

Original  
Contributions



## FRAILITY ASSESSMENT TO HELP PREDICT PATIENTS AT RISK OF DELIRIUM WHEN CONSULTING THE EMERGENCY DEPARTMENT

Marianne Giroux, MSc, \*†‡ Marie-Josée Sirois, PhD, \*†‡ Valérie Boucher, BA, \*†‡ Raoul Daoust, MD, MSc, §||  
Émilie Gouin, MD, ¶ Mathieu Pelletier, MD, †\*\* Simon Berthelot, MD, ††† Philippe Voyer, INF., PHD, \*†‡ and  
Marcel Émond, MD, MSc \*†‡

\*Centre de Recherche du CHU de Québec, Axe Santé des populations et pratiques optimales en santé, Québec, Québec, Canada, †Université Laval, Québec, Québec, Canada, ‡Centre d'excellence sur le vieillissement de Québec, Québec, Québec, Canada, §Centre de recherche de l'Hôpital du Sacré-Cœur de Montréal, Montréal, Québec, Canada, ||Université de Montréal, Montréal, Québec, Canada, ¶Centre Hospitalier Régional de Trois-Rivières, Trois-Rivières, Québec, Canada, \*\*Centre Intégré de Santé et de Services Sociaux de Lanaudière, Joliette, Québec, Canada, and ††Centre Hospitalier de l'Université Laval (CHUL), CHU de Québec, Québec, Québec, Canada  
Reprint Address: Marianne Giroux, MSc, CHU de Québec-Hôpital de l'Enfant-Jésus, 1401 18<sup>e</sup> rue, H-0601, Québec (Québec) G1J 1Z4, Canada

**Abstract—Background:** Delirium is underdiagnosed in seniors at emergency departments (EDs) even though it is a frequent complication and is associated with functional and cognitive decline. As frailty is an independent predictor of adverse events in seniors, screening for frailty in EDs may help identify those at risk of delirium. **Objectives:** To assess if screening older patients for frailty in EDs could help identify those at risk of delirium. **Methodology:** This study was part of the multicenter prospective cohort *INDEED* study. Patients aged  $\geq 65$  years, initially free of delirium, with an ED stay  $\geq 8$  h were followed up to 24 h after ward admission. Frailty was assessed at baseline using the Clinical Frailty Scale; seniors with a score  $\geq 5/7$  were considered frail. Their delirium status was assessed twice daily using the Confusion

**Assessment Method. Results:** Among the 335 included patients, delirium occurred in 20/70 frail (28.6%) patients and in 20/265 (7.6%) robust ones. After adjusting for age and sex, the risk of delirium during ED stay was 3.13 (95% confidence interval 1.60–6.21) times higher in frail than in robust patients. Time between arrival to the ED and the incidence of delirium was also shorter for frail patients than for the robust ones (adjusted hazard ratio 2.44, 95% confidence interval 1.26–4.74). **Conclusion:** Increased frailty is associated with increased delirium during ED stays. Screening for frailty at emergency triage could help ED professionals identify seniors at higher risk of delirium. © 2018 Elsevier Inc. All rights reserved.

**Keywords—**delirium; emergency department; length of stay; older adults; frailty

This study was funded by the Fonds de Recherche en Santé du Québec (FQRS 29307).

ME had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis. He was responsible for the design, funding, and conduct of the study. VB managed the study and data collection. MG wrote the manuscript. MG, EM, and MJS were involved in the statistical analysis, and data interpretation. RD, EG, MP, and ME were responsible for recruitment at all four sites. MJS, VB, RD, EG, MP, SB, PV, and ME reviewed and approved the manuscript.

The authors declare no conflict of interest.

## INTRODUCTION

Emergency departments (EDs) are often a point of entry for older people to access medical care. People aged 75 years and older represent the second highest proportion of ED visits in Canada and the United States, and tend to have higher admission rates and longer length of stay than younger patients (1,2). Geriatric ED

guidelines recommend a complete geriatric assessment of those senior patients, but in the current context of frequent overcrowding, ED professionals lack time to perform such assessment (3,4). Tools are thus required to screen seniors at risk of geriatric syndromes who need a more comprehensive assessment.

