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PEOPLE LIVING WITH DIABETES RESIDENT IN NURSING HOMES – ASSESSING LEVELS OF DISABILITY
AND NURSING NEED

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ABSTRACT

Aims To describe the degree of disability and nursing need of people living with diabetes resident in Nursing homes in one PCT in the UK

Methods A retrospective case notes review of 75 people with known diabetes who were resident in the 11 Nursing homes in Coventry Teaching PCT

Results Very significant levels of disability and nursing need were documented in areas of continence, feeding, mobility and communication. Each individual had a mean of 4 co-morbidities (range 1-8) excluding diabetes. If the definition of terminal illness is based on a negative answer to the question "would I be surprised if my patient were to die in the next twelve months" (10) it is likely that the majority of individuals described in this study would be classified as being terminally ill.

Conclusion Using 4 practical clinical measures, this study has shown very significant levels of disability and nursing care need in this population of mainly elderly people resident in nursing homes in Coventry. In addition, it has demonstrated that a large proportion of nursing home residents with diabetes can be considered to be in the terminal phase of life, a period where many other factors interplay in how care should be delivered and what outcomes are appropriate. In fact, residents in this category may well be candidates for a considered withdrawal of treatments but not care!

INTRODUCTION

Studies on people living with diabetes resident in Nursing and Care homes in the UK have emphasised the high prevalence of diabetes, with rates of 9% to 25%, and the deficiencies in care provision in this vulnerable and often neglected group of people (1-5) . A working group set up by Diabetes UK has recently updated its report from 1999 outlining the extensive problems with this group of people and giving recommendations to address inequalities in care (6)

Several studies have confirmed that diabetes is a considerable health burden and can have a significant disabling effect in community-dwelling older people (7-8) and in only one previous study published more than a decade ago has some objective measures of disability based on questionnaires been examined in institutionalised residents with diabetes (9). We felt it was important to re-visit this area where there is likely to be a continuing high level of unmet disability and nursing need and to examine where the likely deficiencies in quality care reside.

SUBJECTS AND METHODS

This study was a retrospective case notes review of 75 people with known diabetes who were resident in the 11 Nursing homes in the Coventry Teaching PCT.

The researcher (RG) visited each of the 11 homes during February to April 2010. Data on the total number of residents in each home and the total with known diabetes were obtained at the visit from the manager or senior nurse on duty. The notes of everyone with known diabetes were then reviewed for co-morbidities and clinical measures of disability. Further information was obtained, as needed, from the care staff in the home.

Co-morbidities listed in the notes were recorded for each person and the total number of co-morbidities, (excluding diabetes) for each individual was calculated.

The measures of disability and nursing need recorded were in the domains of:-

1 Continence where information on the presence of faecal and urinary incontinence and whether a catheter was in situ were recorded.

2 Feeding where information on whether the person could feed themselves unaided, whether swallowing problems that required thickened feeds were present and whether a Percutaneous Endoscopic Gastrostomy (PEG) feed tube or nasogastric tube was in situ were recorded

3 Mobility where information was recorded as to whether the individual could walk unaided, whether they could walk with a frame and/or carer staff support or whether they were bedbound (defined as needing a hoist and 2 carers to move them)

4 Communication where information was recorded as to whether speech was normal, was present but was very confused, was completely incoherent, or was absent.

Data was recorded and analysed on an Excel spreadsheet.

RESULTS

The 11 Nursing homes in Coventry Teaching PCT had a total of 472 beds (mean number of beds =43 range 29-83). There were 75 residents with known diabetes (prevalence of 16%). The age range was from 55-102 (mean age 80.6 years) Only 12 residents were under the age of 75

CO MORBIDITIES

Each individual had a mean of 4 co-morbidites (range 1-8) excluding diabetes.

The most frequent recorded co-morbidities were as follows

Table 1

Dementia	42
CVA/Stroke	35
Hypertension	20
IHD/Myocardial infarction	13
Parkinsons disease	10
CRF/CKD	10
OA	8
Leg ulcer/sores	7
PVD/Gangrene	5
Recurrent UTI's	6
Recurrent Falls	6
Fits/epilepsy	5
#hip/NoF	5
Contractures/spasticity	5

DISABILITY & NURSING NEED

1 CONTINENCE

75 residents (99%) were doubly incontinent and 1 fully continent.

11 had catheters in situ, 3 were suprapubic and 8 were urethral.

2 FEEDING

29 residents (38%) were able to feed themselves with little or no help from carers.

