Health Care Provider Practices, Barriers, and Facilitators for Weight Management for Individuals with Spinal Cord Injuries and Disorders

Sara M. Locatelli, PhD,[1,2] Ben S. Gerber, MD, MPH,[1,3] Barry Goldstein, MD, PhD,[2,4] Frances M. Weaver, PhD,[1,2,5] and Sherri L. LaVela, PhD, MPH, MBA[1,2,6]

[1]Center of Innovation for Complex Chronic Healthcare, Hines VA Hospital, Department of Veterans Affairs (DVA), Hines, Illinois; [2]Spinal Cord Injury Quality Enhancement Research Initiative, Hines VA Hospital, DVA, Hines, Illinois; [3]Institute for Health Research and Policy, University of Illinois at Chicago, Chicago, Illinois; [4]SCI Healthcare Group, VA Puget Sound Healthcare System, Seattle, Washington; [5]Program in Health Services Research, Stritch School of Medicine, Loyola University, Maywood, Illinois; [6]Center for Healthcare Studies, Feinberg School of Medicine, Northwestern University, Chicago, Illinois

Background: Even though weight management is essential for the health of individuals with spinal cord injuries and disorders (SCI/D), little is known about current practices, barriers, and facilitators. **Objective:** To describe weight management delivery in the Veterans Affairs (VA) SCI/D System of Care, including barriers and facilitators experienced by health care providers. **Methods:** Qualitative focus groups were conducted in person at 4 geographically dispersed VA medical facilities delivering care to Veterans with SCI/D. Thirty-two employees involved in weight management efforts participated. Audio-recordings were transcribed and analyzed using qualitative content analysis techniques. **Results:** Participants at SCI centers reported that weight management treatment was delivered through the center by a multidisciplinary team using education (eg, written materials) and counseling/consults. Participants at SCI spoke facilities generally depended on facility-level programs (eg, MOVE!) to deliver treatment. Spoke facilities discussed barriers to delivering treatment through their SCI team, including staff shortages and resource and structural issues. MOVE! staff discussed barriers, including limited wheelchair space in classrooms. Staff participants across facilities noted that Veterans with SCI/D were hesitant to use facility-level programs, because of nonspecific SCI-relevant information and discomfort attending sessions with general Veterans. Other barriers, for both centers and spoke facilities, included necessary medications that increase weight, lack of evidence-based guidelines for weight management, safety concerns, and facility layout/accessibility. Facilitators included facility leadership support, provider involvement/prioritization, and community resources. **Conclusions:** Weight management programs delivered through the SCI team, with peers and SCI-relevant content, are likely more acceptable and beneficial to individuals with SCI/D. Program classrooms should provide ample space for individuals with SCI/D. **Key words:** *obesity, overweight, United States Department of Veterans Affairs, Veterans, weight reduction programs*

Studies estimate that over 70% of individuals with chronic spinal cord injuries and disorders (SCI/D) are overweight/obese.[1,2] Patients' weight increases rapidly following rehabilitation,[1,3] which increases their risk for weight-related conditions[4,5] and impacts their functional status by limiting their ability to ambulate and perform transfers.[6] Research suggests that individuals with SCI/D could benefit from weight management, including nutrition/dietetics and physical activity.[7,8]

Understanding barriers and facilitators to weight management in persons with SCI/D is essential. Individual-level barriers to exercise include the belief that exercise is unsafe, lack of energy/motivation, limited knowledge about safe exercises, other health conditions preventing exercise, lack of home exercise equipment, lack of transportation to a fitness facility, and feeling unwelcome in fitness facilities.[9] Cowan and colleagues[9] found that provider guidance was

Corresponding author: Sara M. Locatelli, PhD, Hines VA Hospital, Health Services Research & Development, 5000 S. 5th Avenue (151H), Hines, IL 60141; phone: 708-202-4558; fax: 708-202-2316; e-mail: Sara.Locatelli@va.gov

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essential; although over half of all respondents said that their doctor had recommended exercise, less than a quarter reported receiving specific instructions on safe exercises.

