Validacija Yale-Brownove ljestvice opsesivno-kompulzivnih simptoma kod hrvatskih trudnica

/ Validation of the Yale-Brown Obsessive Compulsive Scale in a Sample of Croatian Pregnant Women

Maja Brekalo[1], Vicko Ćudina[1], Marijana Matijaš[1,2], Maja Žutić[1], Sandra Nakić Radoš[1]

[1]Sveučilišni odjel za psihologiju, Hrvatsko katoličko sveučilište, Zagreb, Hrvatska; [2]Sveučilište u Amsterdamu, Amsterdam, Nizozemska

/ [1]University Department of Psychology, Catholic University of Croatia, Zagreb, Croatia; [2]University of Amsterdam, Amsterdam, the Netherlands

ORCID: 0000-0001-6766-5304 (Maja Brekalo)
ORCID ID: 0009-0001-6635-8879 (Vicko Ćudina)
ORCID: 0000-0003-2474-340X (Marijana Matijaš)
ORCID: 0000-0001-9197-1096 (Maja Žutić)
ORCID: 0000-0002-8330-8427 (Sandra Nakić Radoš)

Opsesivno-kompulzivni poremećaj (OKP) može se pojaviti tijekom peripartalnog razdoblja kada se opsesije uglavnom odnose na novorođenče. Yale-Brownova ljestvica opsesivno-kompulzivnih simptoma (Y-BOCS) smatra se "zlatnim standardom" za ispitivanje težine simptoma OKP-a. Prethodna istraživanja utvrdila su različite faktorske strukture Y-BOCS-a. Međutim validacija ove ljestvice nije provedena na hrvatskom uzorku ni tijekom trudnoće, što je cilj ovog transverzalnog istraživanja u kojem je sudjelovalo 569 trudnica koje su bile, u prosjeku, u 35,4. tjednu trudnoće. Osim Y-BOCS-a, kako bi se ispitala divergentna valjanost, sudionice su ispunile Edinburški upitnik poslijeporođajne depresivnosti (EPDS), Skalu depresije, anksioznosti i stresa – podljestvica anksioznosti (DASS) te Ljestvicu zabrinutosti u trudnoći (LJZT). U literaturi su utvrđeni jednofaktorski, dvofaktorski, trofaktorski modeli, modeli višeg reda i bifaktorski model upitnika zbog čega su navedeni modeli i provjereni konfirmatornom faktorskom analizom. Model faktora višeg reda s dva faktora drugog reda: opsesijama i kompulzijama, pokazao se kao najbolje rješenje na temelju empirijskih pokazatelja i teorijskih očekivanja. Pouzdanost je bila visoka. Divergentna valjanost, ispitana korelacijama sa simptomima depresije, općom anksioznošću i anksioznošću specifičnom za trudnoću, bila je dobra. Y-BOCS je pokazao dobra psihometrijska svojstva kod hrvatskih trudnica. Ukupna ljestvica i dvije podljestvice mogu se koristiti u peripartalnom razdoblju za probir simptoma OKP-a.

/ Obsessive-compulsive disorder (OCD) can occur during the peripartum period when obsessions are mainly focused on the baby. The Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) is considered the "golden standard" for the assessment of severity of OCD symptoms. Previous studies revealed different factor structures of the Y-BOCS. However, this scale has not been validated on a Croatian sample or during pregnancy, making it the aim of this cross-sectional study which involved 569 pregnant women who were, on average, 35.4 weeks pregnant. In order to examine the divergent validity, in addition to Y-BOCS, the participants filled out the Edinburgh Postnatal Depression Scale (EPDS), the Anxiety subscale of the Depression, Anxiety and Stress Scale (DASS), and the Pregnancy Concerns Scale (PCS). The 1-factor, 2-factor, 3-factor, higher order, and bifactor models of the questionnaire have been established in the literature, which is why we examined them using confirmatory factor analysis. The best fit to the data based on empirical indicators and theoretical expectations was obtained in the higher-order factor model with two second-order factors: obsessions and compulsions. Reliability was high. Divergent validity, examined by correlations with depressive symptoms, general anxiety, and pregnancy-specific anxiety, was acceptable. The Y-BOCS revealed good psychometric properties in the sample of Croatian pregnant women. The total scale and two subscales could be used in the peripartum period to screen for OCD symptoms.

ADRESA ZA DOPISIVANJE / *CORRESPONDENCE:*
Izv. prof. dr. sc. Sandra Nakić Radoš
Sveučilišni odjel za psihologiju
Hrvatsko katoličko sveučilište
Ilica 244
10000 Zagreb, Hrvatska
E-pošta: snrados@unicath.hr

KLJUČNE RIJEČI / *KEY WORDS*:
Yale-Brownova ljestvica opsesivno-kompulzivnih simptoma / *Yale-Brown Obsessive Compulsive Scale*
Opsesivno-kompulzivni poremećaj / *Obsessive-Compulsive Disorder*
Validacija / *Validation*
Peripartalno razdoblje / *Peripartum Period*
Trudnoća/ *Pregnancy*

Konflikt interesa: Autori nemaju konflikt interesa.
/ Conflict of interest: The authors have no conflict of interest to declare.

TO LINK TO THIS ARTICLE: https://doi.org/10.24869/spsih.2024.277

UVOD

Trudnoća je radosno, ali i stresno razdoblje u kojem se događaju mnoge promjene. Smatra se da je to razdoblje u kojem su žene osjetljive na različite probleme mentalnog zdravlja. Jedan od mogućih problema mentalnog zdravlja tijekom trudnoće, ali i tijekom cijelog peripartalnog razdoblja, je opsesivno-kompulzivni poremećaj (OKP) (1). To je poremećaj koji karakterizira prisutnost opsesija i/ili kompulzija. Dok su opsesije uporne i nametljive misli, porivi ili slike koje su neželjene, kompulzije se sastoje od ponavljajućih ponašanja ili mentalnih radnji za koje pojedinac osjeća da ih mora izvesti kao reakciju na opsesivnu misao ili na temelju pravila koja treba strogo slijediti (2).

Prevalencija simptoma OKP-a tijekom trudnoće je oko 4 % (3-5), dok se pokazalo da raste u razdoblju poslije poroda na oko 7 % (3,4,6). U peripartalnom razdoblju mogući su različiti simptomi opsesivno-kompulzivnog poremećaja. Na primjer, uglavnom se pojavljuju opsesije i kompulzije vezane uz simetriju/točnost i čistoću. U razdoblju poslije poroda česte su opsesivne misli usmjerene na dijete. Ove misli su uglavnom agresivnog sadržaja, a odnose se na majčin strah da će ozlijediti dijete. Nadalje, kompulzije provjeravanja i traženja potvrde

INTRODUCTION

Pregnancy is a joyful, but stressful time in which many changes take place. It is considered to be a period in which women are susceptible to various mental health issues. One of the possible mental health issues during pregnancy, but also through the entire peripartum period, is obsessive-compulsive disorder (OCD) (1). It is a disorder characterized by the presence of obsessions and/or compulsions. While obsessions represent persistent and intrusive thoughts, urges, or images that are unwanted, compulsions consist of repetitive behaviors or mental acts that a person feels driven to perform in response to an obsessive thought or based on rules that need to be rigidly followed (2).

The prevalence of OCD symptoms during pregnancy is around 4% (3–5), while it has been observed that it increases in the postpartum period to around 7% (3, 4, 6). In the peripartum period, various symptoms of the obsessive-compulsive disorder are possible. For example, obsessions and compulsions related to symmetry/accuracy and cleanliness mostly appear. In the postpartum period, obsessive thoughts focused on the child are common. These thoughts are mostly aggressive in content, and relate to the maternal fear of harming

također su uobičajeni simptomi tijekom tog razdoblja (1,7).

