JHGD
Journal of Human Growth and Development

www. jhgd.com.br

ORIGINAL ARTICLE

Validation of the Regret Coping Scale for Healthcare Professionals (RCS-HCP) in Brazilian Portuguese

Fabiana Rosa Neves Smiderle[a,b], Stela Maris de Jezus Castro[c], Delphine Sophie Courvoisier[d], Rita Mattiello[c]

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[a]Escola Superior de Ciências da Santa Casa de Misericórdia de Vitória – EMESCAM, Espírito Santo, Brazil.

[b]Pontifícia Universidade Católica, Porto Alegre, Rio Grande do Sul – Brazil.

[c]Universidade Federal do Rio Grande do Sul – Brazil.

[d]Hôpitaux Universitaires de Genève – Suisse.

Corresponding author
rita.mattiello@ufrgs.br

Manuscript received: october 2022
Manuscript accepted: december 2022
Version of record online: august 2023

Abstract

Introduction: assessing the ability to cope with regret can contribute to support strategies for health professionals. However, in Brazil only few instruments evaluate this ability in general.

Objective: this study aimed was to adapt and validate the Regret Coping Scale for Healthcare Professionals (RCS-HCP) to Brazilian Portuguese .

Methods: the instruments were translated, and the psychometric properties evaluated for validity and reliability. Three hundred and forty-one professionals participated, with an average age of 38.6 ± 9.2, and 87 participated in a retest survey 30 days later.

Results: exploratory factor analysis showed adequacy of the structure (KMO = 0.786) composed of three factors. In the confirmation, the performance was close to acceptable. Reliability was good for the maladaptive strategies (α = 0.834) and adequate for the problem-focused initiatives (α = 0.717), but slightly too low for adaptive strategies (α = 0.595). Test-retest showed lower than expected values, with a Spearman-Brown coefficient of 0.703.

Conclusion: the RCS-HCP scale showed satisfactory performance in relation to the properties evaluated.

Keywords: validation studies, health personnel, emotions, psychological adaptation.

Suggested citation: Smiderle FRN, Castro SMJ, Courvoisier DS, Mattiello R. Validation of the Regret Coping Scale for Healthcare Professionals (RCS-HCP) in Brazilian Portuguese. *J Hum Growth Dev. 2023; 33(2):194-205.*
DOI: http://doi.org/10.36311/jhgd.v33.13880

Authors summary

Why was this study done?
During decision-making in clinical practice, health professionals are constantly challenged to make choices that successfully promote the improvement of the patient's health status. Repentance is one of the repercussions that can originate from error, in addition to this fact, emotional distress in the failure to develop resolution mechanisms can significantly compromise the mental health of these professionals. The strategies that can be used to deal with feelings of regret have positive and / or negative results when related to participation at work.
In this sense, the evaluation and monitoring of coping strategies in health professionals is extremely important. There are already several tools used internationally. However, in Brazil there is a shortage of validated instruments that assess situations of resolution in the general context.

What did the researchers do and find?
The Coping Scale for Healthcare Professionals (RCS-HCP) addresses the strategy of dealing with regret related to the care provided by health professionals. Therefore, this study aimed to validate the RCS-HCP in Brazilian health professionals.
In the present study, the German version of the Regret Coping Scale for Healthcare Professionals (RCS-HCP), translated and adapted for the Portuguese, presented an adequate performance and was a valid and reliable measure. The clarity and familiarity of the translated items might have contributed to this performance of the questionnaire in the Brazilian population.

What do these findings mean?
The translated version for the Portuguese of the Regret Coping Scale for Healthcare Professionals (RCS-HCP) presented an adequate performance in its psychometric properties.

INTRODUCTION

During decision-making in clinical practice, health professionals are constantly challenged to make choices that successfully promote the improvement of the patient's health status[1,2]. Error can cause repercussions such as guilt, shame, states of anxiety, patient fear, loss of confidence, inability to verbalize, and repentance[3]. In addition to this fact, emotional distress at the non-development of coping mechanisms can significantly compromise the mental health of these professionals[4,5].

The strategies that can be used to deal with feelings of repentance can be: problem-centered or emotion-focused[6]. Problem-centered ones are directed directly to the patient while the emotion-focused one is directed to modify the emotional response to the situation; accepting its own limitations or limitations related to care[7,8]. Coping strategies have positive and/or negative results when related to work participation. Coping strategies, such as active problem solving, can increase the chance of participation in work, while passive coping and coping with evasion could decrease the chance of participation[9].

