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Reduction of Burnout Syndrome in Health Workers through a Cognitive-Behavioural Model-Based Program: A Pilot Study

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Abstract

Peruvian primary healthcare professionals experience high levels of burnout syndrome (BS). This study aims to assess the impact of a cognitive-behavioural model-based (CBMB) program as an occupational intervention to reduce burnout in primary healthcare providers. A total of 29 workers (intervention group = 16) took part in a CBMB intervention training program consisting of one 1-hour weekly session over a period of 6 weeks. Scores of each burnout dimension, as well as other variables, were measured at pre-intervention, post-intervention, and at a 6-month follow-up period using self-report questionnaires. Data collected at these three-time points were analysed using effect size measures and sensitivity statistic. Comparison between pre-intervention and post-intervention scores indicates that emotional exhaustion has the highest improvement among all burnout dimensions (50%), followed by cynicism, but no changes were found with follow-up scores. In the same way, no changes were found in professional efficacy at any stage. The CBMB intervention program showed a short-term reduction of BS in primary healthcare workers, but only in two dimensions of the burnout experience, emotional exhaustion and cynicism.

Keywords: burnout syndrome, healthcare professionals, intervention, cognitive-behavioural model

Introduction

Health professionals play an important role during the detection, intervention, and patient recovery phases. Their work often requires the continuous deployment of resources, and these can be diminished by typical work environment stressors that

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may result in burnout syndrome (BS). In the field of primary care, these stressors are associated, in the case of nurses, with monotony and work overload (Gómez-Urquiza et al., 2017), while in the case of doctors they can be a lack of control, time pressure chaotic work conditions (Rabatin et al., 2015).

BS is a condition that emerges in response to prolonged exposure to interpersonal stressors and job demands in the work environment (Lee & Ashforth, 1996; Maslach et al., 1996). The dimensions of emotional exhaustion, cynicism (depersonalization) and professional ineffectiveness (reduced personal fulfilment) are traditionally considered components of this syndrome (Maslach et al., 1996).

Emotional exhaustion and cynicism are considered BS central dimensions, unlike professional ineffectiveness, which in the Maslach Burnout Inventory (MBI) is assessed positively (as professional effectiveness) and has been found to have a low association with these dimensions (Lee & Ashforth, 1996) and a greater association with engagement (Schaufeli et al., 2002). In the case of emotional exhaustion, job demands significantly explain its magnitude (e.g., work overload) (Alarcon, 2011; Arosson et al., 2017; Schaufeli & Enzmann, 1998; Seidler et al., 2014), while cynicism is related to a greater degree to the diminishment of work resources (Bakker et al., 2004). MBI is the most frequently used instrument for identifying BS levels in the health field (Adriaenssens et al., 2015; Rotenstein et al., 2018).

More specifically, there is a high prevalence of BS in primary care professionals, with figures ranging between 30.6% and 39.3% (Caballero et al., 2001; Dolan et al., 2014; Martínez et al., 2003; Navarro-González et al., 2015). It is also known that BS levels in this work group vary according to the specific activity, although the results are inconclusive. For example, it was found that the prevalence of BS is higher among doctors compared to other primary care professionals (Zarei et al., 2019), although nursing professionals also showed a high level of BS, which contributes to significant attrition (Hersh et al., 2016), while another study reported that social assistants (or social workers) had higher levels of BS in contrast to dentists, doctors, and nurses (Vilà et al., 2015).

The study of BS is important because its assessment constitutes an important source of information regarding workers' maladaptive processes in their work activity, which compromises their performance and health (Bakker et al., 2014; Figueredo et al., 2021). In the case of health personnel, BS directly influences work absenteeism, the intention to quit, and the deterioration of personal and family life (Suñer-Soler et al., 2014). Therefore, considering the consequences of BS, in addition to identifying the degree of worker discomfort, the addition of intervention measures that reduce its magnitude and subsequent impact on a person's life is also suggested.

