

This is a repository copy of *Understanding delirium trajectory and its importance in care provision for older people*.

White Rose Research Online URL for this paper:

<https://eprints.whiterose.ac.uk/110077/>

Version: Accepted Version

Article:

Suh, Guk-Hee and Gega, Lina orcid.org/0000-0003-2902-9256 (2017) Understanding delirium trajectory and its importance in care provision for older people. *International Psychogeriatrics*. pp. 9-10.

<https://doi.org/10.1017/S1041610216001988>

Reuse

Items deposited in White Rose Research Online are protected by copyright, with all rights reserved unless indicated otherwise. They may be downloaded and/or printed for private study, or other acts as permitted by national copyright laws. The publisher or other rights holders may allow further reproduction and re-use of the full text version. This is indicated by the licence information on the White Rose Research Online record for the item.

Takedown

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.



Understanding delirium trajectory and its importance in care provision for older people

Journal:	<i>International Psychogeriatrics</i>
Manuscript ID	IPG-10-16-390
Manuscript Type:	Commentary
Date Submitted by the Author:	17-Oct-2016
Complete List of Authors:	Suh, Guk-Hee; Hallym University College of Medicine Dongtan Sacred Heart Hospital, Department of Psychiatry Gega, Lina; University of York, Mental Health and Addiction Research Group (MHARG), Department of Health Sciences & Hull York Medical School
Keywords:	Delirium, Dementia, Carers, Nursing homes, Organic Mental Disorders

SCHOLARONE™
Manuscripts

Only

COMMENTARY PAPER OF THE MONTH

Understanding delirium trajectory and its importance in care provision for older people

Delirium significantly increases morbidity and mortality in older people, especially those affected by other organic disorders, notably dementia (Martins & Fernandes 2012; Siddiqi, House & Holmes, 2006). Both delirium and dementia are characterized by cognitive decline through disintegration of brain functions, i.e. a “brain failure”. Delirium has been described as an acute brain failure, in contrast to dementia being a chronic brain failure (Berrios, 1981). If we consider any other organ failure, for example that of kidneys, delirium superimposed on dementia resembles acute renal exacerbation superimposed on chronic renal failure. The timely recognition and treatment of acute renal failure can reverse its damaging effects, whereas chronic renal failure necessitates long-term and invasive or costly interventions (i.e. dialysis, kidney transplantation). Similarly, recognizing delirium and providing timely interventions can improve its symptoms to recover brain functions, delay cognitive decline, and alleviate distress and disability.

Cole and colleagues have investigated every facet of delirium for over two decades (Cole & Primeau, 1993; Cole *et al*, 2009). Their latest research report, entitled “Longitudinal patterns of delirium severity scores in long-term care settings” (Ciampi *et al*, 2016), has been selected as a paper of the month for International Psychogeriatrics. Its findings are comparable to those of their previous study published a decade ago (Sylvestre *et al*, 2006), which had similar objectives and methodology as the current one, but took place in acute care (AC) (St Mary’s Hospital in Montreal, Canada) rather than in long-term care (LTC) settings (also in Canada).

Four patterns of delirium trajectory have been observed in both studies: *Improvement*, *Worsening*, *Fluctuating* and *Steady*. Noteworthy differences in patient distribution among these delirium patterns exist between the two studies. In the 2006 report, the *Improvement* pattern in AC patients was split into two sub-patterns: *Fast* and *Slow*; however, in LTC residents in 2016, the two different rates of improvement were not observed to justify differentiation into two sub-patterns. Compared to LTC residents, more AC patients demonstrated an overall *Improvement* (39% AC vs 22% LTC) and fewer AC patients had *Worsening* (6% AC vs 18% LTC) and *Fluctuating* patterns (16% AC vs 25% LTC). The recent findings suggest that the prognosis of delirium in LTC residents is worse than that in AC patients, in that, LTC residents are more likely to worsen over time and any improvement is likely to

