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Challenges to developing diabetes self-management skills in a low-income sample in North Carolina, USA

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Abstract

High rates of diabetes diagnosis and poor diabetes outcomes are particularly significant in low-income, socially disadvantaged populations. Although many social and economic predictors of poor self-management outcomes are known, few studies have examined how these elements impact the ability to develop self-management capacities in low-income populations. This article presents new insights into low-income women's challenges and successes to becoming more adept self-managers. Interview data were collected in 2012 with a sample of low-income, middle-age women with type II diabetes recruited from a non-profit medical clinic serving low-income clients in North Carolina, United States. Data were analysed using a grounded theory approach. Developing self-management skills within disadvantaged contexts involved negotiating three related, overlapping sub-processes: negotiating access to care systems, negotiating disruptions to diabetes self-management patterns, and negotiating self-care knowledge. Developing diabetes self-management skills is a long and arduous process. Data and analysis presented here help explain how disadvantaged life contexts can impact self-managers' efforts to develop self-management skills and why continued support is important for reducing and preventing future problems. These initial findings suggest that future studies and intervention development on the topic are warranted.

Keywords

diabetes; healthcare; illness self-management; low-income; skill development

Background

High rates of diabetes diagnosis and poor diabetes outcomes are particularly significant in low-income, socially disadvantaged populations in the United States (Centers for Disease Control and Prevention 2011). For individuals diagnosed with type II diabetes, diabetes self-management (DSM) is the primary means for reducing the associated risk of early morbidity and mortality. In the U.S. context, individuals are instructed to engage in healthy eating, be active, take medication appropriately, monitor their condition, cope with the emotional impact of the disease, and solve problems and reduce diabetes risk (Peeples *et al.* 2007). Successful DSM involves developing a diverse knowledge and skills set. However, developing DSM capacities is challenging, with an estimated 50–80% of individuals

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exhibiting knowledge and skill deficits that negatively impact their ability to integrate DSM into daily life (Norris *et al.* 2002, Funnell *et al.* 2011, Horsten *et al.* 2011). After diagnosis, individuals need comprehensive information and ongoing guidance as they work to develop multiple self-management skills. Arguably, life circumstances at the time of diagnosis impacts a person's access to DSM education and the quality of their opportunities for developing DSM skills across time (Hills-Briggs *et al.* 2011).

The life circumstances of low-income women (e.g. having little disposable income, a lack of health insurance and subsequent reduced access to healthcare, and greater care-giving demands) are particularly important as they can reduce the time, energy and resources available for developing self-management capacities while also limiting the ways that daily life can be reconfigured to meet self-management needs (Riley 2005, American Psychological Association 2011). Moreover, evidence demonstrates that low-income women suffer worse DSM outcomes and face substantial barriers to self-management than low-income men or individuals of higher social economic status (Agency for Healthcare Research and Quality (AHRQ) 2011, Hills-Briggs *et al.* 2011, American Psychological Association 2011).

Although many social and economic predictors of poor self-management outcomes have been identified (i.e. having less formal education, being uninsured or living in poverty), there is a paucity of research about how these factors transact in the lives of these individuals as they work to develop self-management capacities. Such knowledge is important for prioritising areas of intervention and to determine how best to modify healthcare delivery and equip a high-risk group to negotiate challenges that may impede skill development. Thus, the purpose of the study was to examine how participants' life circumstances impacted their ability to develop their DSM skills.

Methods

The study utilised an in-depth, multiple-case multi-methods approach (Slate 2006, 6 & Bellamy 2012). The case study approach was chosen for the study to achieve a depth of understanding of DSM skill development both within individual cases and across cases. Specifically, case study approaches are sensitive to the temporal chronology and context of cases (6 & Bellamy 2012), making it an effective method for understanding how individuals develop DSM skills across time and within particular life contexts. Because in this study, DSM was conceptualised as a multi-faceted process shaped by temporal, social and personal contexts, multiple methods were incorporated to better understanding, DSM development from a variety of angles.