Structured intervention programs are a viable alternative. They can be developed according to the needs of a specific group and are flexible in terms of their implementation. To develop a BS intervention program, the following types of

strategies are considered: a) primary (all workers); b) secondary (workers at risk of BS); c) tertiary (workers with BS). The application of these strategies will depend on whether the level of intervention is individual, organizational, or mixed (Salanova & Llorens, 2008; Schaufeli & Enzmann, 1998). The individual intervention level is usually applied in studies where empirical reports demonstrate favourable results in reducing emotional exhaustion (Walter et al., 2014).

At the individual intervention level, the cognitive-behavioural model (CBM) is one of the most applied to reduce work-related BS (Blonk et al., 2006; Guerrero & Rubio, 2008; Ohue et al., 2015), including in the health field (Clough et al., 2017). Approaches include breathing and relaxation techniques; identification and recording of automatic thoughts; cognitive restructuring; problem-solving; and promotion of a healthy lifestyle. The results of these interventions show an effective reduction of emotional exhaustion levels (Korczak et al., 2012), which makes them advisable for application in the Peruvian context.

In Peru, the enactment of the Occupational Safety and Health Act meant a significant forward push for the monitoring of work-related psychosocial risk factors that impact workers' health (El Peruano, 2011). Given this general direction, formulating intervention strategies for BS seems not only possible but essential. Due to the dearth of empirical reports on intervention programs for health professionals in Peru, however, the closest reference is a report on reducing BS among schoolteachers (Yslado et al., 2010). That study had methodological deficiencies related to the absence of the measurement instrument's validation report used (Maslach Burnout Inventory-Educational Survey), did not include a reference group and provided no follow-up to the intervention.

Meanwhile, an assessment study of interventions addressing work stress and burnout (Fernández-Arata et al., in press) reports the use of intervention programs lacking theoretical foundation or validation, problems regarding the application procedure (e.g., absence of follow-up with participants after the intervention), and threats to statistical conclusion validity, construct validity, and internal validity of effect assessment, all of which would produce questionable results.

In this scenario, this study aimed to know the usefulness of a CBM-based intervention for reducing BS levels in Peruvian health personnel, as CBM has proven an effective model for intervention strategies aimed at reducing BS in the primary care field.

In addition to the scarcity of empirical reports on BS, further evidence for the need to rethink BS-related intervention processes in Peru is provided by the lack of systematization and rigour applied in this study phase (Fernández et al., in press). This study aims to overcome the theoretical and methodological shortcomings of previous studies. On the other hand, from a methodological point of view, this work is important because it assesses the improvement by treatment based on *individual change*, rather than on group distribution (e.g., Student's *t*), due to its comparative advantages: it is possible to identify those cases in which there was no significant

improvement, facilitating the communication of results (Estrada et al., 2019), which could, in turn, contribute both academically and institutionally.

Finally, we seek to provide health professionals with an intervention tool (structured program) that is based on a solid theoretical framework, in response to a public health problem such as BS.

Method

Participants

Participants were selected based on their meeting three criteria for inclusion: being Peruvian, working in the primary health care field, and working on a fixed 8-hour work schedule. Workers on rotating weekly shifts were excluded since their schedules would interfere with their participation in the intervention program.

From a non-probabilistic sampling primarily based on their interest in adhering to the intervention, 29 workers (83.35% women) whose ages ranged between 22 and 72 (M = 39.80; SD = 15.14) participated. Their work activities were categorized as a nursing technician (46.5%); physician (23.6%); nurse (6.7%); psychologist (6.7%); human resources assistant (3.3%); physiotherapist (3.3%); obstetrician (3.3%); dentist (3.3%); and speech therapist (3.3%). Participants were under a yearly (26.7%) or indefinite (73.3%) work contracts and had worked in the institution between 1 and 18 years (M = 8.34; SD = 3.12). Work experience in the field ranged between 1 and 50 years (M = 13.14; SD = 10.57), and 56.7% hold a second job connected to their profession. As complementary information, 50% were married (50%), 16.7% indicated having sought psychiatric consultation, 26.7% have a diagnosed medical illness, and 23.3% report participating in previous interventions aimed at reducing stress.

The sample was divided into a Cognitive Behavioural Treatment Group (CBTG) and a Reference Group (RG; also known as a control group). This division was randomly assigned using the block technique with the purpose of enhancing the study's internal validity.

