The IDF global guideline for managing older people with type 2 diabetes: Implications for nurses

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Managing older people with diabetes is complex due to multimorbidities, functional changes and polypharmacy, and there is little randomised control trial evidence to support recommendations. Significantly, there is a global lack of awareness about the effects of diabetes on ageing and vice versa. The International Diabetes Federation (IDF) *Global Guideline for Managing Older People with Type 2 Diabetes* seeks to address these issues. The guideline was launched by the IDF President, Sir Michael Hirst, during a satellite symposium about diabetes in older people held in association with the World Diabetes Congress in Melbourne in December 2013. This article provides an overview of the IDF Guideline and suggests some ways DSNs and practice nurses can implement the guidelines in practice.

The global prevalence of diabetes in older people is 11% (International Diabetes Federation [IDF], 2013a) and older people make up 25% of the adult population (IDF, 2013b). A significant proportion of older people have undiagnosed diabetes but the diagnosis is often missed or delayed because symptoms are atypical and non-specific, and often attributed to age (Chiasson et al, 2002; IDF, 2013a). Diabetes is a major cause of complications, falls, reduced quality of life and changed physical and mental functioning in older people (Kirkman, 2012; Zhang et al, 2012), depression (Cahoon, 2012) and is a leading cause of death from cardiovascular and other complications (Zhang et al, 2012).

Changes in glucose homeostasis, counter-regulatory and other hormones, and end-organ function, such as renal and liver disease, and cardiovascular function affect medicine safety and choices and functional status (Ginsberg et al, 2005; Meneilly et al, 2011). The progressive decline in beta cell function and first phase insulin response means many older people eventually require insulin. Care is often suboptimal and does not take account of these physiological changes or functional status (Sinclair and Morley 2013a; Wellard et al, 2013).

Although several guidelines developed for adults with diabetes contain small sections about managing older people with diabetes, they do not take account of the changed pathophysiology in older people, the effects on functional status, disability and frailty, polypharmacy and the implications for safety and quality of life (Cheung et al, 2009; Scottish Intercollegiate Guidelines Network [SIGN] 2010; NICE, 2011). Interestingly, the Royal Australian College of General Practitioners' publication (2006), *Medical Care of Older Persons in Residential Aged Care Facilities*, known locally in Australia as the "Silver Book", does not include diabetes. In 2012, Sinclair and colleagues released a position statement on behalf of the International Association

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Article points

1. The global prevalence of diabetes in older people is 11% and many older people will have undiagnosed diabetes because symptoms are atypical and non-specific, and often attributed to age.
2. The International Diabetes Federation (IDF) Global Guideline for Managing Older People with Type 2 Diabetes seeks to address the lack of awareness around the effects of diabetes on ageing and vice versa.
3. DSNs and practice nurses can have a key role operationalising the guideline in their practice areas by using the recommendations in the guideline to develop new policies and procedures or revise existing policies and processes of care.

Key words

- International Diabetes Federation
- Older people
- Type 2 diabetes

Authors

Authors' details can be found at the end of the article.

Page points

1. The purpose of the IDF guideline is to outline an international approach to caring for older people with diabetes, provide guidance about the philosophy behind the principles of care of older people with diabetes and foster a collaborate approach within the interdisciplinary care team.
2. Care must be designed alongside the older person and/or their family or carers to suit their functional status, social situation and life expectancy. The care plan must be holistic and personalised.
3. Care should be guided by the findings of regular comprehensive assessments and regular medicine reviews. Care should be safe for the individual, considering the risk/benefit ratio and life expectancy.

of Gerontology and Geriatrics (IAGG), The European Diabetes Working Party for Older People (EDWOP) and the International Taskforce of Experts in Diabetes, which paved the way for the IDF guideline.

The IDF guideline for older people with type 2 diabetes

Guidelines are designed to be used to guide clinical decisions after a comprehensive assessment of the individual and their situation has been completed. In addition, guideline recommendations need to be operationalised to suit specific groups of people and care settings. The best guidelines are developed following agreed guideline development processes, as was the case with all IDF guidelines.

The purpose of the IDF guideline is to outline an international approach to caring for older people with diabetes, provide guidance about the philosophy behind the principles of care of older people with diabetes and foster a collaborate approach within the interdisciplinary care team.

