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RESEARCH ARTICLE

# What helps and what hinders primary care treatment for women with type 2 diabetes and binge eating disorder? A qualitative study

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## Abstract

**Aim:** Although binge-eating disorder (BED) is a common comorbidity of type 2 diabetes, little is known about the treatment experiences for persons with both conditions. Our aim was to explore perceptions of Primary Care Providers' (PCPs') treatment among adult women with both diagnoses.

**Methods:** In this qualitative descriptive study, we conducted semi-structured interviews with a sample of 21 women (90% non-Hispanic white; mean age 49 ± 14.8 years, mean body mass index [BMI] 43.8 ± 8.4; 48% had type 2 diabetes, mean $HbA_{1c}$ 68 mmol/mol, 8.4%) who had previously participated in a secondary care specialized eating disorder treatment programme. Interviews were audio-recorded, transcribed and analysed using thematic analysis and NVivo 12.

**Results:** Participants described PCPs' helpful and unhelpful attitudes and behaviours during type 2 diabetes and BED treatment experiences. Helpful treatment was experienced when PCPs demonstrated a person-centred approach by providing adequate diabetes education, individualized care and non-judgmental attitudes from which participants reported increased understanding of diabetes and BED, improved diabetes self-care and fewer negative self-perceptions. Unhelpful treatment occurred when PCPs did not provide sufficient diabetes education and manifested deficient understanding of BED characterized by simplistic advice or judgmental attitudes, from which participants reported having limited knowledge and understanding of diabetes and BED, low self-efficacy, diminished trust and feelings of guilt, shame and failure.

**Conclusions:** We propose a preliminary pathways treatment model derived from our findings, which utilizes integrated type 2 diabetes and BED education and person-centred collaboration. This preliminary model needs to be tested in quantitative research with a larger sample.

KEYWORDS

binge-eating disorder, pre-diabetes, qualitative study, type 2 diabetes

  

## 1 | INTRODUCTION

Over 30 million people in USA have type 2 diabetes and worldwide more than 95% of people with diabetes have type 2 diabetes.[1,2] Furthermore, studies report a greater prevalence of binge-eating disorder (BED) in individuals with type 2 diabetes than those without type 2 diabetes.[3,4] In fact, one recent review article clearly articulated the need for healthcare providers to be familiar with the diagnosis of and treatment for BED since it is a common comorbidity of type 2 diabetes.[5] BED is characterized by recurrent binge episodes in which an objectively large amount of food is eaten in a discrete time and is associated with feelings of loss of control, distress, guilt and shame but without compensatory purging behaviours.[6]

Some researchers have speculated that the prescribed and perceived rigidity of diet and weight loss recommendations for prevention and management of type 2 diabetes can exacerbate disordered eating among those with or predisposed to eating disorders.[7] Studies also have found an association between disordered eating and impaired fasting glucose, insulin resistance or pre-diabetes,[8,9] and people with prediabetes have an increased risk of developing type 2 diabetes.[10] Importantly, there is a substantial lack of research regarding the treatment of disordered eating in people with type 2 diabetes and a strong need to further study this population to identify best practices for managing persons with this dual diagnosis.[11]

Person-centred care often is recommended in treatment of type 2 diabetes; this approach includes providing adequate diabetes education, tailoring treatment recommendations to each person's medical priorities and personalized life situation and promoting self-management and shared decision-making skills.[12,13] Winston (2020) advocated that ideal treatment for diabetes and BED needs to be carried out by professionals who understand diabetes management as well as the relationships among eating behaviours, mood, glycaemia and insulin administration.[14] Moreover, many persons with diabetes and an eating disorder disengage from diabetes treatment because they feel misunderstood or criticized by their health care providers.[14] This suggests that despite recommendations for person-centred diabetes treatment, providers may still have poor understanding of and limited strategies for treating persons with type 2 diabetes and BED. Thus, to improve treatment experiences and effectiveness, more needs to be understood about how treatment for BED interfaces with treatment for type 2 diabetes. Furthermore, since primary care providers (PCPs) deliver clinical care to about 90% of individuals with type 2 diabetes in USA,[15] the primary care (PC) setting offers the most efficient context to investigate the treatment experiences of people with type 2 diabetes and BED.

**What's new?**

- Binge-eating disorder (BED) is a common comorbidity of type 2 diabetes; little is known about treatment experiences with primary care providers (PCPs) for these co-occurring conditions.
- Helpful and unhelpful PCP treatment was explored with 21 women diagnosed with these co-occurring conditions.
- Findings highlight the importance of PCPs using education and person-centred collaboration for helpful treatment. PCPs' unhelpful attitudes and behaviours were perceived as hindering participants' knowledge and understanding of diabetes and reinforcing low self-efficacy and negative self-perceptions.
- Derived from our findings, a preliminary pathway model is proposed that integrates education and person-centred strategies. Quantitative research is needed to test this model.

