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THEORETICAL PAPER/ESSAY

# Fall risk assessment tools

## Escalas de avaliação de risco de quedas
## Escalas de evaluación del riesgo de caída

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## Abstract

**Background**: Accidental falls remain the most reported incidents in hospital settings. This is a quality and safety issue for the patient which needs to be addressed by the hospital organisation. Nurses need to assess the risk of falling using scales. However, nurses are sometimes unsure of what is the most appropriate tool.
**Objective**: To provide information on the two most commonly used scales for assessing the risk of falling, i.e., the *St Thomas's Risk Assessment Tool in Falling Elderly Inpatients* (STRATIFY) and the *Morse Fall Scale* (MFS).
**Main topics for analysis**: The fall risk assessment tools which were the subject of more systematic reviews and prospective validation in two or more cohorts, with appropriate tests to predict their validity, were analysed. The review concluded that both scales identify patients who are at risk of falling based on their intrinsic or clinical characteristics.
**Conclusion**: Hospitals should use scales which have already been developed and tested for data comparison. These scales should be culturally and linguistically adapted, and validated for the Portuguese language.

**Keywords**: accidental falls; hospital services; adult; scales.

## Resumo

**Enquadramento**: Os acidentes por quedas do doente continuam a ser os mais relatados dos incidentes a nível hospitalar. É um problema de qualidade e segurança do doente que a organização hospitalar deve ter em consideração. Os enfermeiros necessitam de avaliar o risco de queda e esta avaliação deve basear-se na utilização de escalas, mas os enfermeiros por vezes desconhecem qual o instrumento apropriado que devem utilizar.
**Objetivo**: Proporcionar informação sobre duas das escalas de avaliação do risco de quedas mais utilizadas, a *St Thomas's Risk Assessment Tool in Falling Elderly Inpatients* (*STRATIFY*) e a *Escala de Quedas de Morse* (*MFS*).
**Principais tópicos em análise**: Efetuou-se uma análise dos instrumentos de avaliação do risco de queda, que foram alvo de maior número de revisões sistemáticas e que foram submetidas a validação prospetiva em dois ou mais *coortes*, com testes apropriados de predição da validade. Os resultados da pesquisa permitem concluir que ambas as escalas identificam as pessoas que têm risco de queda em função das suas características intrínsecas ou clínicas.
**Conclusão**: Os hospitais devem utilizar instrumentos já desenvolvidos e testados, como forma de comparar os seus dados, e estes devem ser submetidos a processos de adaptação cultural e linguística e de validação para a língua Portuguesa.

**Palavras-chave**: acidentes por quedas; serviços hospitalares; adulto; escalas.

## Resumen

**Marco contextual**: Los accidentes por caídas de pacientes siguen siendo los más comunicados a nível hospitalario. Es una cuestión de calidad y seguridad del paciente que la organización del hospital tiene que abordar. Los enfermeros han de evaluar el riesgo de caída, y esta evaluación debe basarse en el uso de escalas. No obstante, los enfermeros a veces no saben qué escala es la adecuada.
**Objetivos**: Proporcionar información sobre dos de las escalas para evaluar el riesgo de caídas que más se utilizan, la *St Thomas's Risk Assessment Tool in Falling Elderly Inpatients* (*STRATIFY*) y la *Escala de Caídas de Morse* (*MFS*).
**Principales temas de análisis**: Se llevó a cabo un revisión de las escalas de evaluación del riesgo de caídas que han tenido un mayor número de revisiones sistemáticas y que han sido sometidas a una validación prospectiva en dos o más cohortes, con pruebas adecuadas de predicción de la validez. Los resultados de la investigación, permiten concluir que ambas escalas identifican a los pacientes que están en riesgo de caída en función de sus características intrínsecas o clínicas.
**Conclusión**: Los hospitales deben utilizar escalas ya desarrolladas y probadas, como forma de comparar sus datos. Asimismo, estas escalas deben ser sometidas a procesos de adaptación cultural y lingüística y de validación al portugués.

