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TITLE: “Just another piece of paperwork”: perceptions of clinicians on delirium screening following hip fracture repair elicited in focus groups

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Abstract

Background
Delirium is a complex clinical syndrome characterised by disturbed consciousness, cognitive function, or perception and associated with serious adverse outcomes such as death, dementia, and the need for long term care. However recognition and management of delirium is poorly prioritised even though it is the most frequent complication among patients undergoing surgery following hip fracture. The aim of this study was to understand clinicians' from orthopaedic speciality perceptions in relation to recognition, diagnosis and management of delirium.

Methods
This was a qualitative study using in-depth focus groups discussions with clinical staff of one orthopaedic unit within a level 1 trauma centre, south of Adelaide, South Australia.

Results
A total number of 17 individuals (14 Nurses, 1 Geriatric Registrar, 1 Nursing Manager and 1 Speech Therapist) participated in the focus groups. Four major themes were identified: 1. Delirium is important but can be hard to recognize and validate 2. Ambiguity on the use of delirium screening tool 3. Need of designated delirium care pathway 4. Vital role of family. Despite the initial lack of agreement on use of the objective tool to screen delirium, nurses did propose a number of ways that formal delirium screening could be included in routine nursing duties and existing nursing documentation.

Conclusion
Although orthopedic nurses aim to provide effective care to patients experiencing delirium symptoms following hip fracture, they are doing so in the absence of structured screening, assessment and multidisciplinary team approach. This study emphasizes the various barriers which need to be considered before attempting to change practice in this important area.

Keywords:
Delirium, Aging, Cognitive Impairment, Qualitative research
Perceptions of clinicians on delirium screening

Background
Delirium is a complex clinical syndrome characterised by disturbed consciousness, cognitive function, or perception. (Young, Murthy, Westby, Akunne, & O'Mahony, 2010) Also, known as acute confusional state, delirium has an acute onset, a fluctuating course, and is associated with serious adverse outcomes such as death, dementia, and the need for long term care. (Young et al., 2010) Delirium is the most frequent complication among patients undergoing surgery following a hip fracture (Gustafson et al., 1988) (Edlund, Lundstrom, Brannstrom, Bucht, & Gustafson, 2001) with research suggesting that 35% to 65% of patients who have undergone surgery for a hip fracture repair experience delirium post-operatively. (Marcantonio, Flacker, Wright, & Resnick, 2001b) Although delirium is associated with poor clinical outcomes, delirium continues to be under-recognised by health service planners and clinicians. (Inouye, Schlesinger, & Lydon, 1999; Irving, Fick, & Foreman, 2006) Due to the high incidence and relationship with worse outcomes, delirium prevention should be a high priority for clinicians. (Harris, Chodosh, Vassar, Vickrey, & Shapiro, 2009)

Healthcare professionals like doctors and nurses are adequately placed to take the lead in delirium screening and identification as their role requires them to provide 24-hour monitoring of patients to observe fluctuation in health status which is characteristic of delirium. (Irving et al., 2006; Rice et al., 2011) Clinicians are effective in identifying patients under their care who are confused however the identification is almost always without the use of an objective assessment tool. Most clinicians would admit that delirium is under-diagnosed and screening is inadequate. (Ely et al., 2004) (Hare, Wynaden, McGowan, Landsborough, & Speed, 2008; Steis & Fick, 2012)

A retrospective case note audit (n=200) was conducted to determine the frequency of delirium screening in the same orthopaedic unit of a level 1 trauma centre in Australia (unpublished data). The results of this audit demonstrated that less than 1% of patients with hip fracture received pre-operative cognitive assessment on admission. Overall, 48% of patients had evidence of behaviour change during the post-operative period however only 9% of patients received formal cognitive assessment using a validated tool in this period. Similar difficulties of persuading health care professionals to adhere to best practice guidelines have been shown by many studies. (Buchan, Sewell, & Sweet, 2004; Cabana et al., 1999; Davison et al., 2012; Grol & Grimshaw, 2003) An understanding of barriers and enablers to best practice is needed to develop implementation interventions to increase the uptake of evidence into practice. (Francke, Smit, de Veer, & Mistiaen, 2008) Such
interventions are more likely to be effective if they target the factors influencing practice change. (Baker et al., 2010) Objective early diagnosis of delirium is particularly important because multidisciplinary interventions have been shown to effectively prevent delirium in older adults. (Inouye, Bogardus, Baker, Leo-Summers, & Cooney, 2000; Marcantonio, Flacker, Wright, & Resnick, 2001a; Milisen et al., 2001)