Few studies have examined the effects of treatment for persons with type 2 diabetes and BED.[3] Qualitative research offers the opportunity to gather in-depth information on individuals' treatment experiences, which can inform effective interventions. We previously reported on qualitative data characterizing the lived experiences of managing both diabetes and BED from the perspectives of persons living with both illnesses (M.G. Salvia, unpublished data, 2022). The aim of the current study was to use the same participant sample to qualitatively investigate perceptions of their primary care experiences. Specifically, our research question was: How do persons with type 2 diabetes/pre-diabetes and BED perceive helpful and unhelpful treatment with their PCPs?

## 2 | PARTICIPANTS AND METHODS

### 2.1 | Qualitative approach

We used both a qualitative descriptive and narrative inquiry research design with in-depth interviewing to obtain information about the treatment experiences of adult women with BED and type 2 diabetes or pre-diabetes.[16,17]

## 2.2 | Setting and participants

We used purposive sampling to identify and select English-speaking adults from a secondary care centre specializing in eating disorder treatment in the Boston area of Massachusetts in USA. This centre offered intensive outpatient programming (IOP) for BED. Medical records were screened for admissions from 2015 to 2019 for co-occurring diagnoses of BED and type 2 diabetes/prediabetes. Inclusion criteria included completion of >2 weeks of the IOP programme and discharge at least 6 months prior to study enrolment. Exclusion criteria included discontinuing the IOP and needing a higher level of care or cognitive impairment or severe psychopathology limiting the ability to engage in the interview.

## 2.3 | Data collection and analysis

Participants attended one study visit at the treatment centre. All participants gave informed consent and received monetary compensation ($50) for their participation. Biomedical data were obtained by self-report at the time of the interview and from participants' outpatient providers' medical records for which participants gave separate consent.

One-on-one interviews were conducted by two of the study's researchers (MGS and PAQ) using semi-structured interview guide for participants with type 2 diabetes and pre-diabetes (Appendix A). The interview guide was developed by our multidisciplinary research team including PAQ (epidemiologist and registered dietitian), MDR (licensed psychologist with expertise in diabetes and qualitative research), MGS (registered dietitian and experienced qualitative researcher with expertise in BED and type 2 diabetes), and KLEC (licensed psychologist with expertise in BED). We reviewed the literature on BED and type 2 diabetes, outlined the core research questions and follow-up prompts to develop the interview guide that explored participant experiences of living with and receiving treatment for type 2 diabetes and BED before, during, and after their specialty treatment. All participants reported treatment by PCPs (physicians and nurse practitioners) who were external to the secondary BED IOP. Interviews were digitally audio-recorded and transcribed verbatim and were double checked as a quality measure. Study procedures were approved by the Boston University Institutional Review Board.

The research team used thematic analysis to analyse the data.[18] The team independently read transcripts and initially open-coded the data by marking and categorizing key words and phrases to generate the initial codes. Data analysis continued until data saturation for each theme occurred. The team met virtually every other week for 13 months to discuss and review codes; discrepancies were resolved through consensus. NVivo 12 software was used to manage data and facilitate the analysis.[19] The multidisciplinary team with experts from different disciplines allowed for investigator triangulation, which supported the credibility (validity) of the study. Dependability (reliability) was supported by recording all research decisions and processes creating an audit trail.

# 3 | RESULTS

Twenty-one women with diabetes and BED (mean age 49 years, range (19–66 years), 90% non-Hispanic white, mean body mass index (BMI) 43.8, range (30.2–63.9), mean $HbA_{1c}$ 68 mmol/mol, range (46–130 mmol/mol) or 8.4%, range (6.4%–14.0%), mean diabetes duration 12 years, range (5–18 years) were interviewed for this study. For our 10 participants with type 2 diabetes, four used non-insulin diabetes medications; three used insulin in addition to another diabetes medication; two used no medications; and one did not report medication use. For the 11 participants with pre-diabetes, nine used no diabetes medications, and two used non-insulin medications. Seventy-one percent reported that binge eating started in childhood or adolescence. Every participant had a formal diagnosis of BED using DSM-5 criteria, which was determined at the time of enrolment in the specialty eating disorder treatment programme or previously by a licensed mental health professional.

Helpful and unhelpful treatment experiences emerged as the two main themes from the thematic analysis of the qualitative interviews. Given that the encounter between the PCP and person with diabetes and BED is a two-person interaction, subthemes included both perceptions of PCPs' attitudes and behaviours as well as participants' reported reactions to those attitudes and behaviours (Table 1). Representative quotations are used for each theme/subtheme noting participant ID #, age, and diagnosis of type 2 diabetes/ pre-diabetes.

## 3.1 | Helpful treatment experiences

Participants perceived PCPs' helpful attitudes and behaviours when treatment entailed a person-centred and collaborative approach. Participants described person-centred and collaborative care when they perceived their PCPs as offering sufficient diabetes education and individualized care and when PCPs manifested non-judgmental attitudes and emotional understanding of the participants' lived experiences of BED and diabetes.

