

Background

Since 2000, the incidence and severity of *Clostridium difficile* (*C. difficile*) infections have increased, justifying the need for expedite, sensitive and specific methods of diagnosis. The existing rapid diagnostic tests vary widely in terms of clinical usefulness, which is evaluated on its sensitivity, specificity, turnaround time (TAT), cost, and availability. Besides that, there is no generally accepted gold standard or single optimal approach for *C. difficile* testing. This has challenged various stakeholders to develop point-of-care (POC) platforms with the best test performance characteristics, easy to use, and with rapid TAT, a critical element of POC testing to improve the clinical management of this infectious disease. POC testing can be done at home, at the primary care level, by hospital staff in emergency or operating rooms, intensive care units, as well as in extreme environments, such as remote or low-resource settings, or in conditions following emergency crises or natural disasters.

Objective

To review current evidence regarding emerging POC platforms for *C. difficile* testing.

Methods

PubMed database was searched using keywords relevant to POC testing of *C. difficile*, since 2000, yielding a total of 10 articles included out of 17 initially identified/selected for full review.

Results

The findings show that during the last decade extensive research efforts were underway to develop stand-alone platforms suitable for POC testing of *C. difficile* infections. Multistep algorithms using the polymerase chain reaction test for *C. difficile* toxin gene(s) have the best test performance characteristics, and a trend seems to exist in favour of molecular tests in detriment of immunoassays, in POC platforms. A common feature to all POC devices is the rapid TAT, within seconds-minutes to a few hours, which is crucial for *C. difficile* infection management. Some of these POC devices enable to run either multiplex tests on a single sample, or multiple samples. Although the majority of these stand-alone POC platforms for *C. difficile* testing are still prototypes, they may be looked at as a step towards more rapid, miniaturized, portable and easier to use test devices with the potential to affect healthcare decisions at its earliest stage.

Conclusions

In conclusion, research efforts show an increasing number of technologies evolving for the development of POC platforms for *C. difficile* testing.

Keywords

Clostridium difficile, Point-of-care testing, Turnaround time, Stand-alone platform.

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Contributions for the validation of the Portuguese version of the Cohen-Mansfield Agitation Inventory (CMAI)

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Background

Dementia represents one of the greatest health challenges due to its incidence and frequency, costs and impacts on the individual, family and society. The Diagnostic and Statistical Manual of Mental Disorders – V (DSMV) considers that the behavioural changes, *i.e.*, the non-cognitive aspects of dementia, should be diagnosed, however, this is often not common practice. The identification and quantification of Behavioural and Psychological Symptoms of Dementia (BPSD) can be objectively assessed using the Cohen-Mansfield Agitation Inventory (CMAI). CMAI is a reliable and valid instrument used in clinical and research practice [3], however, it has never been validated for European Portuguese.

Objective

To contribute for the adaptation and validation of the CMAI for the European Portuguese population.

Methods

The study was conducted in two phases. The first phase consisted of the translation and cultural and linguistic validation of the CMAI according to the International Society for Pharmacoeconomics and Outcomes Research (ISPOR). The following methodology was used a) Translation, b) Reconciliation, c) Retroversion, d) Harmonization, e) Cognitive testimony/analysis and e) Spelling review. In phase 2, the internal consistency was calculated using the Cronbach's alpha. The intra- and inter-rater reliability was determined using the Intraclass Correlation Coefficient (ICC), using the intra-rater (1,1) and the inter-rater (2,1) equations. A factorial exploratory analysis of the construct validity was conducted with 101 people with dementia (83.3 ± 8.0 years; $n=83$; 82.2% female). Statistical analysis was performed with the Kaiser-Meyer-Olkin (KMO) test, on the behaviours manifested by more than 10% of the sample and only items weighing more than 0.4 were included in the extracted factors.

Results

The Portuguese version of CMAI revealed good reliability inter-rater ($ICC > 0.4$ for 22/29 items) and excellent intra-rater ($ICC > 0.75$ for 21/29 items) reliability and good internal consistency ($\alpha = 0.694$). The factorial exploratory analysis was applied to 21 items that meet the criterion. An association in three factors “non-aggressive physical behaviour” (67.3%), “aggressive behaviour” (66.3%) and “verbal agitation behaviour” (63.4%) was found with a reasonable quality (KMO = 0.664) and reasonable internal consistency values (0.754; 0.633; 0.714).

Conclusions

This study contributed to the availability of a measurement instrument for the European Portuguese, that can be used in clinical or research contexts, with people with dementia. As a future study it is suggested to analyse the remaining validation processes (criterion and confirmatory factor analysis).

Keywords

Dementia, Instrument, BPSD, Agitation.

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Analysis of the activations of the Intra-Hospital Emergency Team

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Background

The safety of patients is extremely important, therefore the Intra-Hospital Emergency Team (IHET) has emerged to respond to situations of clinical deterioration of hospitalized patients. When the patient presents deterioration of his clinical condition, it requires being examined in a timely manner by a team that provides the highest level of care. That seems to be the better way to avoid the occurrence of critical events, such as mortality, cardiovascular arrest and unplanned admission in intensive care units.

Objectives

This study aims to determine the characteristics of the IHET activations of Centro Hospitalar de Leiria (CHL).

Methods

This exploratory study analysed the registrations of the activations occurred in the last half of 2011, totalling 325 records. Sociodemographic and clinical characteristics of the patients, and the characteristics of the activations were analysed using the chi-square test and ANOVA.

Results

This study showed IHET activations mainly for male patients (56%), with a mean age of 74.48 ± 13.34 years, with an admission diagnosis related to respiratory diseases (34%) and with the main activation