

Development of a scale to measure organizational change fatigue among nurses.

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ABSTRACT

Introduction: Changes in the healthcare sector are occurring rapidly; if not properly managed, they can negatively impact nurses, leading to fatigue. **Objectives:** To develop and conduct preliminary content validation of the Organizational Change Fatigue Scale for Nurses (OCFSN). **Methodology:** This is a methodological study focused on the initial steps of scale development: (1) creation of the initial set of items and (2) preliminary evaluation of the items. A literature review was conducted to guide the development of items. The content validation process involved evaluation by nine experts, followed by a pretest with 46 nurses to assess the clarity and relevance of the items. **Results:** The content validity index was 0.98 for both clarity and relevance. The draft scale showed good comprehensibility, readability, and relevance and was finalized with 35 items. **Discussion:** The scale has the potential to enable early identification of change fatigue among nurses, providing managers with insights to implement effective support and training strategies. **Conclusion:** The scale addresses a gap in the literature by targeting change fatigue in nurses. Although full psychometric validation is still needed, it demonstrates strong potential as a tool for assessing organizational change fatigue in nursing. **Keywords:** change management, fatigue, nurses, psychometrics, surveys and questionnaires

Desarrollo de una escala para medir la fatiga ante el cambio organizacional en enfermeros

RESUMEN

Introducción: Los cambios en el ámbito de la salud se están produciendo a un ritmo acelerado; si no se gestionan adecuadamente, pueden tener un impacto negativo en los enfermeros, generando fatiga. **Objetivos:** Desarrollar y realizar una validación preliminar del contenido de la Escala de Fatiga ante el Cambio Organizacional en Enfermeros (EFCOE). **Metodología:** Se trata de un estudio metodológico centrado en las etapas iniciales del desarrollo de la escala: (1) creación del conjunto inicial de ítems y (2) evaluación preliminar de los ítems. Se realizó una revisión bibliográfica para guiar el desarrollo de los ítems. El proceso de validación del contenido incluyó la evaluación de nueve expertos, seguida de una prueba piloto con 46 enfermeros(as) para analizar la claridad y la relevancia de los ítems. **Resultados:** El índice de validez de contenido fue de 0,98 tanto para la claridad como para la relevancia. La versión preliminar de la escala mostró buena comprensibilidad, legibilidad y pertinencia, y se finalizó con 35 ítems. **Discusión:** la escala tiene el potencial de permitir la identificación temprana de la fatiga ante el cambio entre los enfermeros, brindando a los gestores información valiosa para implementar estrategias eficaces de apoyo y capacitación. **Conclusión:** La escala aborda una brecha en la literatura al centrarse en la fatiga ante el cambio en los enfermeros. Aunque aún se necesita una validación psicométrica completa, demuestra un fuerte potencial como herramienta para evaluar la fatiga organizacional ante el cambio en el ámbito de la enfermería.

Palabras clave: gestión del cambio, fatiga, enfermeras y enfermeros, psicometría, encuestas y cuestionarios.

Desenvolvimento de uma escala para medir a fadiga diante das mudanças organizacionais entre enfermeiros

RESUMO

Introdução: As mudanças no âmbito da saúde estão ocorrendo em ritmo acelerado; quando não são adequadamente gerenciadas, podem impactar negativamente os enfermeiros, resultando em fadiga. **Objetivos:** Desenvolver e realizar a validação de conteúdo preliminar da Escala de Fadiga diante das Mudanças Organizacionais para Enfermeiros (EFMOE). **Metodologia:** Trata-se de um estudo metodológico focado nas etapas iniciais de desenvolvimento da escala: (1) elaboração do conjunto inicial de itens e (2) avaliação preliminar dos itens. Foi realizada uma revisão da literatura para orientar o desenvolvimento dos itens. O processo de validação de conteúdo envolveu a avaliação de nove especialistas, seguida de um pré-teste com 46 enfermeiros(as) para analisar a clareza e a relevância dos itens. **Resultados:** O índice de validade de conteúdo foi de 0,98 tanto para clareza quanto para relevância. A versão preliminar da escala apresentou boa compreensibilidade, legibilidade e pertinência, sendo finalizada com 35 itens. **Discussão:** A escala tem potencial para permitir a identificação precoce da fadiga diante das mudanças entre enfermeiros, oferecendo aos gestores subsídios para implementar estratégias eficazes de apoio e capacitação. **Conclusão:** A escala preenche uma lacuna na literatura ao abordar a fadiga diante das mudanças entre enfermeiros. Embora ainda seja necessária uma validação psicométrica completa, demonstra forte potencial como ferramenta para avaliar a fadiga organizacional diante das mudanças na enfermagem.