**Palabras clave**: accidentes por caídas; servicios hospitalarios; adulto; escalas.

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## Introduction

Patient falls are the most reported accident in hospital and long-term care settings, of which approximately 5% results in fractures and 5% to 11% in other severe injuries (Perell, Nelson, Goldman, Preito-Lewis & Rubenstein, 2001). Despite the advances in the process of understanding falls, they remain a major concern (Almeida, Abreu, & Mendes, 2010). In the United States, at the community level, falls were considered the second leading cause of accidental death, and 75% of falls occurred in the elderly population (Morse, 2009). In Portugal, at the hospital level, there are studies which indicate a prevalence of 1.5% of falls in inpatient adults (Pina et al., 2010).

Between January 2006 and January 2008 (25 months), the Portuguese General Inspection of Health Activities analysed 4200 hospital falls. These were associated with stretchers, beds, chairs and problems with the floor and in the bathrooms (Soares & Almeida, 2008). Sixty-seven hospitals of the National Health System were contacted, but only 56 had reported patient falls. This means that either 11 hospitals did not report any accidents or they did not have any records of them. Fall-induced deaths accounted for only 2% of the total number of falls in this analysis. Twenty-nine cases (0.7%) resulted in disciplinary processes. Data allowed us to conclude that only 2% of accidents had occurred in the emergency room, with an additional 2% taking place in unknown locations. Most situations (4022) had occurred in the remaining areas, particularly in hospitalisation. The majority of the reported falls were associated with beds or stretchers but the total number of accidents included falls in the bathrooms, from lounge chairs and wheelchairs and in slippery floors (Soares & Almeida, 2008).

The length of hospital stay is often extended due to the consequences of a fall (Cumming, Sherrington, & Lord, 2008; Oliver, Britton, Seed, Martin, & Hopper, 1997), which necessarily leads to additional costs for the health system and, naturally, more discomfort and suffering for patients.

Falls are also associated with higher levels of anxiety and depression, loss of confidence and post-fall syndrome (Oliver, Daly, Martin, & McMurdo, 2004; Perell et al., 2001). Falls are not only expensive for the patient and the health care organizations, but they also lead to feelings of anxiety and guilt among the staff, and complaints and litigation with patients and families (Healey & Scobie, 2007; Oliver et al., 2004).

Fall risk assessment is one of the indicators that assess hospital quality with regard to patient safety, particularly among patients aged 65 years or more. Health organisations need to identify the instruments which are available, and have been duly studied, to accurately assess the risk of falling. This is the first step in the development of a hospital-based fall prevention programme, which is the main issue of this article.

## Dissertation

Inpatient older people are twice as vulnerable because of age. The disease process or surgeries make them weak, as they spend more time in bed and are more medicated. They are in unfamiliar environments and depend on the help of others to perform their activities of daily living.

However, the fall rate of hospitalised patients is not the only important aspect; the injury rate is equally significant (Morse, 2009). Because of such injuries, both in individuals and society, research has been developed to establish fall prevention programmes, whose initial step is assessing the risk of falling (Morse, 2009).

At various work environments, and particularly at the hospital level, the nursing care managers are often unsure about which tool they should use to assess the risk of falling. This is because measurement instruments should have essential qualities such as reliability and validity. In addition, all of the existing scales are designed in a language other than Portuguese and for a different culture, which means they have to be translated, culturally and linguistically adapted and validated for the Portuguese language, so that they remain faithful to the original (Wild et al., 2005). Finally, when a method to assess patient falls is chosen, it is important that the instrument be applied just as it was initially designed and published by the original author, because altering scale items or scale scores may interfere with the scale's reliability and validity (Morse, 2009).

Fall risk assessment scales are tools which give a numerical value to various risk factors (Healey & Scobie, 2007). The sum of these factors predicts if the patient has a low, medium or high risk of falling (Morse, 2009). There are many studies describing

risk assessment tools, but only five tools have been tested for how they predict falls (Healey & Scobie, 2007). These instruments are the Innes Score (1985), the Morse Fall Scale (Morse, Morse & Tylko, 1989), the Schmid Score (1990), the Downton Index (Nyberg & Gustafson, 1996) and the STRATIFY risk assessment tool (Oliver et al., 1997), but only two have been tested with different groups of patients outside the original research studies (Oliver et al., 2004), i.e. the Morse Fall Scale and the STRATIFY risk assessment tool (Table 1).