The CBTG was composed of 16 participants, mostly women (n = 13; 81.3%), aged between 27 and 72 (M = 42.38; SD = 18.53), with a greater proportion in the nursing profession (n = 9; 56.3%). Years of service in their current workplace ranged from 2 to 18 (M = 8.27; SD = 6.90), and experience in their current position was between 4 and 50 (M = 14.57; SD = 12.48).

RG was composed of 13 participants and was similar to CBTG in terms of the highest proportion of female workers (n = 12, 87.5%), with nursing technicians (n = 7; 31.1%) followed by physicians (n = 2; 12.5%) and other specialties. Moreover, ages ranged between 22 and 52 (M = 34.38; SD = 12.69), between 1 and 17 years in

their current job (M = 6.14; SD = 5.44), and experience in the current position between 1 and 25 (M = 11.93; SD = 8.04).

Measures

Maslach Burnout Inventory-General Survey (Maslach et al., 1996). This version, applicable to all work scenarios, consists of 16 items scaled in Likert format with seven response options (from *never* to *daily*), and has the dimensions of Emotional Exhaustion (5 items), Cynicism (5 items) and Professional Effectiveness (6 items). We used the version adapted in Peru by Fernández-Arata et al. (2015), which excluded item 13 (Cynicism) from the original version due to its low association with the construct.

10-Resilience Scale (CD-RISC-10; Campbell-Sills & Stein, 2007). It is an abbreviated version of CD-RISC's 10 items initially proposed by Connor and Davidson (2003), which has been adapted in Peru (Dominguez-Lara et al., 2019). Response options are on a 5-point scale, with 1 = *strongly disagree* and 5 = *strongly agree*.

Perceived Stress Scale (PSS; Cohen et al., 1983). The PSS assessed stressful events that occurred in the previous month using 14 items scored on a five-point Likert scale, from 0 (*never*) to 4 (*always*). Items 4, 5, 6, 7, 9, 10 and 13 are items examined positively and therefore require recoding for assessment. This study used the version adapted in Peru by Atuncar (2017).

Procedure

The study was approved by the University of San Martin de Porres Research Committee, which assesses compliance with the research's ethical aspects.

The research design was quasi-experimental; the study sample will be intervened in its natural context (Ato et al., 2013), examining changes in BS as defined by the Maslach model (emotional exhaustion, cynicism, and effectiveness).

To develop the CBM-based intervention program, two specialists from occupational health psychology participated with a psychologist specialized in cognitive-behavioural therapy. The intervention areas were psychoeducation; relaxation and breathing techniques; automatic thoughts; emotions and cognitive restructuring; problem-solving; assertiveness; and life goals (Appendix). The program was implemented in seven two-hour weekly sessions and included home activities that were discussed and given feedback at the beginning of each session. A pre-intervention evaluation was performed at the beginning of the first session, and there was a post-intervention assessment at the end of the seventh session.

For developing the intervention, the first author held an interview with the director of a primary care health institution, and later with the health personnel of that institution. The purpose and benefits of the research, both at individual and

institutional levels, were explained at the meeting, and collaboration was requested. With authorization and written consent both from directors and participants, dates and times for the intervention were scheduled and a schedule of activities was created; the schedule was complied with effectively and optimally, thanks to an empathetic response and willingness to collaborate.

A follow-up assessment was applied to both groups six months after the end of the intervention. The same psychological evaluation instruments were applied to all available participants although for various reasons (e.g., change of job location) not all were present.

Protocols from the authors' institutions regarding participants' data were followed throughout the research. All participants included in the study received sufficient information and gave their written informed consent to participate in the study. No participant data appears in this article.

Data Analysis

As it was not possible to carry out an invariance analysis to guarantee measurement equivalence, the reliability equivalence of the scores for each measurement was assessed. The α coefficients of both groups in the pre-intervention stage were compared by means of a useful method for situations with few items or small samples (Feldt, & Kim, 2006; Merino-Soto, 2016).

