JOMH
Journal of Men's Health

Original Article
DOI: 10.22374/jomh.v15i3.102

MALE BARIATRIC PATIENTS SIX YEARS LATER: WHERE ARE THEY NOW?

Darren D. Moore[1,2], Pooja Mamidana[2,3], Miciah Lyons[4,5], Traci Holmes[4,5], Felicia Jefferson[4,5]

[1]Touro University Worldwide, Edith Neumann School of Health and Human Services, Marriage and Family Therapy Program, Los Alamitos, CA, USA

[2]Moore Organization for Obesity Research and Education Laboratories, I AM MOORE, LLC, Columbus, GA, USA

[3]California School of Professional Psychology, Couple and Family Therapy Program, Alliant International University, San Francisco, CA, USA

[4]Fort Valley State University, College of Arts and Sciences, Biology Academic Department, Fort Valley, GA, USA

[5]Neuroscience and Bioengineering Laboratories, College of Arts and Sciences, Biology Academic Department, Fort Valley State University, Fort Valley, GA, USA

Corresponding Author: Darren D. Moore: Mooredd2012@gmail.com

Submitted: 18 September 2018. Accepted: 23 May 2019. Published: 16 September 2019.

ABSTRACT

Background and objective

Researchers have suggested that while bariatric surgery is the most effective treatment for morbid obesity, patients still experience difficulties in maintaining initial weight loss, over time. The purpose of this study was to explore men's experiences after 6 or more years of weight loss surgery.

Material and methods

Utilizing qualitative research, the authors conducted a 6-year follow-up investigation to a previous study regarding life after bariatric surgery among male patients. In this study, the authors completed 13 semi-structured interviews with male bariatric patients and explored their lived experiences as individuals and as partners within couple relationships.

Results

The study found three emerging themes: (1) weight loss as a struggle, (2) fading support and feeling alone, and (3) perceptions of marriage and family therapists.

Conclusion

This discusses clinical implications and recommendations for marriage and family therapists and other allied health professionals who may work with males transitioning beyond the initial phase of the

weight loss surgical process to include continued social support and utilizing a relational perspective for male patients.

Key Words: *obesity; weight loss; bariatric surgery; male patients; qualitative research; post-operative*

INTRODUCTION

Obesity is an epidemic that continues to impact individuals, couples, and families.[1] While obesity has been discussed in the scholarly literature, morbid obesity and the experience of male patients who undergo bariatric surgery have not been explored in detail.[2] Researchers have suggested that while obesity affects both male and females equally,[3] 80–85% of bariatric patients are females.[4] Coupled with the disparity that exists in terms of rates regarding the utilization of bariatric surgery, there is also a dearth of literature that highlights the unique experiences of males who undergo bariatric surgery.[5] The paucity of research and a lack of focus on men may inadvertently contribute to issues that specifically relate to (1) engaging men in dialogue about bariatric surgery (including risks, benefits, and informed decision-making) and (2) developing gender-appropriate interventions for men who may undergo bariatric surgery. Furthermore, the limited research that conducted with male bariatric patients has typically focused on the experiences of men after 1–2 years of weight loss surgical intervention.[6] Likewise, the experience of men who are longer out from their surgery date has not been captured in the scholarly research in a way that is substantial.[7,8] The purpose of this study is to highlight men's unique postoperative experience after 6 or more years of weight-loss surgery. Likewise, this research focused on following up on male patients who participated in the original study.[6] The major research questions for the study included the following: (1) What are the long-term experiences of male bariatric patients? and (2) what are the male patients' perspectives regarding social support and resources with an emphasis on perceptions of marriage and family therapists? This article represents meaningful points of interests for gender differences, specifically by adding the voice and perspective of male patients to the discussion, as they have been overlooked in the literature and in direct clinical practice. With current obesity rates as well as associated co-morbidities (diabetes mellitus, obstructive sleep apnea, hypertension, and heart disease), it is not only important but critical to explore ways to address this issue among men. Furthermore, from previous research, obesity may have a unique impact on couple and family relational systems that are unique to men, which may be important to explore as men transition through the bariatric surgery process.[6]

RESEARCH METHODOLOGY

The methodological approach detailed here emerged from the general research method utilized in the previous study. For an in-depth review of the method of inquiry, review the findings of Moore and Cooper.[6]