Table 1
*Fall assessment scales*

| Name of the instrument | Authors | Year |
|---|---|---|
| Innes Score | Else M. Innes | 1985 |
| Morse Fall Scale | Janice M. Morse; Robert M. Morse; Suzanne J. Tylko | 1989 |
| Schmid Score | Nancy A. Schmid | 1990 |
| Downton Index | L. Nyberg; Y. Gustafson | 1996 |
| Stratify | D. Oliver; M. Britton; P. Seed; F.C. Martin; A.H. Hopper | 1997 |

The literature advises that, even validated instruments may fail to predict a significant number of falls (Oliver et al., 2004). This happens because the factors which contribute to falls are not always part of the indicators of those instruments. However, there is evidence that a patient who falls is extremely likely to fall again under the same circumstances. The same is true for patients who fell only once during hospitalisation. Thus, it is important to intervene at the level of preventable or reversible risk factors (Morse, 2009).

## Methodology

The two fall risk assessment tools which had been the subject of systematic literature reviews and prospective validation in two or more cohorts, with appropriate tests to predict their validity, were analysed (Morse, Tylko, & Dixon, 1987; Healey & Scobie, 2007). An analysis was also conducted to identify whether they had gone through the cultural and linguistic adaptation and validation processes for the Portuguese language. Thus, this study aimed to provide information on the two most common fall risk assessment scales: the *St Thomas's Risk Assessment Tool in Falling Elderly Inpatients* (STRATIFY) and the *Morse Fall Scale* (MFS).

The main characteristics of both scales are presented below.

### *STRATIFY* Scale

It was designed in 1997 by David Oliver and his collaborators in England (Oliver et al., 1997) and developed in three phases. In the 1st phase, the objective was to identify clinical characteristics of elderly inpatients (aged 65 years or more) that predict their chance of falling. The study was conducted with the purpose of identifying the risk factors that could clearly be assessed by nurses as part of a routine screening tool. In this phase, it was possible to identify which risk factors were strongly associated with the occurrence of falls. In the 2nd and 3rd phases, the previously identified characteristics were used to derive a risk assessment tool and evaluate its power in predicting patient falls.

In the 1st phase, a prospective case-control study was conducted, with 116 cases and 116 controls. In the 2nd and 3rd phases, a different study was conducted with 271 patients using prospective evaluations of the derived risk assessment tool in predicting falls in two cohorts. The first two phases were conducted at elderly care units of the St Thomas's Hospital, in London, which is a teaching hospital with 700 beds, 96 of which were intended for elderly care and distributed in four wards, one of them being dedicated to stroke rehabilitation. Phase 3 was conducted at the Kent and Canterbury Hospital, which is a 500-bed general hospital with two acute and four rehabilitation wards for elderly patients. A total number of 331 patients were studied in this phase.

As for the patients' clinical characteristics, 21 characteristics were assessed in phase 1, including the abbreviated mental test score, modified Barthel index, a transfer and mobility score obtained by combining the self-care sections of the Barthel index,

and several nursing judgments. Through logistic regression, five factors which were independently associated with a high fall risk were identified by calculating odds ratios (OR): previous falls as a presenting complain(OR=4.64; 95%CI=2.59-8.33), a transfer and mobility score of 3 or 4 (OR=2.10; 95%CI=1.22-3.61), nurses' judgment that a patient is agitated (OR=20.9; 95%CI=9.62-45,62), need for frequent toileting (OR=2.48; 95%CI=1.08-5.70) or if the patient was visually impaired (OR=3.56; 95%CI=1.26-10.05).

A risk assessment score (range 0-5) was derived by scoring one point for each of these five factors. In phases 2 and 3, a high risk assessment cut-off point was tested, and a score ≥2 was considered the adequate cut-off point.

The authors (Oliver et al., 1997) also concluded that this is a simple risk assessment tool to predict with clinically useful sensitivity and specificity a high percentage of falls among elderly hospital inpatients. Sensitivity and specificity scored more than 80% in both patient cohorts.

The STRATIFY scale consists of five questions with yes/no answers (Table 2). However, the score of the last question is obtained by combining two answers from the modified Barthel index regarding the patient's level of capability when transferring from a bed to chair (0: Unable; 1: Major help needed; 2: Minor help needed; 3: Independent) and the patient's level of mobility (0: Immobile; 1: Independent with aid of wheelchair; 2: Uses walking aids or walks with help of one person; 3: Independent), respectively.