The main analysis used the *sensitivity statistic* (*SE*; Guyatt et al., 1986):

$$SE = \frac{D_{CBTG}}{\sqrt{\frac{\sum D_{RG} - D)^2}{n-1}}}$$

SE consists of standardizing the pre- and post-intervention difference of each participant of the CBTG (D_{CBTG}) by dividing it by the standard deviation of RG's pre- and post-intervention differences (D_{RG}; D = mean of the differences; n = sample size), as no systematic change is expected in the latter.

In accordance with the foregoing, and since some proposed criteria could increase the rate of false positives (> |0.20|; Cohen, 1992), a magnitude greater than |0.41| (Ferguson, 2009) was expected following this pattern: less than 0.41, insignificant change; between 0.41 and 1.15, minimum acceptable change; between 1.15 and 2.70, moderate change; greater than 2.70, large change. Specifically, for the efficacy dimension, values greater than 0.41 were expected (which would reflect the higher scores after the intervention), while for exhaustion and cynicism, values lower than -0.41 (which would reflect the lower scores after the intervention).

SE was evaluated considering three potential variations. The first and most immediate would refer to post-intervention improvement ($SE_{pre\text{-}post}$). The second was aimed at maintaining the results of the intervention (follow-up) after 6 months ($SE_{post\text{-}seg}$). At this point, if there are no significant changes in the *SE*, the scores obtained after

the intervention are assumed to have been maintained. Finally, we assessed whether there was a change or maintenance between the pre-intervention phase and the follow-up ($SE_{pre\text{-}seg}$).

Results

Preliminary Evaluation

In most cases, the α coefficients obtain acceptable magnitudes (> .70), without significant differences between CBTG and RG with respect to this psychometric parameter, except in the resilience evaluation, where the CBTG obtained a low magnitude (< .60), and in RG's cynicism, where this was practically insignificant (< .20; Table 1). In most cases, the α coefficients do not differ significantly between the groups.

Table 1

Scores and Reliability Comparisons: CBTG and RG

		α	*W*	*p*
Control variables				
Perceived stress	CBTG	.73	1.07	.459
	RG	.74		
Resilience	CBTG	.52	7.31	.001
	RG	.93		
Intervention variable: burnout				
Emotional exhaustion	CBTG	.76	1.14	.421
	RG	.71		
Cynicism	CBTG	.82	4.64	.011
	RG	.12		
Efficacy	CBTG	.71	1.03	.487
	RG	.70		

Note. CBTG = Cognitive-Behavioural Therapy Group; RG = Reference group.

Main Analysis: Control Variables

Regarding the evaluation of control variables, that is, those in which a *significant change* is not expected, in general terms there were no significant post-intervention improvements in resilience (Table 2) and perceived stress (Table 3).

Table 2

Change in Resilience: CBTG and RG

Part	CBTG			RG			Assessment of change (CBTG)		
	Pre	Post	Foll	Pre	Post	Foll	$SE_{pre\text{-}post}$	$SE_{post\text{-}foll}$	$SE_{pre\text{-}foll}$
1	33	32	32	38	37	37	-0.06	0.00	-0.04
2	25	26	22	16	16	-	0.06	-0.61	-0.12
3	33	35	29	38	35	-	0.13	-0.92	-0.16
4	34	36	34	39	39	40	0.13	-0.30	0.00
5	33	29	39	30	33	30	-0.27	1.54[a]	0.24
6	29	32	32	35	35	29	0.20	0.00	0.12
7	37	30	26	40	39	-	-0.47	-0.61	-0.44
8	29	29	31	26	33	-	0.00	0.30	0.08
9	36	40	30	30	40	40	0.27	-1.54	-0.24
10	26	29	26	37	35	36	0.20	-0.46	0.00
11	31	34	33	29	27	-	0.20	-0.15	0.08
12	35	39	8	38	36	35	0.27	-4.78	-1.09
13	33	33	31	30	29	-	0.00	-0.30	-0.08
14	32	38	38	-	-	-	0.40	0.00	0.24
15	29	31	33	-	-	-	0.13	0.30	0.16
16	27	27	35	-	-	-	0.00	1.23[a]	0.32
α	.52	.71	.93	.93	.94	.94			

Note. Part = Participant; CBTG = Cognitive-Behavioural Therapy Group; RG = Reference group; Pre = pre-intervention assessment; Post = post intervention assessment; Foll = follow-up assessment; COMP = Comparison; *SE* = Sensibility statistic; [a] > 0.41.