In this sense, the evaluation and monitoring of coping strategies in health professionals is extremely important. There are already several tools used internationally. However, in Brazil there is a scarcity of validated instruments that assess coping situations in the general context and in a feasible way[10,11]. In this context, the Regret Coping Scale for Healthcare Professionals (RCS-HCP) scale addresses the strategy of coping with regret related to care by health professionals. This instrument was validated in French (original version), German and Danish, with application in physicians, nurses, and social educators. It has a practical and fast approach since its structure includes 15 items and presented a good performance in relation to internal consistency [7,12,13].

Thus, the present study aims to validate the Regret Coping Scale for Healthcare Professionals in Portuguese for its application in Brazilian health professionals.

METHODS

Study Design and context

This is a cross-sectional study study recruited from healthcare professinals working with pediatric and adult populations in public, private and philanthropic hospital institutions in the states of Espírito Santo, Ceará, Pernambuco, Alagoas, Piauí, Bahia, Acre, Minas Gerais, Rio de Janeiro, São Paulo and Rio Grande do Sul from October 2018 to April 2019.

Participants

Health professionals participated in the study (physicians, nurses, and physiotherapists), working in direct care to patients and who have at least six months of experience in the service. The inclusion of the sample was after signing the free and informed consent form for participation in the research by sending the invitation or in person. The professionals answered the questionnaires to collect the sociodemographic variables and later to the other instruments of this research.

Sociodemographic variables

Sociodemographic variables were obtained through structured interviews and included age (years), sex (male or female), professional designations (title, number of works, work experience time, typical work shift, and state of origin).

Regret Coping Scale for Healthcare Professionals (RCS-HCP)

The daily strategies for coping with repentance related to the care used by health professionals were measured using the RCS-HCP Scale. The scale consists of 15 items that measure strategies for coping with regret that can be focused on the problem or adaptive or maladaptive emotions. The questions assess the change in patient care practices, usually performed after events of regret. Answer options range from 1 (never or almost never) to 4 (always or almost always). The original scale features 3 domains. First domain focused on the problem and

the other focused on adaptive emotion and maladaptive emotion[12]. Although the best strategy is situation-specific and no single strategy can be described as generally better than others, some strategies. Strategies in domains focused on maladaptive emotion are more associated with negative results[14]. The estimate of the latent trait 'Dealing with regret' is obtained through the Average Score, the total score of the instrument is not calculated since it is believed that there are three types of coping strategies and not a global strategy.

Self Reporting Questionnaire – SRQ-20

The SRQ-20 scale was validated in Brazil and assesses the prevalence of Common Mental Disorders (depressive, anxious and somatic complaints). This instrument has 20 questions and the final score can range from zero (null probability) to 20 (high probability) of common mental disorders[15,16].

Life Satisfaction Scale

The Life Satisfaction Scale comprises five items answered using a 7-point Likert scale, with 1 = totally disagree, 2 = disagree, 3 = disagree slightly, 4 = neither agree nor disagree, 5 = agree slightly, 6 = agree, and 7 = totally agree[17,18]. The total score can range from 5 points (extremely dissatisfied) to 35 points (extremely satisfied)[18].

Instrument Validation

The validation process was composed of two phases and the methodology adopted for the translation of the scale followed international standards[19,20].

Translation

Translation of the RIS-10 encompassed the following steps: (i) translation by two German–Brazilian Portuguese translators; (ii) harmonization between both Portuguese versions, resulting in a single version in Portuguese; (iii) back-translation of the harmonized version by two Brazilian Portuguese–German translators; (iv) harmonization between both translators, resulting in a single German version; and (v) general harmonization, where the versions resulting from the first and second harmonization were discussed by the four translators to obtain a consensus version[20].

We also translated the RIS-10 from French into Portuguese by two translators and harmonized these translations to assess the differences between the translated versions of German and French. Given that no differences were found between these translations, we adopted the German-to-Portuguese translation as the official translation.

Evaluation of psychometric properties

Phase II comprised in the evaluation of the psychometric properties of validity (content, construct and criterion) and reliability through field testing.

