Predicting Resident Aggression using the Aggressive Behaviour Risk Assessment Tool (ABRAT-L)

Lori Young and Brigette Berry
“Over 60 deaths attributed to resident to resident violence over the past 12 years”

CTV News 2013
Death of Elders Due to Resident-to-Resident Incidents in Dementia in Long-Term Care Homes

Ellen Caspi PhD, School of Nursing, University of Minnesota, Minneapolis, MN

Overview
- Resident-to-resident incidents (RRI) in long-term care (LTC) homes are a prevalent, concerning but under-researched phenomenon (Lach et al. 2018).
- A growing number of studies examined various aspects of RRI in LTC homes, including prevalence, characteristics, and causes (McDonald et al. 2014).
- One groundbreaking study examined physical injuries caused by RRI in nursing homes (Shindo-Takawa et al. 2004).
- Only one study examined fatal RRI in LTC homes in Australia (Murphy et al. 2017).
- No studies have been conducted on fatal RRI in North America.

Objectives
- Examine the circumstances surrounding the death of elders as a result of RRI in dementia in LTC homes.
- Identify practical lessons to inform prevention.
- The study is not meant to identify the incidence of fatal RRI.

Findings
- Identified 106 deaths of elders ≥60 yrs as a result of RRI in dementia (at least one of the incidents involved in the incident had dementia).
- Type of LTC home (n=48): Majority in nursing homes; 28% in assisted living.
- Countries: Canada (n=23); USA (n=23); Australia & New Zealand (n=14); UK (n=1); Singapore (n=1).

Characteristics of Residents
- Age targets (n=106): 65.5 years old (average).
- Age: 75.2 years old (range).
- Gender targets (n=106): Men 52%; Women 48%.
- Gender: 75% Men, 25% Women.
- Newly admitted residents (n=3 months): 23 deaths.

Qualitative Research Methods
- Source of data (All publicly available information):
  - Newspaper articles published online (n=150).
  - Death Review Reports (UTCC 1990-2016).

Data collection and extraction: Structured Guide

Data Analysis: Time period: Summer - Fall 2017
- Miles & Huberman (1994) approach.
- Qualitatively review and abstraction of narratives.
- Complemented with tabulation by aggregation/counts.
- Simple descriptive statistics.

The Circumstances Surrounding the Deaths:
- Location of death: 15% in bedrooms, 75% in LTC homes.
- Resident did not receive care: 75%.
- Time of Death: 75%.
- Roommates: 33%.
- Death due to falls: 75%.
- Cause of death: 65%.
- Relevant injuries: 75%.
- Other injuries: 75%.
- Outcome of incident: 65%.

Acknowledgements
The study was supported by Theresa Poswillo, wife of Frank Poswillo, Toronto, Canada.
• World wide study
• 105 deaths 1988-2017
  – Canada 51
  – USA 42
  – Australia and New Zealand 6
  – UK 5
  – Singapore 1
Type of Incidents

- Push fall incidents (44%)
- Head or face beating (22%)
- Object used against target (31%)
Characteristics of residents

**Victims**
- Average age 84.5 yrs
- Men 52%
- Women 48%

**Exhibitors**
- Average age 75.2 yrs
- Men 74%

Newly admitted residents involved in 23 deaths (< 3 months)
Incident

- 2013
- New Resident
- Violent incident against staff member
- Information we did not have after admission process
What are we talking about

• Not talking about predictable resistance to care
• Talking about overt episodes of physical aggression
• Incidents that seem to “come out of nowhere”
What if we could predict which residents were more likely to become aggressive or violent?
Began with literature review and research of behaviours

• Looking for a Risk Assessment Tool for resident aggression
  – Have one for falls, skin issues etc.
  – What about for aggression
• Significant look at behaviours
  – What motivates behaviours in residents with dementia?
  – ?? Model
  – Would a risk assessment tool fit with such a model

ABRAT-L Validation Study 2018
Needs Driven Behaviour Care Model

- All behaviour has meaning
- Background Factors
  - Unalterable characteristics of the individual
- Proximal Factors
  - Environmental aspects that impact inter-personal relationships
Risk Assessment Tools

- Brøset Violence Checklist (2007)
- RAGE (1992)
- M55 Violence Risk Assessment Tool
- STAMP
ABRAT

• Initially used in Med/Surg Unit
• Only tool we discovered to contain both proximal and backrough elements
• Why we chose to pilot use of this tool
• Granted permission by Dr Kim to trial in LTC.
  – Volunteered to help us with data interpretation
• Drafted an assessment tool from Dr. Kim’s article
10 elements

Originally developed for use in Med/Surg unit

Complete over first 24 hour of Admission

Contact family to accurately answer the question on history of physical aggression and mania. Although it might be uncomfortable to raise these issues with family, the information is very important. Review questions with staff at each shift report to capture any evidence of the behaviours listed below. Complete Behaviour Mapping for all residents who score ≥ 3 on the ABRAT.