To facilitate weight management efforts among individuals with SCI/D, research on barriers and facilitators experienced by health care providers is paramount. Although some interventions exist for the SCI/D population (eg, EatRight SCI[10] and Project Shake It Up[11]), studies discuss important systems-level barriers, including a lack of targeted interventions for persons with SCI/D[12] and a lack of evidence-based guidelines on weight management in this population.[13] Providers may experience difficulty discussing weight concerns with patients; providers who also struggle with weight issues may be less likely to discuss weight management strategies with overweight/obese patients.[14] However, little is known about what weight management services medical facilities currently provide for individuals with SCI/D, as well as staff perceptions about barriers and facilitators to providing targeted weight management.

A large proportion of individuals with SCI/D are Veterans who are eligible for Veterans Affairs (VA) services.[15] The SCI/D System of Care is a "hub and spoke" system, including 24 regional hub facilities and approximately 150 affiliated spoke facilities. SCI hubs (centers) provide comprehensive primary and specialty care for Veterans with SCI/D through interdisciplinary SCI care teams, including physicians, nurses, psychologists and/or social workers, therapists, and dietitians; these centers are typically located within large VA Medical Centers. Veterans with SCI/D receive annual evaluations at their nearest SCI center, which include medical history, physical examination, and screenings by multiple providers. Although Veterans who live near their SCI center can receive all their care at that facility, many attend SCI spoke facilities for their primary care needs. Spoke facilities have dedicated SCI primary care teams, most frequently a physician, nurse, and social worker, and other providers (eg, therapists, dietitians) are available in departments outside of the SCI specialty.[16]

Weight management services are offered through VA's MOVE! weight management program, which provides multidisciplinary treatment through group classes and individual consults with physicians, dietitians, psychologists, and/or therapists to any Veteran.[17,18] MOVE! programs vary across sites in the disciplines involved and the number and structure of the meetings.[19] Veterans with SCI/D are included in these weight management efforts, but little is known about specific practices for this population, including SCI-specific programs, involvement in general programs, and barriers and facilitators of such care. The purpose of this study was to explore providers' perspectives on facility- and system-level weight management practices, barriers, and facilitators to treating overweight/obesity in the Veteran SCI/D population.

Methods

Design

Cross-sectional qualitative focus groups were conducted at 4 geographically dispersed VA facilities caring for Veterans with SCI/D. To obtain a range of views, we held 2 focus groups at SCI centers and 2 at SCI spoke facilities.

Participants

Thirty-two employees (centers, n=17; spoke, n=15) involved in weight management efforts at the 4 facilities participated in the focus groups. Participants included physicians (n = 4), nurses (n = 10), psychologists (n = 3), social workers (n = 2), therapists (physical/occupational/recreational, n = 7), and dietitians (n = 6). The chief or coordinator of the SCI center or clinic identified potential participants who were involved in weight management care and gave them information about the focus group and contact information for the researchers so they could volunteer to participate if they were interested.

Procedure

Focus groups lasted approximately 1 hour and were conducted in person by 1 to 2 researchers who were experienced in focus group moderation. The semi-structured focus group guide was generated from a literature review of weight management for individuals for SCI/D; expertise of study team

members (including weight management, public health, and SCI health care delivery); a MOVE! best practices evaluation[20]; and implementation constructs from the Consolidated Framework for Implementation Research.[21] Focus groups were audio-recorded and transcribed verbatim by research assistants. Participants provided verbal consent to participate and separate verbal consent for audio-recording.This study was reviewed and ruled exempt by the VA Central Institutional Review Board.

Data analysis

Data were analyzed using qualitative content analysis techniques in which a word or phrase summarizes the topic of a passage of text.[22] Following qualitative research methods,[23,24] the first author (S.M.L.) began open coding[22] after the first focus group to identify basic concepts of treatment delivery and barriers and facilitators. This basic codebook was shared with an additional research team member, and a final codebook was generated through discussion and examination of the results; alterations and additions to the codebook were made through discussions with the research team to reach consensus and aid in identification of themes. Previously coded transcripts were reanalyzed using the updated codebook until saturation was reached.[24] Constant comparative analysis[25] through axial coding[24] was conducted to elucidate relationships among weight management treatment delivery and barriers and facilitators and to determine facility characteristics related to differences. NVivo 8 qualitative analysis software (QSR International, Doncaster, Victoria, Australia) was used to manage data and facilitate comparative analysis by examining coded results by facility characteristics. The following themes and categories emerged from analysis: how weight management treatment is delivered (through SCI center/clinic, through general facility programs for all), barriers (staff and resource shortages, facility characteristics, competing patient needs), and facilitators (hospital prioritization and leadership support, provider involvement and prioritization, community resources, and flexible care provision regulations).

