the cause and consequence of disruptive behaviour in long-
term care

Long—term care facilities house one of our most vulnerable populations, allowing issues of quality of care to escalate. A high degree of quality of care may remain difficult to obtain since residents often suffer multiple disease diagnosis or may be in poor functional status by the time they enter the facility. Often, limited resources remain stretched leaving front-line staff to bare the brunt of the burden; this in turn may increase the likelihood of depression, anxiety, absenteeism, and burnout among staff (Evers, Tomic, & Browsers, 2001).

The effects of a poor work environment may not be limited to staff but may extend to resident care. Pillemer and Moore (1989) reported that 10% of staff admit to physical abuse and a whopping 40% admit to psychological abuse; the most common type being yelling at the resident out of anger. A study by Kilburn’s (1996) had implicated that abusive behavior may be related to violent feelings among caregivers. The amount of time staff spend on behavioral management also appears to have a direct impact on resident quality of life. Souder & O’Sullivan (2003) examined the amount of time spent on managing disruptive behavior by residents. They calculate that staff spend significantly more time caring for those residents, focusing time spent on primary care away from others (e.g. bathing, feeding).

Much emphasis has been placed on abuse by staff, only recently has the concept of the abusive resident emerged. Evidence that residents frequently expose nursing staff
to both verbal and physical abuse is growing (Conlin-Shaw, 1998). Early estimates on the prevalence rates of elder abuse within long-term care has ranged between 10-80% (Pillemer & Moore, 1990), illustrating this to be a common problem that continues today.

Research examining the incidence, prevalence, and underlying reasons that prompt disruptive behavior is important because of methods used for behavioral management. Some authors use the term pacification to refer to the treatment of disruptive residents. Pacification includes the overuse of physical or chemical restraint, neuroleptic therapy being the most common type of chemical restraint. However, restraint as a means of behavioral management raises questions about the ethical and effective treatment of residents in long-term care facilities.

Least restraint legislation and individual institutional policies that attempt to reduce physical and chemical restraint are being introduced that address the conditions. Now attention must be focused on alternative interventions for behavioral management. If more acceptable ways of treating and controlling disruptive behavior are found, improvements in quality of life for both residents and staff would likely proceed.

Research on exercise programs (Beck, Modlin, Heithoff & Shue, 1992), and behavioral interventions (Beck, 2002; Fitwater & Gates, 2002) have developed. Still, staff may not be informed of the correct procedures for controlling disruptive behavior in long-term care. It may be common practice to rely upon methods that are acceptable in other health care settings such as acute, psychiatric, or chronic care.
Recently, Stones, Stewart and Kirkpatrick, 2003 established a number of influences and correlates of disruptive behaviour that includes cognition (cognitive impairment, diagnosis of dementia, and delirium), affect (depression and anhedonia), functional status (activities of daily living, bladder incontinence) and medication (antidepressant, antianxiety, and neuroleptic), making it possible to infer the cause of disruptive behavior.

Neuroleptic medication in particular may be problematic. Tison, Lecaroz, Letenneur and Dartigues (1999) found that risk for developing Parkinsonism was attributed to neuroleptic use in their elderly sample. They found a direct relation between development of parkinsonism and neuroleptic dose; higher doses were associated with a greater likelihood of developing parkinsonism.

Health care professionals may not know of or consider alternatives to chemical restraint. Mention of violence, confusion, poor judgment, interference with treatment, and falls make for reasonable excuses for restraining residents (Middleton et al., 1999). However, when health care staff participate in informative seminars on restraint, their attitudes on restraint use do change. Staff are then more likely to express the views that chemical restraint increases undesirable side effects, causes confusion in residents, contributes to falls, and increases nursing time.

**PURPOSE**

The purpose of this study is to examine the causes of, and consequence to, verbally and physically disruptive behavior in long-term care. The first of two studies will
examine the causes of disruptive behavior and to observe the plausibility of behavioral change. The second study will examine the consequences to disruptive behavior and/or whether current behavioral management practice is ethical and safe.

PARTICIPANTS

The participants for these two studies consisted of 399 non comatose residents (68% females, 32% males) living in long-term care throughout Ontario. Data was collected during the period of 2000-2001 using the Minimum Data Set 2.0 (MDS). The mean age of the residents was approximately 82 years.

The statistical program used for both studies was SPSS 11.0 and employed a statistical procedure called multinomial logistic regression. This is a variation of binary logistic regression that compares multiple groups within a dependent variable.

PREDICTORS OF DISRUPTIVE BEHAVIOR IN LONG-TERM CARE

METHODS

The logistic regression was used to examine the relationship between disruptive behavior (verbally and physically disruptive behavior) and predictors previously identified (Stones, Stewart & Kirkpatrick, 2003) within the MDS.

