Primary Care Diabetes 16 (2022) 692–697

Contents lists available at ScienceDirect

Primary Care Diabetes

journal homepage: www.journals.elsevier.com/primary-care-diabetes

Assessing and addressing diabetes distress among adults with type 2 diabetes: An online survey of Australian general practitioners

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ARTICLE INFO

Keywords:
Type 2 diabetes
General practice
Psychological distress
Survey

ABSTRACT

Aim: Diabetes distress is experienced by up to 36% of adults with type 2 diabetes. Australian type 2 diabetes guidelines recommend annual assessment of diabetes distress in general practice. This study explores general practitioners' knowledge, current practice, and factors influencing implementation of guidelines, including Person Reported Outcome Measure (PROM) use.

Methods: A cross-sectional online survey was disseminated via e-mail to 4776 Australian general practitioners listed on the Australasian Medical Publishing Company database.

Results: 264 (5%) surveys were returned. 75% indicated that general practitioners were the most appropriate professionals to assess diabetes distress. Sixteen percent reported asking about diabetes distress during type 2 diabetes consultations more than half the time, with 13% using a PROM more than half the time: 64% use the Kessler-10, and 1.9% use the Problem Areas in Diabetes (PAID) scale. While general practitioners had positive beliefs about the consequences of assessing and addressing diabetes distress, they also reported barriers in motivation, environment, and knowledge of guidelines.

Conclusion: Most respondents endorsed general practitioners' role in assessing diabetes distress, but few ask about or assess diabetes distress in routine consultations. To support uptake of guideline recommendations for diabetes-specific PROM use, environmental factors, specifically time, need to be addressed.

1. Introduction

Most medical management of type 2 diabetes occurs in primary care, where evidence-based treatment can improve outcomes for people with diabetes [1]. Despite advances in therapeutics, more than 40% of people with diabetes in Australian general practice have an HbA1c above recommended target [2]. Diabetes distress is the negative emotional response related to daily living with diabetes and the 'worries, concerns and fears of individuals with type 1 and type 2 diabetes' [3]. A systematic review of international studies reported that 36% of people with type 2 diabetes have severe diabetes distress [4]. In Australia, 20% of adults with type 2 diabetes experience severe diabetes distress [8]. Depressive symptoms are associated with sub-optimal glycaemia; however, diabetes distress appears to impact glycaemia to a greater extent [5–7].

International guidelines have recommended assessing emotional health in people with diabetes for the last 25 years [8]. Internationally there is consensus on three PROMs for diabetes care, the Patient Health Questionnaire-9 (assessing depressive symptoms), the WHO Five Well-Bring Index (assessing general emotional well-being) and PAID scale (assessing diabetes distress) [9]. The Problem Areas In Diabetes (PAID) scale is an example of a Person Reported Outcome Measure (PROM), developed in 1995 and validated in specialist diabetes clinics. The PAID provides a structured strategy for assessing and monitoring diabetes distress [10]. In Australia, the Royal Australian College of General Practitioners (RACGP)/Diabetes Australia guidelines for type 2 diabetes recommend assessing and discussing sources of distress using the PAID scale annually [10]. Specifically using PROMs, as opposed to

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https://doi.org/10.1016/j.pcd.2022.08.001
Received 20 February 2022; Received in revised form 18 July 2022; Accepted 2 August 2022
Available online 8 August 2022

general questioning about distress by healthcare professionals, may facilitate a dialogue related to issues not otherwise raised and enable people to self-reflect on their medical condition [11].

Studies in specialist diabetes clinics indicate that completion of a diabetes distress PROM before a consultation, and discussion of those responses during the consultation, improves glycaemia and reduces diabetes distress among adults with type 1 and type 2 diabetes [12,13]. While PROMs in these studies were embedded in routine care, they included people with type 1 and type 2 diabetes and were not conducted in primary care, where most medical care for type 2 diabetes care occurs [14]. A recent systematic review of PROM use in diabetes care, found studies are sparse in which PROMs are used to assess and address diabetes distress during routine clinical care of adults with type 2 diabetes. [15] Despite guideline recommendations, the international Diabetes Attitudes, Wishes and Needs second (DAWN-2) study found that only a third of people with diabetes (from 17 countries) recall a healthcare professional asking about emotional issues in the previous 12 months [16]. Additionally, 60% of healthcare professionals reported addressing emotional aspects of diabetes only if the person with diabetes initiated such a discussion [17]. This contrasts with studies indicating that people with diabetes want to discuss emotional health with their healthcare professionals [18].

