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Investigating the management of diabetes in nursing homes using a mixed methods approach

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ABSTRACT

Aims: As populations age there is an increased demand for nursing home (NH) care and a parallel increase in the prevalence of diabetes. Despite this, there is growing evidence that the management of diabetes in NHs is suboptimal. The reasons for this are complex and poorly understood. This study aimed to identify the current level of diabetes care in NHs using a mixed methods approach.

Methods: The nursing managers at all 44 NHs in County Galway in the West of Ireland were invited to participate. A mixed methods approach involved a postal survey, focus group and telephone interviews.

Results: The survey response rate was 75% (33/44) and 27% (9/33) of nursing managers participated in the qualitative research. The reported prevalence of diagnosed diabetes was 14% with 80% of NHs treating residents with insulin. Hypoglycaemia was reported as 'frequent' in 19% of NHs. A total of 36% of NHs have staff who have received diabetes education or training and 56% have access to diabetes care guidelines. Staff education was the most cited opportunity for improving diabetes care. Focus group and interview findings highlight variations in the level of support provided by GPs and access to dietetic, podiatry and retinal screening services.

Conclusions: There is a need for national clinical guidelines and standards of care for diabetes management in nursing homes, improved access to quality diabetes education for NH staff, and greater integration between healthcare services and NHs to ensure equity, continuity and quality in diabetes care delivery.

1. Introduction

The management of diabetes in residents of nursing homes (NHs) is challenging. The American Diabetes Association position statement recommends comprehensive assessment and goal directed care for these patients (residents), recognising the unique challenges faced by this population and the staff caring for them [1]. Changes in demographics, which have resulted in an increasing prevalence of diabetes, means that our population is growing older and living longer with more co-morbidities [2]. In Ireland, 97% of residents receiving long-term care in NHs are aged over 65 years and more than

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half are over 85 years of age, with 65% reported to have high levels of functional dependency [3]. People with diabetes in NHs have a high prevalence of physical and cognitive disability, circulatory complications and pressure ulcers as well as greater susceptibility to infections and high hospitalisation rates [4–8]. The effects of hypoglycaemia in older patients has been described as 'catastrophic', being linked to falls and the development of dementia and can be easily missed in this population, as the presenting symptoms of confusion, delirium and dizziness may not be recognised as being related to hypoglycaemia. For these reasons, residents with diabetes in NHs have been described as a highly vulnerable group [9].

Diabetes care in NHs has been identified as a neglected clinical area, with the NH sector being ill equipped to meet the rising challenge of diabetes [9]. This is demonstrated by a lack of diabetes-specific policies and procedures, untrained staff and ineffective linkages with ancillary health services revealed in a United Kingdom (UK) audit [10]. To address this area of need, guidelines and standards of care specific to nursing homes were developed in the UK in 2010 [9,11]. Recommendations have also been published by international organisations including the American Diabetes Association and the International Association of Gerontology and Geriatrics [1,12]. Included in their recommendations is that NHs develop policies and protocols on various aspects of diabetes care, that care goals are individualised, and that staff receive adequate training in diabetes care.

While some studies have explored the management of diabetes in NHs, few studies have performed a qualitative evaluation. In Ireland, there has been no exploration of diabetes management in NHs. It is projected that by 2021, the number of people aged 65+ using residential LTC in Ireland will rise to between 32,993 and 36,933, an increase of 59–64% since 2006 [13]. While 4.7% of the adult population is estimated to have diabetes, this increases to 13.8% in those aged 60+, and is thought to be higher again in NH residents [14,15]. Given these, this study aimed to explore the current state of diabetes management in NHs, using a mixed methods approach. It aimed to investigate diabetes care provision in NHs within County Galway, a large representative mixed urban-suburban-rural area in the West of Ireland with a population of 250,000 people.

2. Subjects

The nursing manager (either the director of nursing, where these posts existed, or the clinical nurse manager) at all 44 public, private and voluntary NHs identified in Galway City and County were invited to participate in the study. The people holding these senior posts are all experienced registered nurses. The majority are also involved in the direct care of residents as well as the supervision of staff grade nurses and care assistants. The NHs included were all registered nursing facilities managing residents with moderate to high functional dependency excluding assisted-living units, sheltered accommodation or other retirement communities.

3. Materials and methods

A confidential self-completion postal survey was developed, piloted and sent to the nursing manager at all 44 public, private and voluntary NHs identified in Galway City and County in February 2013 (Supplementary material). A reminder letter was sent 6 weeks later to any non-responders. Following the completion of the survey, all respondents were sent a postal invite to participate in a focus group (or if unavailable, a telephone interview) to further explore issues arising from the survey findings. A topic guide was used to direct the interviews and focus group. The focus group was led by a research nurse and diabetes clinical nurse specialist (CNS). The telephone interviews were conducted by the research nurse. Verbal and recorded consent of all participants was obtained.

Quantitative data were analysed using SPSS V18 (SPSS Ireland Ltd, Dublin, Ireland). Means (standard deviation) are presented. Medians (minimum-maximum) are also presented where data were not normally distributed. Between-group comparisons were performed using independent sample *t*-tests or one-way analysis of variance for parametric data. Voluntary and private NHs, both of whom receive the same level of State funding, were grouped for analysis due to the low number of voluntary NH.

All qualitative data were recorded and transcribed verbatim. Thematic analysis was used to code and clarify the themes emerging from the data.

4. Results

Of the 44 NH facilities identified, 80% ($n = 35$), 16% ($n = 7$) and 4% ($n = 2$) were private, public and voluntary NHs respectively. In all, 75% (33/44) of questionnaires were completed and returned. Of the responding NHs, 79% ($n = 26$), 18% ($n = 6$) and 3% ($n = 1$) were private, public and voluntary NHs respectively. Four of the NHs (12%) were urban/sub-urban, with the remaining NHs being rural. There were a total of 1260 residents in the responding 33 NHs. The size of the NHs ranged from 10 residents to 100 residents [median 32 (range 10–100)]. A total of 171 residents were reported to have a diagnosis of diabetes giving a prevalence of 14% [median 14 (range 4–25)].

In all, 17 NHs responded to the focus group/interview invitation. Nine agreed to participate in the focus group and 8 agreed to take part in telephone interviews. Time and geographical constraints were the reasons given for choosing a telephone interview over a focus group. On the day of the focus group, six nursing managers (4 private, 1 voluntary and 1 public) were available to attend and participated. Three telephone interviews were also conducted (2 private; 1 public) and at this point 'data saturation' had been reached, with no new findings emerging.

4.1. *Staff education and access to guidelines*

The survey revealed that 36% of NHs have staff with any sort of post-graduate diabetes education or training, other than