<table>
<thead>
<tr>
<th>Behaviour present</th>
<th>Characteristic</th>
<th>Description/Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>History of physical aggression</td>
<td>Clinically significant level</td>
</tr>
<tr>
<td></td>
<td>History of signs or symptoms of mania</td>
<td>Irritable, volatile</td>
</tr>
<tr>
<td></td>
<td>Confusion/Cognitive Impairment</td>
<td>Any impairment</td>
</tr>
<tr>
<td></td>
<td>Anxiety</td>
<td>Clinically significant level</td>
</tr>
<tr>
<td></td>
<td>Physically aggressive/threatening</td>
<td>Pushing, hitting objects, staff or others. Threatening to harm individuals, shaking their fist, significant verbal abuse</td>
</tr>
<tr>
<td></td>
<td>Agitation</td>
<td>Clinically significant level</td>
</tr>
<tr>
<td></td>
<td>Mumbling</td>
<td>Talking under his/her breath, criticizing staff or repetition of the same question or request</td>
</tr>
<tr>
<td></td>
<td>Staring, glaring or avoiding eye contact</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shouting/demanding</td>
<td>Loud behaviour, shouting out</td>
</tr>
<tr>
<td></td>
<td>Threatening to leave</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
</tr>
</tbody>
</table>

ABRAT-L Validation Study 2018

Revised version April 2015
Knowing which residents are more likely to demonstrate aggression allows homes to:

- Complete Behaviour Mapping to identify triggers for both increased and decreased agitation
- Put safety processes in place for staff
  - Admission
  - Change in condition
- Prevent aggressive episodes from occurring
• Used ABRAT to assess all residents in two Extendicare Long Term Care Homes
• 316 assessments
• Correlation between ABRAT score and aggression
• Collected DRS, ABS, Incidents, information on behaviour mapping and care planning.
Utility of the Aggressive Behavior Risk Assessment Tool in long-term care homes

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Abstract

This study was conducted to determine the utility of the Aggressive Behavior Risk Assessment Tool (ABRAT) and the Aggressive Behavior Scale (ABS) for predicting aggressive incidents among newly-admitted and existing residents of two long-term care homes in Canada. Of 316 residents, 27 had at least one aggressive incident (8.5%). Receiver operating characteristics analysis showed that the area under the curve for the ABRAT was 0.86 (95% Confidence Interval [CI], 0.81–0.92) and that for the ABS
Conclusions

- Sensitivity and specificity for LTC use OK but could be better
- Younger residents higher likelihood of demonstrating aggression
- 100% of residents who demonstrated aggression had cognitive impairment
- Depression not a significant factor
- Further work needed
Follow-up Study Jan – Dec 2014

- New admissions only
- 23 Extendicare homes across Western Canada
- 724 residents
- Revised items on the original ABRAT
  - New item “Age 85 yrs or less”
  - 5 items from original tool
- Tracked aggressive episodes, age, gender, behaviour mapping and care planning

ABRAT-L Validation Study 2018
RESEARCH METHODOLOGY: INSTRUMENT DEVELOPMENT

Aggressive Behaviour Risk Assessment Tool for newly admitted residents of long-term care homes

Son Chae Kim, Lori Young & Brigette Berry

Accepted for publication 30 November 2016


Abstract

Aim. The aim of this study was to revise the 10-item Aggressive Behaviour Risk Assessment Tool for predicting aggressive events among residents newly admitted to long-term care homes.

Background. The original tool had acceptable sensitivity and specificity for identifying potentially aggressive patients in acute care medical-surgical units, but its usefulness in long-term care homes is unknown.