Palavras-chave: gestão da mudança, fadiga, enfermeira e enfermeiros, psicometria, inquéritos e questionários.

INTRODUCTION

Changes are occurring at an increasingly rapid pace in the healthcare field, often negatively affecting members of the nursing team and leading to change fatigue ^(1,2). The scientific literature supports this fact, as numerous studies have been conducted to explore change-related fatigue in the nursing field ⁽²⁻⁶⁾.

Changes can lead to either positive or negative outcomes. Some studies state that changes in the healthcare field have become the norm, as it is necessary to continuously improve healthcare delivery in a world that is constantly evolving ⁽³⁾. However, it is important to note that these changes must be properly managed to prevent undesirable impacts on the efficiency and effectiveness of services ^(7,8). In other words, change fatigue among nurses poses a threat to the provision of quality care ⁽³⁾.

Changes are inevitable and, in most cases, necessary; however, they are sometimes unplanned. Change represents a transition from one state to another—that is, it involves moving from a current and familiar situation to a different and, in most cases, unfamiliar one ⁽⁹⁾. Rapid and continuous organizational changes can make professionals feel ambivalent and powerless, which may lead to various problems, including stress, exhaustion, and even burnout ^(2,10). Therefore, it is understood that organizational changes can cause fatigue among employees.

Fatigue is a subjective and unpleasant symptom encompassing general bodily sensations, ranging from tiredness to exhaustion, resulting in a cumulative and persistent condition that interferes with an individual's ability to perform daily routines normally ⁽¹¹⁾. Change fatigue develops gradually and affects individuals' health and well-being, producing cumulative adverse effects. In nurses, change fatigue manifests as an overwhelming sense of stress, exhaustion, and burnout associated with rapid and continuous changes in the nursing work environment ⁽³⁾. It is a complex psychological and physical response that negatively impacts nurses' well-being and organizational stability ⁽¹⁾.

The scientific literature presents various examples of how changes in the work environment can lead to fatigue among nurses ^(2-6,9). According to an integrative literature review, nurses may experience disillusionment, stress, and a lack of professional commitment due to change-related fatigue ⁽³⁾. In a study conducted with Chinese nurses,

an inverse correlation was identified between fatigue in response to change and both emotional intelligence and perception of care ⁽⁶⁾. A study conducted in Canada identified apathy, feelings of helplessness, exhaustion, and burnout among nurses as a result of changes in their routines ⁽⁹⁾. In another study with Canadian nurses, symptoms of fatigue—such as physical and mental exhaustion and apathy—emerged particularly in the presence of continuous and large-scale changes, including team restructuring, administrative reforms, and technological and equipment updates ⁽⁵⁾. Similarly, changes in workflow and job content, increased workload, implementation of new technologies, and the frequency of changes were identified as factors that exacerbate change-related fatigue among Chinese nurses ⁽⁴⁾. In research conducted in Australia, nurses who were integrated into an already established team reported higher levels of change-related fatigue than those who began their careers in a newly configured team. The same study also observed a small negative correlation between teamwork and levels of fatigue caused by change ⁽²⁾. It is therefore evident that team composition and work dynamics can influence the levels of change-related fatigue.

The constantly changing landscape in healthcare is driven by technological advancements, the pursuit of quality improvement, fiscal constraints, restructuring, and optimization efforts due to increasing demand, as well as, in recent years, the emergence of new diseases, such as the COVID-19 pandemic. As a result, the implementation of new electronic health record systems, adjustments to care protocols, reconfiguration of work teams, requirements for continuous training, and adaptations to new legal regulations are some of the many changes nurses experience throughout their careers. These changes can affect workload, well-being, and the quality of care provided by these professionals ^(2,3,12).

