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HEALTHY AGING RESEARCH

Dignified care for older people: Mixed methods evaluation of the impact of the hospital environment – single rooms or multi-bedded wards

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Abstract

Background: New hospital design policies favour single rooms over traditional multi-bedded wards for greater privacy, personalised care and infection control. This study compared patients' perspectives on the provision of dignified care and their level of satisfaction in two different hospital environments: one with 100% single rooms, and one with multi-bedded wards.

Methods: This study employed mixed methods comparison using a semi-structured interview consisting of 14 questions to assess patients' perspectives on dignified care and level of satisfaction across two sites: Ysbyty Ystrad Fawr (YYF), a hospital with 100% single rooms, and the Royal Gwent Hospital (RGH), which has multi-bedded wards. Both are under the Aneurin Bevan University Health Board (ABUHB). Twenty-five patients from each hospital took part in the study. Inclusion criteria were: patient age of 65 years and over, admitted to hospital with an acute medical illness, but recovering and able to give informed consent.

Results: Dignity was better maintained in single rooms. In addition, more patients in single rooms reported receiving a high level of care (100%), compared to those in multi-bedded wards (84%).

Conclusions: Single rooms proved more favourable than multi-bedded wards in this study. However, since a higher incidence of in-patient falls are reported in single rooms, further research is needed to ensure patient safety and excellent quality of care in such a setting.

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Introduction

In the past, the design of healthcare facilities has focused mainly on accommodating the physical requirements of service delivery and provision of care. Over the last decade, several reports have explored the hospital environment and patient outcome. These tend to favour the construction of more single rooms for new acute care hospital designs in many parts of the world, including the United States and United Kingdom [1–3].

The UK National Health Service (NHS) agenda on consumerism emphasizes the quality of the environment, and recommends that 50% or more of patient accommodation should be in single rooms [4]. This is felt to provide greater privacy and dignity, which in turn will help to deliver a high quality service and meet patient and carers' expectations [5]. This is in line with guidance from the UK Department of Health (DH) in 2004, which proposed that newly built hospitals should aim to have single room accommodation for 50% of patients, and must have a

higher proportion of single rooms than the facilities they are replacing. New hospital designs include greater ratios of single-bedded accommodation – in some cases, 100% [6]. In 2008 the Scottish Government announced that single rooms would be the norm for all new and refurbished hospitals. At present just under one-third (30.7%) of NHS beds in England are in single rooms [7], while in Scotland's 218 hospitals, 32% of the total beds are now in single rooms. These figures seem to be rising steadily [8]. Commissioned in 2015, the new 14-floor building of the Queen Elizabeth University Hospital Glasgow is one of the largest acute hospitals in the UK. The adult hospital features 1109 single rooms, each with private shower and toilet facilities.

Worldwide populations are ageing and hospitals are admitting increasingly older people [9]. Among the UK's ageing population, for example, patients aged 65 and over tend to occupy just over two-thirds of hospital beds [10], with an increased length of stay in comparison to those under the age of 65 [11]. Although there has been an emphasis on maintaining dignity for older patients in hospital, some are often not treated with dignity. A recent study examining health care practitioners' behaviours and practices in relation to dignified care – 'Right Place – Wrong Person' – referred to a belief held by members of staff that acute wards are not the 'right place' for older people. The study also highlighted that wards were poorly designed, confusing and inaccessible for older people [10]. Older people were bored through lack of communal spaces and activities, and they expressed concern about the close proximity of patients of the opposite sex. The study concludes that failure to provide dignified care is often a result of systemic and organizational factors rather than a failure of individual staff [10].

There are several definitions of dignity. Webster's International Dictionary defines dignity as 'the quality or state of being worthy, honoured or esteemed'. The provision of dignified care in hospitals is challenging because of changing demographics, frailty and older people with multiple co-morbidities being admitted with acute illnesses. Factors such as staff training, respectful attitudes towards patients, privacy and toilet facilities, appropriate staffing levels, and good communication can enhance dignity, but at same time an inappropriate physical hospital environment can compromise dignified care. The impact of hospital environment on undignified care can be minimised by the provision of single sex wards, adequate space between beds to ensure privacy, gender specific toilet facilities, improved layout and signage, or perhaps by providing single rooms with en-suite facilities.