Content Validation

After the scale was translated, the process of cultural adaptation began. For this, this version of the scale was evaluated in relation to content by judges with clinical experience in the studied latent trait. Six judges who have been working in the health care area for more than 5 years participated from each of the following areas: 2 physicians, 2 nurses, 1 psychologist and 1 physiotherapist.

First, the evaluation was done qualitatively, to obtain the possible suggestions for a better cultural adaptation of the translated terms. The level of agreement among the judges regarding the relevance and representativeness of the items was evaluated by the Content Validity Index (CVI). A 4-point Likert scale was used, where: 1 = not relevant; 2 = item needs a large revision to be representative (not relevant); 3 = quite clear, but needs a small review (very relevant); and 4 = quite clear and representative (highly relevant)[19].

This index is calculated by the sum of the 3- and 4-point answers divided by the total number of judges, yielding a proportion of judges who deemed the item valid. However, 1- and 2-point answers required revision or elimination. To calculate the general CVI of the instrument, the sum of all CVI calculated separately was performed, divided by the number of items[19]. A CVI exceeding 0.78 is considered an acceptable agreement rate when six judges participate, which was the case in our study[19,21]. The scale's content was evaluated through a pilot study of 10 professionals, six nurses, three physicians, and one physiotherapist.

Construct Validity

Construct validity testing was performed with exploratory and confirmatory factor analysis. Exploratory factor analysis was performed with the Promax rotation method and used the Kaiser measure to assess the adequacy of the sample to a latent factorial structure. The evaluation of the adequacy of a latent factorial structure to the data was measured using the Kaiser–Meyer–Olkin (KMO) test[22]. KMO values exceeding 0.5 were considered adequate[22].

Confirmatory factor analysis (CFA) verified the factorial structure suggested in the original scale with 3 factors using the structural equation model[12]. The adjustment and quality of the sample of this study to the factorial structure was examined using the following: χ^2 (chi-square model), goodness of fit index (GFI), root mean square error of approximation (RMSEA), standardized root mean squared residual (SRMR), normed fit index (NFI), comparative fit index (CFI), Tucker-Lewis index (TLI), and Bollen's incremental fit index (IFI). The cut-off points considered acceptable for scale adjustment were as follows: χ^2: $p > 0.05$,GFI > 0.90; RMSEA < 0.08, SRMSR < 0.10, NFI ≥ 0.90, CFI > 0.90, TLI > 0.95, and IFI > 0.90[23–26].

Criterion Validity

For criterion validity, the total score of the RCS-HCP scale was correlated with the questionnaires validated in Brazil, namely, the SRQ-20[15,16] and the Life Satisfaction Scale[17]. We hope that some emotion-centered strategies would be more often associated with negative outcomes such as higher prevalence of common mental disorder, and secondly, that problem-centered, emotion-centered strategies would be associated with

greater satisfaction with life. Correlations were evaluated using the Spearman's rho (ρ), and values of r > 0.3 were considered acceptable[27].

Reliability

The reliability measures of internal consistency, floor and ceiling effects, test–retest, and Spearman–Brown coefficient were used[27]. Cronbach's α was used for internal consistency [28]. The floor and ceiling effect were evaluated by determining the lowest and highest percentage of the population in the application of the scale[29,30]. The Spearman-Brown coefficient[27] was analyzed by the split method, as detailed in the following strategies. First, the items were randomly divided into two equal halves. A scale mean was computed for each half, and then the two sets of scale means were correlated to estimate a split-half correlation. The split-half correlation was adjusted by the Spearman–Brown formula to create a split-half reliability[31,32]. Test-retest reliability was analyzed using the intraclass correlation and Bland–Altman plots [33]. Data collection for test–retest analysis was performed within a maximum period of 30 days.

Interpretations of the reliability test items were as follows: Cronbach's α was ≥0.7, as recommended[33], the criterion considered to floor and ceiling effect was >20%[29,34], the intraclass correlation (CIC) was considered acceptable when ≥0.735 and Spearman–Brown coefficient was >0,327. The data were analyzed using the statistical software SAS v.9.4 and the Lavann package v.0.6-5 of R. This study uses a p of 0.05 as the statistical threshold of significance.

Sample Size

Calculation of the sample size was based on the psychometric properties evaluated and aimed for a ratio of 15:1 (15 respondents for 1 item of the instrument)[36]. Since the scale contains a total of 15 itens, 150 participants would be needed. A total of 341 professionals participated in this study.