Changes occur in all sectors; however, it is evident that the work environment and dynamics of nurses have unique characteristics. Unlike other organizations, healthcare institutions are more complex and encompass a wide variety of professions and multidimensional objectives ^(13,14). For this reason, changes in the healthcare sector can be particularly challenging ⁽¹⁵⁾. All these factors underscore the importance of organizational support in helping nurses adapt to the changes that are integral to their work routines. Nurse managers, in

particular, play a key role in reducing change-related fatigue among nurses through effective change management, which combines continuous and transparent information sharing with team support, participation in decision-making processes, training for new demands, and adjustments to workload (3,4,7,16).

Although the effects of rapid and constant changes on nurses have been widely studied (3), there is no specific scale to measure fatigue resulting from organizational changes among nurses. The only validated tool available in the literature to assess the level of change fatigue has been a scale designed to measure change fatigue among employees in general (1,2). This scale was developed by Bernerth et al. (17) with the aim of evaluating the impact of organizational changes on employees' well-being and turnover intentions. Therefore, the measurement tools currently available are limited in relevance and specificity for nurses (1). In studies that used this scale, originally developed for workers in general and not specifically for nurses, results showed that the average score for change-related fatigue among nurses fell between moderate and high levels. This is concerning, considering that even a scale not specifically designed for this professional group already indicated considerable levels of fatigue (2,4,6).

The scientific literature, therefore, lacks a specific instrument designed to measure change-related fatigue in nurses. This need is justified because nurses are in direct and continuous contact with patients, perform a variety of tasks, and carry out multiple roles in daily care activities (18,19). Consequently, changes occurring in healthcare institutions tend to affect nurses more intensely (3).

A recent conceptual analysis highlighted that nurse change fatigue is challenging to identify, as no single manifestation can fully capture its complexity. The study underscores the importance of considering the broader context when addressing nurse change fatigue and calls for the development of comprehensive scales to assess the phenomenon (1). Thus, it becomes essential to develop a specific instrument to measure fatigue in response to these changes, with items constructed based on the realities experienced by these healthcare professionals. The objectives of the study are to develop and conduct preliminary content validation of the Organizational Change Fatigue Scale for Nurses (OCFSN).

METHODS

Research question

Are the items of the "Organizational Change Fatigue Scale for Nurses (OCFSN)" clear, relevant, and appropriate for assessing change fatigue among nurses?

Study design

The study was designed as methodological research focused on the initial steps of scale development. It comprised two stages: (1) creation of the initial set of items and (2) preliminary evaluation of the items. The subsequent stage, which involves full psychometric evaluation, will be carried out in future research (20,21).

Procedures

First stage: Creation of the initial set of items

Various sources can be used to guide the development of scale items. These include existing instruments, findings from previous studies, theoretical frameworks, researchers' own observations and experiences, as well as inputs from subject matter experts (22). For the development of the present preliminary scale, the researcher analysed the Change Fatigue Scale by Bernerth et al. (17), findings from studies on change and change-related fatigue in the nursing field (1-8,10), as well as her own observations and experiences working in healthcare as a registered nurse and as a nurse educator. From this process, an initial pool of 46 items was created. The researcher developed a 5-point Likert scale, with response options ranging from "1: Strongly disagree" to "5: Strongly agree."

Second stage: Preliminary evaluation of the items

Experts' opinions

The literature presents different recommendations regarding the ideal number of experts for evaluating a newly developed instrument. According to Lynn (23), at least three experts are necessary. Polit et al. (24) and Alexandre and Coluci (25) recommend involving five to ten specialists in the relevant field to ensure that the items are both understandable and effective in measuring the intended construct. Grant and Davis (26) emphasize that practical experience should be a key factor when selecting panel members.

Following these guidelines, the content validity of the scale was assessed by a panel of nine experts. The group consisted of five nursing educators/researchers with experience in scale development and psychometric evaluation, as well as four registered nurses currently practicing in healthcare settings. Detailed instructions for the evaluation, including explanations of the concepts addressed by the scale and their significance in nursing, were provided to the experts via email. Three criteria were considered: relevance to the construct, clarity, and similarity to other items. In addition to these criteria, each expert could provide their opinion on whether any item should be revised, removed, or repositioned.