Methods included having each participant complete the Diabetes Care Profile (Fitzgerald *et al.* 1996), participate in a semi-structured interview, photograph aspects of their daily life they associated with DSM (past and present) and participate in a photo-elicitation interview (Harper 2002, Fritz & Lysack 2014), and complete a time-geographic diary (TGD) with participation in a subsequent TGD interview (Pentland & Harvey 1999, Michelson 2005, Fritz 2014). Each participant took between 5 and 16 weeks to complete data collection and was compensated one \$100.00 (visa gift card) for their time and effort.

Participants

Before beginning recruitment, approval for the study was obtained from the university's institutional review board and the medical director of the community clinic associated with the study. The community clinic was located in an urban area in central North Carolina with an estimated population of 423,338,000 residents. At 9.8%, North Carolina has a diabetes rate above the national average. At the time of the study, poverty (16.3% of the population) and unemployment (9.4% unemployment rate) were high (U.S. Census, 2012). Sources for formalised DSM training included classes offered through the major medical system, one county public health department, and a network of local non-profit clinics for general medical care. While DSM classes were offered in the area, the availability and quality varied. Some 'classes' involved watching a set of videos with no staff interaction, while other programmes met monthly or quarterly, but could be discontinued when funding (mostly obtained through grants) was terminated. Residents without insurance and who were unable to qualify for Medicaid (government medical insurance) could apply and potentially qualify for basic medical care for a reduced fee through the hospital's charity assistance programme, the public health department, or the non-profit clinic network.

A purposive sampling strategy was used to recruit low-income African American and white women self-reporting: (i) a diagnosis of type II diabetes for at least 6 months prior to participating in the study; (ii) age between 40 and 64 years; (iii) ability to read and write English at the third-grade level; and (iv) a household income at or below 200% of the federal poverty guidelines. Individuals aged 40–64 were specifically recruited for the study because the majority of diabetes diagnosis in the United States occur during these years (Centers for Disease Control and Prevention 2011). In addition, individuals who had been diagnosed with diabetes for at least 6 months were recruited because these women would have at least a preliminary understanding of DSM and able to reflect on how their life circumstances have impacted their DSM development across time.

Participants were recruited from the non-profit medical clinic's ongoing group diabetes medical visits. The visit co-ordinator allotted time during the visits for the author to explain the study, distribute recruitment flyers and obtain the contact information of interested potential participants. Individuals who expressed interest in the study received a follow-up phone call and were screened for eligibility. If eligible, an appointment was made to meet with the participant to review the study consent forms, answer any additional questions and obtain their informed consent.

Data collection

The author conducted all interviews in a location of the participants' choice. Interviews ranged in duration from 55 to 125 minutes and with participants' permission, all interviews were audio recorded for later transcription. The initial semi-structured interview (see Box 1 for a selection from the interview guide) was designed to elicit participants' experience of developing DSM, and how the experience of DSM had changed across time.

The second semi-structured interview was a photo-elicitation interview (Harper 2002). Photo elicitation involves inserting photographic material (participant or researcher generated) into

a research interview (Harper 2002). Photo elicitation was used in the study to better understand how the people, places and activities inherent in daily routines influenced participants' self-management (Fritz & Lysack 2014). To complete the photography and the photo-elicitation component, participants were given a disposable camera (27 exposures), a prepaid mailer for returning the camera, trained on how to use the camera if needed, and instructed to: 'take photographs of the things you associate with DSM throughout the following 2 weeks'. Upon developing the photographs, the author analysed the photography prior to meeting with participants for the interview to determine subject matter that might provide some focus for the photo-elicitation interview. At the beginning of the interview, participants were asked to review their photographs and to select the ones that they wanted to discuss. Each of the selected photographs was reviewed individually as the participant described the content of the photograph, why a photograph was taken, temporal representation (past or present), where it was taken and, if applicable, with whom the photograph was taken.

Following the photo-elicitation phase, participants were asked to complete a TGD (Pentland & Harvey 1999, Michelson 2005). The TGD involves participants logging their daily activities in a specific way and in small increments of time. Participants were asked to record their daily activities for 2 days (one weekday and one weekend day) with the assumption that DSM would emerge as part of daily life patterns. The TGD process for the study has been described in detail in an additional publication (Fritz 2014). Briefly, the TGD packet was created in Microsoft Excel and included (i) the leave-behind TGD formatted in 15-minute intervals; (ii) an example of how to complete the diary; (iii) the author's contact information; and (iv) a prepaid mailer for returning the TGD. Table 1 is a sample of the TGD matrix used in the study.