In 2011, the Aneurin Bevan University Health Board in Wales opened a new hospital, Ysbyty Ystrad Fawr (YYF), which has 100% single rooms with en-suite facilities. This replaced two older hospitals with multi-bedded wards (MBW). The aim was to deliver a high level of dignity and to minimise hospital-acquired infections. Despite the assumption that having 100% single rooms can achieve privacy, dignity and high levels of patient care, there is currently no evidence to support and justify this claim [12]. There are several possible factors that could compromise older persons' dignity in hospitals; one of these unexplored factors is the hospital environment and design. The objective of this study was to compare patients' perspectives on dignified care, and to understand the experiences of older people admitted to two different hospital environments: one with single rooms and one with MBW within the same Health Board.

Methods

Study design and setting

Semi-structured interviews were conducted with 50 in-patients at either the 100% single room hospital YYF, or the MBW hospital RGH, over 10 weeks. The interview took approximately 30–45 minutes to complete with each patient.

Because, to the best of our knowledge, no reliable and validated questionnaires currently exist to measure dignity, we developed a 14-item questionnaire based on available literature and existing policies [13, 14].

The first three questions were open-ended, prompting patients to describe dignity, share their experiences of maintaining dignity during their hospital stay, and suggest ways to improve dignity. The questionnaire also included key questions to capture patients' experiences and their satisfaction levels from the two sites: whether the patients feel they received dignified care in the hospital; the possibility of maintaining

dignity in an MBW or single room setting; preferences of accommodation type for future admissions and level of care.

All patients were also asked to list advantages and disadvantages of each setting, and were asked whether they had received a high level of care. Finally, they were asked to suggest any improvements they thought should be made.

Participants

The sample comprised 50 patients aged 65 years and over, 25 admitted to YYF and 25 to RGH, who were stable and recovering from an acute medical illness. Patients' ability to give written informed consent was required. Those who were unable to give informed consent because of acute confusion, delirium or dementia, or those who were receiving palliative treatment were excluded from the study. Medical teams in each setting were informed of the inclusion and exclusion criteria so that eligible patients could be selected without the researcher having access to medical notes, thus avoiding ethical issues and bias. Once selected, patients received an information sheet explaining the aims and methodology of the study, and a consent form to complete to indicate their willingness to participate.

Data and statistical analysis

Data collection and analysis took place concurrently to maximise reliability and validity [15]. VB performed all coding. Because a mixed method evaluation was employed, results were recorded in a table for further analysis. Data collected on patients' perspectives of dignity were used to describe key themes contributing to the preservation of dignity in any hospital setting. Further analysis was made to assess patients' experiences and perceptions of dignified care with respect to single rooms and MBW.

Data collected using a mixture of measures to capture patients' experiences and satisfaction levels was based on the number of 'yes' answers (and room preferences) in proportion to the number of reasons provided. This was compared between each sample to see whether the results were statistically significant (p-value < 0.05). No significance for the 'yes' proportions would also be true for the 'no' proportions. Therefore, because it was unknown whether a difference would be present or not, a two-sided proportions test was carried out. All statistics were conducted using the STATISTICA StatSoft data analysis software system, version 9.1 (Statistica Inc., 2010).

This study was part of a service evaluation; however, all questions and forms required to carry out the study were sent to the research and development (R&D) department at ABUHB to assess risks to patients and the Health Board. R&D approved the study with no further requirement to seek or gain ethical approval, but obtaining written informed consent before interviewing patients was recommended.

Results

The mean age of patients in YYF and RGH was 79.84 ± 6.8 years (range: 66–93) and 79.44 ±7.0 years (range: 66–94), respectively. The standard deviation demonstrates that samples were appropriately age-matched.