Iako postoje različite mjere simptoma OKP-a (8-13), Yale-Brownova ljestvica opsesivno-kompulzivnih simptoma (Y-BOCS) smatra se "zlatnim standardom" i utvrđeno je da je jedna od najčešće korištenih ljestvica za mjerenje učestalosti i težine simptoma OKP-a (14). Y-BOCS se često koristio na kliničkim uzorcima i za otkrivanje subkliničkih simptoma u nekliničkim uzorcima (15-17). Također, ta se ljestvica pokazala korisnom za mjerenje simptoma OKP-a tijekom trudnoće (5,18,19) i u razdoblju poslije porođaja (19-21). Osim Y-BOCS-a postoje još dvije verzije za odrasle: Yale-Brownova ljestvica opsesivno-kompulzivnih simptoma-drugo izdanje (Y-BOCS II) (22) i Dimenzionalna Yale-Brownova ljestvica opsesivno-kompulzivnih simptoma (DY-BOCS) (23) koja mjeri jačinu simptoma OKP-a unutar dimenzija koje kombiniraju slične opsesije i kompulzije. Kada je riječ o strukturi ljestvice Y-BOCS, izvorno je predložena dvofaktorska struktura s podljestvicama opsesivnih simptoma i kompulzivnih simptoma s mogućnošću izračuna ukupnog rezultata (14). Neka su istraživanja potvrdila takvu strukturu (npr. 24-26). Nadalje, neka istraživanja upućuju na moguću dvofaktorsku strukturu, ali s drugačijim faktorima, kao što su smetnje i težina simptoma (npr. 27,28) ili težina simptoma i otpor/kontrola (29). Trofaktorska struktura je također moguća i to sa sljedećim faktorima: jačina opsesija, jačina kompulzija i otpornost na simptome (25,30,31), dok je Fatori (32) dobio faktorsku strukturu višeg reda jačinom opsesija i jačinom kompulzija kao specifičnim faktorima. Dakle, konačnu faktorsku strukturu tek treba utvrditi. Sva gore navedena istraživanja koja su ispitivala faktorsku strukturu provedena su na kliničkim uzorcima. Istodobno, dvofaktorska struktura opsesija i kompulzija dobivena je i na nekliničkom uzorku studenata (16).

the baby. Furthermore, checking compulsions and seeking reassurance are also common symptoms during that period (1, 7).

Although various measures of OCD symptoms exist (8-13), the Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) is considered the "golden standard" and has been determined as one of the most widely used scales for measuring the frequency and severity of OCD symptoms (14). Y-BOCS was widely used in clinical samples, as well as for detecting subclinical symptoms in non-clinical samples (15–17). Furthermore, the scale has proved useful for measuring OCD symptoms during pregnancy (5, 18, 19) and in the postpartum period (19–21). In addition to Y-BOCS, there are two more versions for adults: the Yale-Brown Obsessive-Compulsive Scale-Second Edition (Y-BOCS II) (22) and the Dimensional Yale-Brown Obsessive-Compulsive Scale (DY-BOCS) (23) which measures the severity of OCD symptoms within dimensions that combine similar obsessions and compulsions. Regarding the factor structure of the Y-BOCS, originally, a two-factor structure with subscales of obsessive symptoms and compulsive symptoms was proposed with the possibility of calculating a total score (14). Some studies confirmed such a structure (e.g., 24-26). Furthermore, some studies indicate a possible two-factor structure, but with different factors, such as disturbance and symptom severity (e.g., 27, 28) or symptom severity and resistance/control (29). A three-factor structure is also possible with the following factors: severity of obsessions, severity of compulsions, and resistance to symptoms (25, 30, 31), while Fatori (32) obtained a higher-order factor structure with severity of obsessions and severity of compulsions as specific factors. Therefore, the final factor structure still needs to be determined. All of the above-mentioned studies which examined the factor structure were conducted on clinical samples. At the same time, a two-factor structure of obsessions and compulsions was also obtained on a non-clinical sample of students (16).

CILJ ISTRAŽIVANJA

Y-BOCS dosad nije validiran u Hrvatskoj. Također, prema našim saznanjima, iako Y-BOCS nije validiran tijekom trudnoće, u razdoblju nakon poroda pokazao je dobra psihometrijska svojstva (33). Stoga je cilj ovoga istraživanja bio validirati Y-BOCS kod trudnica u Hrvatskoj. Ispitana je faktorska struktura, pouzdanost i divergentna valjanost. Nažalost, konvergentnu valjanost nije bilo moguće provjeriti jer, prema našim saznanjima, do sada na hrvatskom jeziku nije validirana druga mjera simptoma OKP-a. Sukladno prethodnim istraživanjima faktorske strukture testirani su jednofaktorski, dvofaktorski, trofaktorski model, model višeg reda i bifaktorski model. Očekivali smo i zadovoljavajuću pouzdanost ljestvice na uzorku trudnica. Konačno, očekivali smo da će Y-BOCS biti nisko do umjereno povezan sa simptomima depresije i anksioznosti.

METODA

Sudionici

Sudjelovalo je 569 trudnica (tablica 1). U prosjeku su imale 31 godinu te bile trudne 35,4 tjedana. Polovici sudionica ovo je bila prva trudnoća. Gotovo sve sudionice bile su u braku ili izvanbračnoj zajednici (97,7 %). Najviše trudnica bilo je visoko obrazovano, odnosno završilo je fakultet (68,4 %). Većina sudionica svoje prihode smatra prosječnima ili iznadprosječnima (98,2 %). Uglavnom su živjele u urbanim sredinama, a većina nije imala pozitivan psihijatrijski hereditet (86,5 %).

Instrumenti

Yale-Brownova ljestvica opsesivno-kompulzivnih simptoma (engl. *Yale-Brown Opsessive Compulsive Scale* - Y-BOCS) (14) mjeri težinu simptoma OKP-a. Sastoji se od 10 čestica od kojih pet procjenjuju opsesije, dok ostalih pet procjenjuje

AIM

The Y-BOCS was not previously validated in Croatia. Moreover, to the best of our knowledge, although Y-BOCS was not validated during pregnancy, in the postpartum period it showed good psychometric properties (33). The aim of this study was, therefore, to validate the Y-BOCS on a sample of pregnant women in Croatia. Factor structure, reliability, and divergent validity were examined. Unfortunately, convergent validity could not be tested because, to the best of our knowledge, no other OCD symptoms scale has been validated in the Croatian language so far. In accordance with previous studies on factor structures, we tested the 1-factor, 2-factor, 3-factor, higher-order, and bifactor models. We also expected the reliability of the scale to be satisfactory on the sample of pregnant women. Finally, we anticipated that the Y-BOCS would have a low to moderate correlation with depression and anxiety symptoms.

METHOD

Participants

A total of 569 pregnant women participated in the study (Table 1). They were, on average, 31 years old and 35.4 weeks pregnant. For half of the participants, this was their first pregnancy. Almost all participants were married or cohabitating (97.7%). Most of the pregnant women had a higher education, i.e. a university or college degree (68.4%). Most of the participants perceived their income as average or above average (98.2%). They also mainly lived in urban areas, and the majority did not have positive psychiatric heredity (86.5%).

Instruments

The Yale-Brown Obsessive Compulsive Scale (Y-BOCS) (14) measures the severity of OCD symptoms. It consists of 10 items, five of which

TABLICA 1. Sociodemografski podatci za uzorak trudnica (N = 569)
TABLE 1. Sociodemographic data for the sample of pregnant women (N = 569)

		M (SD)
Dob majke (godine) / Maternal age (years)		31,42 (5,01)
Tjedni trudnoće / Pregnancy weeks		35,43 (4,87)
		n (%)
Paritet[a] / Parity[a]	Prvorotkinja / Primipara	305 (54,1)
	Višerotkinja / Multipara	259 (45,9)
Bračni status / Marital status[a]	Udana / Married	429 (76,1)
	Izvanbračna zajednica / Cohabitating	122 (21,6)
	Drugo / Other	18 (2,3)
Obrazovanje[a] / Education[a]	Osnovna ili srednja škola / Elementary or secondary school	179 (31,6)
	Fakultet ili sveučilište / College or university	387 (68,4)
Socioekonomski status[a] / Socioeconomic status[a]	Ispod prosjeka / Below average	10 (1,8)
	Prosjek / Average	365 (64,7)
	Iznad prosjeka / Above average	189 (33,5)
Mjesto stanovanja[a] / Place of residence[a]	Grad (> 100,000 građana) / City (>100,000 citizens)	431 (76,1)
	Grad (< 100,000 građana) / City (<100,000 citizens)	77 (13,6)
	Ruralno područje / Rural area	58 (10,2)
Psihijatrijski hereditet / Psychiatric heredity[a]	Da / Yes	76 (13,5)
	Ne / No	489 (86,5)

Napomena: [a] – Neke sudionice nisu odgovorile na ovo pitanje.
/ *Note:* [a] – Some participants did not answer this question.

kompulzije. Odgovori na čestice bilježe se na ljestvici u rasponu od 0 do 4. Viši rezultat znači jače simptome OKP-a. Prethodna istraživanja pokazala su visoku pouzdanost cijele ljestvice (α između 0,80-0,90) (14).

