

Research

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Experiences of self-management support in patients with diabetes and multimorbidity: a qualitative study in Norwegian general practice

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Abstract

Aim: The purpose of this study was to explore how patients with diabetes and multimorbidity experience self-management support by general practitioners (GPs), nurses and medical secretaries in Norwegian general practice. **Background:** Self-management support is recognised as an important strategy to improve the autonomy and well-being of patients with long-term conditions. Collaborating healthcare professionals (cHCPs), such as nurses and medical secretaries, may have an important role in the provision of self-management support. No previous study has explored how patients with diabetes and multimorbidity experience self-management support provided by cHCPs in general practice in Norway. **Methods:** Semi-structured interviews with 11 patients with type 1 diabetes mellitus (T1DM) or type 2 diabetes mellitus (T2DM) with one or more additional long-term condition were performed during February–May 2017. **Findings:** Patients experienced cHCPs as particularly attentive towards the psychological and emotional aspects of living with diabetes. Compared to GPs, whose appointments were experienced as stressful, patients found cHCPs more approachable and more likely to address patients' questions and worries. In this sense, cHCPs complemented GP-led diabetes care. However, neither cHCPs nor GPs were perceived to involve patients' in clinical decisions or goal setting during consultations.

Introduction

Self-management support is recognised as an important approach to improve the autonomy and well-being of patients with long-term conditions (Bodenheimer *et al.*, 2002; Powers *et al.*, 2016). Long-term conditions or chronic diseases, such as diabetes, chronic obstructive pulmonary disease and cardiovascular diseases, are conditions for which there is currently no cure, they are of long duration and generally slow progression and managed with drugs, lifestyle intervention and other treatment (2012). For healthcare professionals (HCPs), this entails not only providing clinical care but also helping patients develop their inherent capacity and knowledge to be responsible for their own health and well-being (Lorig and Holman, 2003; Funnell and Anderson, 2004; Coulter *et al.*, 2015).

When studying the value of self-management support in patients with long-term conditions, diabetes type 1 and diabetes type 2 are common reference diseases (Piette and Kerr, 2006; Thille *et al.*, 2014; Beck *et al.*, 2017). (Onward, the term 'diabetes' refers to both types of diabetes unless otherwise stated.) Previous diabetes self-management interventions have shown that self-management support is associated with improvement in glucose control and cardiovascular outcomes (Deakin *et al.*, 2006; Sinclair *et al.*, 2013; Chrvala *et al.*, 2016) and reductions in foot ulcerations, infections and amputations (Worswick *et al.*, 2013). In patients with type 2 diabetes mellitus (T2DM), attending a structured diabetes education programme has been associated with a reduction in all-cause mortality by 44%, first cardiovascular episode by 20% and stroke by 30% (Wong *et al.*, 2015). The psychosocial burden of diabetes is significant and can affect self-management behaviours and outcomes of care (Nicolucci *et al.*, 2013). Indeed, nearly 50% of all people with diabetes report elevated levels of diabetes-specific emotional distress, interfering with their self-management capacity (Gomersall *et al.*, 2011; Nicolucci *et al.*, 2013; Liddy *et al.*, 2014; Powers *et al.*, 2016; Young-Hyman *et al.*, 2016). However, research suggests that the more patients with diabetes perceive themselves as self-managed and autonomously able to control their lives with diabetes, the more satisfied and the less distressed they feel

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(Ryan and Deci, 2000; Williams *et al.*, 2005; Steinsbekk *et al.*, 2012; Brunisholz *et al.*, 2014; Weaver *et al.*, 2014; Mohn *et al.*, 2015; Koponen *et al.*, 2017).

Long-term conditions are responsible for the most deaths and illnesses internationally and in Norway (2018b; 2018c). Norwegian guidelines for diabetes care emphasise the importance of discussing self-management capacity and setting realistic and personalised treatment goals (2016b). However, some researchers have problematised a lack of psychological support in Norwegian diabetes care (Haug J, 2017) and noted that GPs' underlying frame of reference is primarily disease oriented, which may hamper the implementation of interventions that target patients' general health and well-being (Bossy *et al.*, 2019). Within the primary care context, nurse-led care can optimise patients' self-management skills (Coates, 2017; Massimi *et al.*, 2017). However, organisational, financial and cultural constraints may imply that nurses are unable to fulfil this role today. To our knowledge, no previous study has explored how patients with diabetes and multimorbidity experience self-management support provided by nurses or medical secretaries alongside GPs in general practice in Norway.

Our analysis of patients' experiences was guided by self-determination theory, developed by Ryan and Deci (2000). Self-determination theory is a relevant framework when exploring practices of self-management support and the facilitators and barriers for patient engagement in self-management (Kosmala-Anderson *et al.*, 2010). Of particular relevance, self-determination theory outlines three primary psychological needs that must be satisfied to motivate long-term health maintenance behaviour: *the need for competence* (feeling personally capable and confident), *the need for autonomy* (behaviour must be self-authored and in accordance with the patient's abiding values) and *the need for relatedness* (feeling connected, understood and cared for by important others) (Ryan and Deci, 2000; Ng *et al.*, 2012).

Given the increasing number of patients with long-term conditions in need of improving their self-care capacity, this study sought to fill a gap in the research literature by posing the following research question: *How do patients with diabetes and multimorbidity experience self-management support provided by collaborating healthcare professionals (cHCPs) and GPs?*

Material and methods

Design

This qualitative study applied semi-structured interviews to gain insight into patient experiences of self-management support in a general practice setting in Norway.