Ethical Aspects

This study was approved by the ethics committee of the Pontifícia Universidade Católica do Rio Grande do Sul – PUC/RS (CAAE: 2.462.827/2018. All participants signed an informed consent form prior to the study.

RESULTS

Sample characteristics

Of the 500 total questionnaires distributed, 341 were completed (68%). Of the 159 questionnaires that were not returned, 119 were from the online version of the questionnaire, 89 (75%) and 40 (25%) of the printed version.

The mean age of the participants was 38.6 ± 9.2 years. The majority of the sample was female (217 of 341; 64%), and 190 (56%) respondents were married. Furthermore, 164 (48%) respondents were nursing professionals, one work only186 (56%) had only one employment relationship, and 135 (41%) worked the night shift. The interviewees originated predominantly from the state of Espírito Santo (76%; Table 1). The overall mean coping score was 2.3 ± 0.39.

Table 1. Characteristics of the Brazilian sample.

Variables	n= 341 (%)
Age (years), mean "SD"	38.6 "9.2"
Sex	
Male	124 (36)
Female	217 (64)
Marital status	
Single	151 (44)
Married	190 (56)
Professional	
Doctor	126 (37)
Nurse	164 (48)
Physical therapist	51 (15)
Amount of employment	
One employment	186 (56)
Works at night shift	135 (41)
State of origin	
Espírito Santo	260 (76)
Rio Grande do Sul	38 (11)
Other *	43 (13)

IR25-75: Interquartile range

*Participants from other states: Ceará, Pernambuco, Alagoas, Piauí, Bahia, Acre, Minas Gerais, Rio de Janeiro, and São Paulo.

Instrument translation and cultural adaptation

The items were consistent in both the translation and back-translation processes. Any terms that translated differently between translators were discussed and resolved to ensure uniformity of the instrument.

Content validity

The level of agreement among the judges regarding the relevance and representativeness of the items evaluated by the CVI was 1.00.

Construct validity

Exploratory factor analysis showed the adequacy and detection of the structure with the KMO index= 0.78 considered adequate according to the parameters established in the study. The analysis allowed the extraction of three factors (the first being responsible for 57.3% of the total variation), confirmed in the application of the slope graph (Figure 1).

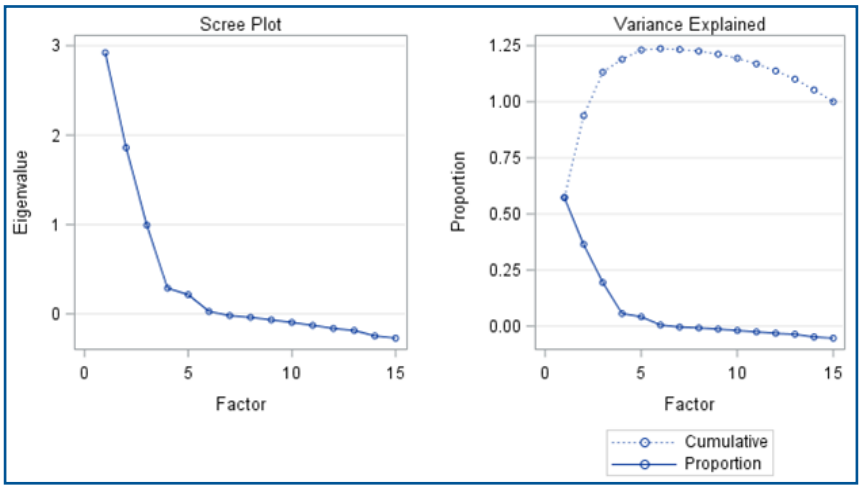

Figure 1: Scree plot and proportion of variance explained

The correlations of each item to each factor are described in table 2 according to the suggested factorial structure. The suggested structure of the instrument in the analysis presents the items with distribution in three factors reproducing the version of the original instrument (measurement of strategies focused on the problem, adaptive and maladaptive) but with alteration in the relationship of the composition of the item to the factor. In factor 1, presented an item of the scale (Q11) more in its constitution.

Table 2: Exploratory factor analysis with ProMax rotation factor loading for RCS-HCP.