Demographics

The researchers worked to establish contact with all members (20 participants) of the original study. However, the primary researcher ultimately made contact with only 16 of the previous participants. Of those 16, two declined to take part in the study, and one participant reported a willingness to participate in the study, but ended up not being available for the interview despite several attempts by the research team. Therefore, the study's sample consisted of 13 of the original participants. These individuals hailed from various sections of the United States, with some residing in the South (n=6), Midwest (n=3), West (n=2),

and East (n=2). The average age of the participants was 50 years, ranging from 34 to 70 years. In the study, nine participants stated that they remained married to their spouse, while four participants who were originally married or in a significant relationship categorized themselves as now divorced or single. The average salary of the participants was $67,577, with the range being $0–145,000 (an increase from an average salary of $44,654 from the original study). In terms of educational level, three participants possessed high school diplomas, five participants had some college experience, four participants completed a bachelor's degree, and one participant had a master's degree. This reflected a change from the original study, in that 6 of the 11 participants obtained some advancement in their educational status, with one participant achieving a significant increase in educational level going from earning a high school diploma in the original study to obtaining a master's degree. The average height and weight of participants before surgery was 5 ft 8 in., and 369 pounds, and equates to a body mass index (BMI) of 56 (Class III obese). At the time of the original study, the average amount of weight that participants lost was 244 pounds, BMI 37.1 (Class II obese), and participants were an average of 14 months postoperative during the study. During the current study, the researchers asked the participants to provide both their lowest weight achieved and their current weight. Participants' lowest reported weight achieved was an average of 219 pounds (BMI 33.3; Class I obese), and the average current weight was 274 pounds (BMI 41.7; Class III obese). Essentially, over the course of the surgical process thus far, participants initially lost weight and then regained some of the weight (an average of 55 pounds). This weight gain resulted in a move from Class I obese back to Class III obese, significantly increasing the individuals' risk for disease, although participants' weight still registered lower than their preoperative weight. Most notably, three of the participants gained 90 pounds or more from their lowest weight.

METHODOLOGY

The authors incorporated a qualitative methodological approach and specifically utilized phenomenology to assist in underpinning the study. Phenomenologists support the notion that exploring a particular subject or experience ultimately reveals meaning.[9,10] In particular, the researchers employed phenomenology based on their interest in gaining an in-depth understanding of the experience regarding life after bariatric surgery. Likewise, the research team wanted not only to build upon the existing research, but also to have an opportunity to gain additional insights by exploring a phenomenon over time. The authors assumed that studying the topic of weight loss over time might assist them in revealing more about male patients as they continue their life and become further removed from their weight loss surgery. The researchers also deemed it important that they considered male patients as individual beings—individuals within the larger context of couple and family relationships, and as individuals embedded in additional relationships through their interaction with the outside world. Qualitative research lends itself to exploring topics that are underresearched among scholars by illuminating experiences, attitudes, and perspectives, which can enlighten how scholars and practitioners understand the world.[11] Qualitative research, as opposed to quantitative research methods, was appropriate based on the research questions. Likewise, as this study is a follow-up and/or longitudinal in nature, its findings arguably add to the scholarly discourse in a unique way.[12]

Procedures

After Institutional Review Board approval at the lead researcher's institution, the primary investigator and research team made attempts to

contact original participants through a database that the authors developed during the initial study. The research team made phone calls and assessed prospective candidates regarding their level of interest in participating in the study. Once the authors identified the total number of willing participants, each respondent received an informed consent document to sign and return. This study was a follow-up to the original study; therefore, the only criterion for inclusion in the study was that the individual took part in the original study. Participants agreed to schedule a 30–60-min semi-structured interview at a convenient time. Interviews took place over the phone to provide participants with the most ease and least amount of disruption of their schedules. A semi-structured format allowed for the interviewer not only to follow a particular protocol, but also to have some flexibility to ask follow-up questions that emerged during the interview format. The researchers developed interview questions that focused on life after the initial study and explored general topics covered in the original study, which included self-concept, intimate relationships, and social support, as well as general well-being and change over time.[6] Since this is a follow-up study, the research team encouraged participants to utilize their previous pseudonym, but also had the option to select a new pseudonym. For a sample of the interview questions, see Appendix A.