Data analysis

The 30 interview transcripts were coded in the Atlas ti. software package (American Psychological Association 2011) using a grounded theory approach (Charmaz 2006). The author was the primary coder of all interview transcripts and began the text analysis with open coding of the data (coding small segments of text line by line). Because participants were enrolled sequentially, the author open coded initial interview transcripts and analysed emerging themes before continuing with subsequent interviews. Themes that emerged early in data analysis were theoretically sampled for in later interviews. Focused coding followed, which involved taking initial analytical directions developed from the line-by-line coding and applying them more selectively to larger chunks of text (Charmaz 2006).

To increase trustworthiness of the study, data triangulation was used to examine points of divergence and discrepancies across data sources. The author also engaged in peer debriefing (during biweekly meetings) with other researchers at the institution throughout data collection and analysis. To improve objectivity, during, debriefing meetings, non-interviewer colleagues coded sections of transcripts previously coded by the author, discussing discrepancies and emerging themes. In addition, the author utilised member checking, presenting and discussing emerging interpretations with participants.

Constant comparisons were made across cases as data sources were integrated, with memos and diagrams of hypothesised linkages being either more or less supported as data from additional cases were added. This process was followed until data saturation was reached at 10 participants. Data were considered saturated when the addition of new cases no longer resulted in additional codes or analytical directions. This process led to refinements of the analysis and generation of the findings.

Findings

Participants in the study ranged in age from 45 to 63, had been living with diabetes from 3 to 30 years, and had received DSM education two to four times (although content and quality varied) during the course of their disease. Five participants had completed one semester of college, one had an associate degree, and four had high a school diploma or a general education degree. Six participants were employed either formally or through paid care-giving arrangements with friends and family. The other four participants were retired ($n = 1$), on disability ($n = 1$) and unemployed ($n = 2$).

Acquiring ‘usable’ and ‘complete’ DSM information and skills, and having opportunities to apply them in one’s own life context were necessary for becoming an adept self-manager. The three themes, discussed in more detail below, are presented as three related sub-processes that participants negotiated to develop self-management skills (see Figure 1). Specifically, to acquire DSM training, participants had to first *negotiate access to care systems*. To consistently apply DSM training in their own lives, they had to *negotiate disruptions to DSM patterns*, and to continue to improve their self-management capacities, they had to *negotiate self-care knowledge*. Participant quotes are used to emphasise key points. To maintain anonymity, all names are pseudonyms.

Negotiating systems of care

Access to consistent quality care was essential for obtaining foundational DSM education, prescription medications, support, and feedback on skill development. ‘Getting your foot in the door’ with a provider who specialised in metabolic disorders was an important first step in negotiating systems of care. However, for low-income women in this study, the lack of medical insurance limited their access to diabetes services and their freedom to choose among services and providers. Reduced fee clinics (clinics offering services at reduced fees or on a sliding scale) were a valuable resource for many participants. Nonetheless, these clinics were often not near their homes or workplaces which required extra time and effort for attending appointments. In addition, these clinics were almost always busy, being ‘understaffed and over booked’ making it difficult to obtain routine care and DSM education in the context of other daily life demands, as the following excerpt illustrates:

I mean, they got you in a bind, you know what I’m saying? A real bind. I mean it’s not like I’m not grateful, because I know they’re doing me a favour. But, you know, um like, my situation, there is no place close to here. So, I take the bus with like three changes. When I do finally get there, they be 1000 people in the clinic so you wait. And I couldn’t always make 4 or 5 hours for like one visit. I mean I know I

can't learn what you supposed to learn unless you go, but how you supposed to do that when you're everybody's keeper? [Alyssa]

Even when transportation or scheduling was not an issue, free or reduced fee clinics did not always have the appropriate staff to provide comprehensive DSM training. These challenges were experienced by women across the sample regardless of when they were diagnosed with diabetes. The following two excerpts from Lydia (3 years since diagnosis) and Felinda (18 years since diagnosis) illustrate the continued gap in care:

I mean um, yeah it's free [at the health department], but I mean yeah, just sit here and watch videos. You know what I mean? Like in a room all alone and stuff. I mean honestly I still don't really know what I'm doing. You know, um, I mean? That's why I'm doing this again [taking DSM classes] for God's sake. [Lydia]

Looking back, I never had a nutritionist or educator. I never had anyone to talk to me about diabetes or counting calories. It was maybe 2 years, maybe three [I was going to the clinic]. I was almost 300 pounds and nobody was talking to you about what you needed to do or eat, so in that way you lose. [Felinda]

In response to these challenges, participants demonstrated resourcefulness in developing approaches to DSM that made sense to them. Specifically, participants described the process of learning the systems of additional supports to persist in their self-management efforts, despite challenging social and economic conditions:

You have everything, like, as far as learning how to do stuff, you set up the other services. Like, where do I go for free samples [meds], you know? Or, you know, I know I can go to this programme or that programme and get my sugar checked. I mean it's not ideal, but I mean you have to figure out what you need, you know what I'm saying, where to get it, so you can make it work. [Felinda]

While women in the study demonstrated ingenuity in the face of ongoing challenges, continually negotiating systems of care could ultimately increase the time that it took to develop self-management skills. For example, it took nearly 5 years after her diagnosis before Glenda could establish consistent access to care. Glenda explained that she did not receive DSM education during this time apart from being instructed on what medications to take, and managed her disease by using occasional free medication samples, reusing her syringes multiple times and 'just praying'.

Negotiating disruptions in self-management patterns

Developing healthful diabetes habits (e.g. regular exercise or healthy eating) was an important part of DSM and was a process contingent on having consistent opportunities to apply DSM training in one's own life context. Disruptions in daily life patterns diminished the consistency of those opportunities and subsequently, the ability to manage diabetes effectively. Life disruptions were often associated with daily life roles and could include both positive or negative events (e.g. changing work schedules, going back to school, taking on an unanticipated caregiver role, or experiencing a relationship change or a sudden illness or injury). While life disruptions were problematic even for more experienced self-managers, in the absence of a well-established DSM regimen, life situations could easily

overwhelm less experienced self-managers causing them to completely neglect their DSM for days, weeks, and even months. Lori (30 years since diagnosis) provided an example of this when describing how frequent additions to work hours and mandatory changes in work schedules made it difficult for her to establish and continue certain aspects of her DSM regimen. For women earning low hourly wages, working two and sometimes three jobs (both formal and informal) was common to ‘make ends meet’. Lori stated:

Man, getting started was rough you know? I mean, I was working all sorts of crazy hours. Like, it seemed like every time I’d set up a rhythm [of DSM], I had to change my hours or something else would happen. [Lori]

In addition to work-related issues, suddenly having to care for family members, taking grandchildren into their homes, or managing a personal or health crisis were not uncommon. These disruptions caused sudden changes in daily life patterns and restricted opportunities to consistently engage in DSM.

When disruptions occurred, participants struggled to perform more complex and time-consuming DSM components (e.g. exercise and cooking healthy meals). Instead participants reported reverting back to minimalist DSM patterns, only managing medication and foregoing other self-care behaviours. As the following excerpts illustrate, disruptions were especially detrimental to emergent DSM regimens because it made it difficult ‘to even set up’ a routine:

It’s easy to get hung up in the beginning and just quit a while because it’s not automatic yet. You’re just staring out (...) Like in my case, especially if you never were in a routine of being an athlete or exercising, something like that, then it’s like, whatever, ok, let me just take these pills, at least do that. [Deidre]

When you’re new and just uncertain, you sort of panic and say ‘I can’t deal with this right now’. Later on you say, ‘ok, yes, you can do this’. It’s because you’ve already been through the wringer a few times by then ... What I’m saying is you don’t need as much help to sort of figure out how to get on track. [Lori]

In lieu of experience, the support and feedback from primary care providers could play an important role in helping self-managers get back on track in times of crisis. Specifically, providers could help participants see possibilities in how to return to a more comprehensive DSM approach and how to ‘unpack’ complex management regimens, thereby making them more manageable. For example, Yolanda (6 years since diagnosis) worked two jobs and had recently returned to college to further her education. Yolanda described how her school schedule and rotating work shifts had prevented her from developing her DSM skills. Her new care provider had worked with her to develop a temporary regimen that could be maintained in the midst of her chaotic life situation:

What I have now, and really what has helped me, is that she [doctor] and I work together. I mean, she pushes me. Sometimes I have to walk away from it for a while, but she makes sure I don’t walk away from all of it, and that I don’t go too far before I get back on track. [Yolanda]

Learning to maintain DSM within life disruptions was important for developing healthful diabetes habits. Yolanda's comments illustrate the impact that supportive patient/provider relationships can have on assisting new self-managers to develop maintainable DSM regimens during life disruptions.

Negotiating self-care knowledge: unguided trial and error

Developing an understanding about how behaviour affects blood glucose management was important for developing DSM skills. Information seeking and active experimentation were part of this process. The conditions under which participants engaged in these activities, however, influenced whether or not they were skill-promoting or skill-endangering. Because of inexperience with diabetes, participants characterised their early experimentation as 'unguided trial and error'. Participants reported applying 'problem-solving' skills such as goal setting and planning to their particular situations. Nonetheless, their plans were often incomplete or they failed to foresee potentially negative consequences, as Cindy (14 years since diagnosis) explained when describing her attempt to develop her exercise routine:

It's like trial and error, you know? [*Interviewer: Yeah, why so?*] Because nobody is saying nothing to you and so you just say, like, 'hey, I'll try this' and you do.

[*Interviewer: What's wrong with that, I mean with just trying?*] Because it's really like, because half the time it doesn't even work. It'd be better if someone just said 'do this', 'don't even try that-because it ain't gonna fly'. [Cindy]

In the absence of guidance from their medical provider, some participants sought out advice from others in their social networks. If friends or family were not wholly knowledgeable about DSM, their advice could increase the risk associated with trial and error. For example, Yolanda described how she was influenced by a friend to try an all-liquid fruit juice diet to help her diabetes. Yolanda's friend did not have diabetes, and Yolanda did not have sufficient understanding of diabetes dietary recommendations to screen this suggestion as inappropriate. Only after a trial did Yolanda realise the danger it posed to her blood glucose control:

It was so bad! She was so crazy [girlfriend], and I was crazy for listening to her. I got really sick for a few days. But you know, like, I mean, I thought 'you know, fruits, yeah that's like a vegetable, it's good for you'. [Yolanda]

Although the consequences of Yolanda's experimentation on her blood glucose levels were brief, developing a DSM approach based on misunderstandings could impede DSM efforts for months and years. Alyssa's case provides a good example of this. After her diagnosis, Alyssa used a meter to test her blood glucose for the first 6 weeks. However, Alyssa was quickly influenced by some 'women from the neighbourhood' who tested their blood glucose by whether or not they felt something was wrong. This approach made sense to Alyssa who reported 'I figured I'd try it, because they weren't looking sick you know, at least as far as I could tell. [*Interviewer: yeah, I see your point*], I mean, if it isn't broke, don't fix it, right?' Alyssa stopped using her meters for years until her new physician intervened, stating:

She asked me how many times I tested, and, you know I ain't gonna be lying to her, so I said 'well I don't unless I feel something wrong'. [*Interviewer: what did she*

say to that?] ‘Well, she sat me down and in my face told me, ‘no, it doesn’t work like that’. [Alyssa]

Simply having access to a provider or increasing the number of patient contacts did not automatically eliminate maladaptive approaches. Poor patient provider communication, inconsistent providers, and brief office visits made it difficult for participants to discuss their approach to DSM and obtain feedback. Lori explained:

There isn’t time in the [provider] visit to really go into what you’re doing. I found out a few years ago – and here I’ve had diabetes like 10 years, but I found out some of the things I did weren’t right. [Lori]

Lori’s most recent provider had helped her improve her DSM by allotting time during the office visit to more fully discuss her DSM approach. Their dialogue revealed maladaptive approaches that Lori’s provider was then able to help her work towards correcting. How self-managers negotiate acquiring self-care knowledge can impact self-management practices for years to come. Comprehensive education and continued support are important. Equally important are opportunities during provider contacts to discuss what self-managers are already doing.