Scale items	Factor I FED	Factor II FP	Factor III FEA
Q.8. I think so much about it that it consumes me	**0.794**	- 0.007	- 0.024
Q.12. I have to think all the time in this situation	**0.738**	0.081	- 0.134
Q.7. I can't stop thinking about these situations	**0.731**	0.081	- 0.042
Q.9.I tend to blame myself	**0.631**	-0.043	- 0.042
Q.6. I feel incapable	**0.565**	0.003	0.074
Q.11. I try to distance myself	**0.476**	- 0.161	0.412
Q.13. I expose the situation to my colleagues, to improve our way of wor king	0.037	**0.664**	0.049
Q.4. I talk to the team to prevent situations like these from repeating	-0.079	**0.655**	-0.058
Q.1. I talk to colleagues so someone can hear me or give me strength	0.134	**0.549**	0.058
Q.3. I strive to find concrete solutions to the situations	- 0.085	**0.523**	0.018
Q.2. I discuss the problem again with patient and/or with his family	0.069	**0.492**	0.030
Q.15. I try not to give so much value to the situation	- 0.083	- 0.110	**0.529**
Q.5. I try to accept the situation	- 0.026	0.022	**0.520**
Q.10. I tell myself that making mistakes is human	0.094	0.106	**0.491**
Q.14. I struggle to see things on the bright side	- 0.141	0.233	**0.451**

FP: Focused on the Problem; FEA: Focused Adaptive Emotions; FED: Focused Adaptive Emotions

The CFA results were analyzed to verify the theoretical factorial structure:X2= p < 0,001, RMSEA = 0.075 (IC 90% 0.064 - 0.086), SRMR = 0.084, GFI = 0.910, NFI = 0.8153, CFI = 0.870, TLI = 0.843, IFI = 0.872. Observing the RMSEA, SRMR and GFI adjustment indexes, the theoretical factorial structure presents performance close to the acceptable in the sample of this study. However, according to the other measures used for adjustment NFI, CFI, TLI and IFI this performance is somewhat below acceptable.

Concurrent validity

Participants who presented an maladaptive coping strategy had a positive correlation with the SRQ-20 questionnaire (rho= 0,441; p<0,001) and a negative correlation with the life satisfaction scale (rho= - 0,192; p<0,001). The domain of the RCS-HCP instrument focused on the problem was correlated with the life satisfaction scale (rho= 0,151; p<0,005) according to Table 3.

Table 3: Correlation of RCS-HCP scale scores with SRQ-20 and life satisfaction.

Variables		RCS-HCP					
		Focused on the problem		Unadaptive		Adaptive	
	Average (DP)	rho	p	rho	P	rho	p
SRQ-20	5.3 (4.1)	0.037	0.500	**0.441**	**<0.001***	-0.042	0.443
Life satisfaction scale	24.7 (6.3)	**0.151**	**0.005**	**-0.192**	**0.000**	0.056	0.307

SRQ- 20: SRQ-20: Self Reporting Questionnaire

Concurrent validity

Cronbach's alpha coefficients for the dimensions: focused on the 0.71 problem and maladaptive 0.83 were adequate and close to those presented in validation studies of the instrument in other countries, for adaptive dimension the result was slightly below 0.59 ac The item "I try to accept the situation" if the alpha coefficient value would be excluded from the questionnaire and if the item "I try not to value the situation so much" item is also excluded, the value rises to 0.69 (Table 4).

Table 4: Results of the internal consistency of the instrument RCS-HCP.

Scale domain	French α - cronbach	German α - cronbach	Danish α - cronbach	Brazil α - cronbach
Focused on the problem	0.89	0.69	0.69	0.71
Adaptive Strategies	0.89	0.67	0.65	0.59
Unadaptive strategies	0.89	0.86	0.84	0.83
Total	0.85	0.88	-	0.67

In the evaluation of the floor-ceiling effect eight items presented values higher than 20% for the floor effect observed in the items: 2, 6, 7, 8, 9, 11, 12 and 15, most of which refer to the strategy focused on the problem. The ceiling effect addressed five items: 1.3, 4, 5, 13 and 14 with higher concentration in the maladaptive strategy (Table 5).

Table 5: Floor and ceiling effect of the RCS-HCP scale.