**TABLE 1** Perceptions of primary care treatment experiences

| Theme | Perceptions of PCPs' Attitudes and Behaviours | Participants' Reported Reactions |
|---|---|---|
| Helpful treatment experiences | • Sufficient diabetes education<br>• Individualized treatment plans<br>• Non-judgmental attitudes<br>• Emotional understanding of difficulties managing diabetes and BED | • Better understanding of diabetes and BED<br>• Improved diabetes self-care behaviours<br>• Decreased negative emotions and self-perceptions |
| Unhelpful treatment experiences | • Insufficient diabetes education<br>• Limited understanding of BED<br>• Limited understanding of participants' emotional experiences of living with and managing dual diagnoses<br>• Simplistic advice<br>• Judgmental attitudes | • Lack of understanding of diagnoses and treatment plans<br>• Reinforced negative self-perceptions (shame, self-blame, sense of failure)<br>• Feeling unheard or misunderstood regarding binge eating behaviours or concerns<br>• Diminished trust in provider<br>• Low self-efficacy |

Each factor of this treatment was portrayed as eliciting positive behavioural and emotional responses from the participants.

For example, some participants described diabetes education as promoting their better understanding of the connection between diabetes and binge eating, helping to improve their self-care behaviours and sense of self-efficacy as well as increasing their understanding of some of their emotional and physical reactions:

> *I got more education and started to realize the connection between the binge eating and the $A_{1C}$. I started taking my blood sugar on a regular basis. I've been much more vigilant with that.... So, I have ... segments of time that I'd be very vigilant ..., and that would definitely help the binge eating, and I was able to make connections between not bingeing and a sense of calm.*
>
> (#18, age 63 years, diabetes)

> *And so, it was like "oh that makes sense! That's why I feel so ...," and they [PCPs] were like "it'll cause you to be really tired because you'll have had too much sugar and that sugar isn't being used properly, so it'll cause you to be more and more tired," and it'll cause most of the symptoms that I was having at that time, and I was like "oh, wow! This makes sense...."*
>
> (#20, age 19 years, pre-diabetes)

Other participants described helpful person-centred treatment when they perceived their PCPs as individually addressing their specific BED behaviours in the context of diabetes. For example, one participant described how her PCP's long-term understanding of her eating patterns contributed to an individualized treatment plan that included more frequent visits and the intermittent use of insulin:

> *... my doctor knew ... and had seen it over the years. ... during the times when I ate well my blood sugar was pretty well-controlled. And the times when I didn't, it wasn't, and so I think as a first step before putting me on daily insulin, she said "since it only seems to happen when your eating is out of control, let's try giving you (insulin) pens for those instances." ... My doctor also started asking me to come in for appointments every 3 months or so.*
>
> (#13, age 59 years, diabetes)

Person-centred care was further experienced with collaboration across the multidisciplinary team, which allowed participants to feel that treatment was tailored to their individual needs:

> *So, my doctors [PCPs] were great and just automatically sent me to JDC [specialized diabetes treatment centre]. And I had an endocrinologist there but also a nutrition specialist... and she taught me a lot... I have problems with memory among other things with my head,*

*and so she kinda worked with me, with my quirkiness because I can only concentrate on one thing …*

(#9, age 65 years, diabetes)

Finally, participants perceived helpful treatment and described their positive reactions when PCPs demonstrated an understanding of the complex difficulties they faced in their attempts to manage the dual diagnoses of type 2 diabetes/prediabetes and BED. For example, one participant described how her PCPs' understanding of the similar psychological factors underlying both her binge eating and poor diabetes self-management contributed to her improved self-perceptions and diabetes self-management:

*Yeah. I think they [PCPs] were in sync about forgiving yourself, being kinder to yourself, giving you permission to fail and rebound, all work very nicely with keeping your blood sugars in check. Because I do believe it's the emotional beating yourself up that starts that vicious, vicious cycle of binge eating and feeling like a failure.... Not wanting to look at that [blood glucose] number. So, I think it's really connecting those pieces that you're okay, you're worthwhile, you're not a failure, and you're going to make mistakes and that's ok. And I think that's what worked synergistically with diabetes.*

(#18, age 63 years, diabetes)

## 3.2 | Unhelpful treatment experiences

In contrast to helpful treatment experiences, unhelpful encounters were described as not person-centred treatment. Some participants reported not receiving sufficient diabetes education or experiencing a lack of personalized diabetes treatment recommendations by their PCP. For example, one participant described a medical encounter where she perceived her PCP as almost robotically responding to her glucose data without empathy or interest in her as a person living with type 2 diabetes and BED, which contributed to her feeling unheard or misunderstood and hopeless about an effective treatment plan for her medical concerns:

*I'd go into my doctor's office, and I'll have a bunch of numbers. Like 140, 120, 200. After supper, it'd be like 200, 160, 330, 150. All she (PCP) does is," Ok, your numbers here … are fine. These numbers are too high, so take more insulin over here." That's all I ever get. You know her answer is "just don't eat that." There's no concept, as far as I'm concerned, in the diabetic world of what binge eating disorder is. There's no recognition of it. …Personally, I think they should recognize the mental aspects of it. You know that it's there, number one. And number two, that they should have some way for you to deal with it. Deal with your emotions instead of, you know, eating a sleeve of cookies over it....they don't do that. It's nowhere to be found. At least not that I've seen.*

