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Unravelling the differences between complexity and frailty in old age: findings from a constructivist grounded theory study

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Accessible summary

- UK health policy is often concerned with meeting the needs of the increasing number of older people in society and within some of this policy the concepts 'frailty' and 'complexity' have been used interchangeably. The concepts are not seen as the same by registered nurses who work in an older people's mental health service.
- Frailty is generally described as a physical state leading to inevitable decline and death. There is an abundance of research into frailty, much of which has the ultimate aim of prevention of disability and reduction of health care needs. Some critics view the emphasis on frailty as an example of the way that some health staff turn old age into a problem. To date, there has been little research into complexity in either old age, in mental health, or from a nursing perspective.
- Nurses described complexity as a dynamic state from which there can be 'recovery' and movement back and forth.
- Understanding complexity is important if the needs of older people are to be met effectively. This study found that nurses share common perceptions of complexity but do not always find it easy to articulate these.

Abstract

UK health policy has used the terms 'frailty' and 'complexity' synonymously but there is no common definition for either. Understanding these concepts is important if demand for health care created by the increasing number of older people in society is to be managed effectively. This paper explores some findings from a study into how mental health nurses who work with older people construct and operationalize the concept of 'age-related complexity'. Constructivist grounded theory was used. Audio-taped interviews were undertaken with 13 registered nurses and were analysed using a constant comparative method. This paper addresses the relationship between frailty and complexity, which was identified as a theme within the category 'dynamic complexity'. The findings suggest that nurses understand important differences between the two concepts. Frailty is exclusively used to describe physical states while complexity is a more encompassing term that has resonance and relevance in mental health services. The dynamic nature of complexity means that older people can become both more and less complex and this has implications for nursing practice that require further study.

Introduction

In the UK, there is national concern about how health services will respond to increasing demands as a direct consequence of demographic changes and increased life expectancy (Philp 2007, Department of Health 2009). Understanding healthy ageing, illness and disability and the provision of effective and efficient care to older people are crucial tasks for the National Health Service (NHS), with recent health policy recognizing that mental health services have frequently discriminated against older people and current policy emphasis on equal access to health care (Age Concern and Mental Health Foundation 2006, Department of Health 2009). Providing effective health care to older people requires specialist knowledge and skills (Royal College of Nursing 1998, Staffordshire University *et al*. 2008, Department of Health 2009) and the 'New Ways of Working' initiative seeks to ensure that the skills of practitioners are matched to the needs of patients, through ensuring that those with the most complex needs are cared for by those with the highest level skills (Department of Health 2007). It is surprising then that a working party established to advise the New Ways of Working initiative on the concept of complexity in relation to mental health produced only an interim report with no further work planned (F. Davies, pers. comm.).

The recently updated framework for the provision of mental health care in England, The Care Programme Approach, sets out minimum standards for care co-ordination based on the level of a patient's needs. Patients requiring the Care Programme Approach have higher level needs than those who require 'standard care', and these needs are measured against a set of descriptors contained within the policy guidance which includes 'clinical complexity' (Department of Health 2008). However, the guidance falls short of advising how such complexity is defined or should be recognized. Indeed, in health care literature and policy, older people are often described as 'frail' or having complex needs but both of these concepts lack a commonly accepted definition and meaning.

The study of frailty is important in relation to health care for older people and is well researched but despite this, there is no commonly accepted definition of frailty. Nevertheless, researchers continue to be interested in the concept because there is near universal agreement that it leads to a greater risk of adverse outcomes such as increased morbidity, disability, functional decline and increased use of health and social care resources (Ferrucci *et al*. 2004, Rockwood & Mitniski 2007). In aiming to identify frailty at an early stage, researchers hope to design interventions to prevent disability and reduce the need for health and social care interventions (Ferrucci *et al*. 2004). However, little research attention has been directed at describing complexity in the context of old age and mental health and only a small proportion of this is from a nursing perspective.

Various policy directions have led to national debate about whether there is a need for specialist mental health services for older people and what the nature of such specialist services might be (Philp & Appleby 2005, Staffordshire University *et al*. 2008). A local response to this dilemma has been to consider that older people's mental health services are the provider for those older people who have 'age related complexity' and that generic mental health services (referred to as services for working age adults) are the provider for older people without such complexity (Tees, Esk and Wear Valleys NHS Foundation Trust, unpubl. report). Set against this national, local and policy backdrop, a constructivist grounded theory study was undertaken to explore the concept of 'age related complexity' further.