The aim of this study was to explore the views of clinicians' from the orthopaedic speciality in the acute care hospital in South Australia in relation to recognition, diagnosis and management of delirium and to explore reasons regarding why their practice was not consistent with best practice recommendations. This study provided rich information using qualitative techniques which will be used to design a ‘Delirium Observation through Treatment Engagement’ (DOTE) program by targeting the identified barriers and facilitators with inclusion of relevant behaviour change techniques. (Michie, van Stralen, & West, 2011)

Methods

Design

This was a qualitative study using in-depth focus groups discussions. The study is reported in accordance with the COREQ guidelines. (Tong, Sainsbury, & Craig, 2007)

Participants and setting

Clinical staff (geriatric and orthopaedic doctors, nurses, and allied health) managing patients with hip fracture in an acute care setting within a level 1 trauma centre, south of Adelaide, South Australia were invited to participate in focus groups. The clinical pathway for patients admitted following hip fracture to the hospital was to present at the emergency department before being admitted to the 28 bed orthopaedic ward. The service admits 400 people per year with hip fracture.

Recruitment

Focus groups were advertised at lunchtime presentations and ward meetings/handovers by one of the researchers (TO). Invitations with four pre-set focus group dates were extended to staff and information sheets were displayed at nursing stations, staff lounges and on the bulletin board of the orthopaedic department. Focus group sessions were timetabled at the most convenient times for clinicians which was advised to be at handover times for nursing staff when both early and late shift staff were present. Focus group participants completed a written consent form.

Procedure
Focus groups were considered to be an appropriate methodology to efficiently and effectively address the research questions. Focus groups are used to give a voice to participants and allow them to express their opinion in a guided environment. (Morgan, Krueger, & King, 1998) Hence they were used to stimulate the dialogue regarding the factors hindering and enabling achievement of recommended practice related to screening and managing delirium in hip fracture patients. We were seeking information regarding clinicians' perception of using a screening tool, and enablers and barriers to providing individualised care to patients to prevent and manage delirium in their acute orthopaedic setting. Four focus groups were conducted by two researchers. At the conclusion of the four focus groups no new issues arose i.e. the point of 'saturation' had been reached. (Charmaz & Belgrave, 2012) Saturation is the point at which after a number of interviews has been performed, it is unlikely that performing further focus group discussions will reveal new information that hasn’t emerged in a previous group discussion. One of the researchers with expertise in qualitative methodology took the lead whilst the other researcher concentrated on listening, asking clarifying questions and thinking about the questions that required further exploration. Each focus group lasted approx. 60 minutes.

**Interview content**

The focus group discussion guide (see additional file 1) consisted of two parts. The initial part included broad questions about delirium in hip fractures and how it’s assessed/recognised and prioritised within the workplace in question. The initial discussion lead to further exploration of the routine clinical practices in detail to gain insight into their reported behaviours and the factors which hindered or enabled achievement of the recommended clinical practice.

**Analysis**

Focus group discussions were audiotaped and transcribed verbatim by a professional transcription service SmartDocs Pty., Ltd®. Staff who participated in the focus group discussions were asked to review the transcripts to ensure any discrepancies were altered prior to analyses. Checked transcripts were imported into NVIVO 11(QSR International Pty Ltd, Australia) to manage the data and facilitate the analysis. Data was analysed using an iterative process. Two researchers (TO and MK) independently coded the interview transcripts, first via open coding, followed by axial and then selective coding. The two researchers undertook a dynamic process of interpretation including attaching significance to what was found, offering explanations, attaching meanings, imposing order and dealing with relevant explanations (Patton 1990). They then compared
and discussed their individual and combined results at length on several occasions, before deciding on the final labels or themes.

Ethics
This study was approved by Southern Adelaide Local Health Network Office of Research Ethics Committee- Project Number: SALHN HREA-133.17.

Results
A total number of 17 individuals (14 Nurses, 1 Geriatric Registrar, 1 Nursing Manager and 1 Speech Therapist) participated in the focus groups. None of the registrars from the orthopaedic team participated in the focus group discussions. All of the interviewed clinicians reported that they routinely manage patients who have sustained a hip fracture with suspected delirium or cognitive impairment. Four major themes were identified regarding assessment and management of delirium in the acute care orthopaedic setting: 1. Delirium is important but can be hard to recognize and validate 2. Ambiguity on the use of delirium screening tool 3. Need of designated delirium care pathway 4. Vital role of family.

Delirium is important but can be hard to recognize and validate
Clinicians expressed their thoughts that delirium is something which you “commonly see” and is “high on the list of priorities” due to its association with “longer length of stay”.