ANALYSIS

The authors utilized a three-pronged approach when engaging in the analysis phase of the research. First, they made notes in the margins regarding key words and phrases that participants articulated as they engaged in the interview protocol.[13] Likewise, the research team incorporated the use of probing[14] to follow up on any topics that emerged that the authors considered either particularly interesting or ones that simply warranted further investigation in relation to the overarching framework of the study. While the authors did not have the ability to see the participants over the phone and, therefore, were unable to interpret body language and nonverbal communication, they did document other paralinguistic data.[15] For example, the interviewers made notes regarding contextual factors such as pitch, intonation, rate/speed of speech, volume when speaking, inflection, and intensity that could potentially inform how the researchers interpreted the language.[16] Furthermore, during the interviews, the researchers made sure to ask questions to clarify any answers to questions that may have appeared unclear. After the researchers completed each interview, they wrote down additional notes and memos including their thoughts and perceptions of the interview—specifically in relation to the research questions.[17] The authors conducted each interview by utilizing the same process and then transcribed the interview for later use. After each completing each interview and the transcription process, two members of the research team who conducted the interviews met to discuss some of their experiences during the interview process.

Phase 2 of the three-pronged approach to the study consisted of the incorporation of multiple members of the research team (a total of four individuals) listening to the audios and comparing them to the transcripts. All research team members who had a role in analyzing the data received access to the transcripts and the digital recordings. These four members also engaged in a qualitative process referred to as coding.[18] This step involved reviewing the transcripts and audio files for key words, phrases, and sentences that helped to uncover the participants' experiences. The authors reviewed transcripts line-by-line and engaged in an attempt to capture and highlight the essence of participants' experiences. The researchers utilized two strategies to code the data: Microsoft Word (first level) and NVivo (second level).[19] Initially, four members of the

team coded using Microsoft Word, specifically the track changes function. After the team coded each transcript independently, they met to discuss their findings. Phase 3 of the analysis process consisted of the authors meeting together to explore similarities and differences regarding data interpretation as well as working collaboratively to consider ways to collapse the data. Once the research team completed the process of collapsing the data and developing the overarching themes, they then incorporated NVivo to go back through each transcript with the noted themes in mind. This level of analysis also consisted of reviewing digital files that the researchers could then downloaded for further analysis. NVivo also assisted the researchers in conceptualizing weight loss as a process while keeping in mind the potential relationships between each of the emerging themes.

CREDIBILITY AND TRANSFERABILITY

The research team employed a variety of strategies to address credibility and transferability. In particular, the authors utilized multiple coders when engaging in the analysis phase of the research. Using multiple coders helps protect the integrity of the research by ensuring that one individual cannot unduly influence the interpretation of the data.[20] Likewise, the researchers interjected member checks at various points during the research process.[21] The authors used these member checks right after transcribing the interviews in an effort to ask any questions that needed clarification and to interact with some of the participants after the analysis in order to get their perspectives regarding the emerging themes and results as interpreted by the research team. Furthermore, the authors engaged in a number of practices related to reflexivity via the use of bracketing and writing practices throughout the study in order to reflect on potential bias, while simultaneously considering self with regard to the researchers and the addressed topics related to the subject under investigation.[22,23] The research team incorporated transferability into the study by developing research questions that used existing literature, in addition to the team's integration of inferences regarding application among male bariatric patients and additional groups.[24,25]

RESULTS

During the research, three themes emerged: (1) weight loss as a struggle, (2) fading support and feeling alone, and (3) perceptions of marriage and family therapists. A description of each theme is presented below:

Weight Loss as a Struggle

The first theme that emerged was "weight loss as a struggle." During the interviews, several of the participants (n=11) verbalized that although they initially lost a significant amount of weight after having surgery, many of them gained back some of the weight. Participants verbalized that weight loss is a process and can be extremely difficult over time. For example, Lucas stated the following:

> To be honest, I wish I never got it [bariatric surgery] done. The lost weight is coming back, and my eating habits are weird. It's just all different lately; I've been noticing I've been feeling a lot fuller and not feeling good. I just wish I hadn't gotten it. I lost weight, and now it's slowly creeping on, so now I'm back to the same thing again, fighting and jumping on the scale every five minutes and worrying.