The development process generally consists of forming an expert writing group, undertaking a systematic literature review, determining the quality of the evidence, and synthesising the information into relevant guidelines, public consultation about the draft guidelines and incorporating relevant comments into the final guideline document.

There is little randomised control trial evidence directly applicable to older people with diabetes because they are usually excluded from such trials (Bugeja et al, 1997; Bayer and Tadd, 2000). Even when well-designed studies are available, the information cannot always be generalised to individual older people, or extrapolated to older cohorts (University of Michigan, 2011).

Thus, a set of guiding principles was developed to serve as the philosophical framework for the IDF guideline. This strategy has been used to develop other guidelines when there was very little evidence and has been found to add value to the evidence base and clinical applicability of the resultant guidelines (Dunning et al, 2012; 2014).

Core principles of the guideline

The core principles of the guideline are outlined below:

- "One size does not fit all".
- Older people with diabetes are highly individual; they are not a homogenous group. Therefore, care must be designed alongside the older person and/or their family or carers to suit their functional status, social situation and life expectancy. The care plan must be holistic and personalised.
- Care should be guided by the findings of regular comprehensive assessments and regular medicine reviews.
- Care should be safe for the individual considering the risk/benefit ratio and life expectancy.
- Prevention has a key place in care and should consist of identifying relevant individual risks and planning care to manage those risks. Significant risks include cardiovascular disease, falls, medicine-related adverse events, pain and functional decline leading to disability and frailty.
- Careful use of medicines and pharmacovigilance are essential to minimise polypharmacy and the associated risks of medicine errors and adverse events.
- The needs of family and/or carers must be considered, particularly as some family member or carers will also be old and have their own health problems.

Outline of the guideline contents

One of the initial challenges faced by the guideline development group was defining "older people". A range of ages has been used to categorise older people in the literature but there is no consensus definition. Furthermore, chronological age does not indicate how an older person manages their life, or indicate the best treatment outcomes (Sinclair et al, 2012; Dunning et al, 2014) Thus, for the purpose of the guidelines, older people refers to people aged 70 and older, and the care focus is on functional status rather than on age.

The guideline consists of 14 individual guidelines, or chapters, that address key care issues, such as screening and diagnosis,

education, depression, risks such as cardiovascular risk, frailty, delirium and falls, management in care homes and end-of-life care. It also includes a chapter on sexual health and other special considerations. Care is described in each individual guideline according to three main functional categories:

- Category 1: Functionally independent.
- Category 2: Functionally dependent, which has two subcategories:
  - Frail: Frail older people are less able to tolerate the stress of illness, which is likely to increase the risk of falls and admission to hospital. However, frail older people can undertake some self-care with support.
  - Dementia.
- Category 3: End-of-life, which refers to the last stages of life, defined as stable or unstable, deteriorating and terminal (Palliative Care Outcomes Collaborative, 2008); this generally refers to the last 12 months of life. People with diabetes can have long periods of stable/unstable diabetes before they enter the deteriorating and terminal phases of care. Significantly, palliative approaches can be combined with active treatment in frail older people and those with end-stage renal disease, and liver and cardiovascular disease to manage pain, improve comfort and quality of life.

Box 2 (overleaf) suggests some key issues that need to be considered when planning care for older people with diabetes.

Challenges of caring for older people

Planning care for older people with diabetes is very challenging because of diabetes complications, such as sensory, mental health, cognitive and physical changes, which can all impact on learning capability, functional status, self-care capacity, safety and independence. These factors increase the risk of falling, developing pressure ulcers, including foot ulcers, depression and pain. Pain is often not recognised and frequently treated inadequately (Royal College of Physicians, British Geriatrics Society and British Pain Society, 2007). These issues are outlined in *Box 1*.

Frailty is highly prevalent with increasing age and confers a high risk of adverse outcomes, such as admission to hospital and/or care homes, falls and death (Freid et al, 2001; Sinclair and Morley, 2013b). Significantly, frailty is not synonymous with comorbidity or disability but comorbidity is a risk factor for frailty, and disability is consequently an outcome of frailty. It is important to identify older people at risk of frailty. Diabetes complications, frailty and dementia also make it difficult for the person to exercise and undertake diabetes and other self-care activities.