Setting, participant characteristics and recruitment

Previous studies have shown that supporting autonomous motivation may improve self-management in patients with type 1 diabetes mellitus (T1DM) and T2DM (Williams *et al.*, 1998; Julien *et al.*, 2009; Mohn *et al.*, 2015). Diabetes type does not seem to account for variance in patients' perceptions of autonomy support (Williams *et al.*, 1998). On this background, the present study explored experiences of self-management support in both types of diabetes. Facilitating representativeness of the common patient with diabetes seen in general practice, our strategic sample included patients with multimorbidity, defined as the coexistence of two or more long-term conditions in the same individual (World Health Organization, 2016). A list of participant comorbidities can be found in online Supplementary Appendix I. More precisely, our

Table 1. Included practices characteristics

Practice number	Included participants	Number of GPs in practice	Rural/Urban*	Nurse/medical secretary
Pr1	1	5	Rural	Diabetes specialist nurse
Pr2	2	7	Urban	Medical secretary
Pr3	3	6	Urban	Medical secretary
Pr4	5	4	Rural	Diabetes specialist nurse

*Rural: city or town with a population <20 000 inhabitants; urban: city with >20 000 inhabitants.

recruitment criteria included participants aged 75 years and younger, having T1DM or T2DM for more than 2 years, having one or more long-term condition in addition to diabetes, had attended the same general practice for his or her diabetes, seen by the same GP and cHCP for more than 2 years and being able to conduct the interview in Norwegian, Swedish, Danish or English.

In line with these criteria, 11 patients with diabetes (4 with T1DM, 7 with T2DM) were recruited from 4 general practices, representing rural and urban areas of eastern, western and southern parts of Norway. These practices were purposively sampled, that is, intentionally selected based on their ability to elucidate on the specific concepts this study was set out to explore (Palinkas *et al.*, 2015). The practices were approached by phone, and the first author provided written information describing the study purpose and aims by e-mail. This information also included participant consent forms. Staff at each practice (mostly GPs) were responsible for recruiting participants who fulfilled the inclusion criteria and providing them with information about the study and interview scheduling. The GPs were free to select participants from their patient lists who they thought could give exhaustive descriptions about their experiences of diabetes care and self-management support. The first author interviewed participants. The interviews were tape recorded and transcribed by the first author who continued sampling until saturation of data was reached. This means that in the last interviews, themes discovered during data collection and analysis of previous interviews were confirmed and no new information appeared related to our research questions (Braun and Clarke, 2006).

In the present study, a diabetes specialist nurse (in two of the practices), nurse (in one of the practices) or medical secretary¹ (in two of the practices) provided routine diabetes controls independently. As such, these cHCPs worked in parallel with the GPs, who were only consulted when needed. All cHCPs reported to have training in diabetes care and in patient-centred or motivational communication skills (cHCPs' experiences of team-based diabetes care from the same practices are reported in another publication; Sørensen *et al.*, 2020). Table 1 shows the total number of GPs in the included practices, whether they were urban or rural and whether a nurse or a medical secretary was involved in the provision of diabetes care.

¹In Norway, 'Medical Secretary' is a protected professional title achieved through 3-year high school education focusing on health promotion, communication, collaboration and lab work. The medical secretaries in the included practices had received additional training in diabetes care.

Table 2. Participant characteristics

Diabetes type (T1DM/T2DM)	4/7
Gender (F/M)	4/7
Overall age both T1DM and T2DM (mean years, youngest–oldest)	60 (45–72)
	T1DM 53 (45–65)
	T2DM 65 (56–72)
Duration of diabetes (mean years, shortest–longest)	21 (3–44)
	T1DM: 39 (35–44)
	T2DM: 10 (3–27)
Years of follow-up in the current team (mean, shortest–longest)	6 (2–15)
	Married/partner: 5
	Divorced: 3
Marital status	Single: 3
	Education
	High school: 6
Education	BA: 4
	MA: 1

T1DM: type 1 diabetes mellitus; T2DM: type 2 diabetes mellitus.

Data collection

An interview guide was developed to ensure consistency in topics raised during each interview. The guide focused on what patients experienced as important when seeking healthcare in order to self-manage their disease, what patients perceived as different between GP-led care and care led by cHCPs, if they felt involved in care decisions and if they perceived to have the knowledge and skills necessary to care for their diabetes (please refer to online Supplementary Appendix II for a detailed interview guide). Interviews at each general practice were conducted individually in a private consultation room by the first author and lasted between 14 and 46 min (a mean of 25 min). One of the participants requested being interviewed at home.

The characteristics of the interviewees are summarised in Table 2.

Data processing and analysis

Interviews were audiotaped, transcribed verbatim and analysed thematically, using Braun and Clarke's methodology (Braun and Clarke, 2006). All interviews were conducted by the same researcher (MS), who is a non-clinical PhD candidate in health science with previous experience in health coaching and interviewing in research settings. The last author has extensive experience in thematic analysis of qualitative data. Transcripts were read and re-read by two of the authors (MS and LGH), and initial codes were developed by identifying and grouping meaning units of text based on their relevance to the research questions using NVivo® software. The selection of meaning units and identification of patterns in participant experiences and preferences were deductive in that our theoretical framework guided the coding process (Braun and Clarke, 2006). Inspired by self-determination theory, developing codes entailed systematically searching for meaning units that represented patients' needs for competence, autonomy and relatedness. Two of the authors (MS and LGH) compared and contrasted related codes and developed an initial coding tree (see

Figure 1 for an example of the coding tree). Themes were then described and interpreted to explicate connections, contradictions and alternative meanings. All authors then discussed preliminary sub-themes and themes to enhance the credibility of the findings (Jennifer and Eimear, 2006).

Ethical considerations

Ethical approval of the project outline was assessed by the regional ethics committee and not deemed necessary (ref. nb.: 2018/482D). The Norwegian Directorate of Health's Data Protection Officer was responsible for data handling according to internal ethical standards (archive number 16/2885-10). At the outset of each interview, the first author reiterated the participant's right to withdraw from the study at any time without any detriment to the treatment process and emphasised that data from the interviews would be treated confidentially. Each participant gave informed consent for the interview to be audiotaped and transcribed.

Results

Our analysis identified four themes: 'cHCPs provide diabetes specific competence and personalised care', 'A desire to be heard', 'Perceived inadequate shared decision-making in T2DM' and 'Patient autonomy in T1DM'.

cHCPs provide diabetes-specific competence and personalised care

Patients had a long experience living with diabetes (a mean disease duration of 21 years) and a long-lasting relationship with the general practice staff (6 years on average). They were particularly satisfied with cHCPs' extended consultation time (30–60 min, varying between practices), their specific competence in diabetes and their amiability, which may have led to the establishment of personal relationships. Some patients noted that diabetes care managed by a nurse or medical secretary was more structured and comprehensive compared to GP-led care. They also felt their questions were more often answered in these consultations.

