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DISSERTATION NURSING

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VALIDATION STUDY

The Italian version of the CAre REcipient Behavior Assessment scale (Careba): validation in Italian on patients with dementia

Giada Cocciolo[1]

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Findings:

In this study, a scale (CAREBA) designed to assess the aggressiveness of the person with dementia is translated and validated.

ABSTRACT

BACKGROUND:
The international literature shows that 20-40% of patients with cognitive impairment, hospitalized in long-term facilities, may react during nursing care with aggressive behaviors such as screaming, threats, kicks, punches and scratches.

AIM:
The objective of this study is to validate in Italian the "Care Recipient Behavior Assessment Scale" (CAREBA), an assessment tool designed to measure physical and verbal aggression of the person with dementia.

METHODS:
The CAREBA was back-translated through an observational study. It was administered to a sample of dementia patients with physical and/or verbal aggressive behaviors, conducted in a hospital in Northern Italy. Reliability and validity were assessed.

RESULTS:
The scale shows satisfactory internal consistency (Cronbach's Alpha = 0.79) and content validity (S-CVI= 90%).

CONCLUSIONS:
The CAREBA scale is a valid and reliable tool to detect aggression in patients with dementia.

KEYWORDS: *Dementia, Nurse, Assessment, Aggressive Behaviours, Aggressiveness*

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STUDIO DI VALIDAZIONE

La versione italiana della CAre REcipient Behavior Assessment scale (Careba): validazione in italiano su pazienti con demenza

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Riscontri:

In questo studio viene tradotta e validate una scala (CAREBA) progettata per valutare l'aggressività della persona con demenza.

ABSTRACT

INTRODUZIONE:
La letteratura internazionale mostra che il 20-40% dei pazienti con deterioramento cognitivo, ricoverati in strutture a lungo termine, può reagire durante l'assistenza infermieristica con comportamenti aggressivi come urla, minacce, calci, pugni e graffi.

OBIETTIVO:
L'obiettivo di questo studio è quello di validare in italiano la "Care Recipient Behavior Assessment Scale" (CAREBA), uno strumento di valutazione progettato per misurare l'aggressività fisica e verbale della persona con demenza.

METODI:
La CAREBA è stata ritradotta attraverso uno studio osservazionale. È stato somministrato a un campione di pazienti affetti da demenza con comportamenti aggressivi fisici e/o verbali, in un ospedale del Nord Italia. Sono state valutate l'affidabilità e la validità.

RISULTATI:
La scala mostra una consistenza interna soddisfacente (Alpha di Cronbach = 0,79) e una validità di contenuto (CVI-S= 90%).

CONCLUSIONI:
La scala CAREBA è uno strumento valido e affidabile per rilevare l'aggressività nei pazienti con demenza.

KEYWORDS: *Demenza, Infermiere, Valutazione, Comportamento Aggressivo, Aggressività*

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BACKGROUND

Within two years of a dementia diagnosis, 20% of patients experience psychobehavioral symptoms. As the condition progresses, this proportion rises to 80%. (1-3). Caregiver and medical staff find it difficult to control agitation and violence in dementia patients, which has an immediate negative impact on the staff members and the organization (4-6).

According to the research, 20–40% of patients with cognitive impairment who are admitted to long-term facilities may respond aggressively during nursing treatment, including yelling, threatening, kicking, punching, and scratching (7-9).

Currently, both pharmaceutical and nonpharmacological therapy are available to treat psychobehavioral disorders (10-12). According to studies, antipsychotics are used to treat agitation and violence in anywhere between 21% and 46% of situations (13-15). The most popular antipsychotics to lessen agitation and aggression are atypical antipsychotics (16,17). However, most patients do not respond well to these drugs (18), which has negative effects (19,20), including an increased risk of falls and fractures (21), the onset of cerebrovascular accidents, a lower quality of life, and a higher mortality rate (22-25). The Care Recipient Behavior Assessment Scale (CAREBA scale), developed in 2004 by Sloane et al., allows for the evaluation of the patient's level of hostility (11). When assessing behavioral distress in a dementia patient, it takes hostile verbal and physical behaviors into account. The CAREBA scale does not yet exist in Italian in Italy.

