**Background**

**Definition**

PVA: an incident of physical or verbal aggression from patient towards other patient(s), staff, visitors or themselves, varying in degree of severity, from “not so serious” (a slap or a push), “serious” (a punch or a kick) to “very serious” (potentially life-threatening attack), which may lead to no, minor (bruise or superficial cut) or severe physical injury (fractures, permanent injury)’.

- Physical and verbal aggression (PVA) are common amongst patients with dementia on long-stay wards and are often a cause for admission 1-4.
- A significant number of incidents, including physical and verbal aggression, is being recorded every month across the Health Board. The Health Board’s goal is to increase patients’ and staff’s safety and decrease the number of these incidents.
- While there are many factors that are associated with PVA in patients with dementia, e.g. the extent of the cognitive impairment, language impairment, brain pathology (e.g. fronto-temporal dementia), physical illness, pre-morbid personality, affective and psychotic disorders 2, 3, the role of the environment (e.g. heat, noise, overcrowding, lack of stimulation, relocation, staff or patient turnover) and the time of the incidents might provide insight into care practices that might be amenable to change 3, 5, 6.
- This study builds on previous research on the same ward which saw a link between patients’ physical and verbal aggression and working levels: those behaviours appeared to be higher for patients with dementia when working levels were lower 3.
- Clinical guidelines recommend nonpharmacological (psychosocial and environmental) interventions as the first choice for managing agitation and aggression in people with dementia 2. A better understanding of the environmental factors that may be associated with incidents of PVA is required so appropriate interventions could be implemented.

**Clinical Aims**

1. To identify when PVA occurs during the day and week.
2. To explore possible factors contributing to the pattern of PVA incidents in the context of the ward environment.

**Method**

**Design:** This is an exploratory study of the reported incidents on a 16 bedded dementia assessment ward. The study was registered with and approved by the Health Board’s audit department.

**Sample:** All incidents of PVA on a dementia ward between March and July 2018.

**Procedure:** Data were obtained using the incidents reporting system (Datix) and were collected retrospectively over a four month period. A total of 136 incidents were reported during a period of March – July 2018. The incidents were screened and 87 were identified as ‘PVA’ and 38 as ‘Trips, slips and falls’. Eleven incidents were identified as ‘other’.

**Analysis:** Descriptive analysis completed in SPSS and Excel.

**Results**

- A pattern of increasing ‘PVA’ incidents across the days was identified, with the lowest number of PVA recorded on a Friday (n=7) and the highest on a Wednesday (n=19).
- Sixty percent of PVA on Wednesdays occurred between 3pm and 5pm, whereas 77% between 3pm and 9pm.
- The number of PVA dropped by 42% on Thursdays in comparison to Wednesdays.
- The time of the day when PVA was recorded most frequently, was between 3pm and 4pm (n=12), followed by 4pm-5pm (n=8) and 10am-11am (n=8).

**Discussion**

Possible interpretations of the results, including the unusual pattern of incidents across the week, were discussed with the Modern Matron and Ward Manager of the ward:

- **Increased ward activity:** The weekdays are being reported as generally ‘busier’ than weekends. Wednesday is a particularly ‘busy’ day during which two long wards round takes place, with review meetings scheduled on this day. Family members, Social Workers, Independent Mental Health Advocates tend to visit the ward before or after these scheduled meetings, leading to an unusually ‘busy’ environment.
- **Medication vs. decreased ward activity:** It was hypothesised whether the drop of PVA on Thursday and Friday could be attributed to a change in medication following Wednesday’s ward round and/or decreased ward activity.
- **Sun-downing:** PVA occurred most frequently between 3pm and 5pm. Increased disorientation, confusion, agitation, restlessness, wandering and anxiety has been shown to occur in the late afternoon or evening among patients with dementia. This may be related to disturbed circadian rhythms and is known as “sun-downing” 7. It is hypothesised that this phenomenon is contributing to the spike in PVA.
- **Interventions:** The earlier spike during the 10am-11am period is when last patients are assisted with morning personal care and when physical health checks and interventions (e.g. blood pressure taken, medication round) take place. This is consistent with literature and research suggesting that PVA is likely to occur during such activities, which people with dementia may find difficult for many reasons, e.g. pain, confusion, impaired language, ‘hot-comprehension’, sensory impairment, etc. 4, 5.
- **Other factors:** Alternative suggestions have been discussed, such as: shortage of staff, ratio of ‘bank’ staff to ‘permanent staff’, certain scheduled activities, or general dissatisfaction level at 4pm.

**Limitations and Recommendations**

- Incidents recorded on Datix lack information regarding environmental factors and triggers that may be contributing to PVA incidents.
- Other data that may be associated with PVA e.g. the level of cognitive impairment, personality, sensory change, physical illness, language impairment, history of trauma as well as affective and psychotic disorders, could not be accessed due to the anonymous nature of the Datix data.

**Recommendations**

- Repeating the study of PVA incidents on the ward to establish whether the identified pattern is similar across different time periods of the year.
- Further ward-based work focused on direct observation and recording of the ward’s activity and its environment during the days and times when PVA seems to be higher.
- Recording more detailed information of Datix, for example: staff numbers and other environmental factors, such as noise, overcrowding, lack of stimulation or a health care intervention as possible antecedents of PVA, could help draw less tentative conclusions and inform interventions to decrease PVA.
- The difficult nature of caring for patients with dementia and the impact of patients on staff should be acknowledged and could be explored in future research.

**References**