There is little research or focus on PROM use in Australian primary care. The TrueBlue model of collaborative care showed that training practice nurses to identify and address depressive symptoms (using the PHQ-9) was effective in reducing depressive symptoms and improving self-reported physical and mental health (SF-36 scores) at six months and maintained at one year [19]. While previous studies of general practitioners in the U.K. suggest that some view PROMs as contributing to 'checklist medicine', people with depression consider general practitioners' use of a PROM for assessing depressive symptoms to indicate thoroughness [20]. In a recent survey, general practitioners cited lack of time as the most frequent barrier to PROM use in general practice [21]. General practitioners were chosen as the target healthcare professionals for this survey, as Australian data indicates most people with type 2 diabetes visit their general practitioner for their diabetes healthcare. [14] It is unclear if Australian general practitioners use PROMs, such as the PAID scale, in routine consultations or if the barriers to PROM use are consistent with those internationally. The aim of this study was to explore Australian general practitioners' knowledge and current practice in relation to assessing and addressing diabetes distress in general practice, and to explore factors influencing implementation of the guidelines, including the use of PROMs in general practice more broadly.

2. Methods

2.1. Study design

A cross-sectional survey of Australian general practitioners was conducted using a self-completed online survey. This manuscript was prepared following the Checklist for Reporting Of Survey Studies (CROSS) [22].

2.2. Participants and recruitment

A recruitment e-mail was distributed via the Australasian Medical Publishing Company (AMPCo) database to a representative single stage cross-sectional sample of 5000 general practitioners from all Australian states and territories. The AMPCo database is a voluntary subscription list of doctors used to distribute seminar information, healthcare updates, and the Medical Journal of Australia. The AMPCo database is updated using various sources, including checks of medical registration lists, Australian Medical Association membership lists, and Medical Journal of Australia subscription lists to maintain accuracy. The survey was distributed to the representative sample from the AMPCo database in October 2020. A reminder e-mail was sent seven days after the original e-mail, with three weeks for completion. The recruitment e-mail included the Plain Language Statement, and a link to complete the online survey. The sole inclusion criterion was that participants needed to be currently practicing as a general practitioner in Australia. Demographic data regarding non-respondents is not available from the AMPCo database. Ethics was approved by the University of Melbourne General Practice Human Ethics Advisory Group, ID 2057476.1. Informed consent was sought after providing participants with information on the voluntary nature of the survey, and that the results would be reported in medical conferences and research papers. Participants were asked to confirm they had read the Plain Language Statement and consented to proceed with the survey. The survey responses were anonymous unless participants provided their contact details to register their interest in participating in follow-up focus group, receive the results from the survey, or enter the prize draw for an Apple iPad (value $1000). Contact details were stored separately from survey responses and survey responses remained anonymous.

2.3. Materials

The development of the survey was informed by a literature review of barriers and facilitators assessing and addressing diabetes distress by RM, and previous surveys of healthcare professionals by JS and CH. The survey tool included questions about demographics, knowledge, current practice, and factors influencing implementation (including PROM use) in general practice. Participants' demographics included years working as a general practitioner, and location of practice. Ten study-specific questions designed to assess the frequency of asking about and assessing (with the use of a PROM) depressive symptoms and diabetes distress were included. Responses were on a five-point Likert scale from never (1) to always (5). Participants were also asked about what PROMs were used and which healthcare professional is best placed to assess diabetes distress. Additional study-specific questions related to implementation factors, mapped to the Theoretical Domains Framework [23]. The Theoretical Domains Framework was developed to identify factors influencing health professional behaviour related to uptake of evidence-based guideline recommendations, the 14 domains are listed in the supplementary material. The questions regarding implementation were developed by the research team following review of the literature of barriers and facilitators to assess and address diabetes distress, and subsequently mapped to relevant domain(s) in The Theoretical Domains Framework. Implementation factors were assessed using a five-point Likert scale, from strongly disagree (1) to strongly agree (5). Finally, an open-ended question about the barriers to PROM use in general practice was included, with space for respondents to provide a free-text response. To minimise social-desirability and non-response error response bias, all survey data remained anonymous and confidential.

The survey was piloted with general practitioners from the University of Melbourne's Future Health Today general practice advisory committee and members of the general practitioner networks of the authors. A total of six Victorian general practitioners completed the pilot survey, verbal feedback was sought at a general practitioner advisory group meeting. The feedback related to the flow and ease of completion, relevance of the questions, length of the survey, and clarity of questions. Minor changes were made based on feedback received. The final survey is provided in the supplementary material. It was hosted on Qualtrics XM.