Nurses suggested that delirium can have dire effects on patients including resulting in them being malnourished and reducing their ability to engage in therapy.

“They’re so delirious that they don’t want to eat. And mobility as well is delayed. The physio can’t get them to do exercise with them”.

Nurses recognised delirium if it presented in a more tradionally recognised manner e.g. confused, argumentative, but tended to become uncertain of the validity of the symptoms when patients required high doses of pain relief and appeared overly drowsy or if they had come from high level care nursing home with diagnosed dementia. Nurses expressed that in instances of delirium in addition to dementia they often contacted the nursing home to enquire about the patient’s baseline cognitive functioning.

“Sometimes it is easily recognised because they’ll come back from theatre and they’re hitting, punching, kicking, biting, thrashing around and that’s just an obvious they’re in a post-op delirium, but then sometimes they’ll come back and they’ll just be really sleepy and they’re the ones that the delirium gets missed because people don’t see it as a delirium, they
just see they’re sleeping, they’re fine, they’re not doing anything so no one worries about them”.

**Ambiguity on the use of delirium screening tool**

Although participants acknowledged that delirium could be misdiagnosed, and was a “big deal” there still seemed to be a reluctance to utilise a specific screening tool as they were not convinced of the benefit. There were many reasons cited for not introducing and using another tool, in particular a delirium screening tool. The majority of clinicians reported they had currently all the knowledge, experience and skills and assessment forms to recognize and evaluate delirium. They were comfortable that their current forms reporting mood and their behaviors were sufficient to monitor delirium, and another form would be a duplication and of no further value.

“Truthfully, I think it’s just another piece of paperwork really. It just adds to the pile of paperwork that we already don’t get to”.

A majority of nurses considered the existing nursing documentation which gets completed as part of routine nursing care as sufficient to monitor delirium.

“We’ve got half hourly revision charts which quite often we’ll fill in for delirious patients and score them zero to four. And that’s a really good indicator so I can discern if they’re scoring twos or threes and they’re unsociable. So, for me, I can look at that and go, well, yeah, that patient’s delirium is settling or no it’s not”.

It was only when participants were pressed to consider any value in quantifying the condition and tracking the effect over time, that the interviewers received some affirmation that possibly there might be some value in utilizing the tool. However lack of time was considered to be a pressing factor which still made the screening tool a “non-priority”.

“Although the paperwork’s all very important, patient care, as nurses, is our number one role. I need to get on the floor and look at my patient’s first instead of wasting an hour sitting down and doing forms”.

Some nurses suggested that use of formal screening tools may be useful for junior, more inexperienced staff rather than those experienced staff who felt confident in their abilities.
In addition, a number of nurses considered the tool did not consider specific enough questions to diagnose delirium.

“I don’t think those questions specifically give you the diagnosis of delirium, it’s just a bunch of questions that you ask and then what do you do with the answer”?

“It’s just too standard. Delirium isn’t standard with everybody. Someone can have a perfect 4AT but be totally off their tree”.

Not only did they not consider the tool valid, but they also felt undertaking the screening once a patient clearly had developed delirium was a waste of time. Nurses expressed that most patients already have delirium when they arrive to the orthopaedic unit so there is no use completing it.

**Need of designated delirium care pathway**

The participants of all the focus groups expressed the need for a designated delirium care pathway if they were to spend time completing the assessment form. If they were being asked to prioritise delirium assessment and management, they reported the need to set up a process that would utilize the information. Firstly, clinicians requested more clarity about roles and responsibility of doctors involved in the care of the hip fracture patients and development of local clinical guidelines as a priority. The nurses indicated that not having an action plan to follow leads to uncertainty of care. Nurses believed that they spend a lot more time with the patients compared to other healthcare professionals and this lead to nurses having more insight on patients’ symptoms of delirium. They felt it was important that there was a process in place where any quantified delirium assessments they completed were available to all team members and there being a clear action pathway in place.

“There’s nothing worse than getting all these scores and all these things that you know are right and tell the doctor and they just, “Oh yeah, we’ll look at it later” and no one comes back, no one follows it up and that’s frustrating and it makes you think why am I bothering”.

Nurses agreed that tracking the quantitative score of delirium on a graph (as with other observations e.g. temperature, blood pressure) could be useful in monitoring the delirium symptoms. It was also felt that this could make documentation more user-friendly as the clinicians would be able to see the patients delirium score without having to look through a whole set of patient notes.