Discussion

Bodenheimer *et al.* (2002) advocate that persons with chronic disease are ‘their own principle caregivers’, and healthcare providers should serve as consultants who support them in this role (p. 2470). To better support the DSM development efforts of low-income self-managers, research needs to more fully examine the ways life situations shape the development of self-management skills across the disease course. This is particularly relevant for socioeconomically deprived communities, whose inhabitants tend to suffer higher rates of diabetes and subsequently experience a wide variety of challenges to DSM (e.g. higher levels of illiteracy, reduced access to care, and higher levels of comorbidity conditions such as glaucoma and depression/anxiety disorders). The findings from this study illustrate how aspects of disadvantaged life situations (e.g. lack of insurance and disruptive life circumstances) make it difficult to initiate and maintain DSM across time while offering some suggestions specific to low-income self-managers facing the challenge of developing self-management capacities.

Negotiating care systems is important to access DSM education. Yet, in the U.S. context with largely privatised care, that process remains difficult for low-income women. All participants, regardless of the years since diagnosis, noted that their lack of insurance created a tendency to receive more fragmented and lower quality care and education. For example, some participants were able to receive medical care at a free clinic, but had no means of receiving comprehensive DSM education. Although the quality of care chasm has been previously documented (Steele & McBroom 1972, Agency for Healthcare Research and Quality (AHRQ) 2004, Gardner & Vishwasrao 2010, Ricci-Cabello *et al.* 2010), little attention has been paid to the actions individuals take to circumvent these limitations. Participants developed strategies to obtain necessary education and medical care from other sources, thereby minimising the impact of social and economic barriers over time. However,

orchestrating care and education from multiple sources increased the overall time it took to for participants to develop DSM capacities.

Individuals also need feedback on emerging DSM efforts to develop a successful approach to diabetes management (Funnell *et al.* 2011, Lorig 2012). The findings suggest that even when individuals receive education, what the person is told to do and what they actually do may vary. Without feedback, participants were vulnerable to developing maladaptive approaches to DSM in response to difficult life circumstances and inadequate DSM knowledge. Thus, the findings suggest that during initial DSM development, there is a particular need for providers to ask clients what they have *already been doing*, to manage their diabetes, how they do it, and why (Johnson *et al.* 2012, Rendle *et al.* 2013).

The study findings also indicate that information seeking, goal setting and active experimentation are important to the development of self-management skills. In that context, the American Association of Diabetes Educators recommendations which emphasise DSM strategies such as problem-solving and goal setting, complements self-managers' own processes of DSM development (American Association of Diabetes Educators 2011). However, the data presented above show the process can be flawed. Combining 'coaches' with traditional DSM education may be particularly useful for delivering ongoing support to disadvantaged self-managers beyond initial education. Such an approach could assist self-managers as they negotiate care systems and inevitable disruptions in their DSM, and as they embark on the experimentation that is inherent in learning how to manage diabetes. The use of coaching has resulted in lowering haemoglobin A1c (Joseph *et al.* 2001) and has been shown to affect metacognitive processes and support clients' goal attainment (Grant 2003). In addition, coaches can provide support, feedback and actively discuss faulty problem-solving processes with clients (Wolever *et al.* 2010); a more efficient and less perilous way to advance DSM skills than unguided trial and error. Nonetheless, how much time and how much long-term support self-managers need to develop DSM skills in challenging life contexts remain unclear. To better tailor DSM interventions and educational programmes, research needs to determine the engagement patterns and support needs of individuals with type II diabetes as they work to develop DSM capacities.

Limitations

This study's readily identifiable limitations are its geographically limited urban context and relatively small sample. The study's findings must be interpreted with caution as they may not represent the experiences of other groups. For example, the challenges negotiating access to medical care and DSM information may be issues unique to the available care systems in the specific geographical area, where residents lived and sought out their care. In addition, the study included women only; whether certain aspects would be as relevant to men remains uncertain. Finally, some of the women in the sample had diabetes for many years and their experiences may not reflect the current standards of care. However, the challenges faced by both 'new' and 'experienced' self-managers were similar which suggests that although care systems have changed, such changes may not be translating into improved care for some low-income populations.