Edinburški upitnik poslijeporođajne depresivnosti (engl. *Edinburgh Postnatal Depression Scale;* EPDS) (34) mjeri učestalost simptoma depresije u zadnjih sedam dana te je valjan za primjenu u trudnoći i nakon porođaja (35). Sastoji se od 10 čestica na koje se odgovara na ljestvici od 0 do 3. Viši rezultat znači jače simptome depresije. EPDS je prethodno preveden i validiran na hrvatski jezik (36). U ovom istraživanju dobivena je visoka pouzdanost izračunata McDonaldovom ω koja iznosi 0,84.

Ljestvica depresije, anksioznosti i stresa – podljestvica anksioznosti (engl. *Depression, Anxiety and Stress Scale - the anxiety subscale* - DASS-21)

assess obsession symptoms, while the other five assess compulsion symptoms. The responses to each item are marked on a scale ranging from 0 to 4. A higher score indicates stronger OCD symptoms. Previous studies have shown a high reliability of the total scale (α between 0.80-0.90) (14).

The *Edinburgh Postnatal Depression Scale* (EPDS) (34) measures the frequency of depressive symptoms in the past seven days and is valid for use during pregnancy and in the postpartum period (35). It consists of 10 items rated on a scale from 0 to 3. A higher score means stronger depressive symptoms. The EPDS was previously translated and validated in the Croatian language (36). This study showed high reliability, calculated with McDonald's ω which amounted to 0.84.

Depression, Anxiety and Stress Scale – the Anxiety subscale (DASS-21) (37) measures anxiety

(37) mjeri simptome opće anksioznosti tijekom prošlog tjedna. Sastoji se od sedam čestica, a odgovori se daju na ljestvici od 0 do 3. Ukupni rezultat se množi s 2 kako bi bio usporedan s duljom verzijom upitnika DASS-42. Ljestvica je prethodno predvedena na hrvatski jezik (38). U ovom istraživanju pouzdanost izmjerena McDonaldovom ω iznosila je 0,77 što znači da je prihvatljiva.

Ljestvica zabrinutosti tijekom trudnoće (LJZT) (39) mjeri specifične brige, strahove i brige tijekom trudnoće u zadnjem mjesecu. Sastoji se od 16 čestica. Odgovara se na ljestvici od 0 do 3. Viši rezultat ukazuje na veću specifičnu anksioznost. U izvornom istraživanju Cronbachov α je bio 0,80 (39) - isto kao i u našem istraživanju McDonald's ω = 0,80.

Postupak

Liječnik opstetričar je regrutirao trudnice da ispune upitnike metodom papir-olovka za vrijeme redovitih pregleda tijekom trudnoće. Sve su sudionice bile obaviještene o cilju istraživanja, dobrovoljnosti sudjelovanja i mogućem odustajanju u bilo kojem trenutku bez posljedica. Potpisale su informirani pristanak, a nakon popunjavanja upitnik su vratile opstetričaru u zatvorenoj omotnici. Sudionice nisu dobile nikakvu naknadu za svoje sudjelovanje. Ovo je bio dio većeg longitudinalnog istraživanja tijekom peripartalnog razdoblja. Istraživanje je dobilo odobrenje Etičkog odbora Hrvatskog katoličkog sveučilišta.

Statističke analize

S obzirom na cilj istraživanja izračunali smo veličinu uzorka od pet do deset sudionika po čestici (40), odnosno najmanje 100 sudionika, što je prilično premašeno. Prvo smo provjerili deskriptivne podatke (aritmetičke sredine i standardne devijacije) i normalnost distribucija (simetričnost, spljoštenost, Kolmogo-

symptoms over the past week. It consists of seven items, with responses on a scale from 0 to 3. The total score is multiplied by 2, in order to be comparable with the full DASS-42 version. The scale was previously translated into Croatian (38). In the current study, the reliability of McDonald's ω was 0.77, which means it was at an acceptable level.

Pregnancy Concerns Scale (PCS) (39) measures specific worries, fears and concerns during pregnancy in the last month. It consists of 16 items. Responses are rated on a scale ranging from 0 to 3. A higher score indicates higher specific anxiety. In the original study, Cronbach's α amounted to 0.80 (39) and in the current study, McDonald's ω was the same, amounting to 0.80.

Procedure

The obstetrician recruited pregnant women to fill in paper-and-pen questionnaires during their regular prenatal check-ups. All participants were informed about the study aim, voluntary participation, and possible withdrawal at any time without consequences. They signed the informed consent, and after completing the questionnaire, they sealed it in an envelope and returned it to the obstetrician. Participants did not receive any compensation for their participation. This was part of a larger longitudinal study covering the peripartum period. The study obtained ethical approval from the Ethics Committee of the Catholic University of Croatia.

Statistical analyses

Considering the aim of the study, we calculated the sample size as five to ten participants per item (40), i.e. at least 100 participants, which was fairly exceeded. We first checked the descriptive data (arithmetic means and standard deviations), and the normality of

rov-Smirnov test). Koristili smo Pearsonove korelacije za testiranje divergentne valjanosti, dok je pouzdanost ispitana kao unutarnja konzistentnost McDonaldovim ω koeficijentom. Sve navedene analize provedene su u programu *SPSS Statistics 29.0* za Windows. Univarijatni i multivarijatni *outlieri* su ispitani te ni jedan nije trebalo ukloniti. Univarijatna normalnost distribucije provjerena je izračunom *z* vrijednosti koje nisu bile veće od kritične vrijednosti 3,29 (41), dok se multivarijatno odstupanje od normalnosti distribucije ispitalo pomoću Mahalanobisove udaljenosti od grupnog centroida, faktorom inflacije varijance i izračunom multikolinearnosti (42). Konfirmatorna faktorska analiza korištena je za testiranje faktorske strukture u programu Mplus 8.10 (43). Kao metoda estimacije korišten je WLSMV s obzirom na to da su čestice na Y-BOCS bile ordinalne (44,45). Za procjenu pristajanja modela podatcima korišteni su sljedeći indikatori pristajanja: hi-kvadrat sa Satorra-Bentlerovom korekcijom, *Root Mean Square Error of Approximation* (RMSEA), *Standardized Root Mean Square Residual* (SRMR), *Comparative Fit Index* (CFI) i *Tucker-Lewis Index* (TLI). Pokazatelji dobrog pristajanja podataka bili su neznačajna vrijednost χ^2 (46), RMSEA ispod 0,06, uz *p* vrijednost pristajanja modela veću od 0,05, te CFI i TLI iznad 0,95 (47). RMSEA ispod 0,08 te CFI i TLI viši od 0,90 ukazuju na prihvatljivo pristajanje podatcima (47).

distributions (skewness, kurtosis, Kolmogorov-Smirnov test). We used Pearson's correlations to test divergent validity, while reliability was examined as internal consistency by McDonald's ω coefficient. All of the above-mentioned analyses were conducted using the SPSS Statistics 29.0 program for Windows. Univariate and multivariate outliers were examined, and there were no outliers that needed to be removed. Univariate normality of distribution was tested by calculating z-values, which did not exceed the critical value of 3.29 (41), while multivariate deviation from normality of distribution was examined using the Mahalanobis distance from the group centroid, the variance inflation factor, and the calculation of multicollinearity (42). Confirmatory factor analysis was used to test the factor structure in the Mplus 8.10 software (43). WLSMV was used as a method of estimation, given that items on Y-BOCS were ordinal (44, 45). The following model fit indices were used to assess the model's fit to the data: Chi-square with Satorra-Bentler correction, Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR), Comparative Fit Index (CFI), and Tucker-Lewis Index (TLI). Indicators of good fit to the data were the nonsignificant χ^2 value (46), RMSEA below 0.06 with a model fit *p*-value greater than 0.05, and CFI and TLI above 0.95 (47). The RMSEA below 0.08 and CFI and TLI higher than 0.90 indicated an acceptable fit to the data (47).

REZULTATI

Deskriptivna statistika

Deskriptivni podatci svih čestica ljestvice prikazani su u tablici 2. Četiri čestice nisu postigle puni teorijski raspon. Sudionice su u prosjeku označavale niže razine čestica, što znači da je ozbiljnost simptoma OKP-a bila relativno niska.