Table 2
*Questions of the STRATIFY risk assessment tool*

| | Question |
|---|---|
| 1 | Did the patient present to hospital with a fall or has he or she fallen on the ward since admission? |
| 2 | Do you think the patient is agitated? |
| 3 | Do you think the patient is visually impaired to the extent that everyday function is affected? |
| 4 | Do you think the patient is in need of especially frequent toileting? |
| 5 | Transfer and mobility score of 3 or 4? |

The total score of the STRATIFY scale is obtained by summing the answers to the five questions, and it may range from 0 to 5. A score equal to 0 corresponds to a low risk, equal to 1 corresponds to a moderate risk and, finally, above or equal to 2 corresponds to a high risk of falling. In summary, STRATIFY is a tool to predict falls, which was developed to be used in elderly hospital inpatients. It is based on 5 items, where each item has a score of 1 (if present) or 0 (if absent), with a cut-off point equal to or above 2 in the scale's total score.

It has been widely used as part of a fall prevention programme, but its usefulness is not very clear in a variety of settings (Oliver et al., 2008). In fact, in 2008, approximately 10 years after its publication and following a significant number of studies with several patient cohorts, a meta-analysis of studies using the STRATIFY tool was performed. This research identified 41 papers, eight being selected for inclusion in the systematic review and four for inclusion in the meta-analysis. The authors conclude (Oliver et al., 2008) that the STRATIFY tool has been subjected to the various validation studies and compares well with other tools on speed, adherence and reliability. Although high values were reported for specificity and the negative predictive value, sensitivity and the positive predictive value were generally low to make this tool a useful indicator to identify fall-prone patients in hospital settings (Table 3).

The abovementioned meta-analysis also demonstrates that the type of population and settings in which it is applied may affect the STRATIFY performance.

The scale was tested with some re-weighting of items in two hospitals in Hamilton, Ontario, Canada, and the 5-point total score of the original scale changed to 30 points. In this study, an inter-class correlation coefficient of 0.78, a sensitivity of 91% and a specificity of 60% for the cut-off point of 9 were obtained; however, the change in the scale's scoring was not validated in other studies (Papaioannou et al., 2004).

Table 3
*Summary of the validation of the STRATIFY scale*

| *Study* | *Sensitivity*[1] | *Specificity*[2] | *Positive predictive value*[3] | *Negative predictive value*[4] |
|---|---|---|---|---|
| Oliver et al. (1997) St Thomas's Hospital (Phase 2) | 93.0% | 87.7% | 62.3% | 98.3% |
| Oliver et al. (1997) St Thomas's Hospital (Phase 3) | 54.4% | 87.6% | 48.9% | 89.8% |
| Oliver (2008) Meta-analysis of 4 studies | 67.2% | 51.2% | 23.1% | 86.5% |
| Papaioannou et al. (2004) | 91.2% | 60.2% | - | - |

[1] Sensitivity = Likelihood that a patient assessed with high fall risk has of falling among all fallers.
[2] Specificity = Likelihood that a patient assessed with low fall risk has of not falling among all non-fallers.
[3]Positive predictive value = Likelihood that a person assessed with fall risk has of falling among all patients assessed with high fall risk.
[4] Negative Predictive Value = Likelihood that a patient identified with low fall risk has of not falling among all patients assessed with low fall risk.
[5]Odds ratio = Probability of fall in patients with high fall risk *versus* probability of fall in patients with low fall risk.

## Morse Fall Scale

This scale was developed in 1985 in Canada, by Janice M. Morse. Based on a prospective study, it aimed to identify and predict the risk of physiological falls in 100 patients who had fallen and in 100 patients who had not fallen, as control group. The study was carried out at 1200-bed acute care hospital, with a geriatric centre with 50 beds and a centre for veterans with 140 beds. Patients of paediatric units and aged less than 18 years were excluded (Morse et al., 1987).

The scale was designed to be applied in interviews with patients and through the consultation of clinical records with the purpose to assess the risk of falling. It has an estimated time of completion of less than three minutes.

Table 4 shows that the MFS (Morse et al., 1989) showed a sensitivity of 72.0%, a specificity of 83.0%, a positive predictive value of 10.3%, and a negative predictive value of 99.2%. The reliability of the scale was considered excellent, using the intraclass correlation coefficient of 0.96 (ICC ≥ 0.75) on a sample of six patients assessed by 21 nurses, indicating good reproducibility. The coefficients for each question of the scale were: 1.0 for questions 1 and 4; 0.99 for question 2: 0.98 for question 3; and 0.82 for question 5. The coefficient for question 6 was not assessed.

