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Original Research

Nurses' Perception and Comfort Level with Diabetes Management Practices in Long-Term Care

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ABSTRACT

Objective: Increasing numbers of elderly people in long-term care have diabetes mellitus. We explored nurses' perceptions and level of comfort with current diabetes management of patients in long-term care.
Methods: A mixed-methods approach using a cross-sectional survey design, including both quantitative and open-ended questions, was used. The licensed nurses employed in 9 long-term care homes in southwestern Ontario were surveyed. The survey explored nurses' comfort with managing diabetes, detecting hypoglycemia and hyperglycemia, glucose monitoring guidelines, and insulin administration and training.
Results: Of 301 nurses invited (130 registered nurses [RNs], 171 registered practical nurses [RPNs]), 165 nurses (77 RNs and 88 RPNs) responded (165 of 280, 59% response rate). Nurses were female (93.3%); their mean age was 45.3 years (SD 11.7). Most noted that the medication administration system and guidelines regarding diabetes management were adequate; RPNs were more comfortable administering insulin than RNs (p=0.048).
Conclusions: The findings suggest RNs and RPNs have different comfort levels and perceptions of diabetes management.

Mots clés :
diabète
infirmières autorisées et infirmiers autorisés
soins de longue durée

RÉSUMÉ

Objectif : De plus en plus de personnes âgées en soins de longue durée ont le diabète sucré. Nous avons étudié les perceptions et le degré d'aisance des infirmières et infirmiers en ce qui concerne la prise en charge actuelle des patients et patientes diabétiques en soins de longue durée.
Méthodes : Une approche méthodologique mixte utilisant un plan d'enquête transversale, qui incluait les questions quantitatives et les questions ouvertes, a été utilisée. Les infirmières autorisées et infirmiers autorisés de 9 foyers de soins de longue durée du sud-ouest de l'Ontario ont été interrogés. L'enquête a étudié les compétences des infirmières et infirmiers quant à la prise en charge du diabète, au dépistage de l'hypoglycémie et de l'hyperglycémie, aux lignes directrices sur la surveillance de la glycémie, et quant à l'administration de l'insuline et la formation.
Résultats : Parmi les 301 infirmières invitées et infirmiers invités (130 infirmières autorisées et infirmiers autorisés [IA], 171 infirmières auxiliaires autorisées et infirmiers auxiliaires autorisés [IAA]), 165 infirmières et infirmiers (77 IA et 88 IAA) ont répondu à l'enquête (165 sur 280, taux de réponse de 59 %). Les femmes représentaient 93,3 % des infirmières et infirmiers; l'âge moyen était de 45,3 ans (écart-type de 11,7). La plupart considéraient que le système d'administration des médicaments et les lignes directrices concernant la prise en charge du diabète étaient adéquats; les IAA étaient plus à l'aise que les IA avec l'administration de l'insuline (p = 0,048).
Conclusions : Les résultats montrent que les IA et les IAA ont des perceptions et des degrés d'aisance différents en ce qui concerne la prise en charge du diabète.

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Introduction

The prevalence rate of diabetes mellitus in Canada continues to rise, with the latest national average estimated to be 6.2% (1) and a higher estimate of 9% among middle-aged adults. Alarmingly, the prevalence rate is >20% among Canadians aged 70 years and older (1). Epidemiological data indicate that diabetes disproportionately affects older adults, resulting in a greater burden on persons who may already be frail or in a state of heightened vulnerability to adverse outcomes, and also on the healthcare system (1–3).

The prevalence of diabetes among older Canadians is projected to increase 44% during the next 20 years (4). As the aging population continues to increase, along with the growing burden of diabetes, long-term care (LTC) settings play an ever-increasing role in caring for older adults with diabetes. In addition, LTC residents living with diabetes are at greater risk of exhibiting a variety of conditions, such as cognitive decline, depression and functional disabilities for which multiple medications are required (resulting in polypharmacy) (5), all of which may impede their ability to manage their diabetes. Cognitive decline is estimated to be present in twice as many older adults over 70 years of age with diabetes, and clinical depression has also been identified in more than one-third of persons over 70 years of age with diabetes; both cognitive decline and depression have been associated with poor diabetes control in their own right among older adults (6–8). In addition, functional disabilities in older adults, such as visual impairments, hearing impairment, fear of hypoglycemia and falling, are almost twice as great among older adults with diabetes as among older persons without diabetes (9). Finally, one-third of LTC residents have monthly drug regimens of 9 or more medications, and older persons with diabetes have approximately 4 times as many prescriptions than the general population. This large number of prescribed medications for older people with diabetes could be due to a predisposition for other chronic comorbidities, adverse drug effects, drug interactions and pharmacokinetic alterations (10,11).