One of the underlying ideas that emerged was that of "struggle"—that participants who initially lost weight somewhat with ease were now fighting a quite difficult and never-ending war. Participants provided various explanations regarding why they had gained weight, with many of the topics related to medical issues, environmental factors, and relational concerns.

For example, during Andrew's interview, he talked about how he had some postoperative complications. Andrew originally had the Lap-Band surgical procedure, which initially appeared to work. However, this particular procedure was too restrictive which contributed to issues with his ability to obtain proper nutrition post-surgery. Therefore, Andrew had the procedure reversed and ultimately started eating the way he previously ate, resulting in significant weight gain. After personally struggling with his initial weight loss, then weight gain, Andrew decided to go back to his doctor to have another weight loss procedure (gastric sleeve). Andrew mentioned that he has recently had the surgery and hopes to start losing weight again. Another participant (James) mentioned that he struggled with food.

During James' interview, he talked about how his body rejected sugar and other food items soon after the surgery. However, he mentioned how his body has changed over time and that he can now consume sugar. As a result, he stated that he has fallen back into some of his old habits, such as eating cookies, doughnuts, and other food items that contribute to weight gain. He mentioned that trying to eat healthy is a struggle, but he is trying. On the other hand, another participant (Magician) mentioned factors that occurred in his personal life that contributed to food consumption and his lack of ability to maintain an active lifestyle. For example, Magician mentioned that shortly after his surgery, he lost his job, which created a substantial burden; he then devoted most of his time to finding a job, as opposed to maintaining a healthy diet.

Another area that participants mentioned was food cravings (N=9); they noted that even though they could not eat as much food as before, their level of desire to consume food was troublesome. For example, one participant (Jay) articulated that his desire for eating still persists despite having the surgery. He also mentioned that he has to remind himself about the importance of eating a healthy diet. Jay indicated that although some surgical interventions for weight loss make it difficult to eat certain foods, ways to cheat exist, which sometimes foster temptations for him. Jay also mentioned that he stayed very active after having surgery, often running 8 miles a day, but added that he has not maintained that same activity level over the years. Like other participants, Jay mentioned that he continues to try to improve his behavior. One participant (Ephriam) articulated that he works in a restaurant—surrounded by food—which generates temptation. In addition, one participant (Tom) revealed that he gained 125 pounds; he attributed this to eating and alcohol consumption. Tom stated, "The personality of addiction is still there…and so just because you don't eat all the time doesn't mean that when stress happens, you don't do something else." Another participant (Idahoguy) volunteered that having unhealthy food in the home was a trigger for him that contributed to his inability to maintain a healthy weight. Other topics that contributed to a lack of maintenance included difficulty in finding a time to work out, feeling a general lack of motivation to exercise, experiencing a lack of support, in addition to some relational concerns.

Fading Support and Feeling Alone

While the first theme focused on the experience of weight loss and weight regain, the second theme that emerged related to resources regarding "fading support and feeling alone." During the interview process, participants responded to questions about how they viewed the resources available to them. A great majority (N=11) of participants reported (1) a general lack of social support when they initially had surgery and (2) dismal available support for patients further removed from their surgery date. Men reported that while support groups were available to them during the time before and soon after surgery, they reported a focus on female patients.

The majority of participants (N=12) discussed being the only male in a room—outnumbered by female patients—which made the men feel isolated and alone. This contributed to a lack of desire to attend in-person groups after surgery.

Participants mentioned attending social support groups directly after surgery for 3 months to 1 year; however, when asked about attendance at social support groups in the second through the fifth years, all respondents reported that they no longer attended in-person groups. When asked additional questions about a lack of attendance at in-person support groups, the participants mentioned that the group leaders did not focus enough on topics that related to men. When the researchers asked these male participants about the resources they needed, a number of participants (N=10) reported that they needed support that encouraged the inclusivity of men. For example, when asked about the resources he needed, James stated, "A local support group…saying 'This is a Men's group'…I don't know if anything like that exists." Another participant (Andrew) reflected on his experience obtaining surgery and stated, "When I went through the pre-surgery stuff for my weight loss, I was the only male in the information session. It was female-biased; the questions were all female-based." He further mentioned that he did not attend groups after surgery, but stated, "I might be more inclined if it was male-based and centered around weight loss." One of the participants reported a lack of support for men who were older. For example, Jay mentioned that he obtained surgery at the age of 50. During the interview, he discussed how the meetings catered to women and steered discussions toward body image, which he did not find personally helpful. Jay added that he would have liked the group to address more topics that related to men, healthy eating, and leading a family. One participant (Gratsz) also mentioned that he desired a men's group and expressed an interest in a safe place where males could talk about how the surgery process impacts men. Gratz reported that not only did women outnumber men at in-person support groups, but also female staff typically facilitated the meetings, which made him feel even more alone.