The scale was assessed by Schwendimann, De Geest and Milisen (2006) at two internal medicine departments of a hospital in Switzerland, with the intraclass correlation coefficient of 0.68. Sensitivity ranged from 91.5% to 38.3%, specificity from 81.7% to 10.6%, the positive predictive value from 12.5% to 22.5%, and the negative predictive value from 90.2% to 95.7%.

Table 4
*Summary of the validation of the Morse Fall Scale*

| *Study* | *Sensitivity* | *Specificity* | *Positive predictive value* | *Negative predictive value* | *ICC*[1] |
|---|---|---|---|---|---|
| Morse, Morse and Tylko (1889) | 72.0% | 83.0% | 10.3% | 99.2% | 0.96 |
| Schwendimann, De Geest and Milisen (2006)[2] | 74.5% | 65.8% | 23.2% | 94.9% | 0.68 |

[1] Intraclass correlation coefficient
[2] Scores for the cut-off point 55

The scale consists of six items reflecting risk factors of falling (Table 5). These six items were identified using the statistical technique of discriminant analysis. The presence of a risk factor is indicated by a *yes* or *no* answer in items 1, 2 and 4; the score of the other three items is based on two or three descriptors. The *yes* or *no* answers or descriptors for each item are assigned a score ranging from 0 to 30 points. The MFS total score ranges between 0 and 125, differentiating people according to their risk of falling. Thus, a total

score ranging from 0 to 24 indicates that the patient has no risk of falling, requiring only basic nursing care. A score ranging from 25 to 50 indicates that the patient has a low fall risk and that standard fall-prevention interventions are required. A score higher than 51 indicates that the patient has a high fall risk and that high-risk prevention interventions are needed (Morse, 2009).

Table 5
*Questions of the Morse risk assessment scale*

| | Question |
|---|---|
| 1 | History of falling? |
| 2 | Secondary diagnosis? |
| 3 | Ambulatory aid? |
| 4 | Intravenous therapy? |
| 5 | Type of gait? |
| 6 | Mental status? |

Morse (2009) recommends that the scale should be calibrated for each particular hospital setting or unit so that fall prevention strategies are targeted to those most at risk. In other words, risk cut-off points may be different depending on whether it is in an acute care, long term care or palliative care hospitalisation unit. Therefore, there may be different cut-off points within the same organisation.

Risk assessment tools may play a fundamental role as a first step in the implementation of an effective and efficient fall prevention programme (Perell et al., 2001). Although they are crucial to the efficiency of a programme, they have been criticised for their ability to accurately identify the patient who actually falls (Oliver, 2008).

The STRATIFY and MFS scales identify patients who are at risk of falling based on their intrinsic or clinical characteristics (mental status, changes in mobility, history of falling, frequency of toileting/dependence, acute or chronic illness).

Table 6 summarises the comparison between both scales based on the number of questions in each scale, the sample population, the years in which they were created and in which countries, common dimensions, nature of the studies used in the design of both instruments and the statistical method, and countries for which the cultural and linguistic adaptation was made.

As can be seen in Table 6, the scales were designed in different countries, with a 12-year interval, the MFS being prior to the STRATIFY. The first scale was built by a nurse and the second one by a physician, which showed the concern that already existed back in the 1980s and 1990s with the issues of fall-related patient safety in hospital settings.

Table 6
*Comparative summary of both scales*

| Characteristics | STRATIFY scale | Morse scale |
|---|---|---|
| Number of questions | 5 | 6 |
| Common Dimensions | History of falling<br>Changes in mental status<br>Assessment of the capacity for transfer, mobility and use of walking aids | |
| Individual dimensions of each scale | Visual changes<br>Frequent toileting | Existence of secondary diagnosis<br>Presence of continuous IV infusions |
| Sample population | Adults aged 65 years or more | Adults aged 18 years or more |
| Development | Three hospitals | Three hospitals |
| Type of studies used | Case-control and cohort | Case-control |
| Statistical method of design | Logistic Regression | Discriminant Analysis |
| Country and year of validation and design | England, 1997 | Canada, 1985 |
| Countries with cultural and linguistic adaptation | Australia, Belgium, Canada, France, Holland, Italy | Germany, Korea, China, Denmark, Spain, Philippines, France, Switzerland, Japan, Portugal |

Both sizes are comparable (5 to 6 items). The first scale has a dichotomous response format and the second scale combines this format with multiple choice items. The assessed patients' characteristics are similar in both scales and the common intrinsic risk factors are mental status, mobility and history of falling.