Results

How weight management treatment is delivered

Through the SCI team

Participants at SCI centers discussed delivering treatment through the center. Efforts tended to be informal and involved discussions between patient and providers, including physicians, nurses, dietitians, and therapists, about weight management:

> In the annual evaluation, weight… usually comes up and there's usually some conversation about what they're doing, what could facilitate more activity. (Center #2 Participant)

Education about weight management was often given in the form of written materials, frequently described as "home-grown." Additionally, Veterans with SCI/D may consult with psychologists, dietitians, and physical/rehabilitation therapists outside of the annual evaluation. Efforts tend to be one-on-one, and topics covered are based on patient interest and needs:

> It's a lot [of] patient-specific [information]… we'll address that patient's [needs specifically]. (Center #1 Participant)

However, participants at one center discussed developing a program for Veterans with SCI/D to ensure information is standardized and evidence-based and to reduce the time burden of continuing to deliver one-on-one treatment:

> [We] are going through extreme efforts to care for each individual… We're going to… be challenged to think outside the box… [and] come up with some really creative interventions. (Center #2 Participant)

Through general facility programs

Participants at SCI spoke facilities stated that few weight management efforts took place through their clinic and generally referred to facility-level programs (eg, MOVE!). Participants at centers also discussed their facility's MOVE! program, which Veterans with SCI/D could join. Across facilities, MOVE! was delivered through group educational sessions (covering nutrition, behavior change, and physical activity), with some individual consults available with dietitians. MOVE! staff stated that Veterans with SCI/D tended to request consults instead of group:

> Overall we hear [they] would prefer individual follow-up. (Center #1 Participant)

Barriers to weight management

Staff and resource shortages

Participants discussed a variety of staff and resource shortages. Insufficient staff to offer weight management treatment was frequently discussed, particularly at spoke facilities. This is due in part to their smaller SCI teams. Patients being seen in these clinics are referred to other types of providers not available in the SCI team (eg, dietitians and therapists), which can result in a shortage of available appointments, especially with regard to therapy staff:

> PT [physical therapy] and OT [occupational therapy]… do not have enough time… Their chief retired, and [there] hasn't been leadership there to say… "'We're going to assign people." (Spoke #1 Participant)

Staff shortages also resulted in safety concerns about physical activity:

> There [are] lots of logistic [issues]…. [For example, in the pool,] the free swim is [an issue]… because of staffing and the lifeguard. There's a lot of interest for our patients getting in the pool… The problem will be staffing. (Center #2 Participant)

Lack of knowledge was also a barrier. Providers outside of the SCI team may feel uninformed about weight management in SCI:

> We don't know nearly what [SCI providers] know in terms of how to help this population and their unique needs… I would imagine we'd need a different team… or at least an additional member who has a specialty in that area. (Center #1 Participant)

Further, SCI providers at both centers and spoke facilities often did not recommend MOVE! to Veterans with SCI/D because they felt unfamiliar with the program:

> One of the barriers might even be not [having a] good understanding of the MOVE! program… If I had more knowledge, I [would be] able to present it better. (Spoke #2 Participant)

Similarly, participants discussed perceived lack of evidence to guide and inform weight management practices as a resource barrier. Participants across facilities discussed the lack of evidence-based guidelines for weight management in the SCI/D population:

> There's a huge gap in us being able to truly, based on sound data… provide education to our patients. (Center #2 Participant)

Participants also suggested that a lack of evidence-based guidelines hindered identifying other resource needs and gaps and planning comprehensive weight management efforts:

> We can't really identify right now what… support we need, because we don't know… [the] interventions that are going to be effective. (Center #2 Participant)

Staff participants across facilities noted that Veterans with SCI/D were hesitant to use facility-level programs, because of nonspecific SCI-relevant information and discomfort attending sessions with general Veterans:

> The ones that have gone to [MOVE!]… their comment is that… it's not geared for SCI patients. (Spoke #2 Participant)

Measuring obesity among Veterans with SCI/D was also a barrier to effective weight management, which participants suggested was related to resource shortages, such as limited availability of wheelchair-accessible scales:

> We [have to] wheel them all the way into the PT area, roll them up [on the scale] and subtract the difference of the wheelchair... It's still not part of our… routine. (Spoke #1 Participant)

Other methods of measuring obesity, such as body mass index (BMI) and body fat percentage, were seen as not optimal in the SCI/D population by participants across facilities:

> BMI has been documented as an issue in individuals with spinal cord injury because [of difficulty obtaining] actual height, spasticity, tone… [It's not a] true reflection of adipose tissue versus lean body mass. (Center #2 Participant)

Facility characteristics

Facility characteristics were also frequently discussed and were considered barriers due to issues with layout and accessibility. For instance, navigating to healthier food options was seen as a major barrier at both centers and spoke facilities:

> There [are] two cafeterias in this hospital and the one that [has] healthier food options is significantly further away… It's not the most accessible place either… That's another barrier to getting healthy food. (Center #2 Participant)

The location of physical activity and therapy space also poses as a barrier for some Veterans with SCI/D:

> There's two different parts in SCI… We have the acute center here, and the residential center [across campus] a quarter of a mile away… [Therapy is only available in the acute center.] It's such a long haul… that they're… pushed into ambulatory assistance, which then decreases their exercise. (Center #1 Participant)

Spoke facilities also discussed issues with accessible physical activity space, including pools and equipment that are inaccessible for individuals in wheelchairs:

> [They have access to the] regular pool… So the patients have to be… mobile enough to get themselves in and out of the pool. (Spoke #1 Participant)

Though MOVE! was often seen as an alternative source of weight management for Veterans with SCI/D, facility layout and accessibility was also problematic within MOVE!:

> The main room [for MOVE!] is not accommodating… We might be able at times to fit two or three [manual] chairs in there… But you cannot get one [power] wheelchair in the room. (Center #1 Participant)

Competing patient needs

Competition with other conditions and complications of SCI/D also presented as barriers. Providers within centers and spoke facilities were hesitant to "push" weight management due to other concerns requiring more attention:

> Competing demands of other [conditions] … more screenings that need to be addressed, all these things interfere and they start de-prioritizing what should be considered a very high priority. (Spoke #1 Participant)

Providers noted that, due to these competing demands, their approach tended to be more "reactive" to already existing overweight/obesity than "proactive" in terms of preventing weight gain:

> I think we have a quality program as far as just addressing new SCI injury… But how do we instill a sense in that Veteran of… connecting the dots of "You're going to put this additional weight on now that you're injured?"… These are our challenges. (Center #2 Participant)

Providers recognized that Veterans with SCI/D see food as one of the remaining factors under their control; this affects how much providers discuss the importance of weight management with Veterans with SCI/D:

> They have their injury itself, and then you're telling them to stop the most enjoyable thing in their life, so that's… the hardest thing to do. (Center #1 Participant)

SCI centers have tried to create a home-like environment, and Veterans are encouraged to make choices regarding food options. However, this creates an additional barrier to weight management:

> They can order what they want, they can choose what they want, and we… encourage that, [but] on the other side we're trying to stop them from gaining weight… [It's] a double bind. (Center #1 Participant)

Similarly, some participants commented on medications indicated for other conditions that can result in weight gain and suggest that more attention be paid to this side effect when medications are prescribed:

> There's an additional issue here related to medications… that either work against or… facilitate weight loss… Especially with psychiatric medications, there's… trouble balancing what's an effective treatment versus what are the liabilities in terms of weight gain. (Center #2 Participant)