When asked about other resources that participants could use, some men reported needing help with meal planning and maintaining motivation for exercise. Other participants discussed the fact that many of the support groups consist primarily of recent surgery patients. Therefore, most of the discussions focus on 1–2 years after surgery, and not topics for patients who are 3–5 years post-surgery. Other reasons for not attending in-person groups stemmed from being too busy with life, family, and work, while some stated that meetings became monotonous and repetitive. During the interview process, the researchers asked men about their involvement in online social support. Slightly less than half (N=6) of the respondents mentioned being active on social media as a way to obtain social support. These men reported that their focus centered on either giving advice or receiving advice from others to whom they felt they could relate. In particular, these respondents shared experiences of life in general and discussed exercise, weight loss, weight regain, family dynamics, and nutrition. The participants reported that they could connect with other men across the globe via the Internet, thus making it easier for them to receive support. The participants also reported that men seek social support for information and education, as opposed to processing feelings, therefore stating a preference for watching a YouTube or "Facebook Live" video or reading a Facebook post or "tweet" when seeking information. Some participants also cited the use of other social media forms of communication, such as direct messaging (DM) and video chat. Social support appeared to be bi-directional in that some participants provided their knowledge, while in some cases they consumed information from others. Two participants

mentioned being very active in social media, with one obtaining numerous followers and garnering attention from sponsors and advertisers; another volunteered that someone approached him to endorse health products. In the study, six individuals reported no involvement in online social support, though one mentioned that he no longer accessed it due to "outgrowing" it. Others deemed their lives as too busy for them to access online mechanisms for social support or stated that they were simply not interested.

Perceptions of Marriage and Family Therapists

The third theme that surfaced was perceptions of marriage and family therapy. In the study, the researchers asked the participants questions regarding their level of involvement with a marriage and family therapist or other mental health professionals during the postoperative experience. In the study, individuals (N=3) mentioned that they sought the assistance of a marriage and family therapist or other mental health professionals. For example, one individual (Tom) stated, "I did marriage counseling for a year to save my marriage." He then added that his marriage did not survive the process of change that comes along with weight loss. One participant (Magician) stated, "We did see a professional in the breakup." Magician further told that one of the reasons he and his wife divorced was due to financial issues. Shortly after surgery, Magician's wife left him and he lost his job. He then noted that his personal stressors took precedence, leaving him unable to devote the necessary time and attention to his physical health needs or relationship. One participant (Andrew) mentioned having attended a therapy post-surgery. Andrew stated:

> Yeah, I met with a therapist, based on what has been going on in my life…it was nice to talk to somebody…I do have some behaviors I have about myself… when I get stressed. Sometimes I get stressed over eating, and it is helpful learning how to deal with that.

In addition, one participant (Champ) volunteered that while he had not seen a therapist after surgery, he has considered this option in order to work on his relationship with his wife.

During the interviews, the researchers asked the participants if they would recommend a marriage and family therapist to future male bariatric patients during the postoperative experience. In the study, a majority (N=10) of participants reported that they would recommend mental health services in general—and marriage and family therapy in particular—for other patients who are in the postoperative phase of the bariatric surgery process. Although masculinity and culture served as barriers to mental health services for one participant (James), the majority of participants reported that receiving that assistance would benefit male patients. When asked why they would recommend marriage and family therapy services to other male patients, some of the participants discussed the need to address change that occurs in life and within relationships. For example, one participant (Champ) stated the following:

> Yeah, I think it would be very helpful, pre- and post-surgery. I think they should make it a requirement as part of the program, that you must see a therapist…for at least six months before and 18 months or 2 years after.