Hyperglycaemia is often regarded as relatively unimportant in older people because we are not trying to stop complications, but it is not a benign condition and should be managed to promote comfort and quality of life, and reduce the cognitive effects of hyperglycaemia (Crane et al, 2013; Seaquist et al, 2013). In addition, hyperglycaemia may be a risk factor for dementia (Crane et al, 2013). Managing hyperglycaemia is an important aspect of reducing cardiovascular risk along with controlling blood pressure, lipids and not smoking.

Hypoglycaemia is a significant risk for all older people treated with most glucose-lowering medicines because of the associated decline in renal (Yun et al, 2012) and liver function, circulatory changes, nutrition deficits and declining production of key counter-regulatory hormones, such as glucagon, which result in

Box 1. Some common geriatric syndromes DSNs and PNs are likely to encounter caring for older people with diabetes.

- Falls.
- Pain.
- Urinary tract infection.
- Cognitive impairment, which can be assessed using Mini-Mental State Examination (Folstein et al, 1975).
- Depression, which can be assessed using the Patient Health Questionnaire (Kroenke et al, 2001).
- Hypoglycaemia.
- Delirium.
- Polypharmacy (usually more than five medicines).

Page points

1. The IDF guidelines describe best practice for older people according to three main functional categories: Functionally independent; Functionally dependent; End-of-life care.
2. Planning care for older people with diabetes is very challenging because the complications of diabetes, can impact on learning capability, functional status, self-care capacity, safety and independence.
3. Hypoglycaemia is a significant risk for all older people treated with most glucose-lowering medicines because of the associated decline in renal and liver function, circulatory changes, nutrition deficits and declining production of key counter-regulatory hormones.

Box 2. Key issues to consider when planning care with older people with diabetes.

Care plans need to be developed with the individual and/or their family carers to ensure they suit the individual's goals, health status and life expectancy and help the individual live independently for as long as possible. DSNs and PNs play an important role in planning care for older people with diabetes and can ensure care plans encompass:

- Screening older people for undiagnosed diabetes.
- Proactively undertaking comprehensive risk assessments to identify and manage:
  - Diabetes complications, including renal and liver disease, which affect medicine choices and predispose the individual to hypoglycaemia and anaemia.
  - Inadequate nutrition, which also affects medicine choices; low vitamin D and B_{12} are common and the latter can compound anaemia.
  - Pain.
  - Falls risk; apart from peripheral neuropathy, diabetes-specific falls risk factors are not included on most falls-risk tools in common use.
  - Delirium.
  - Increasing frailty.
  - Geriatric syndromes (*Box 1*).
  - Unsafe driving.
  - Hypoglycaemia and hyperglycaemia risk.
- Individualising blood glucose, HbA_{1c}, blood pressure (BP) and other care targets to suit the individual's functional status. For example:
  - Functionally independent: HbA_{1c} 53–59 mmol/mol (7.0–7.5%); BP <140/90 mmHg.
  - Functionally dependent: HbA_{1c} 53–64 mmol/mol (7.0–8.0%); BP 140/90 mmHg.
  - Frail and dementia: HbA_{1c} 70 mmol/mol (up to 8.5%); BP 150/90 mmHg.
- Preventing/managing cardiovascular disease. Cardiovascular disease should be treated early and effectively using a healthy diet, activity, lipid-lowering medicines (such as statins), aspirin and antihypertensive medicines (such as ACE inhibitors), which also protect kidney function when indicated and safe.
- Controlling hyperglycaemia to reduce cardiovascular and microvascular disease, enhance self-care, reduce falls risk, avoid hyperglycaemia-related symptoms (such as tiredness, thirst and frequent urination), dehydration and the associated risk of ketoacidosis, hyperosmolar states, delirium, cognitive impairment and depression. However, "tight" blood glucose control is not usually warranted and may place the person at significant risk of hypoglycaemia.
- Conducting regular comprehensive medicine reviews that include asking about herbal medicines and other self-prescribed treatments. Safe medicine use can be achieved using a quality use of medicines (QUM) approach (Department of Health and Aging (2002). QUM involves:
  - choosing medicines wisely after undertaking a comprehensive health assessment and using non-medicine options where appriopriate.
  - using medicines doses and dose regimens that suit the individual older person, and monitoring the outcomes using regular clinical assessment and medicine reviews.
- Assessing physical status (functional status), kidney and liver function, mental health, cognitive functioning and self-care at least annually and whenever health status or the care plan changes.
- Including general health assessments such as mammograms, prostate checks, bowel checks, thyroid function, immunisation status, sexual health and wellbeing at least annually.
- Having early discussions about developing plans to stop driving, for end-of-life care and moving to supported care or a care home.
- Implementing alert and call systems to enhance safety when needed, especially for community dwelling older people.
- Supporting carers.

