and confirmatory factor analysis was used to determine the construct validity of the scale. The results of Kaiser-Meyer-Olkin (KMO) and Bartlett's Sphericity Test were evaluated in order to evaluate sample adequacy and the suitability of the data set for factor analysis. KMO value in the study was 0.851; Barlett's Sphericity Test value x2 = 700.090; p =0.0001. The results showed that the data were correlated with each other and they were suitable for factor analysis.



X^2=106.72, df=61, p=0.00027, RMSEA=0.077

Figure 1. Compassion Fatigue Short Scale confirmatory factor analysis chart

ST: Secondary Trauma ; OB: Occupational Burnout

Factor analysis results showed that all items of the scale had a factor load of over 0.40. Describing variance was 41.408 for the secondary trauma; 10.057 for the occupational burnout sub-dimension and for the total CF-SC 51.465 was found (Table 1). In accordance with this result, no subtraction was required from the scale and two sub-dimensions were considered as secondary trauma and occupational burnout in the same way as the original scale.

In order to obtain more accurate findings after explanatory factor analysis, structural equation modeling was established with confirmatory factor analysis. When the compliance measures of the confirmatory factor analysis were examined, X2 / SD value was found to be 1.75, GFI 0.98, AGFI 0.97, CFI 0.97, RMSEA 0.077 and SRMR 0.064. It was decided that the model would be acceptable in accordance with the relevant compliance index values (Table 2).

Table 2. Compassion Fatigue Short Scale compliance measures of confirmatory factor analysis

Compliance Index Values	Normal value	Acceptable value	Found value
x2/SD	<2	<5	1.75
GFI	>0.95	>0.90	0.98
AGFI	>0.95	>0.90	0.97
CFI	>0.95	>0.90	0.97
RMSEA	<0.05	<0.08	0.077
SRMR	<0.05	<0.08	0.064

The subscales and factor loadings of the items for CF-SC are presented in Figure 1. Three modifications were applied and the model was accepted as original. Modifications in the model were applied by establishing a relationship between c-j, e-h and f-i. Modifications were accepted due to the similarity of the substances and their subdimensions. The factor loads of the model ranged from 0.33 to 0.85 and the t value of all substances was above 1.96 (X^2 = 106.72; df = 61; RMSEA = 0.007; p = 0.000; Figure 1).

Tablo 3. Correlations of Compassion Fatigue-Short Scale (CF-SC) and Professional Quality Of Life Scale (PROQOL)

		PROQOL	CF-SC
PROQOL	r	1	0.709
	p		0.0001
CF-SC	r	0.709	1
	p	0.0001	

Criteria Validity

In the study, parallel (equivalent) forms method was used to ensure criterion validity. PROQOL was used as a parallel form in the study. There was a statistically significant, positive and intermediate relationship between the scores of the PROQOL and CF-SC (r = .709; p <.001; Table 3). It can be said that there is a desired level of correlation between the two forms.

Table 4. Compassion Fatique-Short Scale Item-Total Correlations and Cronbach α Coefficients

Scale Items	Mean ± SD	Item total correlations	Cronbach α İf item deleted
c. I have had flashbacks connected to my clients.	5.26 ±2.89	0.321	0.882
e. I experience troubling dreams similar to those of a client of mine.	2.41 ± 2.10	0.484	0.871
h. I have experienced intrusive thoughts after working with especially difficult client/patients.	4.94 ± 2.84	0.648	0.862
j. I have suddenly and involuntarily recalled a frightening experience while working with a client/patient.	3.59 ± 2.78	0.612	0.864
l. I am losing sleep over a client's traumatic experiences.	3.53 ± 2.53	0.518	0.869
a. I have felt trapped by my work.	4.77 ±2.80	0.645	0.862
b. I have thoughts that I am not succeeding in achieving my life goals.	3.81 ±2.55	0.425	0.874
d. I feel that I am a "failure" in my work.	2.11 ±1.59	0.360	0.876
f. I have felt a sense of hopelessness associated with working with clients/patients..	3.46 ±2.44	0.620	0.864
g. I have frequently felt weak, tired or rundown as a result of my work as a caregiver.	7.09 ±2.52	0.556	0.867
i. I have felt depressed as a result of my work.	5.56 ±2.71	0.743	0.856
k.I feel I am unsuccessful at separating work from my personal life.	3.50 ±2.48	0.570	0.867
m. I have a sense of worthlessness, disillusionment, or resentment associated with my work.	4.79 ±2.78	0.703	0.859
Secondary trauma Cronbach α **.748**			
Occupational burnout Cronbach α. .852			
Total CS-sc Cronbach α **.876**			

Reliability

In order to determine the internal validity of the scale, Cronbach α coefficients were calculated. As a result of the analysis, the total CF-SC Cronbach α coefficient was 0.876; for secondary trauma sub-dimension was 0.748 and for occupational burnout sub-dimension was 0.852 (Table 4). The item total correlations were above 0.30 and no deletion of the substance caused a significant increase in the Cronbach's coefficient. Considering the internal validity values obtained from the study, it can be said that the reliability of the scale is high.