Table 3

Change in Perceived Stress: CBTG and RG

Part	CBTG			RG			Assessment of change (CBTG)		
	Pre	Post	Foll	Pre	Post	Foll	$SE_{pre\text{-}post}$	$SE_{post\text{-}foll}$	$SE_{pre\text{-}foll}$
1	21	21	21	23	16	17	0.00	0.00	0.00
2	32	24	35	32	31	-	-0.39	0.41	0.08
3	24	25	27	17	21	-	0.04	0.07	0.08
4	30	32	32	13	15	17	0.09	0.00	0.05
5	32	28	27	31	28	33	-0.19	-0.03	-0.14
6	28	26	26	31	22	23	-0.09	0.00	-0.05
7	18	23	26	19	16	-	0.24	0.11	0.23
8	27	28	26	27	32	-	0.04	-0.07	-0.02
9	29	30	28	24	22	12	0.04	-0.07	-0.02
10	33	31	30	28	27	25	-0.09	-0.03	-0.08
11	25	25	24	30	32	-	0.00	-0.03	-0.02
12	28	29	39	23	19	24	0.04	0.37	0.32
13	27	27	28	25	31	-	0.00	0.03	0.02
14	31	27	13	-	-	-	-0.19	-0.52[a]	-0.52[a]
15	29	28	28	-	-	-	-0.04	0.00	-0.02
16	21	29	24	-	-	-	0.39	-0.18	0.08
α	.73	.09	.76	.74	.78	.86			

Note. Part = Participant; CBTG = Cognitive-Behavioural Therapy Group; RG = Reference group; Pre = pre-intervention assessment; Post = post intervention assessment; Foll: = follow-up assessment; COMP = Comparison; *SE* = Sensibility statistic; [a] < |0.41|.

Main analysis: Burnout Syndrome

Regarding the dimensions of BS, in emotional exhaustion, it is observed that eight participants improve significantly (participants 2, 3, 4, 5, 6, 11, 14 and 15; *SE* < -0.41), and only one worsens (participant 7; *SE* > 0.41). After follow-up, five participants sustained change (*SE* < -0.41; participants 2, 3, 4, 11, and 15), while one improved further and two saw their scores worsen (cases 5 and 6). Finally, three participants showed improvement compared to their pre-intervention scores (cases 4, 11 and 14), while four worsened (cases 6, 8, 9 and 12) (Table 4).

Table 4

Change in Emotional Exhaustion: CBTG and RG

Part	CBTG			RG			Assessment of change (CBTG)		
	Pre	Post	Foll	Pre	Post	Foll	$SE_{pre\text{-}post}$	$SE_{post\text{-}foll}$	$SE_{pre\text{-}foll}$
1	7	6	7	3	2	3	-0.14	0.06	0.00
2	12	7	11	2	4	-	-0.71[a]	0.25	-0.10
3	8	5	6	6	9	-	-0.43[a]	0.06	-0.20
4	17	8	10	4	3	2	-1.29[a]	0.12	-0.70
5	13	9	16	14	10	10	-0.57[a]	0.45	0.30
6	15	11	19	3	1	6	-0.57[a]	0.51	0.40
7	2	5	4	3	1	-	0.43	-0.06	0.20
8	8	9	12	6	6	-	0.14	0.19	0.40
9	7	7	13	5	5	0	0.00	0.38	0.60
10	10	9	7	9	13	9	-0.14	-0.12	-0.30
11	6	1	2	5	9	-	-0.71[a]	0.06	-0.40
12	4	6	11	3	1	6	0.28	0.32	0.70
13	5	5	5	6	3	-	0.00	0.00	0.00
14	10	7	0	-	-	-	-0.43[a]	-0.45[a]	-1.01
15	13	9	11	-	-	-	-0.57[a]	0.12	-0.20
16	7	6	8	-	-	-	-0.14	0.12	0.10
α	.76	.52	.87	.71	.74	.75			

Note. Part = Participant; CBTG = Cognitive-Behavioural Therapy Group; RG = Reference group; Pre = pre-intervention assessment; Post = post intervention assessment; Foll = follow-up assessment; COMP = Comparison; *SE* = Sensibility statistic; [a] < |0.41|.