Scale Items	Floor N (%)	Ceiling N (%)	Average (DP)
1. I talk to colleagues so someone can hear me or give me strength	42 (12.0)	86 (25.0)	64 (31.1)
2. I discuss the problem again with patient and/or with his family	98 (29.0)	51 (15.0)	74.5 (33.23)
3. I strive to find concrete solutions to the situations	6 (2.0)	221 (65.0)	113.5 (152)
4. I talk to the team to prevent situations like these from repeating	14 (4.0)	195 (57.0)	104.5(127.98)
5. I try to accept the situation	62 (19.0)	71 (21.0)	66.5 (6.36)
6. I feel incapable	140 (41.0)	10 (3.0)	75 (91.92)
7. I can't stop thinking about these situations	109 (32.0	18 (5.0)	63.5 (64.34)
8. I think so much about it that it consumes me	185(55.0)	20 (6.0)	102.5(116.67)
9. I tend to blame myself	137 (40.0)	22 (6.5)	79.5 (81.31)
10. I tell myself that making mistakes is human	64 (19.0)	45 (13.0)	54.5 (13.43)
11. I try to distance myself	148 (43.0)	19 (6.0)	83.5 (91.21)
12. I have to think all the time in this situation	146 (43.0)	18 (5.0)	82 (90.5)
13. I expose the situation to my colleagues. to improve our way of working	33 (10.0)	93 (27.0)	63 (42.42)
14. I struggle to see things on the bright side	17 (5)	99 (29.0)	58 (57.98)
15. I try not to give so much value to the situation	134 (39.0)	15 (4.0)	74.5 (84.14)

For the analysis of the retest test, 87 professionals were attended. The intraclass correlation was 0.60 (95%CI: 0.42 - 0.72) and for the dimensions: focused on the problem 0.64 (95%CI: 0.45-0.76), focused on disadaptive emotions 0.64 (95%CI: 0.50-0.75) and adaptive 0.50 (95%CI: 0.32-0.64). The Spearman-Brown coefficient ranged from 0.60 to 0.70 (standard deviation equal to 0.04).

Figure 2 shows the Bland-Altman graph of agreement with the mean difference and the limits according to 95% of the Test and Retest. The mean bias was -0.53 with lower and upper limits from -9.50 to 8.44, respectively.

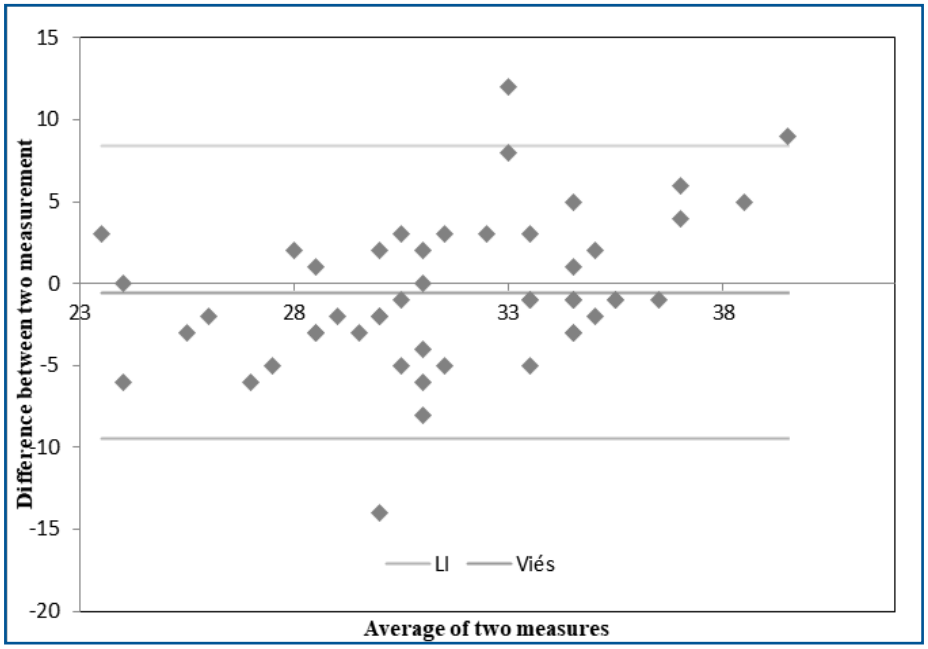

Figure 2: Bland-Altman graph of regret intensity (RCS-HCP) for baseline and 1-month follow-up surveys.

DISCUSSION

In the present study, the German version of the Regret Coping Scale for Healthcare Professionals (RCS-HCP), translated and adapted to Brazilian Portuguese, presented an adequate performance and was a valid and reliable measure. The clarity and familiarity of the translated items may have contributed to this performance of the questionnaire in the Brazilian population.

