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Assessing Preinjury Frailty in the Elderly Hip Fracture Patient to Promote Palliative Care Referral in Those at Risk for High Morbidity and Mortality

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Alicia Nichole Walker is a doctoral student at the College of Nursing, University of Tennessee, Knoxville.

There are no disclosures or conflict of interests.
Background

Acute hip fractures

• Account for 14% of the estimated two million bone fractures annually in the U.S.

• Estimated cost of $12-15 billion annually in the U.S.

Fragility Fracture

• Fragility fracture – most common site is the hip

• Fragility hip fracture
  – High mortality
    • 8-10% die within 30 days of surgery
    • 20-37% die within a year of injury
  – High morbidity
    • 42% do not return to previous mobility
    • 4x more likely to need long-term care
    • More likely to have serious complications

(Pioli et al., 2018) (Koso et al., 2018)
Hip Fracture Impact

- Diminished quality of life (QOL)
  - Physical
  - Mental
  - Psychological
- Caregiver burden
- Economic impact

(Alexiou et al., 2018)
Frailty

A state of increased vulnerability to illnesses or health conditions following a stressor event, thus increasing the incidence of disability, hospitalization, long-term care, and premature mortality.

(Archipald et al., 2020)
Problem

Higher level of frailty in the hip fracture patient is associated with the following:

• Increased intra-operative and post-operative resources
• Increased length of stay (LOS)
• Increased likelihood of being institutionalized
• Increased likelihood of serious complications

(Archibald et al., 2020)
Recommendations

Routine frailty screening preoperatively on all patients 65 years/age and older

- American College of Surgeons
- American Geriatrics Society

(Archibald et al., 2020)
Clinical Significance

• These elderly hip fracture patients are not routinely screened for frailty

• Opportunities to improve quality of care

• Assessing for frailty assists in identifying patients for whom palliative care would benefit
Palliative Care

- Patient-centered
- Coordinates care planning
- Facilitates communication
- Physical needs/symptom management
- Psychosocial and spiritual needs
- Improves quality of life (QOL) and patient/caregiver satisfaction
- Decreased healthcare costs

(Atkinson Smith et al., 2017)
Barriers to Utilization of Palliative Care

• Difficult and uncomfortable discussions

• Reluctance
  – Prevent hopelessness
  – Minimize fear

• Knowledge deficit

(Davies et al., 2018) (Koso et al., 2018)
Quality Improvement

Patient-centered care
- Prevent or minimize complications
- Provide emotional support
- Improve symptom management
- Coordinate care
- Establish goals of care
PICOT

In the elderly (≥ 65 years/age) hospitalized patient who experiences an acute fragility hip fracture (P), does the implementation of the Clinical Frailty Scale (CFS) screening tool (I) compared to no frailty screening (C), increase the incidence of palliative care referral in the target population (O)?
Records identified from databases including PubMed (n = 32), and CINAHL (n = 16)

Records screened (n = 48)

Reports assessed for eligibility (n = 3)

Studies included in review (n = 3)

Reports of included studies (n = 1)

Records removed before screening: Duplicate records removed (n = 2)

Reports not retrieved: PubMed (n = 31), CINAHL (n = 15)
Reports excluded: Duplicates (n = 2)
Frailty scale not performed (n = 37)
Hip fracture not included in study (n = 6)

Records identified from websites: Google Scholar (n = 23)

Reports sought for retrieval (n = 10)

Reports assessed for eligibility (n = 6)

Reports not retrieved (n = 4)

Reports excluded: Did not specifically address hip fracture (n = 5)

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>References in Support of Recommendation</th>
<th>Rationale</th>
<th>Level of Evidence</th>
<th>Quality Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Patients ≥ 65 years of age experiencing an acute hip fracture should be screened on a CFS as a predictor for mortality.</td>
<td>Braude et al., (2021) Chen et al., (2019) Thorne &amp; Hodgson (2021)</td>
<td>To identify those at risk for 1-year or early mortality following a hip fracture as there is a positive correlation between severity of frailty and mortality.</td>
<td>I</td>
<td>A</td>
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<td>2. Patients ≥ 65 years of age experiencing an acute hip fracture should be screened on a frailty scale as a predictor for adverse discharge destinations, in-hospital complications, and increased LOS.</td>
<td>Chan et al., (2019)</td>
<td>To identify those at risk for adverse discharge destinations such as death or long-term institutionalization, in-hospital complications and prolonged LOS.</td>
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*Note: CFS = Clinical Frailty Scale, LOS = length of stay*
<table>
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<td>1. Patients ≥ 65 years of age experiencing an acute hip fracture should be screened on a CFS as a predictor for mortality.</td>
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**Note:** CFS = Clinical Frailty Scale, LOS = length of stay
Project Direction