The 2013 Canadian Diabetes Association's Clinical Practice Guidelines (CPG) state that diabetes in older adults is metabolically different from that in persons <60 years of age, and that treatment should take these differences into consideration (12). Specifically, for those living in LTC settings, individualized attention is required to determine glycemic control targets, when to use oral medication and insulin, and prevention and treatment of hypoglycemia. However, the ability to implement CPG recommendations in LTC homes may be hindered by limited interdisciplinary team support, insufficient diabetes knowledge by LTC nursing staff, inconsistencies in the deployment of lifestyle (diet and physical activity), pharmacological interventions (oral medication and insulin administration) and limited diabetes protocols and policies (13,14). It is possible that this disconnect between the diabetes evidence and practice reality may lead to a lack of confidence, knowledge and skills by LTC nurses to successfully and safely care for LTC residents living with diabetes.

The purposes of this study were to explore LTC nurses' perceptions and level of comfort with current diabetes management practices in their LTC workplace, to describe current issues for nurses in the way they manage diabetes for older adults in LTC homes, and to explore characteristics that would explain any differences in comfort level in diabetes management between registered practical nurses (RPNs) and registered nurses (RNs).

Methods

Design

A mixed-methods approach was adopted using a cross-sectional survey design that included both quantitative and open-ended questions. This study was approved by the McMaster University Hamilton Health Sciences/ Faculty of Health Sciences university-affiliated Research Ethics Board (07-030).

Sample

Data were collected from licensed nurses who were employed in any of 9 LTC homes in southwestern Ontario from 2007 to 2008. The facilities were purposefully chosen to represent diverse conditions in LTC. Specifically, 67% of the homes were for-profit (vs. not for profit), 78% were urban (vs. rural) and the size of the homes ranged from 80 beds to 378 beds. The average RN to RPN ratio was 1 RN for every 1.39 RPNs. All of the homes provided 24-hour nursing care to residents with a variety of comorbidities. Facilities were asked to provide a list of all RNs and RPNs who worked there, and then a research assistant sent the surveys out to each nurse.

Measurement

Nurses' perceptions and level of satisfaction with current diabetes management practices in their LTC home were collected as part of a greater cross-sectional survey that explored current medication administration satisfaction based on the Medication Administration System–Nurses Assessment of Satisfaction (MAS-NAS) scale (15). The survey administered included 6 additional questions that explored nurses' comfort with managing diabetes, specifically, detecting hypoglycemia and hyperglycemia, blood glucose monitoring guidelines, comfort with insulin administration and diabetes management training. After the specific question areas, 3 open-ended questions were provided at the end of the questionnaire for nurses to further elaborate if they reported being uncomfortable with insulin administration or felt that they required additional diabetes training. Specifically, these questions were: 1) "Do you feel that the current medication administration system is adequate to help you manage diabetes (yes/no) and, if not, what are some of the problems with the medication system that prevent you from managing residents' diabetes using medications appropriately?" 2) "Do you feel comfortable administering insulin to LTC residents (yes/no) and, if no, why or why not?" 3) "Do you feel that you need more training with respect to diabetes management (yes/no) and, if so, in what areas do you feel that you need further training in?" All the additional questions had been developed in conjunction with senior nursing staff and pilot tested for face validity. The following demographic data were also collected: sex, age, highest education level, years employed as a nurse, years employed in the LTC setting, number of hours worked per week, typical shift rotation schedule and typical weekly schedule. The survey took approximately 10 to 15 minutes to complete.

Procedure

Because the survey had not been used in LTC settings, it was first pilot tested with a group of 25 LTC nurses (both RNs and RPNs) to assess its feasibility and relevance to LTC. After the pilot testing, the surveys, along with a $5 gift certificate, were distributed to all RNs and RPNs at participating LTC homes. Nurses completed the survey and returned it by mail in a self-addressed envelope. A modified Dillman's approach was used to increase the response rate, whereby a second mailing of the survey was distributed 2 weeks after the first mailing, followed by a reminder message 1 week after the second mailing (16,17).

Data analysis

Demographic data were summarized using mean and standard deviation for continuous variables and frequencies and percentages