2.4. Data analysis

All quantitative data were entered, cleaned, and analysed using Stata Version 15. Only returned questionnaires were included in the analysis. Questions that were deliberately left blank, were omitted from the analysis. The response rates per question is included in the supplementary material. No other methods were used to deal with missing

data. Descriptive data have been presented as counts and percentages for categorical data. Due to low response rate, hypothesis testing was not conducted. To improve the expected cell counts, the 5-point Likert scales, responses were merged to three responses (e.g. 'strongly agree' and 'agree' became '(strongly) agree'). Qualitative open text responses were entered into NVivo Version 12. These responses were analysed using Framework Analysis, drawing on the Theoretical Domains Framework, by the lead author (RM), with a review of coding by a second author (BH) to refine and reach a consensus on coding [23,35].

3. Results

3.1. Response rate

Of the 5000 email invitations distributed, 4776 were delivered and 264 surveys were returned. Of these, 24 surveys were partially completed, and 240 were completed in full, representing a 5% response rate. This corresponds with < 1% of the national general practitioner population (between October and December 2020, there were 29,017 specialist general practitioners registered in Australia). The response rates per question is included in the supplementary material.

3.2. Demographics of survey participants

Table 1 summarises the demographics of survey participants. Forty percent of participants worked as general practitioners for more than 21 years, and 47% worked in metropolitan areas. Most participants worked in New South Wales (63;24%) or Victoria (67;25%).

3.3. Assessing diabetes distress: current practices

Three quarters (199;75%) of participants indicated that general practitioners were the most appropriate health professional to assess diabetes distress, followed by diabetes educators (28;10.6%) and general practice nurses (13;4.9%). Only 2.3% (n = 6) of participants indicated that a psychologist was the most appropriate health professional.

Only 16.3% (n = 43) reported asking about diabetes distress during type 2 diabetes consultations more than half the time, and 12.9% (n = 34) reported using a PROM to assess diabetes distress more than half the time (Fig. 1). Two-thirds (138;64.5%) of participants reported using the Kessler-10 (K-10), 1.9% (n = 4) the PAID scale, and 1.4% (n = 3) the Diabetes Distress Scale to assess diabetes distress.

Table 1
Participant demographics (n = 264).

		n	%
Years working as a general practitioner	≤ 10	77	29.2
	11–20	60	22.7
	≥ 21	107	40.5
	Missing	20	7.6
Current location of work	Metropolitan area	123	46.6
	Outer Metropolitan area	43	16.3
	Rural	34	12.9
	Regional	36	13.6
	Remote	7	2.7
	Missing	21	8.0
State or territory	Australian Capital Territory	7	2.7
	New South Wales	63	23.9
	Northern Territory	6	2.3
	Queensland	46	17.4
	South Australia	5	1.9
	Tasmania	12	4.6
	Victoria	67	25.4
	Western Australia	34	12.9
	Missing	24	9.1

3.4. Factors influencing implementation of assessing and addressing diabetes distress in general practice

Participant perceptions of factors influencing their responses to diabetes distress are reported in Fig. 2. Most participants reported positive beliefs about the consequences of assessing and addressing diabetes distress: 78.4% (n = 207) believed that addressing diabetes distress would increase the engagement of people with type 2 diabetes with their self-management, and 57.6% (n = 152) indicated that assessing diabetes distress using a PROM will improve communication between people with diabetes and their general practitioner. Similarly, 55.3% (n = 146) were confident in their ability to assess diabetes distress. However, only 21.6% (n = 57) of participants indicated that they were aware of the RACGP / Diabetes Australia recommendations for annual assessment of diabetes distress. While 46.6% (n = 123) of participants indicated that adequate referral pathways existed, and other environmental enablers were lacking. For example, two-thirds reported that self-help resources were not available in their practice; a higher proportion (194;73.5%) did not have access to systems to prompt assessment of diabetes distress. 56.1% (n = 148) of participants reported that they do not receive sufficient financial reimbursement for assessing diabetes distress. Social influence was also lacking, with 27.3% (n = 72) believing that their colleagues think that assessing diabetes distress is an important part of their professional role, and 15.5% (n = 41) reporting that most general practitioners assess diabetes distress.