Champ also discussed feeling a lack of support from his spouse during this time, which led to his divorce. He also mentioned the occurrence of spousal jealousy, which informed his decision to recommend working with a professional after surgery. One participant (Tom) contended that the change that occurred after his surgery contributed to his divorce. He suggested the recommendation of therapy for patients to better

understand the process of what occurs right after surgery and the ensuing 3–5 years. During the interview, Tom stated, "I think that the main thing is to understand the importance of support needed after 2 years, once they reach their goal or lose all the weight." One participant (Andrew) suggested that seeing a therapist could help an individual work through communication issues with one's spouse after the surgery. He mentioned that while his spouse has been supportive for the most part, she does not know how to cook healthy food, which fosters problems around mealtime. Andrew also discussed his experience earlier in the weight loss journey process and stated:

> There was never a time in any of my information sessions where there was a marriage and family component, where I could bring my spouse. It was more like, "Here are some pitfalls of the surgery that you can talk to your spouse about"…and I have seen people who have had weight-loss surgery break up…where it created so much change in their life that it just did not work anymore. I think it's very important to include your family.

Another participant (Gratz) also indicated that he would recommend marriage and family therapy to assist male bariatric patients and their spouses. Gratz mentioned that one of the issues he dealt with related to body image based on feedback he received from his family. For example, Gratz stated the following:

> One of the biggest things I had to overcome was family. When I was fatter, they always told, me, "You are fat." But then once I lost my weight, I got down to my thinnest, everybody said, "You don't look healthy, you need to eat." They are always trying to get me to eat, even when I am full, which causes me stress.

Gratz also discussed other issues that affected his relationship, such as dealing with attention he received from both the opposite sex and the same sex. Gratz stated the following:

> You do attract a lot more attention from the opposite sex when you look better; that was something I wasn't expecting to have issues with. I was kind of oblivious, but my wife noticed when women looked at me. I wasn't ever used to anybody flirting with me…even some guys hit on me and I was like "What?" I wasn't prepared for that.

When asked about other reasons why one would recommend that future male bariatric surgery patients work with a marriage and family therapist, the respondents based their recommendation on their perception of the need to address how to cope with change, how to manage food cravings, how to communicate, how to manage weight regain, how to broach conflict in relationships, and how to talk about issues that specifically affect men. The researchers also asked the participants whether they would consider working with a marriage and family therapist if they had access to that professional virtually. In the study, the majority of participants (N=10) indicated that they would consider using text-based communication, and two participants mentioned an interest in using Skype or other videoconferencing mechanisms or exchanging emails with a marriage and family therapist.

DISCUSSION

The results of the study exhibited a consistency with some of the existing literature regarding bariatric patients, and male bariatric patients in particular. In this study, the participants continued to discuss barriers to successful weight loss post-surgery.[26] Despite the fact that bariatric surgery represents the most effective treatment for morbid obesity,[27,28] bariatric patients continue to experience weight regain after intervention.

Congruent with previous literature,[29] weight loss can be difficult to maintain and patients who are far removed from their initial surgery date may not have sufficient resources to continue living a healthy life. In this study, in addition to gaining insights regarding some of the barriers that patients may face, the research yielded results that suggest that male patients may be the most at-risk due to a lack of resources. For example, in theme 1 (weight loss as a struggle), the participants discussed weight regain and their experiences related to "food addiction" and inability to maintain weight loss post-surgery related to issues including dieting, exercising, and utilizing appropriate eating behaviors. While the results of the study are congruent with research among female patients,[30] the results are unique given that male patients are a minority among surgery patients and, therefore, receive less resources that can be harnessed to combat such issues. Scholarly literature (as well as popular culture) has shown that more resources are available to address weight loss concerns for females as compared to men.[4] This may be due to the dominant notions of beauty that exist within some communities,[31] cultural narratives that suggest that body image and weight are not concerns of men,[32] as well as male scripts related to hegemonic masculinity[33] that may contribute to males not asking for help.[34] One unique finding in this study that focused on males was related to employment and financial concerns. At least one of the participants discussed the fact that he lost his job, which resulted in his inability to focus on his health. While it may be plausible that both males and females could be negatively affected by lack of employment (especially given that weight loss surgery can be costly, even with medical insurance), males who may subscribe to traditional gender roles may have additional burden of needing to focus on employment.[35] Researchers have suggested that while each couple and family system may operate and share in the distribution of labor and building wealth, in some communities men have a significant role and responsibility of earning an income that could assist with maintaining the overall security and stability of a household to include. This may also be unique as some female patients may be able to take more time off of work or may not have the same level of pressure to contribute financially to the household, and therefore may have an increased ability to maintain their health and wellness.[36] Researchers have discussed the barriers of socioeconomic status on healthcare in general, but have traditionally viewed it within the context of race and ethnicity.[37] However, it may also be important to consider socioeconomic status when thinking about healthcare (access, utilization, and outcomes) for men who may be unequally burdened with having to focus on employment as opposed to one's healthcare.