1
2
3 be slower and more fluctuating.
4
5

6 Given that the differences in demographic characteristics between the two samples of 2006 and 2016
7 are not so pronounced as to explain the magnitude of their difference in delirium prognosis, we must
8 consider clinical reasons for the observed differences between LTC and AC settings. First, LTC
9 residents may be more vulnerable to delirium because of likely higher rates of chronic organic
10 disorders, especially dementia. Indicatively, the rate of dementia in this study's LTC residents was 86%
11 as opposed to 73% in the previous AC sample. Second, more medications for dementia and its
12 sequelae, like behavioral disturbances, in LTC residents make delirium more likely to occur, or more
13 fluctuating, in the context of adverse effects and toxicity of medication. Third, effective and timely
14 interventions for delirium are less likely to be provided in LTC compared to AC settings.
15
16
17
18
19
20
21
22

23 Institutionalization to an LTC setting itself makes older people, especially those with dementia,
24 vulnerable to delirium; in turn, delirium accelerates cognitive decline in existing dementia. Once
25 institutionalized, life for older people can become isolated, limited and regulated by rules (Suh,
26 2015). New residents may struggle to adapt to the new environment when trying to use their
27 vulnerable brain to cope. They become easily confused in this unfamiliar place. Once they fail to
28 adapt and the integrity in their brain functions is severely compromised, symptoms of delirium or
29 behavioral and psychological symptoms of dementia (BPSD) may become more prominent. These
30 symptoms prompt medication use, often prolonged, to control them. Notwithstanding poorer baseline
31 cognitive and physical function, a critical predictor of the differences in patterns of delirium
32 trajectory between AC and LTC patients appears to be the care environment itself. This poses a two-
33 fold question: *how treatment decisions for LTC residents are made and can residential settings learn*
34 *from acute hospitals?*
35
36
37
38
39
40
41
42
43
44

45 **Conflict of interest:** none
46
47

48 GUK-HEE SUH¹ AND LINA GEGA²

49 ¹ Department of Psychiatry, Hallym University College of Medicine, Dongtan Sacred Heart Hospital,
50 Hwaseong-si, Korea
51

52 E-mail: suhgh@chol.com
53

54 ² Mental Health and Addiction Research Group (MHARG), Department of Health Sciences & Hull
55 York Medical School, University of York, Heslington, York, UK
56

57 E-mail : lina.gega@york.ac.uk
58
59
60

References

- 1
2
3
4
5
6 Berrios GE. (1981) Delirium and Confusion in the 19th Century: A Conceptual History. *British*
7 *Journal of Psychiatry*, 139(5), 439-449.
8
9
10 Ciampi A, Bai C, Dyachenko A, McCusker J, Cole MG, Belzile E (2016) Longitudinal patterns of
11 delirium severity scores in long-term care settings. *International Psychogeriatrics*:
12 doi:10.1017/S104161021600137X
13
14 Cole MG, Ciampi A, Belzile E, Zhong L. (2009) Persistent delirium in older hospital patients: a
15 systematic review of frequency and prognosis. *Age & Ageing*, 38(1), 19-26.
16
17 Cole, M. G., & Primeau, F. J. (1993). Prognosis of delirium in elderly hospital patients. *CMAJ*:
18 *Canadian Medical Association Journal*, 149(1), 41–46.
19
20 Davis DH, Muniz Terrera G, Keage H, Rahkonen T, Oinas M, Matthews FE, Cunningham C,
21 Polvikoski T, Sulkava R, Maclullich AM, & Brayne C (2012). Delirium is a strong risk
22 factor for dementia in the oldest-old: a population-based cohort study. *Brain*, 135(Pt
23 9):2809-16.
24
25
26
27 Martins S, Fernandes L. (2012) Delirium in Elderly People: A Review. *Frontiers in Neurology*, 3,
28 101. <http://doi.org/10.3389/fneur.2012.00101>.
29
30 Siddiqi N, House AO, Holmes JD (2006) Occurrence and outcome of delirium in medical in-patients:
31 a systematic literature review. *Age and Ageing*, 35, 350–364.
32
33
34 Suh GH. (2015) It is time to take action to reform long-term care insurance. *IPA Bulletin*, 32(2), 10-
35 11.
36
37
38 Sylvestre, MP, McCusker J, Cole M, Regeasse A, Belzile E, Abrahamowicz M (2006) Classification
39 of patterns of delirium severity scores over time in an elderly population. *International*
40 *Psychogeriatrics*, 18, 667–680.
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60