The content validity of individual items was determined using the Item-Content Validity Index (I-CVI), and the overall scale validity was evaluated with the Scale-Content Validity Index (S-CVI). Experts rated each item's relevance on a four-point Likert-type scale: 1 = Not relevant, 2 = Needs major revision, 3 = Needs minor revision, and 4 = Highly relevant. The I-CVI and S-CVI were calculated by dividing the number of experts who scored an item as 3 or 4 by the total number of panel members ⁽²⁷⁾. Based on established guidelines, newly developed instruments should achieve a minimum CVI of 0.80 to be considered acceptable ^(26,27). To assess the clarity of each item, a similar approach was used: 1 = The item is unclear, 2 = The item requires substantial revision to enhance clarity, 3 = The item requires minor adjustments to achieve clarity, and 4 = The item is considered clear ⁽²⁸⁾.

Pretest study

Pretesting a scale allows researchers to determine whether its items are understandable to the target population ^(29,30). Pasquali ⁽³⁰⁾ recommends that this stage involve a sample of approximately 30 individuals with characteristics similar to those of the target population. According to Carpenter ⁽³¹⁾, the size of pre-test samples may range from 5 to 100 participants, depending on the diversity of the target subpopulations. During pretesting, participants complete the draft scale and provide feedback on the clarity of the title and items, alignment with the scale's objectives, response options, item quality, and the time required to complete the instrument. In the present study, the preliminary scale was administered to 46 nurses who shared characteristics with the target population to assess its

comprehensibility, readability, relevance, potential for response errors, and completion time.

Participants

In the first stage, a panel of nine experts, including nursing educators and clinical nurses, evaluated the initial pool of items. The second stage involved 46 nurses who participated in the preliminary testing of the scale to assess its clarity, relevance, and usability.

Data collection

Based on a review of the existing literature, as well as the researcher's experience and observations, an initial pool of 46 items was created. These items were then submitted to a panel of nine experts, including nursing educators and practicing clinical nurses, via email for evaluation and review.

Following this stage, ten items were removed, resulting in a preliminary version of the scale containing 35 items. This draft was subsequently distributed electronically to nurses employed in different departments across multiple healthcare institutions in Brazil. Participants were recruited through an online professional networking platform, targeting users who identified themselves as registered nurses and met the predetermined inclusion criteria. Along with the invitation to participate, nurses received a link to the Informed Consent Form (ICF) and the survey instrument. In addition to the 35 draft scale items, the questionnaire included items addressing the respondents' socio-demographic and professional characteristics, as well as questions allowing participants to evaluate and provide feedback on the draft scale. A total of 46 nurses participated in this pretest phase, with data collection conducted from September 24 to October 18, 2025.

Measures

The data collection tool was divided into three parts. The first part included the Informed Consent Form (ICF). The second part gathered socio-demographic and professional information, including age, gender, education, marital status, number of jobs, working hours per week, institution type and region, unit, position, years of experience, and shift type. The third part consisted of the preliminary version of the Organizational Change Fatigue Scale for Nurses (OCFSN), with items rated on a five-point Likert

scale. In addition, questions were included to assess the clarity of the scale's title, the clarity and relevance of its items, the ease of responding to the items, and the time required to complete the instrument.

Data analysis

The data were analysed using SPSS software. Descriptive statistics, including frequencies and percentages, were calculated to summarize the participants' demographic and professional characteristics. Content validity was assessed by computing item-level (I-CVI) and scale-level (S-CVI) content validity indices, following the classification approach described by Davis ⁽²⁷⁾.

Ethical considerations

The study was carried out in accordance with the ethical principles outlined in the Declaration of Helsinki. Ethical approval was granted by the School of Nursing at the Federal University of Bahia – UFBA (approval date: August 26, 2025; decision number: 7.796.157). Participants were provided with detailed information about the study. Participation was entirely voluntary, and individuals were informed that they could withdraw from the study at any time without providing a reason. Informed consent was obtained from participants, and the anonymity and confidentiality of their data were strictly maintained.