3.5. Use of PROMs in general practice: current practices and preferences

Currently, general practitioners most frequently access PROMs embedded within clinical templates (126;34.7%), followed by online (70;19.3%), in the electronic medical record (65;17.9%) or on paper (65;17.9%). However, over half of participants (166;59.1%) stated a preference to record and receive PROMs integrated within the electronic medical record, with 8.5% (n = 24) indicating a preference for a patient portal external to the electronic medical record. Currently, general practitioners most frequently ask patients to complete PROMs during the consultation (195;53.7%), and less frequently before consultations, either at home (47;13%) or in the waiting room (13;3.6%).

In free text responses, the most frequently reported barrier to PROM use in general practice was lack of time in clinical consultations (environment), indicated by 61% of participants. Other reported barriers to PROM use in general practice are reported in Table 2 and relate to the environment, general practitioner knowledge, and skills.

4. Discussion

Despite international and national guideline recommendations, these findings suggest that less than one in four Australian general practitioners routinely ask about or assess for diabetes distress. Three quarters of participants believed that general practitioners are the most appropriate healthcare professionals to assess diabetes distress. However only one in five was aware of the RACGP / Diabetes Australia guideline recommendations for type 2 diabetes. When general practitioners use a PROM, most use a measure of general psychological distress (Kessler-10) rather than a measure of diabetes-specific distress (PAID scale). This may be problematic, as the Kessler-10 was not developed to assess diabetes distress, and depressive symptoms and diabetes distress have different etiologies and require different management strategies [24].

Multiple factors (including motivational and environmental factors) influence the clinical implementation of the guidelines. Despite low awareness and use of the PAID scale, participants had positive beliefs about the consequences of assessing and addressing diabetes distress and their capabilities to do so. These results differ from previous studies of diabetes specialist doctors' view of their role in diabetes related emotional health [25], but are similar to those of diabetes nurses [26].

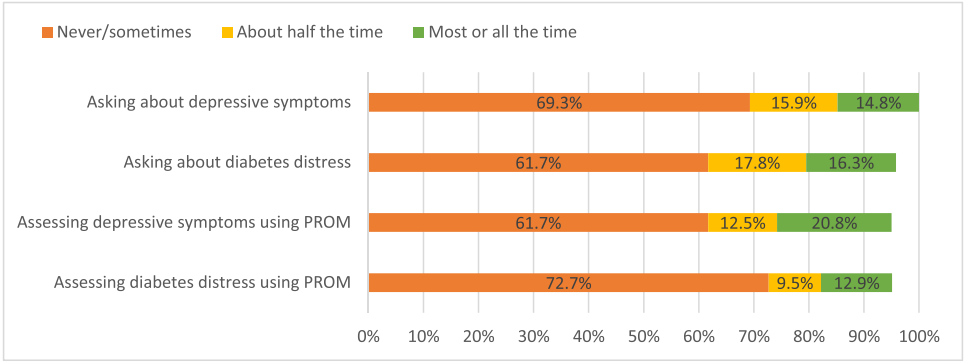

Fig. 1. General practitioners' current practice asking about, and assessing for, depressive symptoms and diabetes distress (n = 264).

Fig. 2. Factors influencing general practitioners' implementation (and relevant Theoretical Domains) of assessing and addressing diabetes distress in general practice (n = 264).

Table 2
Barriers to using Person Reported Outcomes Measures (PROMs) in general practice.

Theme	Subtheme	Quote
Environment	Lack of time	*"Time factor. Too many other diabetic complications to manage. Takes too long at one consultation to adequately manage a distressed patient if that shows up on PROM"*
	Integration with clinical care	*"Incorporating use in a natural way and avoiding a checklist feel"*
	Limitations of clinical software	*"Lack of integration into software; format difficult to complete on computer* e.g. *requiring ticks or crosses"*
Skills		*"Familiarity- I'm aware of PAID, and I'm sure there are other diabetes distress scores with good evidence for validity, but I have no experience with them and so they aren't part of my usual routine in diabetes management."*
Knowledge		*"I didn't know there was a diabetes one [PROM] so lack of knowledge, clinical acumen is the main way I assess"*

These positive beliefs may be explained by general practitioners adopting a generalist approach to medical and emotional issues [27]. However, it is problematic that general practitioners were not using an appropriate PROM to assess diabetes distress. It is unclear whether this is due to lack of awareness of, or access to, the correct tool to use or based on familiarity with a general psychological distress measure in the context of primary care and multimorbidity.

Our findings indicate that motivation (through social influence and financial reimbursement) and opportunity factors (related to the environment of general practice) may impede the implementation of guideline recommendations. Similarly, previous studies indicate that the perceived need to for a longer consultation to address diabetes distress hinder discussion of emotional health [17,25]. Financial reimbursement has been reported as an enabler for healthcare professionals screening for diabetes distress or depressive symptoms during diabetes care [28].