Facilitators of weight management

Leadership support

Participants discussed the importance of strong leaders at a variety of levels as facilitators of weight management. For instance, leadership within the SCI center or clinic helped to set the tone for practices within the department:

> Over the course of three different [SCI] chiefs [weight management has] always been emphasized. (Center #1 Participant)

Participants also discussed the importance of facility leadership in allocating funding and other resources:

> Our service line has a fairly good reputation for providing quality care and program development… Were we to take

something to [facility leadership] for funding… it would be met well. (Center #2 Participant)

Provider involvement

Participants also discussed involvement by providers and stated that physicians play a key role in encouraging weight management efforts among patients:

> Our physicians have been amazing and really… going the extra mile… I think we're very lucky in that regard… We have a variety of really talented players that care about the Veterans and the population we serve. (Center #2 Participant)

Participants also emphasized the strong influence physicians have on patient behaviors:

> We have to be at the point where we have to have every provider on board … The primary care physician really [sets] the rules… Unless that MD says it… it's not perceived as gospel [by the patient]. (Spoke #1 Participant)

Community resources

Although resources within the facility were viewed as important, participants also discussed community resources to facilitate weight management and overcome barriers:

> And for folks… who have expressed interest in exploring their exercise options… we try and figure out what is the most accessible option to them… [We'll] identify gyms that are in their area, or we'll… help them figure out how they would access a pool in their local community, and how to access a locker room… Or if they also don't have access to that, [we work on] getting them equipment that they can utilize in their home. (Center #2 Participant)

Flexible care provision regulations

Participants at centers also stated that caring for individuals within the VA SCI/D System of Care could facilitate weight management efforts due to their ability to keep patients as long as necessary and because of strong continuity of care:

> Something that actually does facilitate the weight loss… is the fact that we can keep our patients indefinitely. I don't have an insurance company here telling me to stop. (Center #1 Participant)

> We see these folks from the time they're injured to the time they pass away and we get to know them fairly intimately… [That] makes you a little more successful. (Center #2 Participant)

Discussion

This study provides information on current practices, barriers, and facilitators and documents information that once only existed anecdotally. Providing comprehensive weight management treatment to individuals with SCI/D requires not only attention to the experiences of this population, but also to practices, barriers, and facilitators from the perspective of care providers. As in other studies, participants in our study felt that patients may not be amenable to weight management discussions and thought that providers avoided such discussions for many reasons, including discomfort with the subject matter, difficulty asking patients to change nutrition and physical activities, and belief that competing medical needs were more important. However, research suggests that providers, especially physicians, can have a strong influence on patients' behavior.[26,27] In fact, participants in the present study felt that patients would be most receptive to discussions with a physician.

Introducing optimal weight management strategies into an SCI/D care setting requires involvement by a variety of providers and may necessitate multiple levels of intervention. Participants discussed ways in which the multidisciplinary team was utilized with regard to weight management care and highlighted the importance of calling upon the expertise of other providers. There are recommendations for how to incorporate weight management discussions into busy and complex care settings, even when patients have other competing needs.[28] Above all, patients desire empathetic and personalized discussions with their providers about how weight may impact their health and other conditions. Additionally, patients prefer providers to ask them if their weight is a concern or if they have thought about losing weight, rather than simply telling patients to lose weight. Motivational interviewing is another approach that has been used in overweight/obese populations,[29,30] as well as SCI/D populations,[31] to guide patients toward behavior

change. These approaches help the patients make weight management a priority, increasing the chance that they will lose weight. Physicians can then refer the patients to resources to assess current nutrition and physical activity behaviors and support behavior change. Finally, physicians should follow-up with patients about their additional needs. Incorporating these elements into practice requires strong communication between providers. Leadership, which participants highlighted as a facilitator to weight management efforts, can assist by providing venues for communication and collaboration.