Recommendations for the admitting provider to perform a Clinical Frailty Scale (CFS) on all elderly hip fracture patients upon hospital admission with the additional recommendation to consider palliative care referral for those scoring ≥ 6 (moderately frail or above).
Clinical Frailty Scale (CFS)

- Standardized screening tool
  - Comorbidity
  - Function
  - Cognition

- Numerical score
  - 1 (very fit)
  - 9 (terminally ill)

(Church et al., 2020)
**Decreasing activity**

1. **Very fit** — People who are robust, active, energetic, and motivated. These people commonly exercise regularly. They are among the fittest for their age.

2. **Well** — People who have no active disease symptoms but are less fit than people in category 1. Often they exercise or are very active occasionally, e.g., seasonally.

3. **Managing well** — People whose medical problems are well controlled, but are not regularly active beyond routine walking.

4. **Vulnerable** — While not dependent on others for daily help, often symptoms limit activities. A common complaint is being “slowed up” and/or being tired during the day.

5. **Mildly frail** — These people often have more evident slowing, and need help in high order IADLs (finances, transportation, heavy housework, medications). Typically mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.

**Increasing dependency**

6. **Moderately frail** — People need help with all outside activities and with keeping house. Inside they often have problems with stairs and need help with bathing and might need minimal assistance (cuing, standing) with dressing.

7. **Severely frail** — Completely dependent for personal care, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within 6 months).

8. **Very severely frail** — Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.

9. **Terminally ill** — Approaching the end of life. This category applies to people with a life expectancy of <6 months, who are not otherwise evidently frail.

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**Scoring frailty in people with dementia**

The degree of frailty corresponds to the degree of dementia. Common symptoms in mild dementia include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal. In moderate dementia, recent memory is very impaired, even though they seemingly can remember past life events well. They can do personal care with prompting. In severe dementia, they cannot do personal care without help.
Project Setting

• Level 1 Trauma Center
• Magnet-recognized
• Area’s academic medical center
The Medical Center’s Hospitalist Providers

• 50 physicians/20 advanced practice registered nurses (APRNs)

• Patient population
  – 18 years of age and older
  – Appropriate for admission to the acute care floor
  – Various acute and chronic illnesses, injuries, and conditions

• Daily hospitalist census of approximately 320 patients
The Medical Center’s Palliative Care Services

- Physicians
- APRNs
- Chaplains
- Social workers
- Music therapists
- Inpatient and outpatient services
Patients/Participants

- 65 years and older
- Admitted to the project’s medical center
- Admitted by a hospitalist APRN
- Acute hip or femoral neck fracture
**SWOT Analysis**

**S**

**Strengths**
- Colleague support
- Recommendation of American College of Surgeons and the American Geriatrics Society

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**O**

**Opportunities**
- Improved QOL
- Improved patient/caregiver satisfaction
- Reduced healthcare costs

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**W**

**Weaknesses**
- Resistance to change
- Failure to consult palliative care

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**T**

**Threats**
- Orthopedic service's concern for eliminating procedures
Barriers

Time/workload

Attitudes toward change
Facilitators

- Collaborations
- Communication
- Teamwork
PDSA

- Identify stakeholders/plan interventions
- SMART goals/project aim
- Educate and implement
- Evaluate and compare
- Adapt implementation and increase education if necessary
Stakeholders and Project Team

• DNP student
• DNP project chair
• Community Member/Hospitalist APRN
• Hospitalist APRN providers
• Palliative care providers
• Statistician
• Nursing staff
• Health unit coordinator (HUC)
Project’s Aims

**SMART GOALS**

**S**pecific: Initiate using CFS in the hip fracture patients ≥ 65 y/o admitted by hospitalist APRNs with palliative care for CFS ≥ 6.