Participants' overall views on dignified care in the two hospital settings are described under following categories:

Privacy: Some patients stated that privacy in single rooms was excellent and that during 'sensitive' procedures/activities, staff would ensure that the doors were locked, windows covered, do not disturb signs were placed on the doors, and that the patient was comfortable in "a thoughtful way". One patient said, "once the door is closed, you feel secure and nothing can leave that room". However, in MBW, patients felt that the wards were noisy and privacy was difficult to maintain: "[it's] horrific to hear what goes on behind other patients' curtains!". Other older patients stated that they felt uncomfortable discussing sensitive information because of hearing impairment, so they do not raise concerns because they fear others will overhear. Furthermore, despite some staff trying their best to maintain their patients' dignity, it was not always possible, especially if patients are confused: "some staff try their best to cover up patients, but some just end up pulling their clothes off. It's so sad to see".

Being ignored: Patients felt that in single-bed rooms, despite pressing the buzzer for help, "you could be sitting for hours without any human contact or treatment", thus making them feel lonely and isolated. However, some patients found that they did not have to wait long because staff were not distracted by other patients.

Washing and dressing: Patients are able to wash and dress themselves in single rooms as they do not feel exposed or rushed by other patients; they feel they are able to take their time.

'Toileting': Embarrassment about going to the toilet seemed to be a major problem affecting those in MBW, where there were mixed sex toilet and shower facilities, especially when there were plumbing issues. One patient said, "I wait until everyone is asleep before I go to the toilet, in case it smells. I don't want them to know it's me," whereas in single rooms, "you don't have to wait to use the toilet".

Nutrition: In both settings patients felt that they do not get adequate nutrition as "the food has no flavour and is always cold, this is difficult when you're discharged home [because it] depends on you eating enough."

Personal hygiene: Some patients felt that being on an MBW with others affected their personal hygiene; when others did not look after themselves, patients felt this increased their risk of catching infections and prolonging their stay.

Noise pollution: It was noted on multiple occasions how noisy the wards can be, especially at night. Thus, compared to those in single rooms, patients were not being able to get the adequate, peaceful rest they needed to recover.

Management of health: Despite the differences between MBW and single bed rooms, patients felt that whichever setting you were placed in, "treatment, care and communication from staff to patients should not change". Others stated that there are enough systems in place to try to maintain dignity to the highest of standards, and that if any more actions were in place "the system would be disrupted and staff [would] become de-humanised". However, other patients felt it was unfair for them to comment on improvements because, "If you don't pay, you can't say, as it may affect your care."

Personal quotes: Some patients believe that dignity is always possible if you have the right people to look after you, i.e. people that care. Examples of comments made include, "What more could you ask for than your own room?"; "The youth and the elderly have different perceptions of dignity and it is difficult to achieve both in any one setting", "Single rooms should always be available for those who are dying or critically ill".

Following analysis of all the responses, three key themes contributing to the preservation of dignity in any hospital setting were identified, as below:

1. Most older people find it difficult to define dignity. Depending on the patient's perceptions, dignified care was interpreted as privacy, confidentiality, person-centred care, making informed choices and involvement in care.
2. More staff are required to enhance dignity; this ranged from simply having more time to spend with the patient, up to having the full attention of staff with one on one care.
3. Communication, sharing information and maintaining high standards of care are important factors when patients consider dignity.

Sub-analysis revealed particular details of patients' experiences and perceptions of dignified care in terms of single rooms and MBW accommodation, e.g.:

- Patients treated in single rooms reported that they experienced greater privacy to discuss sensitive conditions, had higher satisfaction with personal care because of access to en-suite and toilet facilities, and experience fewer interruptions during nursing care. However, they felt they sometimes had a longer wait to see a nurse, and if staff forgot a patient's request, they could not remind them because they may not see them again for several hours.
- Patients treated in MBW found that discussing sensitive information at the bedside was less dignified than in single rooms because they felt that neighbouring patients would hear, and vice-versa. In fact, 4 patients refused to participate in the study because of concerns that staff would hear their responses, which might in turn affect their care. Patients felt they did not always receive

full attention from nurses because other patients interrupted and distracted them. Some patients also had the mentality that, in a hospital, "dignity is left at the front door"; you have to conform to get better.