In terms of cynicism, five participants improved after intervention (participants 2, 4, 12, 15 and 16; *SE* < -0.41), while three worsened (cases 5, 6 and 10; *SE* > 0.41). Subsequently, after follow-up, four showed improvement (participants 2, 5, 10 and 14; *SE* < -0.41) and eight saw their scores worsen (cases 1, 4, 6, 7, 9, 12, 13 and 15; *SE* > 0.41). Finally, the results of the comparison between the pre-intervention and follow-up phases indicate that six cases worsen (participants 1, 5, 6, 9, 13 and 15; *SE* > 0.41) (Table 5).

Table 5

Change in Cynicism: CBTG and RG

Part	CBTG			RG			Assessment of change (CBTG)		
	Pre	Post	Foll	Pre	Post	Foll	$SE_{pre\text{-}post}$	$SE_{post\text{-}foll}$	$SE_{pre\text{-}foll}$
1	1	2	7	0	0	0	0.40	8.07	2.29
2	4	2	0	1	1	-	-0.80[a]	-3.23[a]	-1.52
3	1	1	1	0	0	-	0.00	0.00	0.00
4	20	4	6	1	2	1	-6.46[a]	3.23	-5.34[a]
5	7	13	12	4	0	0	2.42	-1.61[a]	1.90
6	4	11	16	4	3	3	2.82	8.07	4.58
7	0	0	1	0	0	-	0.00	1.61	0.38
8	0	0	0	0	0	-	0.00	0.00	0.00
9	0	1	4	0	2	0	0.40	4.84	1.52
10	2	8	1	0	2	1	2.42	-11.30[a]	-0.38
11	0	0	0	2	0	-	0.00	0.00	0.00
12	12	2	9	0	0	0	-4.04[a]	11.30	-1.14
13	5	4	9	0	0	-	-0.40	8.07	1.52
14	5	4	0	-	-	-	-0.40	-6.46[a]	-1.90[a]
15	10	6	12	-	-	-	-1.61[a]	9.69	0.76
16	10	6	6	-	-	-	-1.61[a]	0	-1.52
α	.82	.74	.00	.12	.09	.00			

Note. Part = Participant; CBTG = Cognitive-Behavioural Therapy Group; RG = Reference group; Pre = pre-intervention assessment; Post = post intervention assessment; Foll = follow-up assessment; COMP = Comparison; *SE* = Sensibility statistic; [a] < -0.41.

Finally, for efficacy, no significant improvement was observed in any of the comparisons (*SE* < |0.41|) (Table 6).

Table 6

Change in Efficacy: CBTG and RG

Part	CBTG			RG			Assessment of change (CBTG)		
	Pre	Post	Foll	Pre	Post	Foll	$SE_{pre\text{-}post}$	$SE_{post\text{-}foll}$	$SE_{pre\text{-}foll}$
1	33	31	31	36	36	36	-0.10	0.00	-0.04
2	25	26	24	21	11	-	0.05	-0.03	-0.02
3	33	36	33	36	33	-	0.16	-0.04	0.00
4	29	27	22	35	34	34	-0.10	-0.07	-0.16
5	18	17	16	25	30	34	-0.05	-0.01	-0.04
6	27	28	31	25	30	12	0.05	0.04	0.09
7	35	33	25	36	36	-	-0.10	-0.12	-0.23
8	30	34	31	28	35	-	0.21	-0.04	0.02
9	31	29	29	33	30	36	-0.10	0.00	-0.04
10	24	24	20	35	34	35	0.00	-0.06	-0.09
11	28	31	32	34	35	-	0.16	0.01	0.09
12	26	27	17	33	32	34	0.05	-0.15	-0.20
13	26	29	33	25	27	-	0.16	0.06	0.16
14	35	35	36	-	-	-	0.00	0.01	0.02
15	31	26	31	-	-	-	-0.26	0.07	0.00
16	34	31	36	-	-	-	-0.16	0.07	0.04
α	.71	.74	.76	.70	.94	.98			

Note. Part = Participant; CBTG = Cognitive-Behavioural Therapy Group; RG = Reference group; Pre = pre-intervention assessment; Post = post intervention assessment; Foll = follow-up assessment; COMP = Comparison; *SE* = Sensibility statistic.