RESULTS

General characteristics of participants

The study involved nine experts, including five nursing faculty members, one instructor from a technical nursing program, and three registered nurses currently practicing in healthcare institutions. Among the 46 registered nurses who participated in the pretest phase, the majority were female (71.7%) and fell within the age range of 26 to 35 years (54.3%). The majority were single (45.7%) and held

a postgraduate specialization degree (82.6%). Most participants did not occupy managerial positions (76.1%), worked in private institutions (47.8%), and performed day shifts (58.7%).

The predominant professional experience was between 1 and 5 years (32.6%). The departments with the highest representation were emergency services (26.1%) and wards (13.0%). More than half of the nurses worked 40–48 hours per week (52.2%), mainly in the Southeastern region of the country (32.6%). Regarding fatigue, most participants reported moderate levels (45.7%). Table 1 presents detailed information on the nurses included in the pretest phase.

Content validity

Based on the evaluation by the experts, 35 of the 46 initial items were considered appropriate, with seven items requiring revision. Eleven items were removed due to repetitive content, unclear wording, or the inclusion of aspects that were difficult to measure. For the remaining 35 items, both the I-CVI and the overall S-CVI were calculated to assess item relevance and clarity. All items achieved an I-CVI of 0.89 or higher for both clarity and relevance, resulting in an overall S-CVI of 0.98 for both dimensions, as presented in Table 2.

According to the 46 pretest participants, the draft scale's items demonstrated good comprehensibility, readability, and relevance. The time required to complete the scale ranged from five to 20 minutes, with an average of 10 minutes. The draft scale was finalized with 35 items.

Final instrument (draft)

The OCFSN consists of 35 items rated on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), and is designed to assess organizational change fatigue among nurses. The scale demonstrated suitability for measuring this construct and is ready for psychometric testing.

Table 1. Characteristics of participants (N = 46)

Variable		N	%
Gender	Female	33	71.7
	Male	13	28.3
Age	25 or less	5	10.9
	26-35	25	54.3
	36-45	9	19.6
	46-55	7	15.2
	56-65	0	0.0
Marital status	Single	21	45.7
	Married	18	39.1
	Stable union	3	6.5
	Divorced	4	8.7
Highest educational level	Bachelor's Degree	6	13.0
	Postgraduate (Specialization)	38	82.6
	Master's Degree	2	4.3
Having a managerial position	Yes	11	23.9
	No	35	76.1
Having more than one job	Yes	12	26.1
	No	34	73.9
Type of organization	Private	22	47.8
	Public	20	43.5
	Public and private*	4	8.7
Type of shift	Day	27	58.7
	Night	6	13.0
	Mixed	13	28.3
Total work experience	Less than 6 months	4	8.7
	6-11 months	6	13.0
	1-5 years	15	32.6
	6-10 years	10	21.7
	11-15 years	7	15.2
	More than 15 years	4	8.7
Work department	Administration	5	10.9
	Audit	4	8.7
	Central Sterile Supply	1	2.2
	Emergency service	12	26.1
	Intensive care unit	3	6.5
	Maternity	5	10.9
	Operation room	2	4.3
	Outpatient	4	8.7
	Primary health	4	8.7
	Ward	6	13.0
Working hours per week	24 hours	1	2.2
	30-36 hours	12	26.1
	40-48 hours	24	52.2
	50-58 hours	2	4.3
	More than 58 hours	7	15.2
Region of working	Southeastern	15	32.6
	Northeastern	13	28.3
	Southern	10	21.7
	Central-Western	4	8.7
	Northern	4	8.7
Change fatigue level	Low	14	30.4
	Moderate	21	45.7
	High	11	23.9

*Some participants have more than one job.