A patient with T1DM said the diabetes specialist nurse operated as the hospital's extended arm and that her diabetes-specific competence made him feel more secure about the decisions being made compared to only seeing his GP for his diabetes. One of the patients with T2DM described visits to the nurse as systematic and targeted:

Compared to seeing the GP for my diabetes, the follow-up with the nurse is more frequent and regular. It was more sporadic with my GP, and I had to be more involved in scheduling my controls. She is more interested in my life with diabetes than my GP (Practice 4 (Pr4), Patient 9 (Pa9)).

Other patients, with T2DM, emphasised professional competence and continuity as important for them to feel safe:

It is just important to see someone competent (Pr2, Pa11)

And:

You feel safe, when they know you and you know who you are meeting (Pr3, Pa9)

A desire to be heard

Patients emphasised the value of cHCPs' attentiveness, and many referred to GP-led consultations as hectic and not meeting their need to be heard. This was illustrated in descriptions of instances where the GP had cut them off when speaking or asked patients to limit the number of concerns they raised during a single appointment. Two of the patients associated these situations with so much

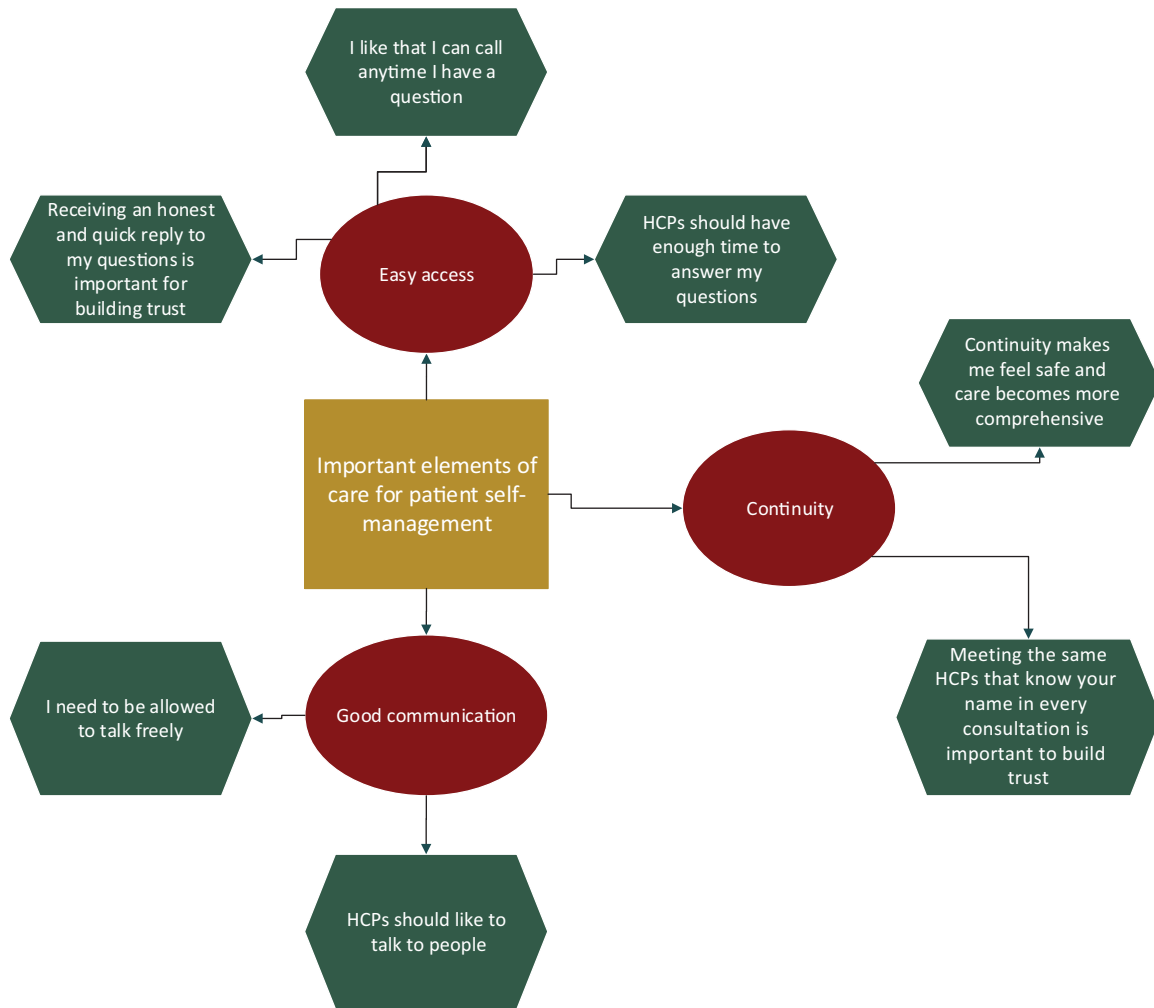


Figure 1. Example of coding three

frustration that they had replaced their GP at least once. Indeed, several patients revealed strong preferences for being autonomous and visiting their physician's office as seldom as possible. When visiting their GP, patients wanted to sort out everything they had on their mind. One patient with T2DM highlighted an instance when he felt his GP did not take his worries seriously:

I want to be listened to and say everything on my mind in each visit. I don't like being interrupted when I speak. I had to find a new GP because the previous one cut me off when I tried to say what's bothering me. He didn't take my worries seriously and just wanted to get the next patient in (Pr2, Pa11).