(#4, age 56 years, diabetes)

Most of the participants with pre-diabetes described almost a total absence of diabetes education. For example, this participant reported receiving such minimal diabetes education that she did not really understand what her diagnosis meant:

*The word that they used was insulin resistance, and then as I got older … they started using the word prediabetes, and I remember being like "what's that?" like "what, what do you mean?"*

(#20, age 19 years, pre-diabetes)

In addition, participants described unhelpful treatment when they perceived PCPs as having a limited understanding of BED or not knowing how to integrate treatment for BED with usual diabetes treatment despite the wish to help:

*And then I talked to my doctor about it [binge eating], my primary care. Because she always talked about healthy weight and exercise, and healthy lifestyle, but she never really addressed that [binge eating]. I had a real problem with this …. It's [BED's] like a disease, just like my diabetes. And nobody seems to understand it. They all think it's willpower.*

(#12, age 66 years, diabetes)

*We've [PCP and participant] had conversations about binge eating disorder certainly at several appointments. Yes, I feel like we sort of get so far with it, and then I start to feel like she doesn't really totally understand what I'm saying. It's like she does, but then "so what you have to do is...x, y, and z" … and then you're like "yeah, you don't get it." So, I tend to... kind of close the door sometimes with the communication with the primary*

*care because... I don't necessarily feel like it's gonna be a productive conversation. When we talk, I feel like somehow it's going to circle back around to a focus on numbers on the scale or specific structured behaviors that you have to follow.*

(#1, age 40 years, diabetes)

Furthermore, participants characterized their PCPs' communication as suggesting a limited understanding of the complexity entailed in managing both binge eating and type 2 diabetes/pre-diabetes. This was particularly the case when PCPs made the recommendation to lose weight. In response to this perceived lack of understanding or over-simplification of their lifelong experiences of being overweight or being told that optimal diabetes self-management or prevention is solely about weight loss, participants described feeling anger and frustration:

*Oh yeah, every doctor told me to lose weight. And I would kind of get mad because I'm like, "can you focus on something else?" [laughs] Like, can I be a person and not a weight number? You know? And telling someone to lose weight – "oh, lose weight, oh, okay!" ...I don't think all of this stuff has really come to the forefront of everything in the medical field ... they're not understanding that whole piece behind being overweight.*

(#11, age 56 years, diabetes)

Participants also described how PCPs not understanding the complex factors involved with weight loss and binge eating contributed to self-blame and a sense of failure in the context of decades of being overweight and engaging in binge eating, which for most participants started in childhood or adolescence:

*...from my experience, the doctors that I've worked with, I feel like they don't have a good understanding of human behaviour when it comes to eating and eating disorders.... I feel like that a lot of times, especially for PCPs, it seems like it's approached in a very cut-and-dry way, like "well, you need to lose weight, cut calories, cut food, exercise more," without an understanding of how complex that is and all of the other pieces that go along with it, as if it's just a simple formula. ...and if you're not successful with it, you're not trying hard enough or you don't have the willpower, you don't have the self-control. Again, I guess just not recognizing the complexity of it and understanding human behavior.*

(#1, age 40 years, diabetes)

Finally, participants described a reluctance to share their binge eating behaviour with PCPs, often hindering opportunities for collaborative care. Sometimes, this reluctance was attributed to perceptions of PCPs as not having the time, interest, knowledge base or understanding to be of help to them. Participants often described feeling as though their binge eating was overtly or silently dismissed in their medical encounters. For example, one participant recalled her experience as a college student where she did not know how or did not feel she had the right or opportunity to discuss her binge eating with her PCP. When she attempted to discuss her concerns, she described feeling not heard and concluded that binge eating was dismissed as a valid medical concern:

*... I may have mentioned it (binge-eating) like once or twice.... and they just never took that as the priority of the appointment. It was always like, "you're here for one reason, and that's the reason you're here and that's what I'll treat you for." Anything else, "make another appointment." And so, I just wouldn't [discuss BED] because that seemed like not a good reason to come into an appointment when you're a college kid and you don't know. So, I was just like "oh well, guess that's not on the list today," ...—it always fell by the wayside.*

(#15, age 32 years, prediabetes)

In other instances, participants described how shame or fear of disappointing their provider contributed to not discussing their binge eating with their PCPs.