Frailty is a geriatric syndrome described as a state of vulnerability resulting from an accumulation of deficits across the different physiological systems (5). It is associated with poor health outcomes such as functional and cognitive decline, higher risk of hospital admission, longer hospital stay, ED readmission, and mortality (6–9). Frailty assessment has been demonstrated useful in predicting adverse health events, and screening is now recommended in various care settings, including the EDs, where prevalence for frailty is reported to reach 20% to 46% in older patients (9–13). However, screening for frailty has yet to be implemented in ED clinical practice.

Screening older ED patients for other geriatric syndromes, such as delirium, is also part of current care recommendations. Delirium is a frequent medical complication that occurs in 8–17% of older ED patients (14). Delirium is an “acute brain failure,” making it unable to adapt to an acute condition (14). It is characterized by a transitory alteration of cognition and consciousness developing over a short period of time, and is associated with poor health outcomes (15).

Inouye identified predisposing and precipitating factors for delirium (16). The latter are acute events that can trigger delirium and include infections, adverse drug events, and metabolic and circulatory conditions that are commonly found in senior patients at EDs. Predisposing factors refer to patients’ own vulnerability, such as cognitive or sensory impairments, loss of independence, decreased oral intake, polypharmacy, and medical comorbidities that are common in frail older adults. For instance, frail seniors with delirium admitted to a medical unit were found with an average of five predisposing and three precipitating factors, showing their higher risk for delirium than patients in robust ones (17).

In surgical and medical hospital units, frailty was found to be a strong predictor of postoperative delirium, and was associated with increased delirium in inpatient seniors as well as in those discharged from the hospital (18–23). Frail seniors with delirium were also shown to have a shorter survival time than robust patients with delirium on a medical unit (22).

In the ED, a length of stay > 12 h is an independent predictor of incident delirium (24). However, it remains under-recognized by ED professionals, as up to 76% of cases remain undiagnosed (25). Because delirium is associated with poor function and cognition, longer hospital stays, higher re-admissions, and institutionalization rates,

ED professionals need tools to identify at-risk patients, because 44% of cases could be prevented (22).

To our knowledge, the present multicenter study is the first one to examine if frailty screening could serve this purpose in the specific context of EDs.

## OBJECTIVES

The aim of this study was to evaluate the usefulness of frailty assessment to identify older patients at risk of developing delirium when consulting the ED.

## METHODS

### *Study Design*

This project is part of the Incidence and Impact Measurement of ED-induced Delirium study (INDEED), a prospective cohort study conducted in the province of Quebec in 2015–2016 in four EDs in teaching and nonteaching hospitals, located either in urban or semi-rural settings (26).

### *Population*

Included patients were  $\geq 65$  years old and independent in at least 5/7 Activities of Daily Living (ADLs) at home according to the Older American Resources and Services (OARS) scale, presenting to the ED with any medical or surgical complaint, had an ED-stay  $\geq 8$  h, with a completed admission form. Patients were not eligible if they showed any of the following criteria: unstable medical condition leading to intensive care unit admission, inability to consent or to communicate in French or English, psychiatric history, symptoms of delirium prior to ED arrival, or living in long-term care facility.

### *Data Collection*

Patients were first prescreened in the ED’s electronic information system and their medical file for age and main non-eligibility criteria. Eligible patients with an ED stay  $\geq 8$  h were met for enrollment and for the initial assessment. Included patients were then followed twice a day during their entire ED stay and during the first 24 h after their ward admission. Research nurses or assistants performed enrollment and follow-up assessments. They were specifically trained prior to the study with using the delirium, frailty, and other assessment tools of the study.

### *Measures*

Frailty was measured using the Canadian Study of Health Aging–Clinical Frailty Scale during the initial

Download English Version:

<https://daneshyari.com/en/article/8719297>

Download Persian Version:

<https://daneshyari.com/article/8719297>

[Daneshyari.com](https://daneshyari.com)