Although participants were initially reluctant to incorporate the delirium screening tool at all, once they had discussed and agreed on the value of the tool, they identified the need for multiple assessments each day to accommodate the issues of fluctuating cognitive states.
common in delirium. The suggestion was put forward by a number of participants and consensus reached at each focus group that the screening tool should be completed once each shift to monitor the fluctuation over 24-hour period.

“If there was a table on the back on the form then you might be able to compare it to the day before and I guess you’re not blind then to what’s happened before and then it becomes perhaps more meaningful”.

In addition, a senior nurse suggested that setting up a pathway for two groups might be helpful: delirium on a background of dementia and patients with post-operative delirium who do not normally have impaired cognitive function. This idea gained support from the other participants of the focus group.

**Vital Role of Family**

The clinicians agreed that family plays a vital role in recognizing delirium and confirming their relative’s baseline cognition status especially for the patients with hypoactive delirium which is dominated by symptoms of drowsiness and inactivity. (Hosker & Ward, 2017) “This isn’t mum and dad, they’re not normally like this. So it just depends a lot on the family input for the very quiet ones, but the other ones it’s just obvious, they come back and they’re combative right off.

Nurses expressed that delirium can be quite concerning for the families due to lack of families awareness on delirium related symptoms. All the participants agreed that providing the family information on delirium would assist them in knowing what to expect and how to support their relative. Most participants agreed that information could be provided in the form of a written pamphlet or by video on the patient bedside screen monitor.

“I suppose we can give that handout, the family awareness handout maybe on day zero to the family because we don’t need to wait for delirium to happen so actually they can see and say you know what, I’m going to brings mum’s glasses tomorrow” or their hearing aids or favourite book or their blanket”.

**Discussion**

This qualitative study provides insight into multiple factors impacting on why clinical staff, particularly orthopaedic nurses working with patients following hip fracture repair, do not routinely choose to screen for delirium using a validated tool.

Nurses expressed that they can easily identify patients experiencing hyperactive delirium by symptomology such as agitation, verbal and physical outbursts. They recognised more
difficulty in identifying hypoactive delirium states such as lethargy and loss of appetite. This finding is consistent with earlier studies highlighting the difficulty of recognising hypoactive delirium in hospitalised older patients. (Fick, Hodo, Lawrence, & Inouye, 2007; Flagg, Cox, McDowell, Mwose, & Buelow, 2010) Difficulty in recognising delirium related symptoms on a background of dementia or existing cognitive impairment was reported in this present study and is supported by other studies. (Fick, Agostini, & Inouye, 2002; Fick et al., 2007)

Most nurses expressed that using an objective screening tool to recognise delirium would not add any value as nurses already assess or observe patients while undertaking daily care tasks such as showering, giving medications and measurement of vital signs. However, in contrast to their perceptions, it has been reported in other studies that effective recognition and assessment of delirium cannot be solely achieved through clinicians’ bedside interaction with patients. (Mistarz, Eliott, Whitfield, & Ernest, 2011). Participants in this current study also believed that they and their colleagues possess sufficient knowledge and experience to identify at-risk delirious patients so completing another piece of documentation would serve no purpose. This is similar to the findings from other studies. (van de Steeg, Langelaan, Ijkema, Nugus, & Wagner, 2014)

In addition it is likely that nurses are unable to provide effective description of patients’ delirium to others without completing a comprehensive delirium assessment. This may explain why some nurses in our study reported frustration and lack of response from doctors to their observation of delirium symptoms. Nurses in many other studies have reported feeling dismissed or ignored when reporting delirium symptoms to medical specialists. (Al-Qadheeb et al., 2013; Kjorven, Rush, & Hole, 2011) This then forms a barrier to effective multidisciplinary team approaches to timely recognition and engagement in prevention strategies. Timely multidisciplinary care formed the basis of the treatment planning for many studies where investigators were able to successfully reduce incidence of delirium. (Lundstrom et al., 2007; Marcantonio et al., 2001a; Milisen et al., 2001) To overcome the barrier of not being heard by doctors nurses suggested that a clear action plan or delirium care pathway might be a way forward.