RESULTS

Descriptive statistics

Descriptive data of all scale items are presented in Table 2. Four of the items did not obtain the full theoretical range. Participants, on average, reported lower levels of the items, meaning that the severity of each OCD symptom was relatively low.

TABLICA 2. Deskriptivni podatci za Yale-Brownovu ljestvicu opsesivno-kompulzivnih simptoma (N = 569)
TABLE 2. Descriptive data for the Yale-Brown Obsessive-Compulsive Scale (N = 569)

			Dobiveni raspon / Obtained range				
	M	SD	min	max	Asimetričnost / Skewness	Spljoštenost / Kurtosis	K-S
Y-BOCS 1	0,61	0,67	0	4	1,05	1,72	0,30**
Y-BOCS 2	0,26	0,51	0	4	2,27	7,17	0,47**
Y-BOCS 3	0,69	0,77	0	3	0,73	-0,48	0,30**
Y-BOCS 4	0,34	0,62	0	4	2,14	5,86	0,44**
Y-BOCS 5	0,61	0,69	0	4	1,20	2,48	0,30**
Y-BOCS 6	0,41	0,58	0	3	1,19	1,02	0,40**
Y-BOCS 7	0,16	0,40	0	2	2,31	4,66	0,51**
Y-BOCS 8	0,27	0,55	0	4	2,31	6,52	0,47**
Y-BOCS 9	0,33	0,70	0	4	2,51	6,75	0,46**
Y-BOCS 10	0,27	0,55	0	3	2,49	7,45	0,46**

*Napomena: **p* < .01; K-S = Kolmogorov-Smirnov test normalnosti distribucije.
*/ Note: **p* < .01; K-S = Kolmogorov-Smirnov test of normality of distribution.

Faktorska struktura

U literaturi su utvrđena različita faktorska rješenja Y-BOCS-a. Fatori (32) je napravio sažetak svih faktorskih rješenja ispitanih na kliničkom uzorku pa smo stoga testirali jednofaktorski model, dva dvofaktorska modela (opsesije i kompulzije; smetnje i ozbiljnost simptoma), dva trofaktorska modela (s ozbiljnošću opsesija, ozbiljnošću kompulzija i otpornošću na simptome kao faktorima, ali s različitim pripadajućim česticama), model faktora višeg reda (ozbiljnost opsesija i ozbiljnost kompulzija, ali bez čestica 4 i 9). Provjerili smo i nova faktorska rješenja - hijerarhijski model s općim faktorom višeg reda te opsesijama i kompulzijama kao faktorima prvog reda, kao i bifaktorski model s općim faktorom, te kompulzijama i opsesijama kao specifičnim faktorima.

Kao što je prikazano u tablici 3, dvofaktorski model koji je uključivao smetnje i ozbiljnost simptoma, oba trofaktorska modela i model faktora višeg reda (s 8 čestica; ozbiljnost opsesija i ozbiljnost kompulzija) loše su pristajali podatcima. Bifaktorski model nije mogao konvergirati. Dvofaktorski model koji uključuje

Factor structure

Various factor solutions of the Y-BOCS were determined in the literature. Fatori (32) made a summary of all factor solutions tested in a clinical sample, therefore, we tested a 1-factor model, two 2-factor models (obsessions and compulsions; disturbance and symptom severity), two 3-factor models (with severity of obsessions, severity of compulsions and resistance to symptoms as factors, but with different composition of items), one higher-order factor model (severity of obsessions and severity of compulsions, but without items 4 and 9). We also tested new factor solutions - a hierarchical model with a general higher-order factor and obsessions and compulsions as first-order factors, as well as a bifactor model with a general factor, and compulsions and obsessions as specific factors.

As presented in Table 3, the 2-factor model which included disturbance and symptom severity, both 3-factor models, and the higher-order factor model (with 8 items; severity of obsessions, and severity of compulsions) had a bad fit to the data. The bifactor model could not converge. The 2-factor model which

TABLICA 3. Faktorski modeli i indeksi pristajanja modela (N = 569)
TABLE 3. Factor models and model fit indices (N = 569)

Modeli / Models	Faktori i čestice / Factors and Items	*SBS-χ^2 (df)*	*RMSEA*	*SRMR*	*CFI*	*TLI*
1-faktorski model[a] / 1-factor model[a]	Čestice 1-10 / Items 1-10	589,89 (35) *p* < 0,001	0,167 [0,155-0,179] *p* < 0,001	0,111	0,932	0,913
2-faktorski model[a] (22,26,28,54) / 2-factor model[a] (22,26,28,54)	Opsesije: 1-5 / Obsessions: 1-5 Kompulzije: 6-10 / Compulsions: 6-10	189,57 (34) *p* < 0,001	0,090 [0,077-0,102] *p* < 0,001	0,046	0,981	0,975
2-faktorski model[a]* (27,28) / 2-factor model[a]* (27,28)	Smetnje: 2,3,7,8 / Disturbance: 2,3,7,8 Jačina simptoma: 1,4,5,6,9,10 / Symptom severity: 1,4,5,6,9,10	586,51 (34) *p* < 0,001	0,169 [0,157-0,181] *p* < 0,001	0,111	0,932	0,911
3-faktorski model[a] (55) / 3-factor model[a] (55)	Jačina simptoma: 1,2,3 / Symptom severity: 1,2,3 Jačina kompulzija: 6,7,8 / Severity of compulsions: 6,7,8 Otpornost na simptome: 4,5,9,10 / Resistance to symptoms: 4,5,9,10	422,68 (32) *p* < 0,001	0,146 [0,134-0,159] *p* < 0,001	0,083	0,952	0,933
3-faktorski model[a] (30,31) / 3-factor model[a] (30,31)	Otpornost na simptome: 1,2,3,5 / Resistance to symptoms: 1,2,3,5 Jačina kompulzija: 6,7,8,10 / Severity of compulsions: 6,7,8,10 Otpornost na simptome: 4,9 / Resistance to symptoms: 4,9	340,81 (32) *p* < 0,001	0,130 [0,118-0,143] *p* < 0,001	0,070	0,962	0,947
Model višeg reda s opsesijama i kompulzijama kao prvim faktorima i bez simptoma tvrdokornosti [a] (32) / Higher order model with obsessions and compulsions as first factors and without resistance symptoms[a] (32)	Jačina opsesija: 1,2,3,5 / Severity of obsessions: 1,2,3,5 Jačina kompulzija: 6,7,8,10 / Severity of compulsions: 6,7,8,10 (Bez 4 & 9) / (Without 4 & 9)	428,63 (20) *p* < 0,001	0,189 [0,174-0,205] *p* < 0,001	0,114	0,937	0,911
Model višeg reda s opsesijama i kompulzijama kao prvim faktorima / Higher order model with obsessions and compulsions as first factors	Opsesije: 1-5 / Obsessions: 1-5 Kompulzije: 6-10 / Compulsions: 6-10	**189,57 (34)** ***p* < 0,001**	**0,090** **[0,077-0,012]** ***p* < 0,001**	**0,046**	**0,981**	**0,975**
Bifaktorski model / Bifactor model	Opsesije: 1-5 / Obsessions: 1-5 Kompulzije: 6-10 / Compulsions: 6-10	Model nije mogao konvergirati. / Model could not converge.				

Napomena: Model koji dobro odgovara podatcima prikazan je podebljano. [a]Modeli, osim bifaktorskog modela, preuzeti su od Fatori i sur. (32). *Dva faktora su imala korelaciju veću od 1.
/ *Note:* Model with a good fit to the data was presented in bold. [a]Models, except for the hierarchical and bifactor models, were taken from Fatori et al. (32).
*Two factors had correlation higher than 1.

faktore opsesija i kompulzija te hijerarhijski model s generalnim faktorom višeg reda i dva faktora prvog reda (slika 1), jednako dobro su odgovarali podatcima, odnosno ekvivalentni su. Sve čestice u modelima su imale visoka faktorska zasićenja. S obzirom na to da je i u modelu s dva faktora dobivena visoka korelacija između opsesija i kompulzija (r = 0,68) smatramo da hijerarhijski model bolje opisuje postojeće podatke.