The factorial composition of the repentance scale indicated dimensions, analogous to the results observed in the studies that performed translation and validation of the RCS-HCP[7,12,13]. Most items remained in the factors as in the original study. The item that the analysis suggested different domain was item 11 "I try to distance myself" being conditioned to the Domain focused on the disadaptive emotion. This result underlies the theory that coping strategies can occur differently in each individual, each would present their own style[37], which may influence the use of each one are personal characteristics, reflecting on the psychological balance about their experiences [12,38] or the rationale for preparing professional practice[39]. The interaction of previous individual and contextual characteristics affects emotional reactions through stressful events and can present themselves in positive or negative ways in the short and long term[40].

The scale of coping with repentance presented in relation to the maladaptive domain an association with the mental health of professionals evidencing a higher prevalence of common mental disorders according to the original studies in French[12], German[7]and Danish[13] and was significantly related to lower life satisfaction[12]. The set of coping strategies can help in the satisfaction and quality of life of the professional, ensuring their capacity in the realization of care[41]. Considering the disadaptive coping, a strategy related to emotion, may infer that these professionals may have difficulty in regulating them. This result was observed in another study[13], who presented an association of mental health problems with a worse coping or coping with maladaptative regret. The emotion-focused coping strategy refers to the management of emotional response through defensive behaviors to protect censorship[8]. Thus, the greater use of the coping strategy with a focus on emotion can be seen as a negative aspect.

The use of problem-focused strategies was positively correlated with life satisfaction according to French version studies[12] and German[7]. The identification of factors that negatively affect mental health can help the development of effective interventions[42] for a better way of managing emotional response and the establishment of the possibility of the therapeutic model[43], the recognition of coping strategies, in this perspective, can help the promotion of professionals' health and reduce illness[44].

Counseling and discussion can be important functions in coping focused on the problem and emotions allowing the analysis of the situation, structuring strategies and constructive processing of negative feelings[45].

Regarding the adaptive response, resilience is highlighted as an aid within institutions to learn from mistakes and have flexibility and professionals as a way to deal with daily stress as well as adaptation to changes[46]. Conceptually, resilience is correlated with coping and both are stress-conditioned. The divergence occurs once, that coping directs to the strategy used to deal with the

situation regardless of the result obtained and resilience is concerned with successful adaptation[47]. Resilience is associated with positive coping strategies (dealing with the problem, optimism) improving the well-being of health professionals[48] and would be a protective factor against the development of metal disorder[49].

Regarding reliability, cronbach's overall alpha presented the scale with a value lower than the versions already validated[7,12,13] and when compared to other instruments that measure repentance strategies validated in Brazil[11,37,44], but it is discussed that the acceptability of the Cronbach's alpha coefficient is not determined by its statistical significance, which could be considered acceptable coefficients >0,650. The consistency for dimensions (domains) of the scale proved to be adequate as in the original, German and Danish versions[7,12,13] being the lowest value in relation to the adaptive domain. Higher reliability coefficients in the scales of immediate and long-term emotional reaction support the conclusion that these aspects are more similar among professionals[40].

In this study, there was a divergence in relation to the verification of the floor and ceiling effect in the German study[7], since a percentage of responses with higher prevalence in responses with the lowest levels of measurement was evidenced. A uniformity of the distribution of responses was observed, even as evidenced by the ground effect, which could infer that this factor was influenced not by a random response pattern, but through a reality presented in the study population. The presence of ceiling and floor effects can influence sensitivity and responsiveness[51] based on the longitudinal distribution of the sample[52].

The results of the RCS-HCP test and retest analyses were below the expected. This may have occurred due to the difference in the time interval of the application of the questionnaires between the professionals, the performance of the questionnaire during the workday or other sources of error. In the literature there is still no consensus on the ideal time between the applications of the questionnaires[53,54], but it is recommended to be neither short nor long so that it has not memorized the responses or interference of personal and environmental factors[53,55].