changed symptomology and predominance of neuroglycopenic symptoms (Meneilly et al, 2011; Seaquist et al, 2013). In the short term, hypoglycaemia affects delayed and working memory (Feinkohl et al, 2013) and can precipitate myocardial infarction (Chopra and Kewal, 2012). In the longer term, hypoglycaemia is associated with dementia (Greco et al, 2010).

Older people are at high risk of medicine-related adverse events and errors, and admission to hospital or a care home for older people (Gurwitz et al, 2003; Budnitz et al, 2011). Thus, pharmacovigilance is essential. There is strong evidence that many medicines commonly prescribed for older people should not be used or should be used with caution; for example, antipsychotic medicines are not

Box 3. Implementing the IDF guidelines: Some suggestions for diabetes specialist nurses and practice nurses

Diabetes specialist nurses and practice nurses can have a key role operationalising the guideline in their practice areas by using the recommendations in the guideline to develop new policies and procedures or revise existing policies and processes of care. This can be done by:

- Using the guideline to advocate for older people with diabetes and combat ageism.
- Becoming familiar with the contents of the guideline, especially those guidelines that are relevant to the individual practice setting.
- Ensuring organisational factors support the implementation of the guidelines; for example:
  - Leadership supports the use of the guidelines.
  - Education of staff, people with diabetes and the general public.
  - Supervision.
  - Audits and evaluation; some audit activities are suggested at the end of each individual guideline but other audit processes could be more relevant in specific settings.
- Ensuring systems that support communication are in place; key systems could include processes for monitoring medicines, including medicine reconciliation and using non-medicine options when they are safe.
- Being involved in clinical monitoring, such as annual complication screening, and ensuring it encompasses functional status, depression, pain, falls risk and medicine-related adverse events and general health assessments.
- Designing or modifying alerts/trigger processes and action responses for specific risks relevant to older people, such as hypoglycaemia, pain, depression, falls and medicine-related adverse events and errors.
- Having a clear understanding of their own and other members of the interdisciplinary team's role and responsibilities and practice within their knowledge and competence regarding older people.

the safest choice to manage dementia-related behavioural problems and sliding insulin scales are not an appropriate way of managing episodes of hyperglycaemia (American Geriatrics Society, 2012).

Regular comprehensive medicine reviews are needed, especially when several doctors prescribe medicines for the same older person. Medicines reviews undertaken at home can provide important information about the individual's social circumstances and the medicine behaviours they might not disclose to health professionals during consultations. Many medicines prescribed to manage diabetes and its complications are classed as high-risk medicines because of their side effects and the way they are used and metabolised in the body (Department of Health, Australia, 2014).

Summary

Box 3 outlines some strategies DSNs and practice nurses can use to implement the guidelines in clinical practice. Planning care for older people should focus on safety, maintaining independence, functional status and quality of life, managing symptoms, and reducing the impact of diabetes complications and other diseases on health and well being. Individualising management targets is essential (Sinclair et al, 2012, Dunning et al, 2014), as is involving the older person and their family/carers in management decision. Education for health professionals, older people with diabetes and their carers is also vitally important.

The IDF guideline provides recommendations to help DSNs and practice nurses develop relevant policies and procedures, and holistic, personalised care plans for older people with diabetes. ■

Page points

1. Regular comprehensive medicine reviews are needed, especially when several doctors prescribe medicines for the same older person.
2. Diabetes specialist nurses and practice nurses should become familiar with the IDF guidelines and act as an advocate for older people with diabetes.
3. Nurses should ensure comprehensive clinical monitoring of older people, such as annual complication screening, and ensuring it encompasses functional status, depression, pain, falls risk and medicine-related adverse events and general health assessments.

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"Planning care for older people should focus on safety, maintaining independence, functional status, quality of life, managing symptoms, and reducing the impact of diabetes complications."

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