Aim

The aim of the study was to explore how mental health nurses construct and operationalize the concept of 'age-related complexity'. The main objective was to use the nurses' constructions to begin to develop a substantive theory of 'age-related complexity'. This paper will discuss selected findings from one of two categories that emerged from the study and will consider similarities and differences between complexity and frailty.

Methods

Design

The lack of existing theory relating to complexity in old age led to the identification of grounded theory as the methodology of choice for the study, but the researcher was not comfortable with the more traditional approaches to grounded theory described by Glaser & Strauss (1967) and Strauss & Corbin (1990) for a number of reasons. Firstly, the researcher had 'insider' knowledge and experience of the concepts of interest and did not feel able to achieve the distancing (or 'bracketing') required by traditional grounded theory (Glaser & Strauss 1967). Secondly, it seemed important to select an approach that would make use of the researcher's 'inside' experience throughout the research. Finally, the researcher's own philosophical position could be described as relativist (ontological) and subjectivist (epistemological and axiological). The researcher therefore selected the constructivist grounded theory approach (Charmaz 2006) which emphasizes the co-construction of meaning between the participants and the researcher.

Sample

The sample consisted of 13 registered nurses (2 men and 11 women) working with older people in a large NHS mental health trust. Five of the nurses worked on wards, one had a specific remit to work with Care Homes, one in a general hospital and the remainder (six) were community psychiatric nurses. They were employed in posts banded at 5, 6 or 7 under the Agenda for Change system. Nurses who were directly managed by the researcher were excluded from participating. The pragmatic sampling technique described by Fassinger (2005) was followed, with an initial purposive sample followed by theoretical sampling. Initially invitations to participate were sent to nurses in more senior clinical posts, with the rationale that they were most likely to have had experience of working with complex patients. Later in the study, nurses in more junior clinical posts were invited to participate, and participants from ward nurses, and acute hospital liaison were sought to give breadth to the sample and to address particular gaps in the data.

Procedure

Local service managers sent letters outlining the study to registered nurses who were asked to make contact with the researcher if they were interested in participating. The researcher discussed the study with interested nurses and if they agreed to participate, arranged a convenient time and place for their interview. Before interviews commenced, participants were given a verbal and written outline of the study and written consent was obtained. An important feature of social constructionist research is the need to allow participants to relate their experiences or 'tell their story' and it follows that the use of structured interviews may inhibit the data (Charmaz 2001). In this research, data was generated by means of 'lightly structured' (or 'loosely guided') in-depth interviews with participants (Knight 2002). Charmaz has referred to this technique as 'a directed conversation' which is flexible and emergent in allowing the researcher to pursue leads as they arise (Charmaz 2006). Interviews lasted between 42 and 62 min and were conducted by the researcher. The first three interviews were 'pilot' interviews, the topic areas and the researcher's interview technique were checked (through transcripts) by the supervisors. The pilot interviews were considered to be of suitable quality to be included in the sample. Five more interviews were conducted using the list of topic areas derived from the initial literature review and the researcher's own experience. Through reflection and analysis it was clear that participants did not found it easy to discuss abstract ideas relating to complexity. Following discussion with supervisors on how to manage this, a technique employed by Kitwood (1980) was used and a set of 'pre-interview prompts' was developed to help participants prepare for the interview, to enable deeper exploration of the emerging themes and to fill gaps in the data. The prompts were sent to participants a week before their interview and they were asked to think about the areas and choose three or four to discuss. This appeared to help the participants who gave thought to the prompts, but not all the remaining participants used them prior to their interview.

Interviews were audio-taped and transcribed by the researcher. The software programme NVivo was used to assist with data management and early analysis (line-by-line coding), and manual (pen and paper and word processing) techniques were used in the later analysis stages.

Ethical issues

The University Research and Ethics Committee, Local Research Ethics Committee and NHS Trust Research Governance Committee all granted approval for the study. Participants' anonymity was protected by use of pseudonyms and details that might lead to the identification of patients, carers or other team members were changed.

Analysis

Data were analysed using the constant comparative method described by Charmaz (2006) which involved a process of line-by-line, focused and theoretical coding. Themes and categories were built up from the data and arranged in a 'tree' hierarchy (Richards 2005) which aided analysis through comparison of data across and within themes. Analysis and interpretations were discussed with academic supervisors at bimonthly meetings.