MATERIALS AND METHODS:

From June to October 2018, a study was carried out in two dementia-specific surgery rooms at a private hospital in Northern Italy. We enrolled individuals with dementia (both Alzheimer's disease and non-disease) with "moderate" or "severe" cognitive impairment, a Mini Mental State Examination score of 19 or above, a PAINAD score of 4, and a history of physically or verbally aggressive conduct,. Alzheimer's Excluded patients included those with delirium as their major diagnosis, those who were unconscious or comatose, those with alcohol-related dementia or psychotic illnesses as their primary diagnosis, those with an MMSE > 19 and "moderate" cognitive impairment, and those with PAINAD 4.

The hospital is not a member of any external bodies and does not have an internal ethics committee. In accordance with the ethical precepts of the Declaration of Helsinki, members of hospital leadership, including nurses, doctors, and managers, address ethical concerns. The study was carried out in accordance with hospital ethical guidelines, and all required approvals were received. Before starting the translation of the treatment recipient behavior rating scale (CAREBA scale), we obtained written permission from the author, who confirmed that no other Italian author was working on this instrument. The scale, shown in Appendix 1, has 9 items, each

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corresponding to the patient's behavior, which may or may not be present. The scale is considered positive even with an "attempt" of aggressive behavior toward the operator. The scale was administered to all patients until reaching the sample size for the study we did literature indicating a minimum sample size of 100 patients to obtain a reliable factor analysis. This was necessary to obtain a reliable factor model as recommended by the reference textbooks (31). The scale was translated using the back-translation method in order to ensure cultural and linguistic overlap of the instrument. The translation was carried out in two distinct phases: in a first phase, the translation (from English to Italian) was carried out independently by two nurses (experts in this field and in possession of advanced certifications in English). The two versions later compared were superimposable and there were no differences in content; this allowed the drafting of a single shared text that was later retranslated by a third English native speaker. The final retranslated version was sent to the original author who confirmed the correspondence of content and the reliability of the translation to the original. Data collection was performed by a single nurse, who was the project manager and had direct contact with the author of the instrument.

At a later date, content and face validity of the CAREBA scale was tested by administering it to six nurses with 5 or more years of experience in this area. Therefore, the content validity index of the instrument as a whole (CV-S) was calculated and the Content Validity Index of each subject (CVI-I) was evaluated (32). Cronbach's alpha was used to assess internal consistency. Exploratory factor analysis was used to study the scale construct, after checking for sample adequacy with the Kaiser-Meyer-Olkin measure and Bartlett's test of sphericity. The Varimax algorithm was used to rotate the factor model. The eigenvalues of the correlation matrix and factor loadings were maintained according to Kaiser's and Steven's criteria, respectively. All calculations were performed by a statistician using SAS software for MacOS.

RESULTS

Face validity was satisfactory: the scale had a content validity index (S-CVI) of 0.94. Internal consistency was good (Cronbach's Alpha 0.79). The average time to complete the CAREBA scale was less than 1 minute. Factor analysis showed only one factor, as in the original scale. All items on the scale have satisfactory loadings, meaning that each item on the instrument contributes substantially to describing the patient's situation. The analysis was initially conducted on all variables; because very few patients spit or threw objects during basic nursing care, the loadings of these two variables are small (0.17 and 0.22, respectively). The situations investigated by these two items may actually occur, so it makes sense to retain these two scale questions. From a mathematical point of view, the analysis is repeated by eliminating these two variables, obtaining for all remaining items a

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more than satisfactory result. Table 1 shows the loading coefficients, all of which are above the Stevens cut-off, which for this sample is 0.5204.

ITEM	LOADING
Colpire, spingere, graffiare	0.83248
Tirare calci	0.73004
Mordere	0.66688
Afferrare il caregiver	0.80604
Usare un linguaggio ostile/aggressivo	0.73842
Urlare/gridare	0.5699
Chiamare per aiuto/protestare/obiettare	0.52345

Table 1: Factor loadings after Varimax rotation

CONCLUSIONS

The aim of this study was to validate in Italian an instrument to detect aggression in patients with dementia. The CAREBA scale was translated using the back translation method and validated in Italian. We proceeded to the evaluation of the internal consistency: the Cronbach's Alpha value (0.79) indicates that there is a good correlation between the items of the scale and consequently a strong logical thread. This result is in favor of reliability, i.e. the reproducibility of the measure.