Discussion

This study sought to examine the usefulness of a CBM-based intervention for reducing BS in a group of health workers. The results obtained indicate that the highest rate of improvement was in the dimension of emotional exhaustion (50%), followed by cynicism. However, no changes were found in professional efficacy at any stage.

The change in SB was similar to other studies where cognitive-behavioural treatment was applied (Anclair et al., 2017; Grensman et al., 2018), and while a direct comparison cannot be due to a difference in analytical approaches (those other studies are based on the comparison of group averages), improvement exists. Therefore, this research confirms that CBM-based methods related to psychoeducation, cognitive restructuring, problem-solving, assertiveness, and life goals have a significant impact on the reduction of emotional exhaustion and cynicism at the end of the intervention, although these changes are not maintained over time.

However, it should be noted that according to a systematic review, burnout symptoms were not systematically alleviated by individually focused interventions, the kind most frequently evaluated (Ahola et al., 2017), given that the interventions were unreliable in alleviating symptoms in the long term, albeit the cause – whether the program's content, the research design, or the results' lack of statistical power – cannot be ascertained.

On the other hand, with respect to the analytical approach used, although all the *individual change* evaluation methods show high rates of *false negatives* (i.e., indicating no significant change when in fact there was), the sensitivity statistic (*SE*) was chosen because its equivalent, the *typified individual difference* (in which the standard deviation is calculated with the pre-intervention scores, when there is only one group), is less likely to show *false positives* (i.e., indicating significant change when in fact there was none) compared to other methods (Ferrer & Pardo, 2014; Pardo & Ferrer, 2013).

Another aspect to consider is that the duration of intervention changes partially declines as the months pass. In the follow-up, atypical results were observed, such as the worsening of the scores of two participants. This does not call into question the usefulness of the treatment, since it is likely to occur due to factors external to the program, which is difficult to control. It would be necessary to complement the main program with monthly or follow-up sessions to consolidate the changes achieved

Individual interventions can be adapted to people who are already in the process of exhaustion since symptoms persist over time and impact health and performance at work (Wiederhold et al., 2018).

This investigation sought to overcome methodological problems derived from previous Peruvian studies for the treatment of BS, in addition to confirming the

feasibility of the application of CBM-based intervention plans for BS reduction in primary care workers.

Among the main limitations of this study are the small sample size, the prevalence of female participants and, in turn, the narrow distribution of the participant personnel according to professional activity, which could affect the generalization of results. This study should be understood, nevertheless, as a preliminary overview of the feasibility of a CBM-based intervention for reducing burnout in Peruvian health workers.

Another aspect to consider is the lack of information in the follow-up phase of this study. Finally, the integration of the organizational intervention strategy was not considered, due to the difficulty of its application in this work scenario: it required authorization from the regulatory bodies of health institutions, as well as more time to perform the intervention. It should be noted that studies of this strategy applied to the medical field have shown positive effects in reducing BS when a work redesign is proposed, such as limiting the number of hours per week at work (Patel et al., 2019). Therefore, both individual and organizational strategies can significantly reduce BS; implementing both strategies simultaneously may be necessary, and the results are promising (Ahola et al., 2017; West et al., 2016).

It concludes the feasibility of the application of CBM-based intervention plans for core dimensions of BS reduction in primary care workers. In this sense, it is recommended that the program is replicated with a larger sample to confirm the change shown in this study, since having a larger number of participants would allow for distribution according to professional activity, providing information on specific stressors and their potential intervention.