Findings and discussion

A category 'dynamic complexity' was developed to explain the nurses' construction of age related complexity. There were three themes in this category; 'components of complexity', 'complexity as an abstract concept' and 'the relationship between frailty and complexity'. The remainder of this paper focuses on the latter theme.

The relationship between frailty and complexity

Nurses in this study offered the consistent view that while the two states are related they are neither mutually dependent nor mutually exclusive:

> I don't think you have to have complex needs to be frail and I don't think you have to be frail to be complex. (Interview 1. Ward Manager)
>
> People can have very complex needs without necessarily being frail. (Interview 2. Community Psychiatric Nurse).
>
> I've got frail people who are really quite straightforward. (Interview 4. Community Psychiatric Nurse).

Frailty and complexity share some characteristics; both are seen as common in older people, both may require complicated nursing care, both tend to be associated with involvement of multiple services or agencies. However, there appear to be a greater number of differences between the two concepts.

Physical frailty versus multidomain complexity

Nurses saw the identification of frailty as straightforward or 'obvious'. They often encountered frail people during the course of their work and always described frailty in relation to physical health status or physical attributes; they described mental images of frail older people in physical terms:

> I have this image in my head of a little wizened old lady . . . that's skinny with tissue paper skin and not a lot of energy. (Interview 1. Ward Manager)

A large proportion of the frailty literature is medically led and definitions of frailty fall into two broad camps; those which propose a 'phenotype' (Walston *et al*. 2006, Rockwood *et al*. 2007) and those which espouse an 'accumulation of deficits' approach (Rockwood & Mitniski 2007). The literature appears to suggest a widely held consensus that frailty is a clinical syndrome (Ferrucci *et al*. 2004, Ostir *et al*. 2004, Storey & Thomas 2004) whose exact aetiology remains unknown, but which includes social, psychological, medical and disability elements. It has been argued that simply identifying the *physical* components of frailty may be enough to 'expedite research':

> Frailty may ultimately prove to be too complex to study without applying a reductionist approach to create criteria that are specific and perhaps even quantifiable at a physiological level. (Fisher 2005, p. 2230)

Nurses who participated did not think about frailty in relation to mental health.

> I suppose that people you know, could be fragile maybe with their mental health but I suppose I think of frailty as being more physical related. (Interview 2. Community Psychiatric Nurse)

This is mirrored in the literature which acknowledges a role for mental health (or more accurately mental illness) in the development of frailty, but then gives it little emphasis. No literature relating to mental frailty was located. Justifications for the omission of mental health are principally in relation to the 'methodological and ethical difficulties' of involving people with dementia in research (Ferrucci *et al*. 2004) and the inability to cover the breadth of constituent aspects of frailty at one time (Walston *et al*. 2006).

Unidirectional frailty versus dynamic complexity

Nurses in this study gave descriptions of older people moving freely within a spectrum from 'straightforward' to 'complex'; with backward and forward movement being possible:

> We did actually get to a point . . . when things really calmed down and were much more stable and I suppose then you could say that things weren't maybe as complex, and now she's physically frailer she's maybe gone back into that kind of complexity group again. (Interview 2. Community Psychiatric Nurse).
>
> I think you can move in and out [of complexity] quite, quite freely really. (Interview 3. Community Psychiatric Nurse)

Such free movement is not true of frailty. Despite some consideration that a frailty trajectory might not be unidirectional (Markle-Reid & Browne 2003), the body of literature does suppose that there is 'no going back' from frailty, and that the identification of an older person as 'frail' signals a continual decline in functioning and health status, sometimes represented on a continuum and placed between independence and pre-death (see for example, Hamerman 1999). One notable exception to the 'one way frailty street' was reported by Brunk (2007) in a small qualitative study involving three nursing home residents. When Brunk sought the residents' own views of frailty they described situations where an older person could become 'un-frail' through physical activity, social engagement or 'the right attitude'. On further examination, Brunk's residents' descriptions of frailty more closely matched the nurses' descriptions of complexity than the prevailing health construction of frailty.

Rankin & Regan (2004) argue for a framework for understanding complex needs (that spans medical and social issues) rather than 'a carefully controlled definition'. They also suggest a continuum rather than a binary (all or nothing) construct for complexity. Building on their work (and part of the 'Multiple and Complex Needs Initiative' commissioned by the Scottish Government), the framework has been adapted and 'breadth' and 'depth' of needs were further refined to enable identification of people with complex needs. Although this approach recognizes severe mental health problems as a contributor to 'depth of need', it does not identify age as a contributory factor (Hirst *et al*. 2009).