- Patients in MBW found that the company and goodwill of other patients helped to pass the time and improved their stay in hospital. They were able to help others patients, or flag down appropriate members of staff for their fellow patients when needed. It was noted that they believed these acts were helpful to both patients and staff, and created a more friendly and efficient healthcare setting. The exception to this was when patients were placed in a ward with seriously unwell patients or those undergoing palliative care; some patients felt saddened by death, and afraid to be demonstrably happy in case they upset their critically unwell neighbour. However, in single rooms, patients felt lonely and isolated; some referred to the setting as a 'prison'. They felt that despite adequate facilities, the lack of interaction meant that "time stood still", and if they were unable to call someone or reach the call button they may be left for hours before being seen. It was also highlighted that, because of the set up and size of the new wards, even if the patient was able to call for a member of staff, they still experienced a long wait.

Data collected in this study was further collated and analysed to answer three key questions: 1) the possibility of maintaining dignity; 2) choice of future admission, and 3) level of care.

The majority of patients (88%, n = 22) admitted to RGH believed it was possible to maintain dignity in MBW. In contrast, only 48% (n = 12) of patients in the YYF sample felt that dignity could be maintained in MBW (p = 0.01).

However, when asked to state their preferred accommodation type for a future admission, of the 88% of respondents in MBW who believed maintaining dignity was possible, only half (n = 11) would prefer to be readmitted to MBW. By comparison, 88% (n = 22) of patients from the YYF sample would prefer to be readmitted to a single room only (p = 0.007).

In terms of level of care, 100% of patients in single rooms believed they had been treated with a high level of care, compared to 84% of patients in MBW accommodation (p = 0.038). However, when asked if they thought patient management would change if they were placed in the opposing setting, a similar proportion in each group (70%) overall (17 in YYF and 18 in RGH) believed they would be treated and managed in the same way.

Patients admitted to MBW identified a similar number of advantages of MBW compared to single rooms (p=0.96). However, they identified more disadvantages of MBW (p = 0.035) compared to single rooms. By contrast, the YYF sample not only identified more advantages of single rooms over MBW (p = 0.001), they also perceived fewer disadvantages of the single room environment (p = 0.005) (Table 1).

It is interesting to note that for 72% of all patients, companionship was the most important factor leading to a preference for MBW, because they believed this would aid their recovery. Emphasis was also placed on being able to help other patients with tasks, such as calling a nurse. The main benefit of a single room, for most older in-patients (88%), was having their own private toilet and shower facilities.

Table 1. Advantages and disadvantages of multi-bedded wards and single rooms from RGH and YYF samples

		Multi-bedded wards (n)	Single rooms (SR) (n)	Total responses (N)	P value
RGH sample	Advantages	80	79	159	0.96
	Disadvantages	59	32	91	0.035
YYF sample	Advantages	32	119	151	0.001
	Disadvantages	77	26	102	0.005

Discussion

Single rooms can positively impact patients' hospital experiences through improved sleep hygiene, reduced noise levels, better interactions between family and staff, more privacy and enhanced dignity [1, 16, 17]. In addition, single rooms have been advocated to lower patient stress levels and facilitate nurses' and healthcare workers' efficiency [1, 16]. The incidence of hospital-acquired infections is lower in single rooms and there is a consensus view in Europe and North America that single rooms are important to prevent and control these [18–21].

However, disadvantages of single rooms have been reported, including reduced social interaction leading to patient isolation and less staff surveillance [22]. Increased rates of in-patient falls have been observed in single rooms – as much as 2.5 times higher than falls in the MBW setting [23–24] – leading to increased adverse clinical outcomes such as hip fractures [25]. Older people with associated cognitive impairment also have significantly more in-patient falls in single rooms; for this group, adverse outcomes including discharge to a new care home and prolonged length of stay compared to those with no cognitive impairment [26].

So far, despite research that attempts to clarify our understanding of patient perspectives on dignity [27], very few studies have been carried out specifically to compare dignity in single rooms and MBW. In a study of 10 participants (aged 73–83 years) that explored older people's views of dignity and how it can be promoted in a hospital environment, independence and effective communication were reported to be the most important factors in maintaining dignity [28].