Table 2. Clarity and relevance of the items according to the experts

Questions	Clarity I-CVI	Relevance I-CVI
1. The changes in the institution where I work happen so quickly that I have difficulty keeping up with them.	1,00	1,00
2. I feel that most of the changes that occur in the institution where I work are unnecessary.	1,00	1,00
3. I feel that the changes that occur in the institution where I work are never planned changes.	0,89	1,00
4. The routines that change the most in the institution where I work are related to nursing.	1,00	1,00
5. The high number of changes in the nurse's routine in the institution where I work is exhausting.	1,00	1,00
6. I have to constantly adjust my work routine due to the changes imposed by the institution.	0,89	1,00
7. I would like my work to follow rules that do not constantly change.	0,89	1,00
8. Our superiors constantly inform us about changes in procedures involving nursing.	1,00	1,00
9. The continuing education programme for nursing staff is constantly undergoing changes at the institution where I work.	1,00	1,00
10. There are so many changes in nursing procedures that at times I feel uncertain about how to carry out even the most routine tasks.	1,00	0,89
11. I am constantly forced to change my work routine due to the rapid turnover in the nursing team.	0,89	1,00
12. I feel that I constantly have to adapt to working with new people, as members of the nursing team change frequently.	0,89	1,00
13. I find it difficult to adapt to changes in my routine.	1,00	1,00
14. Sometimes I feel like I've forgotten how to work, because there are so many changes that I can't keep up.	1,00	1,00
15. I find it difficult to perform my duties as a nurse due to the constant and rapid technological changes that have taken place.	1,00	1,00
16. The constant changes at the institution where I work bother me.	1,00	0,89
17. Due to constant changes at the institution where I work, I am unable to perform my duties as I would like.	1,00	1,00
18. I would be a better nurse if there weren't so many changes at the institution where I work.	1,00	0,89
19. I feel exhausted from constantly having to share new information with members of the nursing team.	1,00	1,00
20. The changes in my routine leave me physically exhausted.	1,00	1,00
21. The constant changes in nursing routines overwhelm me emotionally.	1,00	1,00
22. The constant changes in my routine cause me anxiety.	1,00	1,00
23. I feel frustrated because of the constant changes in my routine.	1,00	1,00
24. The high number of changes in my routine makes me lose sleep.	1,00	0,89
25. I have difficulty concentrating due to changes in my work environment.	1,00	0,89
26. I feel like I am becoming ill due to the rapid and continuous changes occurring in my work environment.	1,00	1,00
27. Constant changes in the hierarchy of the institution where I work have a negative impact on me.	1,00	1,00
28. There are days when I feel like I can no longer bear to work in an institution where so many changes are taking place.	1,00	1,00
29. It bothers me that I am always being transferred from one unit/department to another.	1,00	1,00
30. I would feel more satisfied in the workplace if there were fewer changes involving nursing.	1,00	1,00
31. I feel impatient due to the constant changes occurring in my work environment.	1,00	1,00
32. I feel pressured in the workplace due to the constant and rapid changes that occur.	1,00	1,00
33. Organisational changes have reduced my job satisfaction.	1,00	1,00
34. I feel that I do not receive sufficient support to cope with changes in the workplace.	1,00	1,00
35. The constant changes taking place at the institution where I work are making me consider resigning.	1,00	1,00
S-CVI	0,98	0,98

DISCUSSION

Organizations are increasingly under pressure to rapidly adapt to new technologies, growing sustainability demands, shifts in workforce demographics, and intensified global competition^(1,32). In the healthcare context, this challenge is even greater, as institutions must continuously and swiftly adjust to ensure the quality of services provided to the population. Among healthcare workers, nurses are particularly affected by these changes, as they are directly involved in delivering continuous and ongoing care^(1,2). The continuous succession of organizational changes can have negative impacts on nurses, leading to change fatigue — a state of physical and emotional exhaustion resulting from ongoing exposure to adaptation processes^(1,3).

The theme of International Nurses Day (ICN) 2025, “Caring for nurses strengthens economies”, highlights that investing in nurses’ well-being is essential not only to protect these healthcare workers but also to strengthen the economy and ensure sustainable healthcare systems, recognizing their vital contribution⁽³³⁾. Therefore, it is essential to identify, measure, and prevent change fatigue in order to safeguard nurses’ well-being and ensure the quality and safety of the care they provide. No measurement instruments assessing organizational change fatigue among nurses have been identified in the literature. This study provides preliminary evidence of content validity for the OCFSN, a tool designed to assess nurses’ organizational change fatigue.