Being listened to and feeling understood was mentioned as a key advantage of seeing cHCPs. The atmosphere in cHCPs' consultations was described as relaxed and open for a two-way dialogue where questions and concerns were resolved. cHCPs were perceived to be sincerely interested in acquiring information about how diabetes affected patients' lives and psychological well-being. Moreover, consultations with cHCPs were referred to as positively reinforcing feelings of mastery because cHCPs were often inclined to praise a patient's ability to cope with diabetes and to take notice of skills they mastered well. For example, a patient with T2DM said she was not able to follow the GP's advice to be more physically active. She felt she had never had the chance to speak to her GP about her interests, and therefore, his advice did not feel personal.

In contrast, the medical secretary had been curious about her interests, and speaking about what gave her life meaning made her feel valuable and capable.

One person with T2DM and depression said that regular appointments with a medical secretary, who sat down and listened to her with compassion, felt so meaningful that seeing a psychiatrist was no longer necessary. A patient with T1DM also explained how close personal support from a nurse had made it possible for him to live as 'normal' a life as possible. He related this to her approach of not only being a professional but also a friend. He referred to his relationship with the nurse as being part of a team:

It's like having a safety net. It's always 'us', not 'you', like being on a team that you can rely on. It really makes life more pleasant because there are other aspects in my life that are more important than my glucose levels. I just couldn't imagine being alone with my diabetes anymore (Pr4, Pa7).

Perceived inadequate shared decision-making in T2DM

Although highly valued by the patients, casual conversation about mundane matters occurred at the expense of reaching agreements about an individual's specific health goals. Although all seven patients with T2DM were treated with oral glucose-lowering medication (none used insulin) and could potentially halt disease progression and reduce the risk of comorbidity with lifestyle changes,

only one patient described a sense of responsibility towards his weight and glucose levels. In contrast, another patient with T2DM was adamant that he would continue eating and drinking what he wanted and was prepared to accept the consequences.

All but two of the patients with T2DM explicitly said they wished they had received information about how their diabetes or cardiovascular disease could have been prevented at an earlier stage and how they could improve their self-management of diabetes to avoid complications. Overall, patients with T2DM considered their opportunities to influence the progression of their disease as limited and believed it was the main responsibility of cHCPs to keep patients' HbA1c (glucose-bound (glycated) haemoglobin) level under control. Some attributed this low sense of autonomy to a lack of knowledge, as two patients with T2DM described:

I put my trust in those who work here. They decide because I don't know what to ask for or anything about diabetes, really. I mean, I cannot do anything else than take my meds (Pr4, Pa8).

I don't have that much say in the decisions made concerning my health. I do what I can to follow my provider's advice. Last time, my blood sugar was a bit high [the patient shows his HbA1c registration card and the last reading was 65 mmol/mol]. [When asked about the consequence of the high value, he answers:] Nothing, they said nothing. Is there a big difference between 54 and 65 mmol/mol? What is a normal blood sugar? (Pr3, Pa2).

Patient autonomy in T1DM

The average disease duration in patients with T1DM was 39 years, and in contrast to patients with T2DM, these patients asserted a high degree of diabetes competence and autonomy. This became apparent in the degree patients with T1DM were engaged in negotiations about setting treatment targets:

They may measure whatever they want. I decide my targets even if my GP disagrees. Once, when my HbA1c was about 86 mmol/mol, my GP wanted me to set the target at 53 mmol/mol. I refused and said, 'If I go too low too quickly, my life would be all about diabetes and I would suffer'. When it comes to taking insulin, it's really important that I decide (Pr4, Pa10).

All patients with T1DM had experienced distress and concerns related to managing their glucose levels. When asked what they considered most important in diabetes care, patients with T1DM emphasised that seeing professionals who were up to date on new insulin types, syringes and glucose monitoring technology was paramount. This was related to how medical advances could help improve autonomy. For example, two patients with T1DM referred to how receiving a continuous glucose monitoring system had given them and their family more control over their diabetes. Another benefit of seeing cHCPs mentioned by patients with T1DM was the extended consultation time, which gave them space to learn about the uniqueness of their diabetes and their inherent capabilities to manage their disease. In general, patients with T1DM noted that compared to going to an outpatient diabetes clinic, diabetes care in general practice was more holistic, long-term and personal. The experience of a genuine relationship with cHCPs is succinctly captured in the following comment:

At the hospital, you don't receive the kind of personalised and continuous care that you get in general practice. If they [the cHCPs] had not been interested in knowing me personally and if I had met different people every time I visited here as you do in the hospital, I would never have learned so much about myself and my diabetes (Pr4, Pa7).

Discussion

This study aimed to explore how patients with diabetes and multimorbidity experienced self-management support by GPs and cHCPs in general practice. Interpreted in light of self-determination theory, we found that cHCPs were perceived to play a complementing role in supporting patients' emotional and psychological well-being through what patients described as an attentive and compassionate style of interaction. In comparison, GP appointments were often experienced as hasty and not meeting patients' needs for having their questions answered. Participants in this study reported that they to a little extent were involved in the decisions that were made about their diabetes care.

Allocating 30–60 min for every consultation, cHCPs were typically described as drawing attention to how participants lived with diabetes and allowing the dialogue to go where the patient wanted it to go. Patients referred to several instances when informal conversation with cHCPs had led to the disclosure of concerns and priorities they otherwise would not have revealed. This is in line with previous research demonstrating that patients with long-term conditions prefer to have their personhood rather than their illness as the focus of clinical encounters (Carrier, 2015). Correspondingly, a study on general practice in the UK found that in longer consultations, more psychosocial problems are recognised, more long-term problems are dealt with and more health promotion occurs (Howie *et al.*, 1991). In contrast, several patients emphasised how they disliked being asked to prioritise one medical concern over another in GP-led appointments, which contrasts with the essence of self-management support, where patients' perspective on illness and their need for knowledge should steer the conversation.

Whilst most participants experienced GPs as focusing primarily on the biological effects of disease, cHCPs were described as oriented towards patients' considerations about coping with their diseases, though the authors acknowledge that this finding may pertain to GPs and cHCPs playing out their different roles. Other researchers have made comparable observations. For example, a questionnaire-based study among primary care patients, nurses and GPs in New Zealand found that nurses tend to more consistently adhere to the principles of self-management support compared to GPs (Carryer *et al.*, 2010). Similarly, Wagner reported that in a US context, care involving behavioural counselling may be considered outside the job description of most GPs (Wagner, 2000).