This study showed that patients believe dignity is better maintained in single rooms. In addition, more patients (100%) cared for in single rooms felt they received a high level of care compared to those in MBW (84%). All patients in single rooms were completely satisfied with their privacy and confidentiality; however fewer patients in MBW were satisfied – four patients even refused to participate in the study because of privacy concerns.

Overall, this study encompassed a wide range of opinions from a range of patients in both single rooms and MBW, who were happy to discuss their experiences and opinions. Although many participants felt that dignity was difficult to define, they believed their dignity was being maintained. Patients described their experiences in different ways; therefore their words were taken exactly as they were spoken before they were analysed. These differences in opinion represented many different factors that people find important to improve their stay in hospital when they are at their most vulnerable. Being able to understand these will help us determine the best fit for future healthcare systems.

Strengths and limitations

The research question posed in this study has considerable implications for health policy. Although work on dignified care has been conducted in the past, this is, to our knowledge the first study to compare dignity in single rooms and MBW in older people.

The mean age of the patients in this study was 80 years across both groups; a good representation of the overall hospital cohort in ABUHB. It was observed that while participants were enthusiastic about the study, they tended to become fatigued by the end of the interview process; this has been reported in other studies involving older people [29, 30]. The length of time taken to interview each patient meant that some patients were excluded from the results because they were unable to participate or complete the interview. The recruitment of eligible older patients with a wide age range (66 to 94 in this study) is challenging, as is obtaining informed consent from this population, who have a high prevalence of delirium and cognitive impairment. Nevertheless, we were successful in recruiting 25 patients from each site as per the study protocol.

Methodological weaknesses of our study included a small participant population of just 25 older people per hospital site. However, this is an acceptable sample size given that this was a comparative study using a semi-structured interview where the approach was to interpret understanding and subjective quality of dignified care. Patients were not matched for disease, but we have no reason to believe this would have biased the results. YYF is a newly built hospital with 100% single rooms; since not all patients from MBW had ever experienced such a facility, some had

to make an educated guess about the opposite setting. It might be regarded as a weakness to have only one interviewer, but a structured questionnaire was used to minimise data recording bias. After completing data analysis, we did not take our ideas and emerging themes back to the research participants for confirmation by holding focus group discussions to enhance the accuracy of our research. We acknowledge that the 14-item questionnaire used for the semi-structured interview was constructed by our group based on literature review, so has not been tested for reliability, neither has it been validated. Therefore, whether we achieved an accurate assessment of dignity can be questioned.

Strategies used to minimise data collection bias included using several open-ended questions, good planning, and ensuring that the researcher had an overall understanding of both dignified care, and the study objectives to measure patients' preferences. Tto reduce observer bias, enhance the validity and reduce the number of confounding variables, service evaluation could be repeated at the same two sites with a new cohort of patients. In future studies we would like to match patients for disease and co-morbidities and explore patients' experiences in more detail across both environments. Focus group discussions with research participants, led by a trained facilitator, would also be useful after completing data analysis to help patients reflect on their subjective experiences. The study could also be repeated at another site, with a larger sample to increase generalisability.

Dignity is a fundamental element of care for older people. Availability of a patient's own toilet and shower facility will increase privacy in the hospital setting; this can be achieved with single rooms and enhanced care through appropriate staffing. MBW are beneficial for patients preferring company to aid recovery, though at a cost of increased noise, lack of rest and staff being distracted by other patients, resulting in less one-to-one care.

Conclusions

Patients preferred hospital accommodation in single rooms because they feel their dignity is increased. However, single rooms can lead to feelings of loneliness and isolation, longer waiting times for nurses to respond to calls, and an increased risk of in-patient falls. When building new hospitals, it is important to realise that a 'one size fits all' approach is inappropriate, and patient cohorts, medical complexity and specialty should be considered.

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IS was responsible for the study concept. IS and VB designed the study protocol. VB acquired the data, VB and CE analysed the data, and VB, KW and IS interpreted the data. The first draft of the manuscript was written by VB, and critically revised by IS. All authors were involved in manuscript preparation, and read and approved the final version.

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