This study focused on the initial stages of developing a scale to measure change fatigue among nurses, including item generation, expert review, and pretesting with the target population. The study involved the participation of nine experts, a number considered adequate according to the literature. The panel was diverse, comprising both nursing educators/researchers and practicing clinical nurses, which ensured a comprehensive and well-rounded evaluation. Thus, this phase of the study was conducted in accordance with methodological recommendations reported in the literature on content validation⁽²⁴⁻²⁶⁾. Based on

expert evaluation, all 35 items retained in the scale achieved I-CVI values of 0.89 or higher. Thus, the content validity of the OCFSN met the criteria established by Davis⁽²⁷⁾, who recommends retaining items with I-CVI values equal to or above the acceptable threshold (≥ 0.80). Moreover, the S-CVI values reached 0.98 for both clarity and relevance, indicating excellent content validity⁽²⁷⁾. These results suggest that the retained items adequately reflect the construct the scale is intended to measure^(26,27).

Forty-six participants, with characteristics similar to those of the target population, took part in the pretest of the scale, as recommended by Carpenter⁽³¹⁾. In this phase of the study, the aim was to assess whether all items were relevant, clear, and easily understood by the nurses. Care was taken to ensure that the pretest participants had diverse characteristics, including age, gender, work unit, region of practice, and years of experience, among others, in order to adequately represent the diversity of nurses working in the Brazilian context. It is essential to emphasize that this pretest study, conducted with a small sample, primarily aimed to evaluate the clarity, comprehensiveness, and relevance of the scale, rather than to assess fatigue levels. However, the observation of moderate change fatigue levels in 45.7% of the participants and high levels in 23.9% highlights the importance of developing a valid and reliable instrument for assessing change fatigue in this population.

The items of the preliminary OCFSN capture multiple dimensions of organizational change fatigue among nurses. They highlight the cognitive burden and difficulties in adapting to rapid and constant changes, which can negatively affect nurses’ physical and psychosocial health, as well as compromise their perception of professional competence. Additionally, job dissatisfaction due to changes and a perceived lack of institutional support for adapting to these changes are also represented. All these factors have been identified in previous studies investigating change fatigue among nurses. Cao et al.⁽¹⁾ and Lv et al.⁽⁴⁾ reported that rapid and continuous changes have an impact on nurses, generating fatigue. As a

consequence, nurses may feel unable to perform their duties adequately^(2,10). The integrative review by Beaulieu et al.⁽³⁾ highlighted exhaustion, frustration, and job dissatisfaction as consequences of organizational changes among nurses. Additionally, anxiety and turnover in nursing were reported by Sarıgül and Uğurluoğlu⁽¹⁶⁾ as effects of change fatigue. In all these studies, institutional support was emphasized as a key factor in mitigating the impacts of organizational change fatigue among nurses^(1,3,4,16).

Grounded in the content analysis and supported by the literature on the topic, it is understood that the scale is now ready to undergo psychometric testing, which will enable the identification of its domains and the evaluation of its reliability. Complete psychometric validation, including factor analysis and internal consistency evaluation, will be necessary in future studies, where methods such as exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) should be applied^(34,35). It should be noted, however, that even without defined domains, the scale already demonstrates potential for measuring the construct of change fatigue among nurses.

Strengths and limitations

This study has several strengths, including a systematic approach to scale development that encompasses item generation, expert review, and pretesting. However, limitations include the absence of full psychometric analyses and the lack of defined scale domains. Further research is needed to establish the construct validity, reliability, and broader applicability of this approach across diverse nursing contexts.

CONCLUSION

The preliminary version of the OCFSN was developed through a rigorous process focused on the initial stages of scale development. The instrument comprises 35 items designed to assess change fatigue among nurses. Although full psychometric validation—including factor analysis and reliability testing—is still required, the scale already shows promise as a tool for measuring the

construct of organizational change fatigue in nurses.

The scale addresses a gap in the scientific literature, which lacks instruments specifically designed to measure change fatigue among nurses. Its development was grounded in the real-world experiences of nurses, ensuring that the items accurately reflect their challenges and contexts, and making it a promising tool for future research and healthcare practice. The OCFSN has the potential to enable early identification of change fatigue among nurses, providing managers with insights to guide support and training strategies. This could contribute to nurses' well-being and retention, ultimately supporting improvements in the quality of care delivered.

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