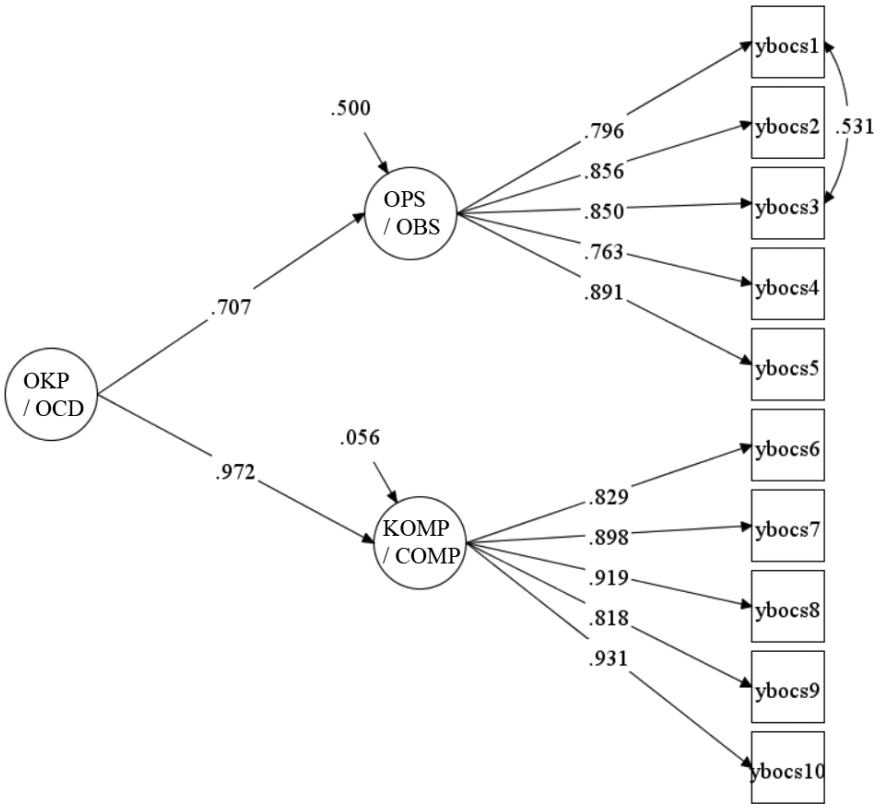
Pouzdanost

Pouzdanost smo testirali McDonaldovim koeficijentom ω za ukupnu ljestvicvu i podljestvice Opsesije i Kompulzije. Ukupna ljestvica (ω = 0,87), podljestvica Opsesija (ω = 0,86) te podljestvica Kompulzija (ω = 0,86) imale su visoku pouzdanost.

includes the factors of obsessions and compulsions, and the hierarchical model with a general higher-order factor and two first-order factors (Figure 1), both fit the data equally well, meaning they are equivalent. All items in the models had high factor loadings. Given that a high correlation was also found between obsessions and compulsions in the 2-factor model (r = 0.68), we believe that the hierarchical model better describes the existing data.

Reliability

We tested the reliability with McDonald's ω coefficient for the total scale, as well as for the Obsessions and Compulsions subscales. The total scale (ω = 0.87), Obsessions subscale (ω = 0.86), and Compulsions subscale (ω = 0.86) had high reliability.



SLIKA 1. Hijerarhijski model s generalnim faktorom višeg reda i dva faktora prvog reda. *Napomena:* Sva faktorska zasićenja su značajna. Standardizirane vrijednosti su prikazane.

FIGURE 1. Hierarchical model with a general higher-order factor and two first-order factors. *Note:* All factor loadings are significant. Standardized values are presented.

Divergentna valjanost

Konvergentna valjanost nije se mogla ispitati, jer nijedna druga mjera simptoma OKP-a nije bila dostupna na hrvatskom jeziku. Međutim, ispitana je divergentna valjanost u odnosu na simptome depresije i anksioznosti (tablica 4). Očekivali smo niske do umjerene korelacije. Ukupni rezultat bio je pozitivno i visoko povezan sa simptomima depresije, umjereno povezan s općom anksioznosti te nisko povezan sa specifičnom anksioznosti tijekom trudnoće. Sličan obrazac korelacija primijećen je za podljestvicu Opsesija koja je pozitivno i visoko povezana sa simptomima depresije, umjereno s općom anksioznosti te nisko povezana sa specifičnom anksioznosti. Podljestvica Kompulzija bila je nisko pozitivno povezana sa simptomima depresije, općom anksioznosti i specifičnom anksioznosti.

Divergent validity

Convergent validity could not be examined because no other measure of OCD symptoms was available in the Croatian language. However, divergent validity was examined against depressive and anxiety symptoms (Table 4). We expected low to moderate correlations. The total score was positively and highly correlated with depressive symptoms, moderately correlated with general anxiety, and had a low correlation with pregnancy-specific anxiety. A similar pattern of correlations was observed for the Obsessions subscale which has positive and high correlations with depressive symptoms, moderate correlations with general anxiety, and low correlations with pregnancy-specific anxiety. The Compulsions subscale had low positive correlations with depressive symptoms, general anxiety, and pregnancy-specific anxiety.

TABLICA 4. Divergentna valjanost ukupne ljestvice i podljestvica
TABLE 4. Divergent validity of the total scale and its subscales

	Depresivni simptomi / Depressive symptoms	Opća anksioznost / General anxiety	Specifična anksioznost / Pregnancy-specific anxiety
Ukupna Y-BOCS / Total Y-BOCS	0,52**	0,45**	0,32**
Opsesije / Obsessions	0,53**	0,43**	0,34**
Kompulzije / Compulsions	0,37**	0,36**	0,22**

Napomena: **p < 0,01 / *Note*: **p < 0 .01

RASPRAVA

Hrvatska verzija Yale-Brownove ljestvice opsesivno-kompulzivnih simptoma primijenjena tijekom trudnoće imala je dobra psihometrijska svojstva što je u skladu s validacijama u drugim zemljama. Model faktora višeg reda s opsesijama i kompulzijama kao faktorima prvog reda dobro je odgovarao podatcima. Pri računanju rezultata mogu se koristiti ukupni rezultati i dvije podljestvice. Y-BOCS je imao visoku pouzdanost. Analizom povezanosti sa simptomima depresije, općom anksioznosti i specifičnom anksioznosti vezanom za trudnoću utvrdilo se da su ukupna ljestvica i podljestvica Opsesija imale umjerenu divergentnu valjanost, dok je podljestvica Kompulzija imala izvrsnu divergentnu valjanost.

Kao što je spomenuto, prethodna su istraživanja identificirala različite moguće faktorske strukture Y-BOCS-a. Međutim, treba uzeti u obzir da su ta istraživanja provedena na različitim uzorcima. Na primjer, na općem uzorku studenata dobivena je dvofaktorska struktura opsesija i kompulzija (16). Ista faktorska struktura dobivena je i u kliničkim uzorcima (14,25). Nadalje, na kliničkom uzorku pacijenata s OKP-om (32) dobiven je model višeg reda sa simptomima OKP-a kao čimbenicima višeg reda i simptomima Opsesija i Kompulzija kao čimbenikom prvog reda, ali bez čestica koje se odnose na tvrdokornost simptoma. U ovom smo istraživanju dobili faktorsku strukturu višeg reda s opsesijama i kompulzijama kao faktorima prvog reda, ali sa svih deset čestica. Dvofaktorsko rješenje koje uključuje simp-

DISCUSSION

The Croatian version of the Yale-Brown Obsessive Compulsive Scale administered during pregnancy had good psychometric properties consistent with validations in other countries. The higher-order factor model with Obsessions and Compulsions as first-order factors had a good fit to the data. When calculating the scores, both the total scores and the two subscales could be used. The Y-BOCS had high reliability. When compared against depressive symptoms, general anxiety and specific pregnancy-related anxiety, it was determined that the total scale and the Obsessions subscale had moderate divergent validity, while the Compulsions subscale had excellent divergent validity.

As mentioned above, previous studies identified various possible factor structures of the Y-BOCS. However, it should be considered that different samples were used in those studies. For example, in a general sample of students, a 2-factor structure of obsessions and compulsions was obtained (16). The same factor structure was obtained in the clinical samples (14, 25). Furthermore, in a clinical sample of patients with OCD (32), a higher-order model with OCD symptoms as the higher-order factors, and Obsessions and Compulsions symptoms as a first-order factor was established, but without items relating to symptoms resistance. In this study, we also obtained one higher-order factor structure with obsessions and compulsions as first-order factors, but with all ten items. The two-factor solution, which includes Obsession and Compulsion symptoms, fit the data equally well. We, therefore, believe that

tome Opsesija i Kompulzija jednako je dobro pristajalo podatcima. Stoga smatramo da se na uzorku trudnica iz Hrvatske mogu izračunati i ukupni rezultat i rezultati na podljestvicama Opsesija i Kompulzija.