Participants reported perceived resource barriers to delivering weight management, and some facilities depended on facility-level programs, like MOVE!. However, participants across facilities believed that Veterans with SCI/D were hesitant to join MOVE! due to non–SCI-specific information and discomfort attending groups with able-bodied Veterans. Individuals who are overweight or obese often perceive stigma about weight issues and, as a result, feel uncomfortable in group programs and prefer self-monitoring of nutrition and engagement in exercise.[32] Research suggests that when a condition is stigmatizing, individuals seek out similar others for support.[33] Without a targeted program, Veterans with SCI/D may not receive sufficient weight management treatment to decrease their risk for overweight/obesity and weight-related conditions – conditions that increase mortality[2] and decrease quality of life.[34]

Delivery of targeted weight management programs is essential to obtaining patients' commitment. Within VA, some facilities have developed a separate MOVE! program for women, based on feedback that women experienced different issues with regard to weight than men and felt more comfortable discussing their concerns in a women-only environment.[19] The same could perhaps be said for individuals with SCI/D, who may experience different needs and require different adaptations. If a separate group were offered to individuals with SCI/D, more time could be allocated to sharing stories of success and overcoming barriers and discussing SCI/D-specific weight management issues, such as differences in basal metabolic rate that can result in caloric intake requirements approximately 75% lower than able-bodied persons.[35]

Across facilities, participants discussed lack of evidence for weight management in individuals with SCI/D. More research is needed on targeted weight management interventions,[12] particularly activities and exercises that can be adapted for individuals with SCI/D and that could be implemented into medical facilities with minimal need for additional resources. Participants suggested that the dearth of evidence for weight management practices influenced resource requests and planning. Perceptions about evidence are a key component in the uptake of evidence-based practice guidelines[21,36]; a perceived lack of evidence could prevent providers from recommending necessary services.

Additionally, future research should explore indicators of overweight/obesity in SCI/D, as many providers in this study felt current indicators (eg, BMI) were problematic and potentially inaccurate for this population. Laughton and colleagues[37] suggest altering cutoff scores for the SCI/D population to 22 kg/m^2, rather than 25 kg/m^2, for overweight. Additional research is needed to determine whether altering cutoffs of preexisting measures will suffice or whether new measures should be developed. Such information would assist providers in identifying which individuals are most in need of weight management and would help them allocate the scarce resources and time mentioned by participants.

Structural barriers were also reported, particularly facility layout and accessibility of physical activity space and classrooms. Cowan and colleagues[9] reported that, though structural barriers were less prevalent in their sample than other barriers, these barriers had the strongest effects on exercise. Involvement by individuals with SCI/D and their providers in facility and program planning could improve accessibility and participation for this population. Participants in the present study also discussed the use of community resources and home-care resources to overcome resource barriers. Nonprofit organizations could assist facilities in identifying community resources accessible to Veterans with SCI/D; these relationships should be explored by providers and staff in SCI centers and clinics.

Study limitations

A single focus group was held at each facility, and it is possible that not all relevant disciplines were represented in these groups. However, a key facility representative at each focus group site was involved with recruitment and schedules were developed to accommodate key staff. Due to the interdisciplinary nature of VA SCI care, focus groups were more suited for the present study, because they allowed team members to discuss a variety of contributions and practices.[23] Another limitation is that individuals in the focus groups may have been unaware of all current weight management practices at the facility, including practices occurring in individual appointments. However, the purpose of the study was to obtain information on overall weight management efforts within SCI/D, as well as potential barriers and facilitators. Care was taken to include individuals who would be knowledgeable about overall weight management practices within the SCI center or clinic, along with "front-line" providers involved in individual appointments. A next step in this line of research is to survey facilities throughout the VA SCI System of Care about weight management efforts taking place, to obtain information on the prevalence of activities, barriers, and facilitators. Future research should examine how providers handle different patient factors in the delivery of individualized care.

Conclusions

Overall, these findings suggest that additional attention be paid to weight management efforts for Veterans with SCI/D, especially to facilitators of weight management. Facilities caring for individuals with SCI/D could benefit from increased leadership and provider support for weight management efforts, as well as greater knowledge of community resources for weight management. Efforts must be undertaken by SCI care providers and researchers to counteract barriers of limited evidence and competing patient needs. Work is needed to balance support of patient choice and ability of providers to make recommendations about nutrition and physical activity. Further, weight management efforts delivered through the SCI center or clinic, with SCI/D-specific information and among peers, may be preferred by Veterans with SCI/D.

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