Based on Norwegian register data and data from electronic medical records, only 9.8% of patients with T1DM and 16% of patients with T2DM achieve combined treatment targets for HbA1c, blood pressure and cholesterol (Cooper *et al.*, 2013; Bakke *et al.*, 2017). In the last decade, there has been a shift in international and Norwegian healthcare policies intending to alter the patient role from being a passive recipient of care to actively participate in care decisions and being responsible for their own health and well-being (Evans *et al.*, 2013; Kitson *et al.*, 2013; The Ministry of Health and Care Services, 2015; Bing-Jonsson *et al.*, 2018). The goal of the incumbent health government is for healthcare services to become more person-centred and to change the portrayal of the patient as the sum of diagnoses and symptoms to a person with resources, abilities and life aspirations that when activated can improve his or her health outcomes (The Ministry of Health and Care Services, 2015; 2018a). We found it surprising that most participants with T2DM expressed little or no involvement in decisions regarding their treatment or in setting lifestyle goals. Instead, several participants asserted that it was their providers' responsibility to attend to their diabetes and that they themselves, although they wanted to, felt they had limited knowledge

about how to influence their illness and its outcomes. This self-experienced lack of self-management is worthy paying some critical focus, given that the included practices had a special interest in diabetes care and because previous studies have found significant effects of diabetes self-management education on patient knowledge and metabolic control in T2DM (Fan and Sidani, 2009; Zheng *et al.*, 2019) and on autonomy-motivated behaviour, diabetes distress and emotional burden in T1DM (Mohn *et al.*, 2017). A qualitative study from Switzerland found similar results. In Peytremann-Bridevaux and colleagues' study, patients requested better communication with their healthcare providers and reported receiving insufficient information regarding diabetes self-management (Peytremann-Bridevaux *et al.*, 2012).

The national guidelines for diabetes recommend that patients with T1DM are followed in multi-professional outpatient clinics (2016a). This is related to the risk of specialist needs of patients with T1DM may be overlooked. In this study, the HCPs in the selected practices were specially trained in diabetes care. The participants were satisfied with this arrangement, and compared to participants with T2DM, they appeared more in control of their disease. This is probably related to their long disease history and the high demand for self-care. We did not assess if this assumed control led to improvement in HbA1c. Neither do we know of any study exploring patients with T1DM and if there is any correlation between outcomes and whether they are followed in primary or specialist care. These aspects should be further explored.

Our study showed that cHCPs may contribute in achieving the goal of more person-centred healthcare, yet it is necessary to increase the knowledge, skills and attitudes about self-management support among HCPs in general practice (Emmons and Rollnick, 2001; Newman *et al.*, 2004). Previous researchers have found that HCPs, although assuming their care is aligned with the principles of self-management support, continue to provide traditional, didactic teaching or counselling (Wagner *et al.*, 2001). Furthermore, Kennedy and colleagues studied general practice staff who received two sessions of training in self-management support (Kennedy *et al.*, 2015). Despite high attendance and positive ratings by staff, the training failed to induce change in practice. Self-management support was afforded minimal value or priority, and practices invested little effort in attempting to use its underpinning techniques or tools (Kennedy *et al.*, 2013). In a later process evaluation, the researchers found that the staff lacked conviction that self-management support would be effective, and they did not perceive any need for training. The study concluded that training, even when underlined by institutional and professional commitment, may require considerable additional incentives to successfully lead to the embedding of self-management support into routine practice (Kennedy *et al.*, 2014), a finding supported by several other researchers (Bower *et al.*, 2011; Johnston *et al.*, 2011; Panagioti *et al.*, 2014; Boger *et al.*, 2015).

Although some patients with T2DM may prefer HCPs to take the lead in managing their disease (Moser *et al.*, 2006), being capable to live an independent life is key to their quality of life and well-being (Howard and Hagen, 2012). Because the burden of effective management of blood glucose levels is often a significant source of psychological distress in T1DM and T2DM (Van Bastelaar *et al.*, 2010), focusing on individual patients' confidence to participate in decision making and feeling autonomous living with illness is of primary moral importance (Moser *et al.*, 2006). For example, data from the Swedish National Diabetes Register show that for patients with diabetes, a common denominator for living a good life is finding a balance so that they are not

overwhelmed by either the diabetes itself or by the burden of managing it (Svedbo Engström *et al.*, 2016). Our study indicated that the psychological impact of diabetes on patients' life is evident and that taking time to answering patients' questions and listening to their worries is important to build their trust, confidence and emotional well-being. In this sense, cHCPs may play an important role in complementing GP-led diabetes care by providing patients the necessary time and interest so that psychological and emotional needs are addressed.

Several strengths and limitations of the present study are worth mentioning. Participating patients and general practices were selected purposefully from rural and urban parts of Norway based on their knowledge and experience of working multi-professionally with patients with diabetes. Although the sample size is limited, patients' experiences of diabetes care were remarkably similar between practices, and no new themes related to autonomy and competence support emerged in the last two interviews with patients representing the two types of diabetes, respectively (Guest *et al.*, 2006). However, the small sample size does not allow for generalisations. All interviews were performed by the same researcher following an interview guide, and an open dialogue within the research team continued throughout the study period. Our study has some limitations that may influence the transferability of our results. The participants were selected by one of the practice GPs, and their experience could have been affected by loyalty towards the HCPs. Nevertheless, we regard our findings as credible given that patients reflected on the research questions from a variety of positive and negative aspects and demonstrated that although satisfied, they may not be receiving optimal care. Due to privacy concerns and organisational barriers, the transcripts were not presented to or verified by interviewees, although this could have increased the study's credibility.

Conclusion

To our knowledge, this study is the first to explore experience of self-management support in patients with diabetes and multimorbidity in Norwegian general practice. Our findings provide important insights into patients' experiences and preferences for diabetes care and how cHCPs, such as nurses and medical secretaries, may complement GPs in providing self-management support to this group of patients. In particular, more emphasis can be placed on training HCPs in general practice in meeting patients' preferences for the consultation agenda and involving patients in care decisions. However, further research is needed to explore how general practice can be organised to more specifically meet patients' demand for self-management and how improved patient participation can improve diabetes outcomes.

