PREVENTING FALLS IN A LONG-TERM CARE FACILITY: A COMPREHENSIVE MULTI-DISCIPLINARY APPROACH

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BACKGROUND: Falls are a major threat to health and functional competence in later life, particularly for seniors who are frail and/or cognitively-impaired and who live in long-term care facilities. Fall-related injuries increase the level of acuity and dependence of residents and contribute to heavy workloads for staff.

METHODS: A systematic, multi-component fall prevention program was developed to prevent falls and minimize fall-related injuries in a long-term care facility.

RESULTS: The program has, as its central themes, strategies for education, multi-disciplinary risk assessment and care-planning.

CONCLUSION: An evaluation of the process and outcome of the program after the first year of its implementation is recommended to examine the program effectiveness and to guide future fall prevention initiatives.

Key words: Fall prevention, risk assessment, seniors, long-term care facilities

Falls are a major threat to health and independence among seniors. Indeed, they are a leading cause of functional disability, morbidity, institutionalization and mortality in later life.[1-4] It has been estimated that over 50% of seniors who reside in long-term care facilities experience at least one fall per year, and of these, 40-78% are multiple fallers.[5-7] The most common site for falls is the bedside, and most falls occur while walking, climbing over bed-rails and accidentally rolling out of bed.[7] The majority of falls among frail seniors are multi-factorial, resulting from the convergence of person related and environmental risk factors.[4,6,8] Age-related functional decline, chronic disabilities and a variety of iatrogenic and environmental hazards predispose seniors to falls and injuries.

In 1995, the staff in a 200-bed long-term care facility in Ottawa-Carleton established fall prevention as a major initiative. A review of literature revealed that significant protection against falls can be achieved from interventions that are comprehensive and interdisciplinary and target risk factors in individual persons and focus on environmental hazards.[4,6,8] We describe the development of a program aimed at preventing falls, and when falls occur, ensuring appropriate intervention.

METHODS

The Conduct of a Needs Assessment

This assessment provided baseline information about the prevalence of falls and related risk factors. An analysis of incident reports revealed that falls accounted for 80% of documented incidents over a 1-year period. A total of 671 falls had occurred, 17% resulting in injuries, with 34% of these injuries being serious. Person-related factors included functional decline associated with aging, diseases common among seniors, the side-effects of medications, and unsafe behaviour. Environmental hazards included slippery and glaring floor surfaces, inadequate lighting, unstable furniture, low lying objects, throw rugs, cords and wires, and faulty devices. An examination of policies and procedures failed to reveal a systematic risk assessment program that would identify those at particular risk of falling or a comprehensive approach to monitoring those who had fallen and/or sustained fall-related injuries. Incident reports of falls were not in sufficient detail to provide direction for care or inform policy-making throughout the institution. Focus group discus-

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sions with residents and nursing staff, and consultations with representatives of various departments revealed the need to improve the identification of high-risk residents, enhance intra- and inter-departmental documentation and communication about fall prevention, improve environmental safety, review medication and restraint policies, and increase physical activity and fitness programs for residents.

The Establishment of a SAFE Committee

The SAFE (Staff Against Falls Everywhere) committee, which represented residents, nursing, recreation, food services, physiotherapy, plant facilities, housekeeping, staff development, and administration, provided on-going direction throughout all phases of program development. This name has been used in other fall prevention programs.[9,10] Regular meetings and consultations with the staff and medical advisory committee resulted in decisions regarding staff education and the establishment of policies and procedures aimed at risk identification and management.

THE PROGRAM

The program employs a systematic, multi-component and multidisciplinary approach to fall prevention that focuses on education, multidisciplinary risk assessment, and care planning. The overall goal of the program is to create an environment that prevents or minimizes the risk of falls and fall-related injuries. Falls are defined as events that result in a person coming to rest inadvertently on the ground, other than as a consequence of sustaining a violent blow, an epileptic seizure, or sudden onset of paralysis, eg. a stroke.[11] Specifically the program seeks to:

- Raise awareness about the risks of falls and appropriate interventions;
- Improve the methods of assessment, care planning, documentation and monitoring;
- Enhance environmental safety; and
- Promote autonomy and functional independence among residents.

Education

A five-part educational program aims to increase staff knowledge and skill regarding the prevalence, risks, consequences and management of falls. Fifteen-minute sessions focus on the significance of falls, the importance of timely and collaborative assessment and care planning, risk assessment, fall prevention, and post-fall protocols. At the end of each session, participants make suggestions regarding additional knowledge and skills that they would like to acquire about the prevention and management of falls. In addition, an annual *environmental safety week* is organized to raise resident, staff, and family awareness of fall prevention. Furthermore, fall prevention information is published on a quarterly basis in the resident newsletter and periodically on flyers that are posted throughout the Home.