*I felt ashamed, and I would avoid reporting more than I had to. So sometimes I would wait until the next appointment to tell them. And I felt ashamed that I was doing this to myself.*

(#13, age 59 years, diabetes)

*Because it's embarrassing. Yeah. And they've already told me to lose weight, and if I tell them I'm binge eating, they're going to be very disappointed in me.*

(#10, age 57 years, pre-diabetes)

## 4 | DISCUSSION

In this qualitative study, we explored perceptions of PCPs' helpful and unhelpful treatment attitudes and behaviours among women with type 2 diabetes/pre-diabetes and BED. Treatment was viewed as helpful when participants perceived a person-centred collaborative approach where their PCPs spent time and showed interest in increasing participants' understanding of diabetes and addressing their individual treatment needs. Participants also noted the importance of PCPs manifesting non-judgmental attitudes and an emotional understanding of both of their conditions. Further, they perceived helpful attitudes and behaviours that contributed to increased knowledge and understanding as well as enhanced self-efficacy promoting improved self-care and fewer negative self-perceptions. On the other hand, participants perceived unhelpful treatment when PCPs did not offer sufficient diabetes education, had a limited understanding and knowledge of BED and a lack of ability to integrate treatment for BED with diabetes care. In addition, participants perceived unhelpful treatment when PCPs demonstrated judgmental attitudes. As a result of unhelpful treatment, participants described a lack of information about their diagnoses, diminished self-efficacy to manage their conditions and reinforced negative self-perceptions.

Our finding that diabetes education was seen as a vital component of helpful treatment was not surprising since UK Diabetes reports that the poor delivery of education to people with diabetes promotes serious diabetes complications, premature deaths, and unsustainable costs to the National Health Service.[20] Thus, PCPs who treat persons with diabetes are urged to include diabetes education in their treatment protocol. Importantly, in our study, the lack of sufficient education was particularly pronounced for persons with pre-diabetes who were told they had a condition sometimes without any explanation of what it meant or how to take preventive actions to delay development of type 2 diabetes. In addition, it is noteworthy that participants rarely mentioned their PCPs offering education about BED. This absence of BED education seems to match perceptions that PCPs lacked both understanding of BED and treatment strategies to co-manage diabetes and BED.

Furthermore, the experience of feeling dismissed by a PCP when trying to disclose binge eating behaviours was a common experience in our sample. These findings strongly suggest the need to assist PCPs in gaining knowledge and becoming more familiar with BED symptoms and experiences. PCPs would benefit from continuing education to develop skills for screening and diagnosing BED[3] and making referrals to qualified mental health and nutrition providers to inform a comprehensive treatment plan. In addition, we found, and others have reported,[14] that persons with diabetes and eating disorders can feel misunderstood and or criticized by their PCPs and then may disengage from treatment, risking suboptimal health outcomes. To maximize treatment effectiveness, education also is needed to raise PCPs' awareness of their judgmental attitudes, implicit weight bias and critical communication styles that interfere with the helpful care provided to persons with these dual diagnoses.

Our participants' shame and reluctance to share their binge eating can be understood through the lens of weight bias. In fact, studies have indicated PCPs' negative bias towards overweight people as well as the lack of medical education and research to address these negative attitudes and their harmful influences on health outcomes.[21,22] Studies also have documented a reluctance to disclose lack of engagement in diabetes self-care behaviours by persons with type 2 diabetes because of guilt, shame and fear of being judged.[23,24] Interestingly, Beverly and colleagues also found the reluctance to share information on lack of engagement in diabetes self-care was associated with elevated depressive symptoms.[23] This finding suggests the need to explore and better understand how persons with diabetes and BED are psychosocially functioning and how depression may interface with their perceptions of and reactions to treatment. It is known, for example, that depression and other altered mood states predispose to worsened eating disorder pathology.[25] Importantly, when PCPs treat this vulnerable population with dual diabetes and BED diagnoses, we endorse following recommendations for regular screening for depression.[10,26] Unfortunately, recommendations for BED screening are sorely absent despite the high prevalence of BED with type 2 diabetes.[4]

Participants in our study observed that helpful individualized treatment occurred when PCPs increased the frequency of their visits and when they had long-term relationships. These findings are of special interest during this time in healthcare when shorter and less frequent visits with health care providers occur, and the need for continuity of care continues to be stressed when providing quality primary care.[27,28] Our participants noted one possible solution when they endorsed the use of the multidisciplinary care team comprised of a range of medical providers; this team can allow persons with diabetes and BED to be seen more frequently and can include mental health providers and nutritionists with expertise in the treatment of eating disorders.

Importantly, efforts to develop treatment models for co-occurring diabetes and eating disorders are ongoing. Harrison et al. (2020) developed a cognitive behavioural therapy model that was aimed to inform the development of an intervention for type 1 diabetes and disordered eating.[29] Similarly, given the lack of treatment