Supplementary material. To view supplementary material for this article, please visit <https://doi.org/10.1017/S1463423620000432>

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Ethical considerations. Ethical approval was not deemed necessary by the regional ethics committee (ref. nb.: 2018/482D). Data handling procedures were

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Conflicts of interest. All authors declare no competing interests, have approved the manuscript and agree with submission to Primary Health Care Research and Development.

Ethical standards. The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional guidelines on human experimentation (The Norwegian Health Research Act) and with the Helsinki Declaration of 1975, as revised in 2008.

References

- Bakke Å, Cooper JG, Thue G, Skeie S, Carlsen S, Dalen I, Løvaas KF, Madsen TV, Oord ER, Berg TJ, Claudi T, Tran AT, Gjelsvik B, Jenum AK and Sandberg S (2017). Type 2 diabetes in general practice in Norway, status and time trends. *EASD* Lisboa.
- Beck J, Greenwood DA, Blanton L, Bollinger ST, Butcher MK, Condon JE, Cypress M, Faulkner P, Fischl AH, Francis T, Kolb LE, Lavin-Tompkins JM, Macleod J, Maryniuk M, Mensing C, Orzeck EA, Pope DD, Pulizzi JL, Reed AA, Rhinehart AS, Siminerio L and Wang J (2017). National standards for diabetes self-management education and support. *Diabetes Care*, **40**, 1409–1419.
- Bing-Jonsson PC, Slater P, McCormack B and Fagerström L (2018). Norwegian translation, cultural adaptation and testing of the Person-centred Practice Inventory – Staff (PCPI-S). *BMC Health Services Research*, **18**, 555.
- Bodenheimer T, Lorig K, Holman H and Grumbach K (2002). Patient self-management of chronic disease in primary care. *JAMA*, **288**, 2469–2475.
- Boger E, Ellis J, Latter S, Foster C, Kennedy A, Jones F, Fenerty V, Kellar I and Demain S (2015). Self-management and self-management support outcomes: a systematic review and mixed research synthesis of stakeholder views. *PLoS One*, **10**, e0130990.
- Bossy D, Knutsen IR, Rogers A and Foss C (2019). Moving between ideologies in self-management support—A qualitative study. *Health Expect*, **22**, 83–92.
- Bower P, Macdonald W, Harkness E, Gask L, Kendrick T, Valderas JM, Dickens C, Blakeman T and Sibbald B (2011). Multimorbidity, service organization and clinical decision making in primary care: a qualitative study. *Family Practice*, **28**, 579–587.
- Braun V and Clarke V (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, **3**, 77–101.
- Brunisholz KD, Briot P, Hamilton S, Joy EA, Lomax M, Barton N, Cunningham R, Savitz LA and Cannon W (2014). Diabetes self-management education improves quality of care and clinical outcomes determined by a diabetes bundle measure. *Journal of Multidisciplinary Healthcare*, **7**, 533–542.
- Carrier J (2015). *Managing long-term conditions and chronic illness in primary care: a guide to good practice*. New York: Taylor & Francis.
- Carrier J, Budge C, Hansen C and Gibbs K (2010). Providing and receiving self-management support for chronic illness: patients' and health practitioners' assessments. *Journal of Primary Health Care*, **2**, 124–129.
- Chrvala CA, Sherr D and Lipman RD (2016). Diabetes self-management education for adults with type 2 diabetes mellitus: a systematic review of the effect on glycemic control. *Patient Education and Counseling*, **99**, 926–943.
- Coates V (2017). Role of nurses in supporting patients to self-manage chronic conditions. *Nurs Stand*, **31**, 42–46.
- Cooper JG, Claudi T, Thordarson HB, Lovaas KF, Carlsen S, Sandberg S and Thue G (2013). Treatment of type 1 diabetes in the specialist health service—data from the Norwegian Diabetes Register for Adults. *Tidsskr Nor Lægeforen*, **133**, 2257–2262.
- Coulter A, Entwistle VA, Eccles A, Ryan S, Shepperd S and Perera R (2015). Personalised care planning for adults with chronic or long-term health conditions. *Cochrane Database of Systematic Reviews*. **2015**, CD010523.
- Deakin TA, Cade JE, Williams R and Greenwood DC (2006). Structured patient education: the diabetes X-PERT Programme makes a difference. *Diabetic Medicine*, **23**, 944–954.
- Department of Health and Social Care (2012). Long Term Conditions Compendium of Information. *Third Edition*. Department of Health and Social Care, UK. Available at: <https://www.gov.uk/government/publications/long-term-conditions-compendium-of-information-third-edition>.
- Emmons KM and Rollnick S (2001). Motivational interviewing in health care settings. Opportunities and limitations. *American Journal of Preventive Medicine*, **20**, 68–74.
- Evans JM, Baker GR, Berta W and Barnsley J (2013). The evolution of integrated health care strategies. *Advances in Health Care Management*, **15**, 125–161.
- Fan L and Sidani S (2009). Effectiveness of diabetes self-management education intervention elements: a meta-analysis. *Canadian Journal of Diabetes*, **33**, 18–26.
- Funnell MM and Anderson RM (2004). Empowerment and self-management of diabetes. *Clinical Diabetes*, **22**, 123–127.
- Gomersall T, Madill A and Summers LK (2011). A metasynthesis of the self-management of type 2 diabetes. *Qualitative Health Research*, **21**, 853–871.
- Guest G, Bunce A and Johnson L (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods*, **18**, 59–82.
- Haug J (2017). *Diabetespsykologi - samspillet mellom kropp og sinn (Norwegian only)*. Oslo, Norway: Gyldendal akademisk.
- Howard LM and Hagen BF (2012). Experiences of persons with type II diabetes receiving health coaching: an exploratory qualitative study. *Education for Health (Abingdon)*, **25**, 66–69.
- Howie JG, Porter AM, Heaney DJ and Hopton JL (1991). Long to short consultation ratio: a proxy measure of quality of care for general practice. *British Journal of General Practice*, **41**, 48–54.
- Jennifer F and Eimear M-C (2006). Demonstrating rigor using thematic analysis: a hybrid approach of inductive and deductive coding and theme development. *International Journal of Qualitative Methods*, **5**, 80–92.
- Johnston SE, Liddy CE and Ives SM (2011). Self-management support: a new approach still anchored in an old model of health care. *Canadian Journal of Public Health*, **102**, 68–72.
- Julien E, Senecal C and Guay F (2009). Longitudinal relations among perceived autonomy support from health care practitioners, motivation, coping strategies and dietary compliance in a sample of adults with type 2 diabetes. *Journal of Health Psychology*, **14**, 457–470.
- Kennedy A, Bower P, Reeves D, Blakeman T, Bowen R, Chew-Graham C, Eden M, Fullwood C, Gaffney H, Gardner C, Lee V, Morris R, Protheroe J, Richardson G, Sanders C, Swallow A, Thompson D, Rogers A and Salford National Institute for Health Research Gastrointestinal Programme Grant Research, G. (2013). Implementation of self management support for long term conditions in routine primary care settings: cluster randomised controlled trial. *BMJ (Clinical Research Ed.)*, **346**, f2882–f2882.
- Kennedy A, Rogers A, Chew-Graham C, Blakeman T, Bowen R, Gardner C, Lee V, Morris R and Protheroe J (2014). Implementation of a self-management support approach (WISE) across a health system: a process evaluation explaining what did and did not work for organisations, clinicians and patients. *Implementation Science*, **9**, 129.
- Kennedy N, Armstrong C, Woodward O and Cullen W (2015). Primary care team working in Ireland: a qualitative exploration of team members' experiences in a new primary care service. *Health Soc Care Community*, **23**, 362–370.
- Kitson A, Marshall A, Bassett K and Zeitz K (2013). What are the core elements of patient-centred care? A narrative review and synthesis of the literature from health policy, medicine and nursing. *Journal of Advanced Nursing*, **69**, 4–15.
- Koponen AM, Simonsen N and Suominen S (2017). Determinants of physical activity among patients with type 2 diabetes: the role of perceived autonomy support, autonomous motivation and self-care competence. *Psychology, Health & Medicine*, **22**, 332–344.
- Kosmala-Anderson JP, Wallace LM and Turner A (2010). Confidence matters: a Self-Determination Theory study of factors determining engagement in self-management support practices of UK clinicians. *Psychology, Health & Medicine*, **15**, 478–491.
- Liddy C, Blazkho V and Mill K (2014). Challenges of self-management when living with multiple chronic conditions: systematic review of the qualitative literature. *Canadian Family Physician*, **60**, 1123–1133.