Conclusion

Developing DSM capacities can be a long and arduous process. For low-income women, this process involves negotiating the challenges that exist as a consequence of disadvantaged life contexts. Participants' experiences suggest reasons (e.g. the effects of life disruptions and unguided trial and error) why continued support for low-income individuals at risk for poor self-management outcomes is important for reducing and preventing future problems. More research needs to be done to determine key points in the DSM skills development process and the most effective approaches to deliver ongoing support. Such knowledge would assist researchers and clinicians in tailoring their services to better meet clients' needs.

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References

- 6 P. Bellamy, C. Principles of Methodology: Research Design in Social Science. Sage; Thousand Oaks, California: 2012.
- Agency for Healthcare Research and Quality (AHRQ). National healthcare quality report. 2004. Available at: <http://www.innovations.ahrq.gov/content.aspx?id=736> (accessed on 2/6/2012)
- Agency for Healthcare Research and Quality (AHRQ). National healthcare quality report. 2011. Available at: <http://www.innovations.ahrq.gov/content.aspx?id=736> (accessed on 2/6/2012)
- American Association of Diabetes Educators. American Association of Diabetes Educators (AADE) position statement. 2011. Available at: <http://www.diabeteseducator.org/Diabetes-Education/Definitions.html> (accessed on 3/5/2012)
- American Psychological Association. Women and socioeconomic status. 2011. Available at: <http://www.apa.org/pi/ses/resources/publications/factsheet-women.aspx> (accessed on 8/6/2012)
- Bodenheimer T, Lorig K, Holman H, Grumbach K. The self-management of chronic disease in primary care. *Journal of the American Medical Association*. 2002; 288:2469–2474. [PubMed: 12435261]
- Centers for Disease Control and Prevention. National diabetes fact sheet: National estimates and general information on diabetes and prediabetes in the United States 2011. 2011. Available at: http://www.cdc.gov/diabetes/pubs/pdf/ndfs_2011.pdf (accessed on 10/17/2012)
- Charmaz, K. *Constructing Grounded Theory: A Practical Guide through Qualitative Analysis*. Sage; Thousand Oaks, California: 2006.
- Fitzgerald, DT., Davis, JY., Connell, WK., Hess, CM., Funnell, MM., Hiss, RG. Diabetes care profile [survey instrument]. 1996. Available at: <http://www.med.umich.edu/mdrtc/profs/survey.html#dcp> (accessed on 10/6/2011)
- Fritz H. The influence of daily routines on engaging in diabetes self-management. *Scandinavian Journal of Occupational Therapy*. 2014; 21:232–240. [PubMed: 24329181]
- Fritz H, Lysack CL. "I see it now": using photo elicitation to understand chronic illness self-management. *Canadian Journal of Occupational Therapy*. 2014:1–9. early online.
- Funnell M, Brown T, Childs B, et al. National standards for diabetes self-management education. *Diabetes Care*. 2011; 34:S89–S96. [PubMed: 21193633]
- Gardner L, Vishwasrao S. Physician quality and health care for the poor and uninsured. *Inquiry*. 2010; 47:62–80. [PubMed: 20464955]
- Grant A. The impact of life coaching on goal attainment, metacognition and mental health. *Social Behavior and Personality: An International Journal*. 2003; 31:253–264.