Discussion

In this study, the validity and reliability of CF-SC, which is designed by Adams et al. 2006, was studied with a group of nurses. Explanatory and confirmatory factor analyzes were applied to determine the construct validity of CF-SC. As a result of the explanatory factor analysis, without removing any item two sub-dimensions were considered as secondary trauma and job burnout as smiliar to the original scale. Confirmatory statistics show that CF-SC is a two-dimensional model and it is decided that the model is acceptable. Compliance measures of the confirmatory factor analysis of CF-SC (X2 = 106.72; df = 61; RMSEA = 0.007; p = 0.000) confirms a two-dimensional model and the model is accepted as acceptable.

In order to determine the reliability of the scale, Cronbach α coefficients were calculated. Total CF-SC Cronbach α coefficient was 0.876; for secondary trauma sub-dimension was 0.748 and for job burnout sub-dimension was 0.852. Item total correlations are over 0.30. Deletion of any item from the scale does not cause a significant increase in the Cronbach α coefficient. Considering the internal validity values obtained, it can be said that the the scale is reliable.

As a result of the correlation analyzes conducted to determine the criterion validity of the CF-SC; there was a statistically significant, positive and moderate relationship between the CF-SC and PROQOL (r = .709; p <0.001). It can be said that there is a desired level of correlation between the two forms.

The results of the validity and reliability of CF-SC show that it is a highly valid and reliable measurement tool. The scale, adapted to Turkish, can be an important assessment tool to determine compassion fatigue in health professionals. In a study conducted with health professionals and firefighters in China, it was reported that the Chinese version of CF-SC also had good psychometric properties and could be used to examine Chinese emergency workers (Sun et al. 2016).

This study includes a sample of nurses working in a education and research hospital. Due to the research population and research design, generalizability can be considered as a limitation in this research.

As a result, this study aimed to use CF-SC by Turkish society and determined that it is a valid and reliable scale with two sub-dimensions. The scale, adapted to Turkish, can be an important assessment tool to determine compassion fatigue in health professionals. The scale is thought to be an assessment tool that can be used to determine compassion fatigue in health professionals other than nurses. In line with the results of the research, it may be suggested that researchers planning to work on the subject should work in larger and different sample groups (such as physician, social worker) and

compare the results of the research.

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Addendum. Compassion Fatigue- Short Scale Turkish version (CF-SC)

Consider the following items about your work/life situation. Write the number that best reflects your experiences using the following rating scale, 1 through 10:
:

Never/Rarely **Very Often**

1 2 3 4 5 6 7 8 9 10

	a. İşim yüzünden kapana sıkışmış gibi hissediyorum.
	b. Hayattaki hedeflerime ulaşmada başarılı olamadığımı düşünüyorum.
	c. Hastalarımla ilgili olarak geçmiş durumları anımsadığım oluyor.
	d. İşimde "başarısız" olduğumu hissediyorum.
	e. Hastalarımın deneyimlediklerine benzer sıkıntılı rüyalar görüyorum.
	f. Hastalarla çalışmaktan dolayı umutsuzluk duygusuna kapıldığım oluyor.
	g. Sağlık çalışanı olmanın bir sonucu olarak kendimi sıklıkla yorgun, güçsüz veya bitkin hissediyorum.
	h. Özellikle zor hastalarla çalıştıktan sonra rahatsız edici düşüncelere kapıldığım oldu.
	i. İşim nedeniyle depresif hissettiğim oldu.
	j. Bir hastayla çalışırken yaşadığım korkunç bir deneyimi bir anda ve istemeden hatırladığım oldu.
	k. İşimi özel yaşamımdan ayırmada kendimi başarısız hissediyorum
	l. Bir hasta ile ilgili travmatik bir deneyim yaşadığımda uykularım kaçıyor.
	m. İşimle ilgili olarak değersizlik, hayal kırıklığı veya öfke hissediyorum.

Explanation: c, e, h, j, l are the items that mesaure secondary trauma whereas a, b, d, f, g, i, k, m are the items that measure occupational burnout. There are no scoring algorithms and cut-off points for the scale. The lowest score is 13 and the highest score is 130. As the scores obtained from the scale increase, the level of compassion fatigue experienced by individuals increases.