S obzirom na to da je trudnoća specifično razdoblje života svaka trudnica ima mnogo briga, poput toga da mora biti oprezna jer bi na neki način mogla naštetiti rađanju zdravog djeteta (48). Tijekom tog vremena uglavnom se javljaju opsesije o čistoći, zagađenju i simetriji/točnosti, ali postoji mogućnost i za agresivne opsesije o djetetu (7,49). Fairbrother i Abramowitz (50) ističu studije slučaja koje pokazuju da su trudnice s OKP-om uglavnom imale opsesivne misli, koje nisu bile praćene kompulzijama već izbjegavajućim i zaštitničkim ponašanjem. Ovo može objasniti zašto je u našem uzorku trudnica faktor Kompulzija više pridonio faktoru višeg reda, koji se odnosi na simptome OKP-a, od faktora Opsesija. Moguće je da trudnice koje nemaju kliničke simptome imaju više briga i opsesivnih misli tijekom ovog osjetljivog razdoblja. Međutim, potrebna su daljnja istraživanja faktorske strukture ove ljestvice, posebice tijekom specifičnih razdoblja kao što su trudnoća i razdoblje poslije porođaja.

Utvrđena je visoka pouzdanost ukupne ljestvice, podljestvica Opsesija i Kompulzija. Ovi rezultati su u skladu s našim očekivanjima s obzirom na prethodna istraživanja u kojima je utvrđena zadovoljavajuća pouzdanost (14,25,32).

Kako bismo ispitali divergentnu valjanost, testirali smo povezanost između ukupnog rezultata, podljestvica Opsesija i Kompulzija sa simptomima depresije, općom anksioznosti i specifičnom anksioznosti u trudnoći. Ustanovili smo visoke korelacije između ukupne ljestvice i podljestvice Opsesija te simptoma depresije, umjerene korelacije s općom anksioznosti, te niske korelacije s specifičnom anksioznosti, pokazujući umjerenu divergentnu valjanost. Dodatno, podljestvica Kompulzija bila je nisko i pozitivno povezana sa simptomima

in the sample of pregnant women from Croatia, both the total score and the subscale scores for Obsessions and Compulsions can be calculated.

Given that pregnancy is a unique period of life, pregnant women have a lot of concerns, such as being careful because they could somehow harm the birth of a healthy child (48). During that time, obsessions about cleanliness, contamination and symmetry/accuracy mostly appear, but there is also a possibility that aggressive obsessions about the baby might appear (7, 49). Fairbrother and Abramowitz (50) highlight case studies showing that pregnant women with OCD mostly had obsessive thoughts which were not followed by compulsions, but rather by avoidant and protective behavior. This could explain why, in our sample of pregnant women, the Compulsions factor contributed more to the higher-order factor relating to OCD symptoms than the Obsessions factor. It could be that pregnant women without clinical symptoms tend to have more concerns and obsessive thoughts during this sensitive period. However, further research into the factor structure of this scale is necessary, especially during specific periods such as pregnancy and postpartum.

It was determined that the total scale, and the Obsessions and Compulsions subscales, had high reliability. Such findings are consistent with our expectations in view of previous studies in which satisfactory reliability had been determined (14, 25, 32).

In order to examine divergent validity, we tested associations of the total score and the Obsessions and Compulsions subscales with the depressive symptoms, general anxiety and pregnancy-specific anxiety. We determined high correlations between the total scale and Obsessions subscale, as well as depressive symptoms, moderate correlations with general anxiety, and low correlations with pregnancy-specific anxiety, demonstrating moderate divergent validity. Additionally, the Compulsions subscale had a low and positive correlation with depressive symptoms, general

depresije, općom anksioznosti i specifičnom anksioznosti pokazujući izvrsnu divergentnu valjanost. U ovom istraživanju korelacije su veće nego u prijašnjim studijama provedenim na trudnicama i majkama koje doje (51) te kod majki koje su nedavno rodile (52). Iako smo utvrdili dobru divergentnu valjanost, potrebna su dodatna istraživanja u peripartalnom razdoblju kako bi se potvrdili ovi rezultati te kako bi se interpretirala konvergentna valjanost Y-BOCS-a.

Ovo istraživanje ima i neka ograničenja. Istraživanje je bilo jednokratno korelacijsko tako da nismo mogli pratiti moguće razlike u faktorskoj strukturi u različitim vremenskim točkama tijekom trudnoće ili razdoblja poslije poroda niti smo mogli ispitati test-retest pouzdanost. Budući da na hrvatskom jeziku nedostaju drugi instrumenti za simptome OKP-a, nismo uspjeli testirati konvergentnu valjanost Y-BOCS-a. Unatoč tome što je uzorak regrutiran u prenatalnoj klinici gradske bolnice, uzorak je bio donekle homogen, s većinom udanim i visokoobrazovanim sudionicama prosječnog socioekonomskog statusa. Neka su istraživanja pokazala više razine simptoma OKP-a kod sudionika s nižim obiteljskim prihodom (53) pa bi se moglo dogoditi da na reprezentativnijem uzorku budu više razine simptoma OKP-a. Treba naglasiti da je uzorak bio neklinički pa je moguće da bi se u kliničkom uzorku trudnica s OKP-om dobila nešto drugačija faktorska struktura. Stoga bi buduća istraživanja trebala istražiti faktorsku strukturu u kliničkim uzorcima tijekom peripartuma. Usporedba između kliničkih i nekliničkih uzoraka pomogla bi u određivanju osjetljivosti Y-BOCS ljestvice za njihovo razlikovanje.

ZAKLJUČAK

Yale-Brownova ljestvica opsesivno-kompulzivnih simptoma (Y-BOCS) valjana je i pouzdana mjera simptoma OKP-a u trudnoći. Ovo

anxiety and pregnancy-specific anxiety, demonstrating excellent divergent validity. In this study, correlations were higher than in previous studies on pregnant women and mothers who breastfeed (51), as well as in postpartum women (52). Although we found good divergent validity, further research is necessary in the peripartum period in order to confirm such findings, and also to interpret the convergent validity of the Y-BOCS.

There are some limitations to this study as well. This was a one-time correlational study, therefore we could not monitor for possible differences in the factor structure at different time points during pregnancy or in the postpartum period, nor could we examine test-retest reliability. As there is a lack of other instruments to measure OCD symptoms in the Croatian language, we were unable to test the convergent validity of the Y-BOCS. Despite the sample being recruited at a prenatal clinic of a city hospital, the sample was somewhat homogeneous, with the majority of participants being married, highly educated and of an average socioeconomic status. Some studies showed higher levels of OCD symptoms in participants with lower family income (53), therefore, it may be that higher levels of OCD symptoms would be obtained in a more representative sample. It should be noted that the sample was non-clinical, so it is possible that a somewhat different factor structure would be yielded in a clinical sample of pregnant women with OCD. Future studies should, therefore, examine the factor structure in clinical samples during the peripartum period. A comparison between clinical and non-clinical samples would help determine the sensitivity of the Y-BOCS in order to differentiate between them.

CONCLUSION

In conclusion, the Yale-Brown Obsessive Compulsive Scale (Y-BOCS) is a valid and reliable measure of OCD symptoms during pregnancy. This is the first validation of this scale on a

je prva validacija ove ljestvice na hrvatskom uzorku i tijekom trudnoće. Na ovom je uzorku struktura ljestvice pokazala hijerarhijski model s generalnim faktorom višeg reda i dva faktora prvog reda - opsesijama i kompulzijama. S obzirom na to da je u drugim istraživanjima čak 4 % trudnica iskazalo povišene simptome OKP-a (4,5), stopu prevalencije OKP-a tek treba utvrditi u hrvatskom uzorku. Y-BOCS može biti koristan alat u probiru klinički relevantnih simptoma OKP-a tijekom peripartuma, a i drugih razdoblja s ciljem pravovremenog liječenja.