The MDS is an informant rating scale designed for the health care setting. It includes measures on cognition, functional status, disease diagnosis, medication usage, etc. The primary role of the MDS is to both assess the needs of the resident and to assist as a care planning tool.
Disruptive Behavior

The dependent variable incorporated indicators measuring both verbally and physically disruptive behavior by residents. These items refer to the frequency of resident’s disruptive behavior, directed towards staff members or other resident in the last 7 days. Four groups were formed using both behavioral indicators (see Table 1).

Table 1. Dependent variable.

<table>
<thead>
<tr>
<th>Group</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>No disruptive behavior</td>
</tr>
<tr>
<td>B</td>
<td>Verbally disruptive</td>
</tr>
<tr>
<td>C</td>
<td>Physically Disruptive</td>
</tr>
<tr>
<td>D</td>
<td>Both (Verbal/Physical)</td>
</tr>
</tbody>
</table>

Predictors of Disruptive Behavior

Predictors were determined from a previously published study (Stones, Stewart & Kirkpatrick, 2003), which included: diagnosis of dementia, antidepressant medication on a daily basis, poor activities of daily living (ADL; Short Form; Morris, Fries, & Morris, 1999), cognitive impairment (Lawton et al., 1998), bladder incontinence that occurred daily, symptoms of depression (MDS Depression Rating Scale; Burrows, Morris, Simon, Hirdies & Phillips, 2000), delirium, and anhedonia (Stones & Kirkpatrick, 2002).
RESULTS

Preliminary analyses showed that approximately 71% of residents had no disruptive behavior, 14% were verbally disruptive behavior, 3% were physically disruptive and 12% were both verbally and physically disruptive.

The likelihood ratio test found three main predictors of verbally and physically disruptive behavior. Of the eight identified predictors of disruptive behavior, only bladder incontinence (Chi-Square [3, N = 399] = 8.90, p. = .031), depression (Chi-Square [3, N = 399] = 27.41, p. > .001) and delirium (Chi-Square [3, N = 399] = 11.11, p. = .011) contributed significantly to the model.

A multinominal logistic regression using a 95% confidence interval (CI) was used to determine the relationship between the predictors and the dependent variable. Residents suffering from delirium were more likely to be both physically and verbally disruptive (OR = 1.44, CI: 1.13-1.83). Residents experiencing depression were more likely to be verbally disruptive (OR = 3.71, CI: 1.93-7.13) or both verbally and physically disruptive (OR = 4.73, CI: 2.23-10.03). Finally, residents who were incontinent on a daily basis were more likely to be verbally disruptive (OR = 2.39, CI: 1.10-5.21) or both verbally and physically disruptive (OR = 2.76, CI: 1.21-6.30). None of the indicators could predict physically disruptive behavior.

To examine these findings, the four groups (verbal, physical, both, neither) were divided on whether or not the resident had any signs of delirium. Results show that residents with delirium were more likely display disruptive behavior than residents without delirium (see Figure 1).
Next, residents were described in terms of the presence or absence of depression (see Figure 2). Results illustrate that residents with depression are more likely to be verbally disruptive or both verbally and physically disruptive.

The presence or absence of urinary incontinence offered the same consequences. Residents who were verbally disruptive or both verbally and physically disruptive were more likely to be incontinent daily.

Figure 1. Percent of residents in each group divided by presence of delirium. * Dis. = Disruptive
Figure 2. Percent of residents in each group divided by presence of depression. * Dis. = Disruptive, ** DRS = Depression Rating Scale

Figure 3. Percent of residents described in terms of the presence or absence of bladder incontinence on a daily basis. More residents who were disruptive were incontinent on a daily basis.
DISCUSSION

This study found that the strongest predictors of verbally and physically disruptive behavior include delirium, depression, and bladder incontinence. Previous research finding untreated depression as a predictor of disruptive behavior (Stones, Stewart & Kirkpatrick, 2003) has implications for the modification of behavior. Since depression is often under diagnosed in long-term care, it is plausible that proper diagnoses and treatment would result in a reduction of disruptive behavior.

Delirium has also been found to be a condition that often remains undetected or misdiagnosed. It is also a condition often found to be reversible. This also draws the conclusion that the identification and treatment of delirium would result in a reduction of disruptive behavior.

Finally, bladder incontinence as a predictor of disruptive behavior remains unclear. While only theory, discomfort is often associated with bladder incontinence, acting as a causative factor to disruptive behavior. If a resident is disruptive because of the discomfort associated with urinary incontinence, eliminating the discomfort by increasing quality of care may assist to further diminish disruptive behavior.

Note that none of the predictors recognized could predict only physically disruptive behavior. Inferences may be drawn from this stating physically disruptive behavior to be a consequence of verbally disruptive behavior. Staff identifying residents who act out verbally may conclude that: first, the condition which is causing the unruly may be easily mitigated; and second, these residents are at increased risk of becoming physically disruptive. One factor has not been addressed by this study, residents who
act out both verbally and physically may present with more severe symptoms of delirium, depression and/or urinary incontinence. For that reason it is particularly important that their symptoms be addressed rather than their behavior.