- Harper D. Talking about pictures: a case for photo elicitation. *Visual Studies*. 2002; 17:13–26.
- Hills-Briggs F, Lazo M, Peyrot M, et al. Effect of problem solving based diabetes self-management training on diabetes control in a low income patient sample. *Journal of General Internal Medicine*. 2011; 26:972–978. [PubMed: 21445680]
- Horsten A, Jutterstrom L, Audulv A, Lundman B. A model of integration of illness and self-management in type two diabetes. *Journal of Nursing and Healthcare of Chronic Illness*. 2011; 3:41–51.
- Johnson B, Barnett J, Elman N, Forrest L, Kaslow N. The competent community: toward a vital reformulation of professional ethics. *American Psychologist*. 2012; 67:557–569. [PubMed: 22352741]
- Joseph DH, Griffin M, Hall RF, Sullivan ED. Peer coaching: an intervention for individuals struggling with diabetes. *Diabetes Educator*. 2001; 27:703–710. [PubMed: 12212020]
- Lorig K. Patient-centered care: depends on the point of view. *Health Education and Behavior*. 2012; 39:523–525. [PubMed: 22991049]
- Michelson, W. *Time Use: Expanding the Explanatory Power of the Social Sciences*. Paradigm Publishers, Boulder, CO; 2005.
- Norris SL, Lau J, Smith SJ, Schmid CH, Engelgau MM. Self-management education for adults with type 2 diabetes: a meta-analysis of the effect on glycemic control. *Diabetes Care*. 2002; 25:1159–1171. [PubMed: 12087014]
- Peebles M, Tomky D, Mulcahy K, Peyrot M, Siminerio L. Evolution of the American Association of Diabetes Educators' diabetes education outcomes project. *Diabetes Educator*. 2007; 33:794–817. [PubMed: 17925584]
- Pentland, W., Harvey, AS. Future directions. In: Pentland, W, Lawton, MP, Harvey, AS., McColl, MA., editors. *Time Use Research in the Social Sciences*. Plenum Publishing; New York: 1999. p. 259–261.
- Rendle K, Suepattra M, Visith U, Tietbohl C, Mangione C, Frosch D. Persistent barriers and strategic practices: why asking about the everyday matters in diabetes care. *Diabetes Educator*. 2013; 39:560–567. [PubMed: 23771842]
- Ricci-Cabello I, Ruiz-Pe'rez I, Olry de Labry-Lima A, Ma'rquez-Calderon S. Do social inequalities exist in terms of the prevention, diagnosis, treatment, control and monitoring of diabetes? A systematic review. *Health and Social Care in the Community*. 2010; 18:572–587. [PubMed: 21040063]
- Riley L. The sandwich generation: challenges and coping strategies of multigenerational families. *The Family Journal*. 2005; 13:52–58.
- Slate, R. *Multiple Case Study Analysis*. Guilford Publications Inc; New York: 2006.
- Steele J, McBroom W. Conceptual and empirical dimensions of health behavior. *Journal of Health and Social Behavior*. 1972; 13:382–392. [PubMed: 4648893]
- Wolever R, Dreusicke M, Fikkan J. Integrative health coaching for patients with type 2 diabetes: a randomized control trial. *Diabetes Educator*. 2010; 36:629–639. [PubMed: 20534872]
- United State Census Bureau. State and County Quick Facts. 2012. Available at: <http://quickfacts.census.gov/qfd/states/37000.html> (accessed 3/1/2012)

What is known about this topic

- Developing disease self-management skills reduces an individual's risk of early morbidity and mortality.
- Low-income women face disproportionate challenges to diabetes self-management (DSM).
- Low-income women experience poor illness self-management outcomes.

What this paper adds

- Disadvantaged life circumstances can prolong the time it takes for low-income women to acquire basic disease management information and develop self-management skills.
- In the absence of DSM information and consistent access to care, individuals may develop maladaptive and potentially dangerous approaches to DSM.
- The support needs of socially disadvantaged self-managers may be high while they work to develop self-management skills, and care plans should include provisions for ongoing feedback and support during the period of skill development.

Box 1**Sample of section I of the semi-structured interview questionnaire**

Can you tell me about when you found out that you had diabetes?

How much information/knowledge did you have about T2DM in the beginning?

How did you manage to get the information that you needed?

How did you manage your diabetes in the beginning?/How has that changed?

Were there any challenges you faced to your diabetes management in the beginning?

How have the challenges you faced to diabetes management changed (or not) over time?

T2DM, type II diabetes mellitus.



Figure 1. Three sub-processes in negotiating the development of diabetes self-management (DSM).

Table 1

Sample time-geographic diary

Time	Activity	Secondary activity	Location	Persons present	Forfeited activities	Miscellaneous
7:00–7:15 am	Check blood sugar	Get dressed	Home	No one	Morning exercise	Felt tired
7:15–7:30 am	Make breakfast	Childcare	Home	Child	Morning exercise	Still need to wake dad up