The limitation of this study is due to the sample not having been random, but there were participants from several regions of the country, which contributed to the validation process of this instrument due to the greater scope. The sample presented higher representativeness in the states of Espírito Santo and Porto Alegre, respectively. However, the study included participants from different regions of Brazil (Southeast, Northeast and South) who represent 83% of the population index[56]. The self-report methodology used in this questionnaire-based study may be subject to bias since the reassessment is related to emotional regulation strategies, some strategies should be analyzed at the time of their occurrence. However, it makes it feasible to evaluate repentance in several scenarios because it does not measure specific events, but rather measures the overall experience of regrets, and can be used to evaluate strategies for coping with repentance to different events.

Another important consideration is related to the participation of professionals working only in the hospital environment, which can be declared as another limitation, considering that the generalization for professionals in other environments in direct care also need to be clarified, and may be the target of future studies. Additional studies could evaluate the coping of repentance and the presence/insertion of programs within health services that can assist these professionals in recognizing and implementing coping strategies.

CONCLUSION

The translated version to Brazilian Portuguese of the Regret Coping Scale for Healthcare Professionals (RCS-HCP) presented an adequate performance in its psychometric properties.

Author Contributions

Conception, design, analysis and interpretation of data: F. R.N. S; S.M.J.C; R.M; D.S.C

Writing of the article and relevant critical review of the intellectual content: F. R.N. S; S.M.J.C; R.M

Final approval of the version to be published: R.M; D.S.C

All of the authors have substantially contributed to the conception, analysis, interpretation of the data, and/or critical revisions for the intellectual content. They declare that they have approved the manuscript submission and have no competing interests.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Acknowledgments

We express our appreciation to the health professionals who participated in this project.

Conflicts of Interest

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

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Resumo

Introdução: a avaliação da capacidade de lidar com o arrependimento pode contribuir para estratégias de apoio aos profissionais de saúde. No entanto, no Brasil existem poucos instrumentos que avaliam essa habilidade no contexto geral.

Objetivo: o objetivo do estudo foi adaptar e validar a Regret Coping Scale for Healthcare Professionals (RCS-HCP) para profissionais de saúde brasileiros.

Método: na validação, os instrumentos foram traduzidos e as propriedades psicométricas avaliadas quanto à validade e confiabilidade. Participaram 341 profissionais, com média de idade de 38,6 ± 9,2, e 87 participaram de uma pesquisa de reteste 30 dias depois.

Resultados: a análise fatorial exploratória mostrou adequação da estrutura (KMO = 0,786) composta por três fatores. Na confirmação, o desempenho ficou próximo do aceitável. A confiabilidade foi boa para as estratégias mal adaptativas (α = 0,834) e adequada para as estratégias focadas no problema (α = 0,717), mas um pouco baixa demais para as estratégias adaptativas (α = 0,595). Teste-reteste apresentou valores abaixo do esperado, com coeficiente de Spearman-Brown de 0,703.

Conclusão: a escala RCS-HCP apresentou desempenho satisfatório em relação às propriedades avaliadas.

Palavras-chave: estudos de validação, pessoal de saúde, emoções, adaptação psicológica.

Supplementary material

Versão em Português

Indique em termos gerais com que frequência as afirmações a seguir aplicam-se à sua experiência (marcar um X na resposta adequada em cada linha)

Em geral, quando me arrependo de acontecimentos ou de situações com pacientes, ...

1.	Eu converso com colegas para que alguém me ouça ou me dê forças	1	2	3	4
2.	Eu discuto o problema novamente com o paciente e/ou com sua família	1	2	3	4
3.	Eu me esforço, para encontrar soluções concretas para as situações	1	2	3	4
4.	Eu converso com a equipe para impedir que situações como estas se repitam	1	2	3	4
5.	Eu procuro aceitar a situação	1	2	3	4
6.	Eu me sinto incapaz	1	2	3	4
7.	Não consigo parar de pensar nessas situações	1	2	3	4
8.	Penso tanto nisso que o assunto me consome	1	2	3	4
9.	Tenho tendência a me censurar	1	2	3	4
10.	Eu digo a mim mesmo (a) que errar é humano	1	2	3	4
11.	Eu tento me distanciar	1	2	3	4
12.	Eu penso o tempo todo nesta situação	1	2	3	4
13.	Eu exponho a situação a meus colegas, para melhorar a nossa forma de trabalho	1	2	3	4
14.	Esforço-me para ver as coisas pelo lado positivo	1	2	3	4
15.	Eu procuro não dar tanto valor a situação	1	2	3	4

Legenda da escala:
1- nunca ou quase nunca
2- às vezes
3- frequentemente
4- sempre ou quase sempre