Multidisciplinary Risk Assessment

Within 2 weeks of admission, a multidisciplinary fall risk assessment is conducted. The nursing assessment employs a Fall Risk Assessment tool [12] that identifies risk factors such as age, confusion, agitation/restlessness, fall history, impaired mobility, balance or gait and medication use. The attending physician identifies medical factors contributing to falls through the medical history and physical examination. Diagnostic tests and consultations are carried out as necessary. The pharmacist reviews the resident's medication profile with the goal of minimizing the use of drugs that increase the risk of falls. The pharmacist also screens for drug interactions, correct dosages and the potential side-effects of medications. A medication review is conducted every 3 months. Physiotherapy assessment includes an evaluation of functional mobility, transfer, balance and gait. The need for assistive devices and environmental safety adaptations (e.g. additional grab-bars, raised toilet-seats), gait and transfer training, exercise and physical activities is determined. A safety assessment is conducted for residents who bring in their own assistive devices (canes, walkers, wheelchairs) to ensure that they are functioning and in good repair. The Plant and Facilities department conducts an environmental safety assessment to identify potential hazards in the resident's bedroom and bathroom and to determine the need for environmental safety modifications (rearrangement or removal of unsafe furniture, the provision of safe lighting, installation of additional bars and handrails, and securing of rugs to the floor).The recreologist meets with the resident and family to identify recreational needs and interests and plan for resident participation in safe and meaningful physical, cognitive and social activities. Interdisciplinary assessments are also conducted whenever there is a significant change in the resident's condition, after each fall, and during the resident's annual review.

A risk assessment tool is completed and placed in

a prominent place in the resident's chart. The following risk factors are evaluated and allocated scores: age (65-79: 0.5) (80+: 1.0), confusion (2.0), agitation/restlessness (5.0), previous fall (1.0), impaired mobility, balance or gait (1.0), immobility (5.0), generalized weakness (1.0), alteration in elimination (1.0), sedative medication use within 24 hours (1.0). Scores are summed and level of risk is identified and documented. Residents scoring 0.5 to 2.5 are assessed as being at low risk of falls *(Level I)*, those scoring 3.0 to 4.5 at moderate risk *(Level II)*, and those scoring 5 or more are assessed as being at high risk *(Level III)*.

CARE PLANNING

Fall Prevention Protocols

Plans of care aimed at modifying acute or reversible risk factors, minimizing the burden of chronic deficits, compensating for irreversible conditions, and minimizing injuries when falls occur are developed for all residents.

Level I interventions are generic and designed for all residents. These interventions include surveillance and protective measures, interventions to improve functional competence, the judicious use of medications, environmental strategies and resident and family education.

Level II interventions are designed for residents who are at moderate risk of falls. These interventions include Level I interventions but are individualized and take into consideration residents' particular personal and environmental risk-related factors, e.g. residents who are disoriented or confused are placed in rooms near the nurses' station and monitored regularly for safety. Individualized bathroom routines are established, families are involved in care-related decisions, and the use of safety devices (non-restrictive support devices and protective pads) and monitoring devices (bed- and chair-check systems) are considered.

Level I and II interventions are also employed for residents at high-risk of falls and additionally, a visual alert sign is placed on the door of their room to ensure that all staff and families are aware of the resident's risk of falling.

Post-Fall Protocols

An incident report is made of all falls, whether witnessed or not, or whether they caused injury. A careful review of the circumstances and the physical and emotional consequences of the fall are documented. These observations are then reviewed within the same shift and again the next day, to ensure that appropriate actions were undertaken to minimize the consequences of the fall and to prevent further occurrences. Data are entered into computer files, and are reviewed on a monthly basis to identify multiple fallers, determine institutional patterns and monitor for accurate reporting. An annual review of fall data, which is sent to the SAFE committee and the Board of Directors, provides direction for future fall prevention and intervention initiatives.

Program Effectiveness

Ongoing evaluation of the process and outcomes of the various components of the program entails regular discussions with residents, families and staff, monitoring of the multidisciplinary assessment and care-planning process, and adherence to assessment and intervention protocols. A summative evaluation after the first year of implementation is recommended. Such an evaluation includes: a) an analysis of falls and fall-related injuries to identify institutional patterns and the overall success of the program in reducing rates of falls and injuries, b) evaluation of fall risk assessment strategies to verify their effectiveness and clinical appropriateness, c) audits of documentation, and d) surveys to elicit feedback from residents, families and staff regarding the success of the program. Findings will guide future innovations in fall prevention.

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