46 residents (62%) needed to be fed by carers

18 (24%) were recorded as having some problems with swallowing which required thickening of feeds

14 (18%) had a PEG feeding tube in situ and 1 had a nasogastric tube in situ

3 MOBILITY

8 residents could walk independently

12 residents could walk with a frame and/or the help of carers

55 residents were bedbound, which was defined as the inability to walk or get out of bed and requiring a hoist and 2 carers to move them

4 COMMUNICATION

20 (26%) residents were recorded as having no speech

19 (25%) were recorded as having incoherent speech

So together 39 residents (51%) had speech problems that meant they were unable to communicate

24 (32%) were recorded as having confused speech

11 (15%) were recorded as having normal speech

CUMULATIVE LEVELS OF DISABILITY

A total of 33 (43%) of residents were bedbound, unable to communicate (no speech or incoherent speech) were doubly incontinent (or had a catheter in situ)and were unable to feed themselves (or had a PEG or nasogastric tube in situ)

If the definition of terminal illness is based on a negative answer to the question “would I be surprised if my patient were to die in the next twelve months” (10) it is likely that the majority of individuals described in this study would be classified as being terminally ill.

DISCUSSION

Using 4 practical clinical measures, this study has shown very significant levels of disability and nursing care need in this population of mainly elderly people resident in nursing homes in Coventry. In addition, we have demonstrated that a large proportion of nursing home residents with diabetes can be considered to be in the terminal phase of life, a period where many other factors interplay in how care should be delivered and what outcomes are appropriate. In fact, residents in this category may well be candidates for a considered withdrawal of treatments but not care!

In one study of quality of care for elderly residents living in nursing homes (11) the quality indicators used as a basis for outcome measurements for people with diabetes were:-

- (a) having an HBA1c measurement recorded every year,
- (b) have blood pressure measured every year,
- (c) have blood pressure controlled below 140/80
- (d) be offered influenza immunisation every year
- (e) have been offered pneumococcal vaccination.

These quality measures seem focused on things designed to improve quantity of life, which have an evidence base only in fairly fit younger populations. In our study the degree of disability recorded makes it very unlikely indeed that quantity of life can realistically be increased. However the quality of any remaining life might be significantly impaired through side effects of therapy being given for example through hypotension as common side effects of blood pressure lowering therapy, or hypoglycaemia as a common side effect of sulphonylurea or insulin therapy, given to lower glucose. This balance between the benefits of prevention therapy and possible side effects has implications for the attainment of the diabetes clinical indicators of the Quality and Outcomes (QoF) framework of general practitioner contract in the UK. In our view it would be clinically appropriate to individually exclude these disabled Nursing Home residents from QoF, as seeking to attain QoF intermediate outcomes for blood pressure, HBA1c and cholesterol might impair their quality of life with no evidence of benefit.

Therefore, the emphasis in this very disabled group with huge nursing needs, most of whom would be regarded as terminally ill, must be on the **quality** of any remaining life and we should employ interventions that can be undertaken to preserve or improve quality, rather than on those designed to improve quantity of life where evidence has been extrapolated from younger fitter populations.

REFERENCES

- 1 Benbow SJ, Walsh A, Gill GV Diabetes in institutionalised elderly people: a forgotten population? *MBY* 1997 314:1868-1870
- 2 Sinclair A, Gadsby R, Penfold S et al Prevalence of Diabetes in Care Home Residents *Diabetes Care* 2001 24:1066-1068
- 3 Aspray TJ, Nesbit K, Cassidy TP et al Diabetes in British Nursing and Residential homes *Diabetes Care* 2006 29: 707 – 708
- 4 Shah A, Bruce M, Willson C et al The care of people with diabetes within a primary care trust *Journal of Diabetes Nursing* 2006 10: 289-296
- 5 Breslin E The standard of diabetes care in Nursing homes in South and East Belfast *Journal of Diabetes Nursing* 2009 13: 109-117
- 6 Diabetes UK Good Clinical Practice Guidelines for Care Home Residents with Diabetes London Jan 2010 www.diabetes.org.uk
- 7 Black SA, Ray LA, Markides KS. The prevalence and health burden of self-reported diabetes in older Mexican Americans: findings from the Hispanic established populations for epidemiologic studies of the elderly. *Am J Public Health* 1999 April;89(4):546-52.
- 8 Gregg EW, Beckles GL, Williamson DF, Leveille SG, Langlois JA, Engelgau MM et al. Diabetes and physical disability among older U.S. adults. *Diabetes Care* 2000 October;23(9):1272-7
- 9 Sinclair AJ, Allard I, Bayer A. Observations of diabetes care in long-term institutional settings with measures of cognitive function and dependency. *Diabetes Care*. 1997 May;20(5):778-84.
- 10 Murray SA, Boyd K, Sheikh A Palliative Care in chronic illness *BMJ* 2005 330:611-612

11 Fahey T, Montgomery AA, Barnes J, Protheroe J Quality of care for elderly residents in Nursing Homes and elderly people living at home: controlled observational study BMJ 326: 580-585

COMPETING INTERESTS

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Professor Alan Sinclair and Dr Peter Barker have no competing interests to declare in relation to this study

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