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Smanjenje sindroma sagorijevanja kod zdravstvenih radnika kroz program temeljen na kognitivno-bihevioralnome modelu: Pilot-istraživanje

Sažetak

Peruanski djelatnici primarne zdravstvene zaštite pokazuju visoku razinu sindroma sagorijevanja. Cilj je ovoga istraživanja procijeniti učinak programa temeljenoga na kognitivno-bihevioralnome modelu (KBM) kao profesionalne intervencije za smanjenje sagorijevanja kod pružatelja primarne zdravstvene zaštite. Ukupno 29 radnika (intervencijska skupina = 16) sudjelovalo je u intervencijskome programu edukacije temeljenome na KBM-u koji se sastojao od jednoga susreta tjedno u trajanju od 1 sata tijekom 6 tjedana. Rezultati svih dimenzija sagorijevanja, kao i druge varijable, mjereni su upitnicima za samoprocjenu prije intervencije, nakon intervencije i u razdoblju praćenja od 6 mjeseci. Podaci prikupljeni u tim trima vremenskim točkama analizirani su pomoću mjera veličine učinka i statistike osjetljivosti. Usporedba rezultata prije intervencije i rezultata nakon intervencije pokazuje da je od svih dimenzija sagorijevanja kod dimenzije emocionalne iscrpljenosti došlo do najvećega poboljšanja (50 %), a slijedi je cinizam. U rezultatima praćenja nakon 6 mjeseci razlike nisu pronađene. Također, nisu pronađene promjene u profesionalnoj učinkovitosti ni u jednoj fazi mjerenja. Intervencijski program temeljen na KBM-u doveo je do kratkoročnoga smanjenja simptoma sagorijevanja kod djelatnika primarne zdravstvene zaštite, ali samo u dvjema dimenzijama: emocionalnoj iscrpljenosti i cinizmu.

Ključne riječi: sindrom sagorijevanja, zdravstveni djelatnici, intervencija, kognitivno-bihevioralni model

Primljeno: 24. 2. 2022.

Appendix

Cognitive-Behavioural Treatment for Burnout Reduction

Session 1: Psychoeducation: Introduction to stress, burnout and the cognitive-behavioural model

- Information about stress and burnout process
- Benefits of applying the cognitive-behavioural model in the stress and burnout process
- Explanation of the sessions that will involve cognitive-behavioural treatment
- Breathing and muscle relaxation techniques
- *Homework*: Identify stressful situations and apply breathing and muscle relaxation techniques

Session 2: Automatic thoughts

- Review *homework*.
- Knowledge of automatic thoughts
- Situation-thought-emotion-behaviour-consequence exploration
- Group work: Identify stress-inducing situations in work activity, thoughts-emotions-behaviours and consequences
- *Homework*: Record of situation-thought-emotion-behaviour-consequence at work

Session 3: Emotions and cognitive restructuring

- Review *homework*
- Emotion and its implications on stress
- Valuation of emotions
- Cognitive restructuring: Modification of automatic thoughts, assessment, and confrontation of nuclear beliefs
- Group work: To add potentially stressful work situations and perform cognitive restructuring, valuation of emotions, alternative behaviour, and consequences
- *Homework*: Propose cognitive restructuring, valuation of emotions and alternative behaviour in situations assessed as stressors at work and their consequences

Session 4: Problem-solving

- Review *homework*
- Consolidation of the situation-cognitive restructuring-emotion-behaviours-consequences process
- Providing strategies for conflict resolution at work
- Group work: Identify and define a problem, brainstorm for problem-solving, select healthy solutions
- *Homework*: Identify situations, restructuring thoughts, emotions, behavioural alternatives, and consequences

Session 5: Assertiveness

- Review *homework*
- Communication and communication styles
- Assertive communication strategies
- Group work: Problem-solving and communication at work.
- *Homework*: Propose strategies for assertive communication and problem-solving

Session 6: Life goals

- Review *homework*
- Identify personal goals and commitments to the institution
- Set short- and long-term goals that are realistic and linked to treatment goals
- Group work: Identify personal goals and propose resolution strategies to achieve them
- *Homework*: Draw up life goals and risks, and propose achievement strategies