Croatian sample and during pregnancy. In this sample, the structure of the scale showed a hierarchical model with a general higher-order factor and two first-order factors - obsessions and compulsions. Given the substantial proportion of 4% of pregnant women reporting increased OCD symptoms in other studies (4, 5), the prevalence rate of OCD is still yet to be determined in a Croatian sample. The Y-BOCS can be a useful tool in screening for clinically relevant OCD symptoms both during the peripartum and in other periods, with the aim of providing timely treatment.

ZAHVALE

Ovaj projekt je financiran iz odobrenog znanstvenog projekta Hrvatskog katoličkog sveučilišta: "Odrednice, ishodi i međuodnos mentalnog i tjelesnog zdravlja žena u trudnoći i nakon poroda (MumHealth)". MŽ prima sredstva Hrvatske zaklade za znanost DOK-2020-01-4127. Izvori financiranja nemaju drugu ulogu osim pružanja financijske podrške. MM prima sredstva Hrvatske zaklade za znanost projektom HRZZ-MOBODL-2023-12-6514.

ACKNOWLEDGMENTS

This project was financed from the approved scientific project of the Catholic University of Croatia, entitled "Determinants, Outcomes, and Interrelation of Mental and Physical Health During Pregnancy and Postpartum (MumHealth)". MŽ receives funds from the Croatian Science Foundation DOK-2020-01-4127. The sources of funding have no other role than to provide financial support. MM receives funds from the Croatian Science Foundation under the project number HRZZ-MOBODL-2023-12-6514.

LITERATURA/*REFERENCES*

1. Abramowitz JS, Schwartz SA, Moore KM, Luenzmann KR. Obsessive-compulsive symptoms in pregnancy and the puerperium: J Anxiety Disord [Internet]. 2003;17(4):461–78. https://doi.org/10.1016/s0887-6185(02)00206-2.
2. Američka psihijatrijska udruga. Diagnostic and statistical manual of mental disorders (5th ed., text rev.). Američka psihijatrijska udruga, 2022.
3. Fairbrother N, Collardeau F, Albert AYK, Challacombe FL, Thordarson DS, Woody SR *et al.* High Prevalence and Incidence of Obsessive-Compulsive Disorder Among Women Across Pregnancy and the Postpartum. J Clin Psychiatry [Internet]. 2021;23;82(2):20m13398. https://doi.org/10.4088/JCP.20m13398.
4. Osnes RS, Eberhard-Gran M, Follestad T, Kallestad H, Morken G, Roaldset JO. Mid-pregnancy insomnia is associated with concurrent and postpartum maternal anxiety and obsessive-compulsive symptoms: A prospective cohort study. J Affect Disord [Internet]. 2020;266:319–26. https://doi.org/10.1016/j.jad.2020.01.140.
5. Uguz F, Gezginc K, Zeytinci IE, Karatayli S, Askin R, Guler O *et al*. Obsessive-compulsive disorder in pregnant women during the third trimester of pregnancy. Compr Psychiatry [Internet]. 2007;48(5):441–5. https://linkinghub.elsevier.com/retrieve/pii/S0010440X07000600
6. Zambaldi CF, Cantilino A, Montenegro AC, Paes JA, de Albuquerque TLC, Sougey EB. Postpartum obsessive-compulsive disorder: prevalence and clinical characteristics. Compr Psychiatry [Internet]. 2009;50(6):503–9. https://doi.org/10.1016/j.comppsych.2008.11.014.
7. Starcevic V, Eslick GD, Viswasam K, Berle D. Symptoms of Obsessive-Compulsive Disorder during Pregnancy and the Postpartum Period: a Systematic Review and Meta-Analysis. Psychiatr Q. 2020;91(4):965–81. https://doi.org/10.1007/s11126-020-09769-8.
8. Burns GL, Keortge SG, Formea GM, Sternberger LG. Revision of the Padua Inventory of obsessive compulsive disorder symptoms: Distinctions between worry, obsessions, and compulsions. Behav Res Ther [Internet] 1996;34(2):163–73. https://doi.org/10.1016/0005-7967(95)00035-6.

9. Foa EB, Huppert JD, Leiberg S, Langner R, Kichic R, Hajcak G *et al*. The Obsessive-Compulsive Inventory: Development and validation of a short version. Psychol Assess [Internet] 2002;14(4):485–96. https://doi.org/10.1037/1040-3590.14.4.485.
10. Clark DA, Antony MM, Beck AT, Swinson RP, Steer RA. Screening for Obsessive and Compulsive Symptoms: Validation of the Clark-Beck Obsessive-Compulsive Inventory. Psychol Assess [Internet]. 2005;17(2):132–43. https://doi.org/10.1037/1040-3590.17.2.132.
11. Abramowitz JS, Deacon BJ, Olatunji BO, Wheaton MG, Berman NC, Losardo D *et al*. Assessment of obsessive-compulsive symptom dimensions: Development and evaluation of the Dimensional Obsessive-Compulsive Scale. Psychol Assess [Internet] 2010;22(1):180–98. https://doi.org/10.1037/a0018260.
12. Thordarson DS, Radomsky AS, Rachman S, Shafran R, Sawchuk CN, Ralph Hakstian A. The Vancouver Obsessional Compulsive Inventory (VOCI). Behav Res Ther [Internet]. 2004;42(11):1289–314. https://doi.org/10.1016/j.brat.2003.08.007.
13. Lord C, Rieder A, Hall GBC, Soares CN, Steiner M. Piloting the Perinatal Obsessive-Compulsive Scale (POCS): Development and validation. J Anxiety Disord [Internet] 2011;25(8):1079–84. https://doi.org/10.1016/j.janxdis.2011.07.005.
14. Goodman WK. The Yale-Brown obsessive compulsive scale: I. Development, use, and reliability. Arch Gen Psychiatry [Internet] 1989;46(11):1006–11. https://doi.org/10.1001/archpsyc.1989.01810110048007.
15. Frost RO, Steketee G, Krause MS, Trepanier KL. The Relationship of the Yale-Brown Obsessive Compulsive Scale (YBOCS) to Other Measures of Obsessive Compulsive Symptoms in a Nonclinical Population. J Pers Assess [Internet] 1995;65(1):158–68. https://doi.org/10.1207/s15327752jpa6501_12.
16. Ólafsson RP, Snorrason Í, Smári J. Yale-Brown Obsessive Compulsive Scale: Psychometric Properties of the Self-Report Version in a Student Sample. J Psychopathol Behav Assess [Internet] 2010;32(2):226–35. https://doi.org/10.1007/s10862-009-9146-0.
17. Steketee G, Frost R, Bogart K. The Yale-Brown Obsessive Compulsive Scale: Interview versus self-report. Behav Res Ther [Internet] 1996;34(8):675–84. https://doi.org/10.1016/0005-7967(96)00036-8.
18. Chaudron LH, Nirodi N. The obsessive–compulsive spectrum in the perinatal period: a prospective pilot study. Arch Womens Ment Health [Internet] 2010;13(5):403–10. https://doi.org/10.1007/s00737-010-0154-6.
19. Miller ES, Chu C, Gollan J, Gossett DR. Obsessive-compulsive symptoms during the postpartum period. A prospective cohort. J Reprod Med [Internet] 2013;58(3–4):115–22. http://www.ncbi.nlm.nih.gov/pubmed/23539879.
20. House SJ, Tripathi SP, Knight BT, Morris N, Newport DJ, Stowe ZN. Obsessive-compulsive disorder in pregnancy and the postpartum period: course of illness and obstetrical outcome. Arch Womens Ment Health [Internet]. 2016;19(1):3–10. https://doi.org/10.1007/s00737-015-0542-z.
21. Yakut E, Uguz F, Aydogan S, Bayman MG, Gezginc K. The course and clinical correlates of obsessive-compulsive disorder during the postpartum period: A naturalistic observational study. J Affect Disord [Internet] 2019;254:69–73. https://doi.org/10.1016/j.jad.2019.05.027.
22. Storch EA, Rasmussen SA, Price LH, Larson MJ, Murphy TK, Goodman WK. Development and psychometric evaluation of the Yale–Brown Obsessive-Compulsive Scale—Second Edition. Psychol Assess [Internet] 2010;22(2):223–32. https://doi.apa.org/doi/10.1037/a0018492.
23. Rosario-Campos MC, Miguel EC, Quatrano S, Chacon P, Ferrao Y, Findley D *et al*. The Dimensional Yale–Brown Obsessive–Compulsive Scale (DY-BOCS): an instrument for assessing obsessive–compulsive symptom dimensions. Mol Psychiatry [Internet] 2006;11(5):495–504. https://doi.org/10.1038/sj.mp.4001798.
24. Arrindell WA, Akkerman A, Bagés N, Feldman L, Caballo VE, Oei TPS *et al*. The Short-EMBU in Australia, Spain, and Venezuela - Factorial invariance, and associations with sex roles, self-esteem, and Eysenckian personality dimensions. Eur J Psychol Assess [Internet] 2005 [cited 2016];21(1):56–66. http://econtent.hogrefe.com/doi/abs/10.1027/1015-5759.21.1.56.
25. Boyette L, Swets M, Meijer C, Wouters L. Factor structure of the Yale–Brown Obsessive–Compulsive Scale (Y-BOCS) in a large sample of patients with schizophrenia or related disorders and comorbid obsessive–compulsive symptoms. Psychiatry Res [Internet] 2011;86(2–3):409–13. https://doi.org/10.1016/j.psychres.2010.07.048..
26. McKay D, Danyko S, Neziroglu F, Yaryura-Tobias JA. Factor structure of the Yale-Brown Obsessive-Compulsive scale: A two dimensional measure. Behav Res Ther [Internet].1995;33(7):865–9. https://doi.org/10.1016/0005-7967(95)00014-o.
27. McKay D, Neziroglu F, Stevens K, Yaryura-Tobias JA. The Yale-Brown obsessive-compulsive scale: confirmatory factor analytic findings. J Psychopathol Behav Assess 1998;20:265–74.
28. Amir N, Foa EB, Coles ME. Factor structure of the Yale–Brown Obsessive Compulsive Scale. Psychol Assess [Internet] 1997;9(3):312–6. https://doi.apa.org/doi/10.1037/1040-3590.9.3.312.
29. Deacon B, Abramowitz J. Anxiety sensitivity and its dimensions across the anxiety disorders. J Anxiety Disord 2006;20(7):837–57. ttps://doi.org/10.1016/j.janxdis.2006.01.003.
30. Anholt G. The Yale-Brown Obsessive-Compulsive scale: factor structure of a large sample. Front Psychiatry [Internet] 2010;1. https://doi.org/10.3389/fpsyt.2010.00018.
31. Moritz S, Meier B, Kloss M, Jacobsen D, Wein C, Fricke S *et al*. Dimensional structure of the Yale–Brown Obsessive-Compulsive Scale (Y-BOCS). Psychiatry Res [Internet] 2002;109(2):193–9. https://doi.org/10.1016/s0165-1781(02)00012-4.
32. Fatori D, Costa DL, Asbahr FR, Ferrão YA, Rosário MC, Miguel EC *et al*. Is it time to change the gold standard of obsessive-compulsive disorder severity assessment? Factor structure of the Yale-Brown Obsessive-Compulsive Scale. Aust New Zeal J Psychiatry [Internet] 2020;54(7):732–42. https://doi.org/10.1177/0004867420924113.
33. Bogović M. Učestalost opsesivno-kompulzivnih simptoma nakon porođaja i komorbiditet s depresivnim i anksioznim simptomima [Frequency of obsessive-compulsive symptoms after childbirth and comorbidities with depressive and anxiety symptoms]. Catholic University of Croatia: Unpablished graduation thesis.; 2023.