- Lorig KR and Holman H (2003). Self-management education: history, definition, outcomes, and mechanisms. *Annals of Behavioral Medicine*, **26**, 1–7.
- Massimi A, De Vito C, Brufola I, Corsaro A, Marzuillo C, Migliara G, Rega ML, Ricciardi W, Villari P and Damiani G (2017). Are community-based nurse-led self-management support interventions effective in chronic patients? Results of a systematic review and meta-analysis. *PLoS One*, **12**, e0173617–e0173617.
- Mohn J, Graue M, Assmus J, Zoffmann VB Thordarson H, Peyrot M and Rokne B (2015). Self-reported diabetes self-management competence and support from healthcare providers in achieving autonomy are negatively associated with diabetes distress in adults with Type 1 diabetes. *Diabetic Medicine*, **32**, 1513–1519.
- Mohn J, Graue M, Assmus J, Zoffmann V, Thordarson H, Peyrot M and Rokne B (2017). The effect of guided self-determination on self-management in persons with type 1 diabetes mellitus and HbA1c ≥ 64 mmol/mol: a group-based randomised controlled trial. *BMJ Open*, **7**, e013295.
- Moser A, Van Der Bruggen H and Widdershoven G (2006). Competency in shaping one's life: autonomy of people with type 2 diabetes mellitus in a nurse-led, shared-care setting: a qualitative study. *International Journal of Nursing Studies*, **43**, 417–427.
- Newman S, Steed L and Mulligan K (2004). Self-management interventions for chronic illness. *Lancet*, **364**, 1523–1537.
- Ng JY, Ntoumanis N, Thogersen-Ntoumani C, Deci EL, Ryan RM, Duda JL and Williams GC (2012). Self-determination theory applied to health contexts: a meta-analysis. *Perspectives on Psychological Science*, **7**, 325–340.
- Nicolucci A, Kovacs Burns K, Holt RI, Comaschi M, Hermanns N, Ishii H, Kokoszka A, Pouwer F, Skovlund SE, Stuckey H, Tarkun I, Vallis M, Wens J and Peyrot M (2013). Diabetes Attitudes, Wishes and Needs second study (DAWN2): cross-national benchmarking of diabetes-related psychosocial outcomes for people with diabetes. *Diabetic Medicine*, **30**, 767–777.
- Norwegian Ministry of Health and Care Services (2018a). A full life - all your life. A Quality Reform for Older Persons. Oslo: Norwegian Ministry of Health and Care Services. Retrieved 19, November 2019 from https://www.helsedirektoratet.no/tema/leve-hele-livet-kvalitetsreformen-for-eldre/St%20Meld%2015%20-%20engelsk.pdf/_/attachment/inline/8561e891-57dd-447b-a184-895b739d74ce:c3c28dd80df5964c8a05ffe6e5cf2e291198ba0/St%20Meld%2015%20-%20engelsk.pdf
- Norwegian Public Health Institute (2018b). Public Health in Norway. Report 2018. Norwegian Public Health Institute.
- Palinkas LA, Horwitz SM, Green CA, Wisdom JP, Duan N and Hoagwood K (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health*, **42**, 533–544.
- Panagioti M, Richardson G, Small N, Murray E, Rogers A, Kennedy A, Newman S and Bower P (2014). Self-management support interventions to reduce health care utilisation without compromising outcomes: a systematic review and meta-analysis. *BMC Health Services Research*, **14**, 356.
- Peytremann-Bridevaux I, Lauvergeon S, Mettler D and Burnand B (2012). Diabetes care: opinions, needs and proposed solutions of Swiss patients and healthcare professionals: a qualitative study. *Diabetes Research and Clinical Practice*, **97**, 242–250.
- Piette JD and Kerr EA (2006). The impact of comorbid chronic conditions on diabetes care. *Diabetes Care*, **29**, 725–731.
- Powers MA, Bardsley J, Cypress M, Duker P, Funnell MM, Fischl AH, Maryniuk MD, Siminerio L and Vivian E (2016). Diabetes self-management education and support in type 2 diabetes: a joint position statement of the American Diabetes Association, the American Association of Diabetes Educators, and the Academy of Nutrition and Dietetics. *Clinical Diabetes: a publication of the American Diabetes Association*, **34**, 70–80.
- Ryan RM and Deci EL (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, **55**, 68–78.
- Sinclair KIA, Makahi EK, Shea-Solatorio C, Yoshimura SR, Townsend CKM and Kaholokula JKA (2013). Outcomes from a diabetes self-management intervention for Native Hawaiians and Pacific People: partners in Care. *Annals of Behavioral Medicine: a publication of the Society of Behavioral Medicine*, **45**, 24–32.