As far as the factorial analysis is concerned, all the items of the scale contribute to the achievement of its objectives: those that identify frequent situations give an essential contribution, from a mathematical point of view, to the definition of the patient's picture. The two items "spitting" or "throwing objects" during basic nursing care are not assessable from a statistical point of view, but find confirmation in clinical practice and therefore appear worthy of inclusion in the instrument. The scale is easy, fast in compilation (less than one minute) and therefore a valid and reliable tool in the assessment of aggression even in patients with dementia. The scale is easy, fast in compilation (less than a minute) and therefore a valid and reliable tool in the evaluation of aggressiveness also in patients with dementia.

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APPENDIX 1: CARE RECIPIENT BEHAVIOR ASSESSMENT (CAREBA Scale) Italian Version

Questa scala è usata per valutare chiari segni di distress comportamentale nella persona ricevente le cure. Ogni comportamento verrà classificato in "SI", "NO", "TENTATIVO", "ENTRAMBI" . Se due comportamenti avvengono simultaneamente valutare con " ENTRAMBI", se non c'è stato contatto con il caregiver valutare con "TENTATIVO". Se un comportamento non è chiaro, NON valutarlo.

Manifestazioni fisiche	**Possibili valutazioni**			
COMPORTAMENTO (valutazioni)	Si	No	Tentativo	Entrambi
Colpire, spingere, graffiare (Si, No, Tentativo e Entrambi)				
Tirare calci (Si, No, Tentativo e Entrambi)				
Mordere (Si, No, Tentativo e Entrambi)				
Lanciare oggetti (Si, No, Tentativo)				
	Possibili valutazioni			
	Si	No		
Afferrare il caregiver (Si, No)				
Sputare (Si, No)				

Manifestazioni verbali	**Possibili valutazioni**			
COMPORTAMENTO (valutazioni)	Si	No		
Chiamare per aiuto/protestare/obiettare (Si, No)				
Usare un linguaggio ostile/aggressivo (Si, No)				
Urlare/gridare (Si, No)				

1. **Manifestazioni fisiche**

COMPORTAMENTO	**DESCRIZIONE**
Colpire, spingere, graffiare cc…	Abusare fisicamente del caregiver con mani o oggetti a portata di mano o con altre parti del corto (es. testa , intero corpo), incluso spingere, spintonare, graffiare, pizzicare (deve esserci il contatto).
TENTATIVO di colpire, spingere, graffiare, ecc.	Agitare le braccia e le mani con forza verso il caregiver (verificare la presenza di segni di uno scherzo).
Tirare calci	Colpire energicamente con piedi o gambe (deve esserci il contatto).
TENTATIVO di tirare calci	Agitare gambe o piedi con forza verso il caregiver.
Mordere	Mordere, masticare (SOLO sul caregiver).
TENTATIVO di mordere	Muovere la faccia e aprire la bocca verso il caregiver per mordere
Afferrare il caregiver	Aggrapparsi al caregiver, afferrare il cagiver. Non valutare se il paziente si aggrappa al caregiver per ragioni di sicurezza. Se il comportamento non è chiaro non valutarlo.
Lanciare oggetti	Lanciare oggetti con forza, scagliare oggetti a terra.
Sputare	Sputare ma non per motivi di igiene dentale.

2. Manifestazioni verbali

COMPORTAMENTO	DESCRIZIONE
Chiamare per aiuto/protestare/obiettare	Dire "Mi stai facendo male", "Ahi", "Aiuto"ecc.. questo potrebbe includere espressioni di dolore, discomfort o insoddisfazione o chiamate di aiuto.
Usare un linguaggio ostile/aggressivo	Minacciare verbalmente il caregiver e di danneggiarlo fisicamente, per esempio "ti ammazzo", oppure minacciare il caregiver non in modo fisico, per esempio "parlerò a mio figlio di te". Devono essere usate parole. Usare parolacce (un linguaggio osceno o profano).
Urlare/gridare	Chiaramente sopra il livello di conversazione: urlare, gridare, incluse scenate rumorose, per esempio forti esclamazioni come "Oh!"oppure "Aiuto!" dovrebbero essere valutate come *urlare/gridare* e *protestare/obiettare*. Valutare "Aiuto" detto in maniera supplichevole come *protestare/obiettare*.

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