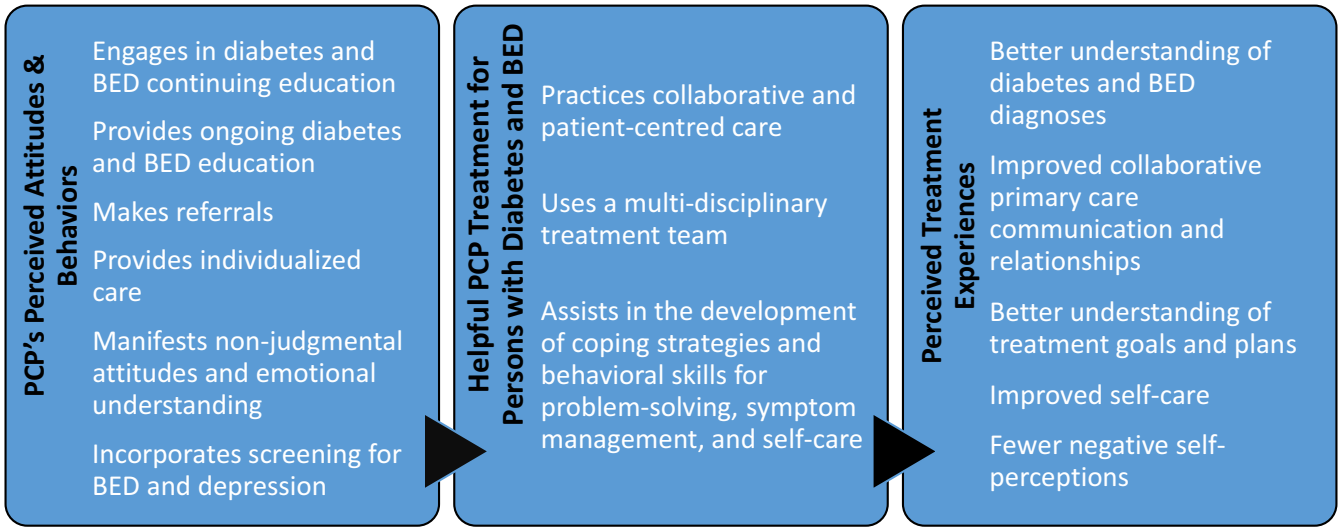


**FIGURE 1** Proposed pathway to helpful treatment from primary care providers (PCPs) and subsequent improvements in treatment experiences.

recommendations for persons with type 2 diabetes and BED, we propose a preliminary pathway model derived from our findings, which suggests optimal interactions in PC treatment (Figure 1). In this innovative model, persons with these dual diagnoses would benefit from a partnership with PCPs where treatment occurs in an environment of respect, trust and collaboration, and where the mutual development of coping strategies and problem-solving skills could improve treatment experiences for this population. This model also needs to include the perspectives of PCPs and other stakeholders but may be seen as a first step in the development of a rigorously formulated treatment model to be tested in future quantitative research with larger and more diverse samples.

The limitations of this study include a small, homogenous sample (e.g., English-speaking, well-educated, 90% non-Hispanic white) of women who were treated at a specialized BED treatment programme in the northeastern USA. Selection bias may be present since these participants were able to access and utilize a specialized BED programme, and therefore their experiences may differ from those who could not access specialized treatment. This sample also does not include black women and white men who have a similar prevalence of BED as white women[30] and minorities whose prevalence of type 2 diabetes is far greater than non-Hispanic whites.[1] Future studies will require innovative strategies to enrol more diverse populations for improved representation. In addition, recall bias may be present; participants' recollections of their treatment experiences may reflect an accumulation of thoughts, feelings, and impressions over many years of health care interactions and with multiple providers. Finally, participants were interviewed after their BED IOP treatment, and their perceptions may be coloured by having received specialized treatment.

In conclusion, our findings highlight the need for increased education for persons with type 2 diabetes and BED and for PCPs to improve clinical encounters for these co-existing and deeply intertwined medical conditions. Primary care providers would benefit from education that enhances their awareness of factors contributing to binge eating, the complex interactions between type 2 diabetes and BED, the behavioural management strategies that are common to both diagnoses, and person-centred ways to discuss both diagnoses and reduce weight bias in PC encounters. Persons with type 2 diabetes and BED would benefit from education on both diagnoses. Strategies that enhance the individual's active and self-efficacious role in treatment need to be creatively designed and patiently taught.

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## CONFLICT OF INTEREST

Katherine Craigen is an employee of Walden Behavioral Care, and Paula Quatromoni is a Senior Consultant to Walden Behavioral Care's Department of Nutrition. Marilyn Ritholz is a scientific advisory board member for Dario Health and a board member at the Ohio University Diabetes Institute.