- Sørensen M, Groven KS, Gjelsvik B, Almendingen K and Garnweidner-Holme L (2020). The roles of healthcare professionals in diabetes care: a qualitative study in Norwegian general practice. *Scandinavian Journal of Primary Health Care*, **38**, 12–23.
- Steinsbekk A, Rygg LO, Lisulo M, Rise MB and Fretheim A (2012). Group based diabetes self-management education compared to routine treatment for people with type 2 diabetes mellitus. A systematic review with meta-analysis. *BMC Health Services Research*, **12**, 213.
- Svedbo Engström M, Leksell J, Johansson U-B and Gudbjörnsdóttir S (2016). What is important for you? A qualitative interview study of living with diabetes and experiences of diabetes care to establish a basis for a tailored patient-reported outcome measure for the Swedish National Diabetes Register. *BMJ Open*, **6**, e010249.
- The Ministry of Health and Care Services (2015). Meld. St. 26 (2014–2015). The primary health and care services of tomorrow – localised and integrated. Oslo.
- The Norwegian Directorate of Health (2016a) *Clinical Guidelines for Diabetes*. In Health P, editors, Oslo: The Norwegian Directorate of Health.
- The Norwegian Directorate of Health (2016b). *Clinical Guidelines for Diabetes* (online version). Oslo: The Norwegian Directorate of Health. Available (in Norwegian) at: <https://helsedirektoratet.no/retningslinjer/diabetes>.
- Thille P, Ward N and Russell G (2014). Self-management support in primary care: enactments, disruptions, and conversational consequences. *Social Science & Medicine*, **108**, 97–105.
- Van Bastelaer KM, Pouwer F, Geelhoed-Duijvestijn PH, Tack CJ, Bazelmans E, Beekman AT, Heine RJ and Snoek FJ (2010). Diabetes-specific emotional distress mediates the association between depressive symptoms and glycaemic control in type 1 and type 2 diabetes. *Diabetic Medicine*, **27**, 798–803.
- Wagner EH (2000). The role of patient care teams in chronic disease management. *BMJ*, **320**, 569–572.
- Wagner EH, Glasgow RE, Davis C, Bonomi AE, Provost L, McCulloch D, Carver P and Sixta C (2001). Quality improvement in chronic illness care: a collaborative approach. *The Joint Commission Journal on Quality Improvement*, **27**, 63–80.
- Weaver RG, Hemmelgarn BR, Rabi DM, Sargious PM, Edwards AL, Manns BJ, Tonelli M and James MT (2014). Association between participation in a brief diabetes education programme and glycaemic control in adults with newly diagnosed diabetes. *Diabetic Medicine*, **31**, 1610–1614.
- WHO Regional Office for Europe (2018c). Transforming individual health services: towards integrated multidisciplinary primary health care In Jakab MFJ, Borgermans L, Mantingh F, editors, *Health systems respond to noncommunicable diseases: time for ambition*. Copenhagen: WHO Regional Office for Europe, 13.
- Williams GC, Freedman ZR and Deci EL (1998). Supporting autonomy to motivate patients with diabetes for glucose control. *Diabetes Care*, **21**, 1644–1651.
- Williams GC, Mcgregor HA, King D, Nelson CC and Glasgow RE (2005). Variation in perceived competence, glycemic control, and patient satisfaction: relationship to autonomy support from physicians. *Patient Education and Counseling*, **57**, 39–45.
- Wong CK, Wong WC, Wan YF, Chan AK, Chung KL, Chan FW and Lam CL (2015). Patient Empowerment Programme in primary care reduced all-cause mortality and cardiovascular diseases in patients with type 2 diabetes mellitus: a population-based propensity-matched cohort study. *Diabetes, Obesity and Metabolism*, **17**, 128–135.
- World Health Organization (2016). Multimorbidity: Technical Series on Safer Primary Care Geneva.
- Worswick J, Wayne SC, Bennett R, Fiander M, Mayhew A, Weir MC, Sullivan KJ and Grimshaw JM (2013). Improving quality of care for persons with diabetes: an overview of systematic reviews - what does the evidence tell us? *Systematic Reviews*, **2**, 26.
- Young-Hyman D, De Groot M, Hill-Briggs F, Gonzalez JS, Hood K and Peyrot M (2016). Psychosocial care for people with diabetes: a position statement of the American Diabetes Association. *Diabetes Care*, **39**, 2126–2140.
- Zheng F, Liu S, Liu Y and Deng L (2019). Effects of an outpatient diabetes self-management education on patients with type 2 diabetes in China: a randomized controlled trial. *Journal of Diabetes Research*, **2019**, 1073131.