The movement in and out of complexity may present challenges for team managers, which are perhaps as yet, unrecognized. If an older person becomes less complex, one could assume that they might require less skilled intervention (as in New Ways of Working, Department of Health 2007) and vice versa, but this could jeopardize clinical continuity for patients. Nurses recognized this and described situations where they could hand over the direct care of a patient to a support worker in the team while still maintaining indirect contact through supervision of the support worker, and resuming personal involvement at a point of increased complexity.

> She's got a support worker that she feels she can trust and it's worked and I haven't seen her for a long time now, I mean she's still on caseload because she's somebody who will have to stay on caseload because of the risks. . . . I was thinking of discharging her because she's been so well, but I know if I discharge her then family won't be happy and then there'll be pressures and that will make her ill again. (Interview 11. Community Psychiatric Nurse)

Decline versus recovery

The potential for older people to become less complex has important implications, but becoming less complex was not always a result of improved mental health:

> I think they could become less complex, say if the [mental] illness progresses, things that added to the complexity in the beginning, in the early stages, would no longer be an issue. (Interview 8. Ward Staff Nurse).

There were accounts, particularly in relation to people with dementia, where the progression of the illness might result in less complexity; for example, one patient who was precariously mobile and tended to confront other patients became less complex as her desire and ability to walk declined with progression of her dementia.

Use of the term 'recovery' to describe this reduction in complexity was the researcher's deliberate choice (rather than say, resolution). The Recovery Model is promoted as the philosophy that should underpin all mental health care in the UK and is considered to be the 'dominant approach within mental health nursing' (Adams 2010, p. 627), and rather than freedom from disease it emphasizes independent and purposeful living (Martin 2009). The researcher considers that the pessimistic (inevitable decline) view of frailty is difficult to reconcile with the Recovery Model, but the view of a complexity spectrum within which there may be free movement out of complexity fits neatly with the aims of independence and 'hope' for patients.

Long-term conditions versus acute problems

Nurses in this study recognized that long-term conditions (almost exclusively considered as physical health problems within policy, Department of Health 2005), could be a component of complexity, but they also talked about the impact of acute health problems. Examples of acute biological problems causing complexity were common through the interviews, for example, the nurse working in a general hospital explained that her work with complex patients involved:

> Unpicking the possible physical causes from what might appear to be to general nurses, a mental health issue, so you know, if somebody has a low sodium they might be a bit more low in mood, if somebody is a bit hypoxic they might be a bit more confused. (Interview 13. Acute hospital liaison nurse).

However, nurses also stressed the importance of acute problems that were not always health related, but that could also increase complexity, for example, the availability of a family member:

> [there were] lots of complex things with her and her husband being separated [due to hospitalization] and family issues. (Interview 13. Acute hospital liaison nurse).

This emphasis on acute problems as a potential cause for increased complexity directly links to the previous discussion on potential for 'recovery', since resolution of acute problems is far more likely than resolution of long-term conditions.

Conclusion

Recognition of the importance and challenge of 'complex needs' is driving the current quality initiative to ensure personalization of care (Philp 2007, Department of Health 2009, NHS North East 2009) and age is regarded by some as one of the factors that increases the likelihood of a person having complex needs. While policy has tended to refer to complexity and frailty synonymously, and research has failed to provide an agreed definition for either concept, mental health nurses are clear that there are important differences. Frailty is described principally in relation to older people's physical state, whereas complexity is a consequence of the interaction of needs across a number of areas. Unlike frailty, complexity is a dynamic state in which there can be movement back and forth, it emphasizes the possibility of improvement (becoming less complex) as needs are met or circumstances change. This fits comfortably with the current emphasis on maintaining and improving health and functioning, exemplified in the

Recovery Model that is now widely applied in mental health services (Department of Health 2009).

The findings from this study suggest that complexity and frailty should be recognized as distinct concepts and states, raising the possibility that frail older people and older people with age-related complexity may require different approaches and nursing skills, and further research in this area is important. Furthermore, the study of complexity in old age offers the opportunity to move away from preoccupation with frailty, together with its potential to medicalize and problematize old age, and consider a more optimistic approach to recognizing older people's differences, needs and potential.

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