Design. A retrospective cohort study design was used.
Conclusions

• Stronger correlation between ABRAT score and probability of resident demonstrating aggression
• Better sensitivity and specificity.
• Targeted more to LTC resident characteristics
• More work needed to test possible weighting of certain elements on the ABRAT
• ABRAT-L developed specifically for Long Term Care
• Weighted scoring for two elements
  – History of aggression
  – Demonstrating aggression during assessment period
• Score 0 – 8
• 615 assessments
• 22 Extendicare LTC homes across Canada
Aggressive behaviour risk assessment tool for long-term care (ABRAT-L): Validation study

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\textbf{ABSTRACT}

This prospective cohort study was conducted to validate the usefulness of the Aggressive Behaviour Risk Assessment Tool for Long-Term Care (ABRAT-L) in predicting aggressive events. A total of 615 newly admitted residents at 22 long-term care homes in Canada were included. The risk of aggression was assessed using the six-item ABRAT-L within 24 hours of admission, and incident reports of aggressive events occurring within 30 days of admission were collected. Forty-seven residents out of 615 had one or more aggressive events (7.6%). The receiver operating characteristics analysis of ABRAT-L showed a good discriminant ability of the tool in predicting aggressive events with satisfactory sensitivity and specificity. The tool...
Conclusions

• Sensitivity and specificity improved
• Cut off score of $\geq 4$ on the ABRAT-L was the correct choice
• 1st week post admission residents most likely to demonstrate aggression
Risk for newly admitted residents

- 615 assessments
- 47 residents demonstrated aggression during 30 days post admission
- Of those, 24 residents demonstrated aggression during first 2 days post admission
- Another 6 residents had demonstrated aggression before end of 1st week
- Therefore 30/47 residents demonstrated aggression before 7th day of admission (79%)
New Tool

- 6 elements
- Slight refinement to layout
- Weighting
- Information for staff on how to complete

Aggressive Behaviour Risk Assessment Tool for Long Term Care (ABRAT-L)

Complete within first 24 hours of Admission

Each shift (D/E/N) identifies whether any of the following characteristics occurred on the right hand side of the table. Staff must place either a ✓ or an X in each assessment box. Contact family to accurately answer the question on history of physical aggression. Although it might be uncomfortable to raise this issue with family, the information is very important. Review questions with staff at each shift report to capture any evidence of the characteristics listed below.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Description/Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 History of physical aggression</td>
<td>Has the person ever demonstrated physical aggression of any kind?</td>
</tr>
<tr>
<td>1 Age 85 years or less</td>
<td>Is the resident younger than 85?</td>
</tr>
<tr>
<td>1 Confusion/ Cognitive Impairment</td>
<td>Any impairment</td>
</tr>
<tr>
<td>1 Anxiety</td>
<td>Flushed, rapid speech, grimacing, writhing or hyperventilating</td>
</tr>
<tr>
<td>2 Physically aggressive/threatening</td>
<td>Pushing, hitting objects, staff or others. Threatening to harm individuals, shaking fist, significant verbal abuse.</td>
</tr>
<tr>
<td>1 Threatening to leave</td>
<td></td>
</tr>
<tr>
<td>0 None of the above</td>
<td>Circle “0” if none of the above are present.</td>
</tr>
</tbody>
</table>

Total Score

Scoring of ABRAT-L
Circle the numbers in the column on the left that apply or were present during the assessment period (any number of check marks present from the shift reports). Add the numbers from the column on the left together and place the sum in the “Total Score” box. Some elements score 1 point and some elements score 2 points so add the total number of points.

Signature for final scoring: ____________________________ Date: ____________________________

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Analysis of data

• Dr Son Chae Kim, PhD, RN
  Professor, St. David's School of Nursing
  Texas State University

• Author of original article on Aggressive Behaviour
  Risk Assessment Tool and partner in studies
Three elements in prevention of aggression

- Resident Identification
- Behaviour Mapping
- Care Planning

Who
Why
What/How

ABRAT-L Validation Study 2018
Next Steps

• Share findings widely
• Extendicare has prepared an “implementation package” which includes detailed policy and procedure, copies of the tool etc.
• Already shared with many organizations
• Available on request
Questions

• Caspi E. The circumstances surrounding the death of 105 elders as a result of resident-to resident incidents in dementia in long-term care homes. *J Elder Abuse Negl*. 2018;1–25.


Thank You

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