Several studies on known barriers to clinicians’ recognition of delirium across various healthcare settings have identified obstacles including insufficient knowledge, lack of understanding of their role (van de Steeg et al., 2014), perceptions of not being heard when communicating delirium symptoms (Kjorven et al., 2011) and absence of structured delirium screening and assessment processes. (Steis & Fick, 2008) (van de Steeg et al., 2014; Yevchak et al., 2012) Addressing each of these barriers is required to optimise delirium care practices within orthopaedic speciality. Following in-depth discussion in each focus group in
this current study, despite their earlier reservations, most of the participants agreed that education regarding these barriers would be beneficial. The uniqueness of this study is that despite the initial lack of agreement on use of the objective tool to screen delirium, nurses did propose a number of methods to integrate the formal screening tool into practice and nursing documentation, which they felt was essential for implementation. It was after lengthy debate and discussion was facilitated within the focus groups by the experienced interviewer that staff began to verbalize the value of collecting and tracking quantitative data to inform patient’s delirium status. Discussion concerning delirium management was positive with nurses keen to engage in any strategies which could potentially prevent incidence of delirium such as use of clocks and calendars to orientate patient. The valuable role of engaging family to obtain insight into patients’ pre-injury status and seeking their support to prevent delirium was also recognised. Nurses described that educating the family through handout or a video on delirium might reduce fears family members have about their loved ones health as well as increase their awareness on various ways in which family can assist in preventing delirium.

In the recent years our understanding of delirium has increased vastly from the basic neuropathological descriptors through screening and diagnosis to treatment. The papers cover a range of areas including the frequency of delirium in a primary care and hospital setting, detection, diagnosis and impact of cognitive impairment among inpatients, understanding delirium trajectory, recognition and management of delirium among multidisciplinary team and the effectiveness of multicomponent interventions for preventing delirium in older hip fracture patients. These studies illustrated that delirium is primarily a hospital based phenomenon yet it’s under-recognised, its negative impact on patient outcomes and role of multicomponent interventions in delirium prevention in at-risk hospitalised older adults. (Bohiken & Kostev, 2018; Oberai, Laver, Crotty, Killington, & Jaarsma, 2018; Power et al., 2017) Suh et al. emphasized the importance of recognising delirium and providing timely interventions which can delay cognitive decline as well as eliminate distress and disability. (Suh & Gega, 2017) G Bellelli et al. concluded that there are underlying gaps between the clinical guidelines and actual clinical practices which need to be addressed in future research so that changes in practice can be initiated. (Bellelli et al., 2014)

Our paper extends the results of existing studies as involving nurses in the discussion illuminates some of the common barriers identified by others in clinical practice settings across the globe. All the previous literature shows importance of screening yet poor adherence by clinicians. Engaging with clinicians systematically to understand their perceptions is vital to address this common and complex syndrome. Adding to the existing
body of literature is essential, especially when recommendations come from those in-charge for identification, prevention and management of delirium.

**Limitations**

The use of focus groups in this small study allowed for open conversation related to assessment and management of delirium in hospitalised older patients with hip fractures. But there were some limitations. First of all, although the invitation to participate in the focus group discussions was extended to all clinicians working in orthopaedic ward the majority of the participants in the focus groups were nurses. This study would have benefitted from a wider participation of health professionals. This was a single site study conducted in an orthopaedic unit of a metropolitan hospital. In addition as a qualitative study conducted in one country only, the findings might not be generalised to other settings. However, similar findings in other studies from many different countries have been documented in literature and increases the generalizability of this work and so potentially our findings can be transferred with caution, to other healthcare settings.

**Future perspective**

The results of the current qualitative study will be used to implement the Delirium Observation through Treatment Engagement (DOTE) program by targeting the identified barriers and facilitators with inclusion of relevant behaviour change techniques. A description of the development and content of the DOTE program and the subsequent knowledge translation study will be reported separately.

**Conclusion**

The lack of participation of orthopedic surgeons, geriatricians and allied health in this study suggests that delirium is perceived as a nursing issue. The findings of this study suggest that although orthopedic nurses are aiming to provide effective care to patients with hip fracture experiencing delirium symptoms, they are doing so with limited delirium knowledge and in the absence of structured screening, assessment and multidisciplinary team approach.

Given the high incidence of delirium within patients with hip fracture, this study further emphasizes the various barriers which need to be addressed before attempting to facilitate a change of practice. The nurses in this study made numerous valuable suggestions on integrating delirium screening and preventive strategies into routine nursing care as well as developing a delirium care pathway to engage multidisciplinary team members to optimize treatment for these patients.

**Conflict of interest declaration:**

None
Description of author's roles:
Taran Oberai- designed the study, completed the study including conducting focus groups, analysing data, wrote the paper
Maggie Killington- designing the study, assisted with focus groups discussions, assisted with data analysis and writing the paper
Kate Laver- design of the study and reviewing the paper
Maria Crotty- Clinical expertise in Geriatrics
Ruurd Jaarsma- Clinical expertise in Orthopaedics

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