Both scales were developed in hospital settings, are easy-to-use, quickly applied and were designed to be used in adult patients. The MFS is more comprehensive than the STRATIFY, because it is intended for adults in general while the MFS is more adapted to patients aged 65 years or more.

Epidemiological studies were used to design both scales and the statistical technique of prediction and explanation applied to select the variables included in the MFS scale was the discriminant analysis and in the STRATIFY was the logistic regression.

Both scales were subjected to a cultural adaptation and linguistic process, but only the MFS is culturally and linguistically validated and adapted to the Portuguese language. It is the most widely used scale in Portugal (Ordem dos Enfermeiros, 2010; Soares & Almeida, 2008), and it has been tested in various settings besides those for which it was initially designed and in various populations (Schwendimann et al., 2006). There were more studies conducted with the MFS than the STRATIFY scale. Similarly, the MFS was culturally and linguistically adapted to more countries than the STRATIFY scale.

The STRATIFY scale has undergone some changes (Papaioannou et al., 2004) related to item re-weighting. Thus, unlike the MFS, there is a variant of the original STRATIFY scale, which has not been tested in other independent studies.

A recently performed systematic review with meta-analysis on the studies that focus on the STRATIFY scale has concluded that its reliability is limited and that it should not be autonomously used to assess people with high risk of falling, but as part of a multifactorial assessment. However, in people with high risk of falling, the criterion for multifactorial assessment should always be put in practice independently of the scale used by the organisation.

As for the reproducibility of both scales, there is only information concerning the calculation of the intraclass coefficient of the MFS, which proved to be excellent.

The unit of analysis used in the original STRATIFY study consisted of the number of fall episodes which had occurred during the study. Each fall was seen as a new episode and people who fell more than once were included several times. In that sense, this is not the ideal study design as there may be some bias in selecting the appropriate controls. In the case of the MFS, both fallers and non-fallers were selected.

The following criteria should be used to choose the most appropriate assessment tool: high sensitivity, specificity and interrater agreement; similarity of resident population to the one in which the

instrument was developed or studied; written procedures explicitly outlining the appropriate use of the tool; reasonable time required to administer the scale; and established criteria and thresholds identifying when to initiate interventions (Perell et al., 2001).

These instruments are used by nurses upon patient admission and are periodically updated (every shift, every day, or every week), depending on the patient's status and the policies and procedures of each organisation. For this reason, the time for applying a scale at a hospital is a critical criterion. In addition, the severity of the patient's status, the medications that affect mobility, and the mental and cognitive status demand an easy and quick assessment without burdens on the patient.

## Conclusion

Fall risk assessment or the assessment of the patient at risk is an essential component of any fall prevention programme. Its purpose is to identify the patients at risk so as to resolve the situation and, finally, avoid the occurrence of falls.

Ideally, fall risk assessment should be performed upon patient admission and at least every 3 days during the hospitalisation period. It should also be performed when the patient is transferred to a different unit, when his/her condition changes, and after a fall.

There are several assessment tools available to assess the risk of falling. In an acute care setting, these tools were summarised by Perell et al. Despite the existence of several different scales, there is little information on how to choose the most appropriate instrument for the specific population under analysis. It is recommended that only instruments in which reliability and validity have been empirically tested should be used. Rather than replacing the nurses' fall risk assessment, they complement it.

It was also concluded that the MFS is the most studied scale at an international level and it is applied in different settings. It is also the most widely used and disseminated scale in Portugal. It is especially designed for adults in general, with a potential to be applied in the vast majority of Portuguese hospital organisations. However, it needs to be subjected to a cultural and linguistic adaptation and validation process for the Portuguese language, a process which is expected to be soon completed.

There is, therefore, no need to develop other scales, which may even be counter-productive to the overall purpose of risk assessment, as the scales and respective scoring should be comparable between organisations, thus ensuring the validation of the best practices.

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