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## REFERENCES

1. Centers for Disease Control. National Diabetes Statistics Report, 2020
2. World Health Organization. Newsletter. Facts in Pictures. Diabetes. May 15, 2020.
3. Chevinsky JD, Wadden TA, Chao AM. Binge eating disorder in patients with type 2 diabetes: diagnostic and management challenges. *Diabetes Metab Syndr Obes: Targets Ther*. 2020;13:1117-1131.
4. Abbott S, Dindol N, Tahrani AA, Piya MK. Binge eating disorder and night eating syndrome in adults with type 2 diabetes: a systematic review. *J Eat Disord*. 2018;6:36.
5. Harris SR, Carrillo M, Fujioka K. Binge-eating disorder and type 2 diabetes: a review. *Endocr Pract*. 2021;27:158-164.
6. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. 5th ed. American Psychiatric Association; 2013.
7. Gagnon C, Aime A, Belanger C. Predictors of comorbid eating disorders and diabetes in people with type 1 and type 2 diabetes. *Can J Diabetes*. 2017;41:52-57.
8. Yoon C, Jacobs DR, Duprez DA. Problematic eating behaviors and attitudes predict longterm incident metabolic syndrome and diabetes: the coronary artery risk development in young adults study. *Int J Eat Disord*. 2019;52:304-308.
9. Wassenaar E, Friedman J, Mehler PS. Medical complications of binge eating disorder. *Psychiatr Clin North Am*. 2019;42:275-286.
10. Standards of Care in Diabetes. Abridged for primary care providers. Clinical Diabetes 2021. *ADA Standards of Medical Care*. Vol 39. American Diabetes Association; 2021:14-43.
11. Broadley MM, Zaremba N, Andrew B, et al. 25 years of psychological research investigating disordered eating in people with diabetes: what have we learnt? *Diabet Med*. 2020;37:401-408.
12. Davies MJ, D'Alessio DA, Fradkin J, et al. A consensus report by the American Diabetes Association (ADA) European Association for the Study of Diabetes (EASD). *Diabetes Care*. 2018;2018(41):2669-2701.
13. Von Korff M, Gruman J, Schaefer J, Curry SJ, Wagner EH. Collaborative management of chronic illness. *Ann Intern Med*. 1997;127(12):1097-1102.
14. Winston AP. Eating disorders and diabetes. *Curr Diab Repts*. 2020;20:1-6.
15. Davidson JA. The increasing role of primary care physicians in caring for patients with type 2 diabetes mellitus. *Mayo Clin Proc*. 2010;85(Suppl. 12):S3-S4.
16. Kim H, Sefcik JS, Bradway C. Characteristics of qualitative descriptive studies: a systematic review. *Res Nurs Health*. 2017;40:23-42.
17. Clandinin DJ, Connelly FM. Narrative inquiry. *Narrative Inquiry: Experience and Story in Qualitative Research*. Jossey-Bass; 2000.
18. Boyatzis R. *Transforming Qualitative Information: Thematic Analysis and Code Development*. SAGE Publications, Inc.; 1998.
19. QSR International Pty Ltd. NVivo qualitative data analysis software. NVivo (Version 12). 2018
20. Diabetes UK, Poor delivery of diabetes education fuelling devastating complications. UK Diabetes Newsletter July 13, 2016. https://www.diabetes.org.uk.
21. Huizinga MM, Cooper LA, Bleich SN, Clark JM, Beach MC. Physician respect for patients with obesity. *J Gen Intern Med*. 2009;24(11):1236-1239.
22. Wiese HJ, Wilson JF, Jones RA, Neises M. Obesity stigma reduction in medical students. *Int J Obes Relat Metab Disord*. 1992;6(11):859-868.
23. Beverly EA, Ganda OP, Ritholz MD, et al. Look who's (not) talking: diabetic patients' willingness to discuss self-care with physicians. *Diabetes Care*. 2012;35:1466-1472.
24. Ritholz MD, Beverly EA, Brooks KM, Abrahamson MJ, Weinger K. Barriers and facilitators to self-care communication during medical appointments in the United States for adults with type 2 diabetes. *Chronic Illn*. 2014;10:303-313.
25. McAuley C, Mond J, Touyz S. Eating disorders, bipolar disorders and other mood disorders: complex and underresearched relationships. *J Eat Disord*. 2019;7:1-4.
26. International Diabetes Federation.Clinical practice recommendations for managing type 2 diabetes in primary care, 2018
27. Shi L. The impact of primary care: a focused review. *Scientifica*. 2012;1-22:1-22.
28. Detz A, Lopez A, Sarkar U. Long-term doctor-patient relationships: patient perspective from online reviews. *J Med Internet Res*. 2013;15(e131):1-12.
29. Harrison A, Zaremba N, Brown J, et al. A cognitive behavioural model of the bidirectional relationship between disordered eating and diabetes self care in people with type 1 diabetes mellitus. *Diabet Med*. 2021;202(38):e14578.
30. Hudson JI, Lalonde JK, Coit CE, et al. Longitudinal study of the diagnosis of components of the metabolic syndrome in individuals with binge-eating disorder. *Am J Clin Nutr*. 2010;91:1568-1573.

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## APPENDIX A

Interview Guide.

Interview Questions for Participants with Type 2 Diabetes.

1. Tell me about your experience with the onset of binge eating and getting diagnosed with *binge eating disorder*

Prompt: How did you know you had binge eating disorder?

Prompt: Who diagnosed you?

Prompt: How have binge eating symptoms developed or changed over time?

2. Tell me about your experience with the development and diagnosis of *diabetes*

Prompt: Which came first, the diabetes or the binge eating behaviours?

Prompt: How did binge eating influence your diabetes management or your ability to follow diabetes treatment recommendations?

Prompt: How did managing your diabetes influence your binge eating behaviours?

3. Please tell me about your diabetes self-care prior to attending programme

Prompt: Which aspects of diabetes self-care did you find most challenging?

Prompt: What helped you manage your diabetes (what strategies or self-care steps worked best)?

Prompt: Please tell me about any education or support you received around managing your.

diabetes.

4. What challenges did you face when managing both diagnoses before coming to programme?

Prompt: How did you manage your diabetes when your binge eating behaviours were most active?