In the current study, nearly two-thirds of respondents reported time as a barrier to PROM use in general practice. More than half indicated that PROMs are currently completed during clinical consultations. This finding is consistent with a recent survey of U.K. general practitioners, where PROMs are most frequently completed in general practice on

paper during a clinical consultation [21]. Our systematic review also suggests that PROM assessment of diabetes distress and depressive symptoms is most frequently undertaken face-to-face, and that pre-consultation completion of PROMs is rare [15,29]. A decade ago, the MIND-2 study demonstrated that emotional health assessment (completed pre-consultation via computer) led to improvements in general emotional well-being and diabetes distress [12], while the Australian TrueBlue study showed similar benefits for reducing depressive symptoms using a nurse-led model of collaborative care [19]. Nevertheless, our findings indicate that neither of these approaches has been translated into routine general practice. Participants preferred for PROM responses to be integrated and stored in the electronic health record. Several studies have highlighted that clinical systems for collecting and delivering PROM responses to healthcare professionals need to fit within clinical workflows [30,31]. It is important to note that the Kessler-10 is the PROM most frequently integrated with general practice electronic medical records in Australia. This may explain participants' inclination to use the Kessler-10, even though it does not assess diabetes distress.

To address the opportunity and motivational barriers to implementation and increase uptake of the RACGP/Diabetes Australia guideline recommendations, several intervention functions may be relevant, e.g. education, engagement, environmental restructuring and modelling [32]. Further research is needed with general practitioners and primary care staff to explore these barriers and enablers and investigate how to enhance implementation of the PAID in general practice. A further study could integrate relevant PROMs (e.g. PAID scale) into the electronic medical record, as the preferred method suggested by general practitioners.

The strengths of this study include use of a national database of Australian general practitioners (AMPCo) to disseminate the survey and the use of the Theoretical Domains Framework for the systematic exploration of factors influencing implementation. The Theoretical Domains Framework is based on numerous models and theories of behaviour change, so it has considerable potential to elucidate relevant factors influencing the behaviours of health professionals. The key limitation of the survey is the low response rate (5%), which adds uncertainty to the reliability and generalisability of the findings. However, this response rate is consistent with response rates to unsolicited surveys to Australian general practitioners [33]. We did not collect gender or age of participants, both of which may influence the uptake of clinical guidelines [34]. A further limitation includes the wording of Likert response labels regarding routine frequency of diabetes distress assessment (e.g. sometimes, most of the time). The routine assessment of diabetes distress may have been interpreted differently by participants particularly as guidelines recommend once a year assessment. The sample was a selection of general practitioners from all states and territories from the AMPCo database. These data may be subject to self-selection and response bias. There is a possibility that general practitioners who responded have an interest in diabetes and emotional health, which may bias the findings. However, that would suggest the findings may over-estimate (rather than under-estimate) the proportion of general practitioners asking about and assessing diabetes distress in general practice.

5. Conclusion

This study shows that, despite international guideline recommendations, general practitioners do not routinely ask about or assess diabetes distress (using a relevant PROM) in general practice. While they hold positive beliefs about consequences of and their capabilities assessing diabetes distress; the widespread implementation of RACGP/Diabetes Australia guidelines recommendations is likely impeded by knowledge, motivational and environmental factors. Strategies to increase assessment of diabetes distress could include focusing on integrating its assessment (e.g. with use of the PAID scale) in the routine annual diabetes review in general practice, and consider integration of relevant PROMs into the electronic medical record, as this is the preferred method suggested by general practitioners.

Funding

This work was supported by RACGP Foundation/Diabetes Australia Research Grant (Grant number not applicable, 2020). CH and JS are supported by core funding to the Australian Centre for Behavioural Research in Diabetes derived from the collaboration between Diabetes Victoria and Deakin University.

Ethical approval

Ethics was approved by the University of Melbourne General Practice Human Ethics Advisory Group, ID 2057476.1.

Role of funding source

The funding organization did not have any roles in the survey's design, implementation, and analysis.

Conflicts of interest

The authors have no conflicts of interests to declare.

Data Availability

The data that support this study will be shared upon reasonable request to the corresponding author.

Acknowledgements

The researchers gratefully acknowledge the RACGP Foundation and Diabetes Australia for their support of this project.

Appendix A. Supplementary material

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.pcd.2022.08.001.

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