34. Cox JL, Holden JM, Sagovsky R. Detection of Postnatal Depression: Development of the 10-item Edinburgh Postnatal Depression scale. Br J Psychiatry 1987;150(June):782–6.
35. Levis B, Negeri Z, Sun Y, Benedetti A, Thombs BD, Group Depres SD (DEPRESSD) E. Accuracy of the Edinburgh Postnatal Depression Scale (EPDS) for screening to detect major depression among pregnant and postpartum women: systematic review and meta-analysis of individual participant data. BMJ [Internet] 2020;371:m4022. https://doi.org/10.1136/bmj.m4022.
36. Nakić Radoš S, Tadinac M, Herman R. Validation study of the croatian version of the Edinburgh Postnatal Depression Scale (EPDS). Suvremena psihologija 2013;16(2):203–18.
37. Lovibond PF, Lovibond SH. The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. Behav Res Ther [Internet] 1995;33(3):335–43. https://doi.org/10.1016/0005-7967(94)00075-u.
38. Reić Ercegovac I, Penezić Z. Skala depresivosti, anksioznosti i stresa [Depression, anxiety and stress scale]. In: Proroković A, Adorić VĆ, Penezić Z, Tucak Junaković I, editors. Zbirka psihologijskih skala i upitnika, svezak 6 [Collection of psychological scales and questionnaires, Vol 6],. Zadar, Croatia: University of Zadar, 2012, 15–22.
39. Nakić Radoš S. Razvoj i validacija Ljestvice zabrinutosti u trudnoći. Klin Psihol 2015;8:151–66.
40. Bentler PM, Chou C-P. Practical Issues in Structural Modeling. Sociol Methods Res [Internet] 1987;16(1):78–117. https://doi.org/10.1177/0049124187016001005.
41. Tabachnick BG, Fidell LS. Using Multivariate Statistics (5th ed.). Pearson: Needham Heights, MA, 2011.
42. Kline RB. Principles and practice of structural equation modeling. 3rd ed. New York: Guilford Press, 2011.
43. Muthén LK, Muthén BO. Mplus User's Guide. Eight Edit. Los Angeles, CA: Muthén & Muthén, 2012.
44. Brown TA. Confirmatory factor analysis for applied research. Guilford Publications, 2014.
45. Li C-H. Confirmatory factor analysis with ordinal data: Comparing robust maximum likelihood and diagonally weighted least squares. Behav Res Methods [Internet] 2016;48(3):936–49. https://doi.org/10.3758/s13428-015-0619-7.
46. Barrett P. Structural equation modelling: Adjudging model fit. Pers Individ Dif [Internet] 2007;42(5):815–24. https://linkinghub.elsevier.com/retrieve/pii/S0191886906003837.
47. Hu L, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Struct Equ Model A Multidiscip J [Internet] 1999;6(1):1–55. https://doi.org/10.1080/10705519909540118.
48. Leckman JF, Mayes LC, Feldman R, Evans DW, King RA, Cohen DJ. Early parental preoccupations and behaviors and their possible relationship to the symptoms of obsessive-compulsive disorder. Acta Psychiatr Scand [Internet] 1999;100(S396):1–26. https://doi.org/10.1111/j.1600-0447.1999.tb10951.x.
49. Hudepohl N, MacLean JV, Osborne LM. Perinatal Obsessive–Compulsive Disorder: Epidemiology, Phenomenology, Etiology, and Treatment. Curr Psychiatry Rep 2022;24(4):229–37. https://doi.org/10.1007/s11920-022-01333-4.
50. Fairbrother N, Abramowitz JS. New parenthood as a risk factor for the development of obsessional problems. Behav Res Ther 2007;45(9):2155–63. https://doi.org/10.1016/j.brat.2006.09.019.
51. Kawoos Y, Maqbool M, Amin R, Wani Z, Farooq Z, Margoob M. Maternal mental health and its determinants during COVID-19, experience from Kashmir, Northern India. J Fam Med Prim Care [Internet] 2022;11(6):2870. https://doi.org/10.4103/jfmpc.jfmpc_797_21.
52. Abramowitz JS, Meltzer-Brody S, Leserman J, Killenberg S, Rinaldi K, Mahaffey BL *et al*. Obsessional thoughts and compulsive behaviors in a sample of women with postpartum mood symptoms. Arch Womens Ment Health [Internet] 2010;13(6):523–30. https://doi.org/10.1007/s00737-010-0172-4.
53. Mozumder MK, Begum R. Relationship between socio-demographic variables and obsessive compulsive disorder. Pakistan J Soc Clin Psychol 2007;16:3–14.
54. Arrindell W, de Vlaming IH, Eisenhardt BM, van Berkum DE, Kwee MG. Cross-cultural validity of the Yale–Brown Obsessive Compulsive Scale. J Behav Ther Exp Psychiatry [Internet] 2002;33(3–4):159–76. https://doi.org/10.1016/s0005-7916(02)00047-2.
55. Deacon BJ, Abramowitz JS. The Yale-Brown Obsessive Compulsive Scale: factor analysis, construct validity, and suggestions for refinement. J Anxiety Disord [Internet] 2005;19(5):573–85. https://doi.org/10.1016/j.janxdis.2004.04.009.