Prompt: How did you manage blood glucose checking, logging, or medication doses in response.

to a binge episode?

5. How did getting treatment for binge eating disorder impact your binge eating behaviours?

Prompt: What, if any, elements of programme helped interrupt binge-eating behaviours?

Prompt: What changed or did not change after participating in the IOP programme?

Prompt: Did you tell your diabetes team about binge eating behaviours? If so, what was that like for you? If not, why did you not tell?

6. How did treatment impact your understanding or management of binge eating *and* type 2 diabetes together?

Prompt: In what ways did you find treatment recommendations or management goals for the two conditions to be in conflict with one another?

Prompt: In what ways were recommendations and goals in sync?

7. How did the programme impact your diabetes self-care?

Prompt: How did the programme address or guide diabetes management?

Prompt: What support would have been most helpful to you in being able to best manage these two conditions (binge eating disorder and diabetes)?

8. What is your present experience with managing type 2 diabetes and binge eating behaviours

currently?

Prompt: Have your binge eating behaviours changed? Did this improve, worsen, or stay the same in comparison to before programme?

Prompt: Has your diabetes management changed? Did this improve, worsen, or stay the same in comparison to before programme?

Prompt: What, if anything, is still challenging for you?

9. Are there foods that you feel are challenging or off-limits for you right now?

Prompt: Has your intake of carbohydrates changed because of or since treatment for binge eating?

10. What kind of support are you getting for managing these conditions (for example: outpatient

teams, self-care, support groups, or other options)?

Prompt: What kind of support would be helpful to continue your progress or help you address setbacks or challenges?

11. What role has weight and body image played in your life?

Prompt: Did weight or shape influence the development or course of either binge eating or diabetes for you?

Prompt: What are your perceptions of weight and shape currently?

Prompt: What has been your experience in trying to lose weight, both historically and currently?

Interview Questions for Participants with Pre-Diabetes.

1. Please tell me about your experience with the onset of binge eating and getting diagnosed with *binge eating disorder*

Prompt: How did you know you had binge eating disorder?

Prompt: Who diagnosed you?

Prompt: How have binge eating symptoms developed or changed over time?

2. Tell me about your experience with the development and identification of prediabetes

Prompt: When did the concern for developing diabetes emerge relative to the onset of binge eating behaviours? Which came first?

Prompt: How did binge eating impact your prediabetes risk or your ability to follow recommendations to manage that risk?

Prompt: How did managing prediabetes influence your binge eating behaviours?

Prompt: What has happened to your diabetes risk factors (for example, fasting blood glucose or $A_{1c}$) since attending programme? Have you developed diabetes or seen any changes in lab values?

3. Please tell me about how you were managing diabetes risk before attending programme

Prompt: Which aspects of self-care or diabetes risk management did you find most challenging?

Prompt: What helped you manage your risk for developing diabetes (what strategies worked best)?

Prompt: Please tell me about any education or support you received around preventing diabetes.

4. What challenges did you face when managing both binge eating disorder and prediabetes before coming to programme?

Prompt: How did you manage or how did you feel about prediabetes risk factors when binge eating behaviours were most active?

Prompt: Did you tell your physician or health care team about binge eating behaviours? If so, what was that like for you? If not, why did you not tell?

5. How did getting treatment for binge eating disorder impact your binge eating behaviours?

Prompt: What, if any, elements of the BED programme helped interrupt binge-eating behaviours?

Prompt: What changed or did not change after participating in the programme?

6. How did treatment impact your understanding or management of binge eating *and* prediabetes together?

Prompt: In what ways did you find treatment recommendations or management goals for the two conditions to be in conflict with one another?

Prompt: In what ways were recommendations and goals in sync?

7. How did the programme impact your prediabetes self-care?

Prompt: How did binge eating disorder treatment impact your diabetes risk-reduction goals? For example, were there changes in blood glucose readings or $A_{1c}$?

Prompt: How did the programme address or guide prediabetes risk management?

Prompt: What support would have been most helpful to you in being able to best manage these two conditions (binge eating disorder and prediabetes)?

8. What is your present experience with managing prediabetes risk or type 2 diabetes and binge eating behaviours currently?

Prompt: Have your binge eating behaviours changed? Did this improve, worsen, or stay the same in comparison to before programme?

Prompt: Has your diabetes risk or diabetes management changed? Did this improve, worsen, or stay the same in comparison to before programme?

Prompt: What, if anything, is still challenging for you?

9. Are there foods that feel challenging or off-limits for you right now?

Prompt: Has your intake of carbohydrates changed because of or since treatment for binge eating?

10. What kind of support are you getting for managing these conditions (for example: outpatient teams, self-care, support groups, or other options)?

Prompt: What kind of support would be helpful to continue your progress or help you address setbacks or challenges?

11. What role has weight and body image played in your life?

Prompt: Did weight or shape influence the development or course of either binge eating or prediabetes or diabetes for you?

Prompt: What are your perceptions of weight and shape currently?

Prompt: How does weight impact binge eating, type 2 diabetes or diabetes prevention for you currently?