For theme 2 (fading support and feeling alone), the respondents reported that they felt "alone" due to a lack of substantial opportunities for social support that specifically targeted male patients. Consistent with previous research regarding male bariatric patients,[6] the participants in this study continued to experience barriers to social support after 6 or more years of surgery. This is unique for males, as females may benefit from having the additional support pre-surgery and post-surgery, which may lead to better outcomes. Previous studies have suggested that social support is positively correlated with improved health.[38] Therefore, male patients may be at a disadvantage when trying to maintain weight loss due to not having as many resources as female patients do have. Although the current research study was focused on after surgery, it may be that lack of resources impact men prior to having surgery (referral rates). The research showed a consistency with previous work in that men seemed to prefer the use of online social support when compared to in-person support. This is an area that needs to be explored in

female patients in order to compare the level of participation in various modes of social support with males. However, a unique finding in the study was that online social support utilization decreased over time, the further removed from original surgery date. While some variables may include age, developmental life cycle stage,[39] this may also reveal a connection with the lack of available resources for male patients who are further into their weight loss surgery process. Additional research is needed to explore the experience of female patients regarding post-surgery social support to then compare and contrast them with male patients. However, given the fact that female patients make up 80–85% of all bariatric surgery patients, it may be plausible that they may receive more support and/or may have more support made available to them (via in-person and online) when compared to male patients.

This study's findings remained consistent with existing research regarding men's perceptions of marriage and family therapists.[6] While male patients discussed a lack of utilization of a marriage and family therapist, the majority of participants reported that they would recommend the treatment to future male bariatric patients. Likewise, the participants mentioned that if they were to utilize marriage and family therapy (MFT) services, they would prefer text-based communication (phone and email) and videoconferencing (virtual therapy) as the delivery method over traditional in-person treatment. This particular finding is unique in that there has not been a significant amount of research that has specifically discussed couple relationships post-surgery where the male is the patient.[6] However, there have been researchers who have found an increase in the divorce rate and marital/couple's conflict for female patients although it is older research.[40] When asked about discussion topics for therapy, the respondents mentioned coping with required change, couples' communication, and social support. However, the respondents cited a new topic: weight regain. When asked about potential focus points for MFTs, the respondents mentioned the need to address the experience of weight regain. They described weight maintenance as a struggle, and the majority of participants discussed the reality of weight regain after weight loss surgery. The respondents stated that weight regain can contribute to significant distress, and impact self-concept. This finding is unique and has not been studied by other researchers among male or female patients, specifically related to the patient's emotional experience with regard to weight regain.

Implications for Patients, Medical Professionals, and Behavioral Specialists

The impact of bariatric surgery undoubtedly does not end after the surgery or the initial weight loss. Patients need continued support even after the first 2 years post-surgery. Patients can also benefit from access to resources that help them address the issue of weight maintenance, which may prove quite challenging at times. In addition, medical professionals must carefully consider how to develop prevention and intervention strategies that target male patients. Medical professionals may need to continue to collaborate with behavioral specialists to offer holistic and systemic treatment to patients that takes into account inclusivity for male patients. In particular, marriage and family therapists may contribute by working with patients as they attempt to manage weight loss and weight maintenance—all within the context of individual, couple, and family relational systems. Likewise, both medical professionals and behavioral specialists must consider viable treatment options as well as their accessibility for current and future bariatric patients. The use of telemedicine and tele-therapy services may be one area that merits exploration in assessing the unique needs of men who may reside in

various locations and/or those males who show a reluctance with regard to entering a traditional office setting.