**CONSEQUENCE OF DISRUPTIVE BEHAVIOR IN LONG-TERM CARE**

**METHOD**

As stated previously, the purpose of this study is to examine the consequences to disruptive behavior and/or whether current behavioral management practice (pacification) is occurring in long-term care.

A logistic regression was again used to determine the consequence of disruptive behavior. Four groups were created based on the type of restraint used: (a) physical restraint, (b) neuroleptic therapy, (c) both physical restraint and neuroleptic therapy, and (d) no restraint. A number of indicator were included to explain restraint use:

- Activities of Daily Living,
- Reported falls within the past 30 days,
- Problems of cognition, delirium, or dementia,
- Presence of a psychiatric disorder (depression, schizophrenia, bipolar disorder, or anxiety disorder), and
- Pacification (verbally disruptive behavior and physically disruptive behavior)

**RESULTS**

Preliminary analyses revealed a number of residents who were physically restrained, received neuroleptic therapy or both (Figure 4). The likelihood ratio test showed four
main contributors that increase the likelihood of receiving restraint: psychiatric diagnosis (Chi Square [3, N = 399] = 26.78, P > .001), Cognition (Chi Square [3, N = 399] = 17.25, p = .001, poor ADL (Chi Square [3, N = 399] = 75.05, p > .001), and Verbally disruptive behavior (Chi Square [3, N = 399] = 8.79, p = .032).

![Graph showing percent of residents receiving neuroleptic therapy and/or physical restraint.](image)

Figure 4. Percent of residents receiving neuroleptic therapy and/or physical restraint.

Results of the logistic regression indicate that residents with a psychiatric diagnosis (OR = 3.44, CI: 1.70-6.97) were more likely to receive neuroleptic therapy and residents with poor ADL (OR = 1.35, CI: 1.24-1.47) were more likely to be physically restrained. Interestingly, residents who were verbally disruptive (OR = 2.19, CI: 1.02-4369) were also at increased risk of physical restraint. Predictors of concurrent neuroleptic therapy and physical restraint was psychiatric diagnosis (OR = 3.45, CI:
1.38-8.58), delirium (OR = 1.53, CI: 1.13-2.07), poor ADL (OR = 1.26, CI: 1.11-1.43), and verbally disruptive behavior (OR = 3.92, CI: 1.45-10.63).

Further analyses helped to illustrate the results. Using the dependent variable, residents were distinguished by the presence or absence of Poor ADL. Figure 4 illustrates the finding that more residents were physically restrained because of poor ADL.

Figure 4.

Psychiatric diagnosis was then examined using the same design. More residents with a psychiatric diagnosis received neuroleptic therapy. In addition, more residents with a psychiatric diagnosis were receiving both neuroleptic therapy and were physically
restrained on a daily basis (Figure 5). However, a large portion of residents with psychiatric diagnosis were not receiving any neuroleptic therapy.

![Bar chart showing percent of residents with psychiatric diagnosis receiving neuroleptic therapy or physical restraint.]

Figure 5.

Finally, Figure 6 helps demonstrate the increased likelihood for residents who are verbally disruptive to receive both neuroleptic therapy and be physically restrained. Residents in all three groups (neuroleptic therapy, physical restraint, and both) were more likely to be verbally disruptive than residents who were not treated.
The results of this study led to the conclusion that the consequences of verbally disruptive behavior in long-term care is to receive both neuroleptic therapy and be physically restrained or simply to be physically restrained. Perhaps residents who are verbally disruptive receive neuroleptic therapy to keep quiet them, thereby improving the quality of life for other residents and staff. However, due to the side effects of these drugs (i.e., Parkinsonism, dizziness, confusion and accidents), these individuals must be physically restrained for reasons of safety such as falls and potential accidents.
CONCLUSION

Literature has shown disruptive behavior by a resident in long-term care to affect other residents and staff members. Behavioral disturbance is also shown to increase the risk of abuse and neglect by staff. This study examined the influences on disruptive behavior by residents and determined the strongest predictors of disruptive behavior to include delirium, depression and bladder incontinence. Furthermore, these findings implicate increasing quality of care as a way to reduce disruptive behavior rather than specific interventions such as exercise programs and behavioral management.

The consequence of verbally disruptive behavior includes both neuroleptic therapy and physical restraint. Pacification is a term used to describe this type of behavioral management. Pacification refers to physical and chemical restraint for the purpose of convenience rather than for safety or prevention of self-harm and may include physical restraint, chemical restraint (neuroleptic therapy), or both. This study helped recognize that pacification is occurring in long-term care; however, it also helped identify pacification as an archaic method of behavioral management that occurs out of ignorance and fiscal restraint. By teaching staff to recognize not only the cause but also the consequence of behavioral problems, steps can be taken to help reduce them which improve quality of life for everyone.
REFERENCES


Stones M. & Kirkpatrick, (2002). Deconstructing depression. Stride, 5, ????????????