**M**easurable: EHR review to identify # of times CFS is utilized and # of times palliative care is consulted in patients with CFS ≥ 6.

**A**ttainable: Goal of ≥ 50% compliance with CFS scale

**R**elevant: Congruent with the recommendations of the American College of Surgeons and the American Geriatrics Society

**T**imely: 11/22-12/22 with comparison to same time frame 1 year prior
Education

- Emailed instructions, project goals, and updates
- Pocket guides
- In-person in-services

FOR HIP FRACTURES ≥65 YEARS

Clinical Frailty Scale

1) Very Fit:
People who are robust, active, energetic and motivated. These people exercise regularly. They are among the fittest for their age.

2) Well:
People who have no acute disease or symptoms of chronic disease but who are less physically active than category 1. They occasionally do sufficient exercise, especially seasonally.

3) Managing Well:
People whose medical problems are controlled, but are not regularly active beyond routine walking.

4) Vulnerable:
While not dependent on others for the activities of daily living, symptoms often limit their activity. A common complaint is feeling ‘slow’ or tired during the day.

5) Mildly Frail:
These people often have more evident slowing and need help for basic activities of daily living (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.

6) Moderately Frail:
People who need help with all outside activities and with housekeeping. They often require assistance with climbing stairs and showering. They need minimal help or supervision for dressing.

7) Severely Frail:
Completely dependent on a caregiver, due to physical or cognitive decline. Even so, they seem stable and not at high risk of dying within 6 months.

8) Very Severely Frail:
Completely dependent and approaching the end of life. Typically, they could not recover even from a minor illness.

≥6 – CONSIDER PALLIATIVE CARE CONSULTATION
Implementation

• Project implementation: November – December, 2022

• Comparison time frame: November – December, 2021
Data Collection & Protection

Data collection

- Age, gender, race, CFS score, month of admission to the hospital, eligibility (yes/no), CFS used (yes/no), risk identified (yes/no), and palliative care referral (yes/no)
- Patient's names were not collected or saved

Data protection

- Stored in a password protected personal computer
- Recorded in aggregate without identifiers
Institutional Review Board (IRB)

No patient identifiers were obtained for this project; therefore, IRB approval was not required.
Findings

• Pre-implementation (November - December, 2021)
  \[N = 24\]

• Implementation (November – December, 2022)
  \[N = 19\]

\(N\) = number of patients aged ≥ 65 years who sustained a hip fracture and were admitted by a hospitalist APRN
Project Findings

• CFS was performed on 13 of the 19 patients during the project implementation period
  – 68.4% compliance
  – Surpassed compliance goal of 50%

• 6 of the 13 patients assessed were deemed moderately frail or above

• 4 of the 6 patients meeting criteria received palliative care referral
Findings

- In the pre-implementation period (2021), only 1 patient in the study received palliative care referral.
- During implementation (2022), 4 patients in the study received palliative care referral.
Conclusion

In the elderly hospitalized patients who experience an acute fragility hip fracture, the implementation of the Clinical Frailty Scale on admission increases the utilization of palliative care consultations during hospitalization.
Significance and Implication

Congruent with the American College of Surgeons and the American Geriatrics Society’s recommendations

Palliative care: Improve patient’s quality of life, decrease caregiver burden, and reduce healthcare costs
Recommendations for Practice Change

Preoperative frailty assessment on all elderly hip fracture patients with palliative care consultation for the patients found to be more-frail.
Strengths

• Excellent collaborations between specialties
• Exceeded compliance goals
• Strong evidence for the validity of the CFS

Limitations

• Small sample size
• Subjectivity
• Long-term follow up not time permitting
• Limited only to preoperative hip fractures
Opportunities

• Preoperative frailty assessment of the elderly for all surgical procedures
  – Optimize preoperative health in elective procedures
  – Ensure available resources in non-elective procedures

• Further evaluation of long-term outcomes of palliative care referral
  – Quality of life
  – Patient and caregiver satisfaction
  – Healthcare costs
Dissemination

Findings and Recommendations

• Submission to professional journal
• Presentation to public website
• Presentation to stakeholders
References

Please refer to manuscript,
pages 20 - 26
Questions