LIMITATIONS AND STRENGTHS

This study has two major limitations: small sample size and the use of a qualitative methodological approach. These two factors mean that researchers cannot generalize the results to the larger public. However, the patient sample is unique in that it represents a voice seldom heard and, therefore, may be used as preliminary research for larger quantitative studies. One strength of the study lies in the fact that its focus was not on male patients who were at least 5 years post-surgery, but rather on a follow-up study utilizing a cohort. While this article focused on the global experience of participants, additional levels of analysis could allow authors to compare specific data from each participant from year 1 (when the first study took place) with data from year 6. In particular, while the research team developed new questions for the current study, the authors also repeated some questions from the initial study, thus creating additional opportunities for researchers to capture change over time. Another major limitation of the study included the lack of diversity of the sample. Given that some researchers have suggested health disparities in surgical outcomes,[41] it may be warranted to obtain a diverse sample to include African American and Hispanic/Latino men.

FUTURE RESEARCH

The research team plans to conduct additional analysis regarding specific questions asked during the interviews. In particular, the authors may consider looking at individual differences in the participants' responses. In addition, the researchers would like to continue to follow patients and attempt to conduct another follow-up study in the future. The authors believe that engaging in research with spouses would render useful insights as well and, as a result, may consider ways to broach the female nonpatient counterparts in research. Furthermore, the research team may also pursue additional research that includes medical professionals and behavioral specialists, regarding their perspectives of bariatric surgery for men and for other groups that may be ignored in the scholarly literature. Moreover, the researchers may consider conducting additional inquiries with participants in terms of the use of technology in therapy and online social support mechanisms. Another dimension that may be explored in future research includes that of the experiences and perspectives of African American and Hispanic/Latino men. In addition, the researchers also suggest future research that includes health literacy as well as an exploration of additional health co-morbidities, specifically diabetes management, hypertension, and obstructive sleep apnea.

PRIMARY AUTHOR CONTRIBUTION

Dr. Darren D Moore is an Associate Professor and Program Director in the Marriage and Family Therapy program at Touro University in Los, Alamitos, California. He research interest is focused on obesity and weight loss within individual, couple, family, and community systems, with an emphasis on health disparities among men, African American families, and other marginalized populations. Dr. Moore received previous seed grant funding at his former institutions, where he conducted qualitative research regarding (1) long-term postoperative experiences of male bariatric patients, (2) behavioral medicine (marriage and family therapy) training in obesity and bariatric surgery, (3) significant weight loss among non-bariatric surgery patients within couple and family relationships, (4) health disparities in obesity prevalence and bariatric surgery utilization among African American adult males and females and (5) qualitative research regarding weight regain after significant weight loss utilizing non-surgical interventions, among adults of

various racial and ethnic backgrounds. In his most recent work, Dr Moore has found that long-term support and engagement from medical and allied health professionals, as well as family and peer support, may be factors impacting one's weight loss trajectory.

Dr Moore has 18 articles published with others under review or at other stages of the publication process. He has served as a mentor to doctoral students (PhD), medical students (MD), graduate students (Masters) and undergraduate students. He has been affiliated with two larger grants, which include the BELONG-I (The Bariatric Experience Long Term: Predictors of Weight Loss Failure and Regain, (5R01DK108522-04) grant under Karen Coleman, PI, Kaiser Foundation) and NSF- EAGER (HBCU-DCL) (#1649717) Broadening Participation in Neural Engineering, Bioengineering, and Systems Engineering Research grant under Felicia Jefferson, PI, Fort Valley State University.

Dr Moore received his BA degree in African American Studies from the University of Minnesota, MS degree in Marriage and Family Therapy from Valdosta State University, and the PhD degree in Human Development: Marriage and Family Therapy from Virginia Tech. After PhD, Dr Moore has completed an NIH-NHLBI-funded fellowship in Behavioral Medicine and Sleep at New York University School of Medicine, an NIH-NIMHD funded fellowship in Health Disparities at University of North Texas Health Sciences Center, and a Certificate in Leadership through the American Association for Marriage and Family Therapy (AAMFT). He can be reached at mooredd2012@gmail.com.

Dr Felicia Jefferson is a tenure-line assistant professor in the Biology Department of the College of Arts and Sciences at Fort Valley State University (FVSU). She is also director of the Neurobiology, Bioengineering, and Sleep (NeuBEs) Lab at FVSU. Dr Jefferson graduated from the Rochester Institute of Technology with a degree in Biotechnology and German Language and later obtained a Master's of Science in Molecular Genetics and Biochemistry from Georgia State University and a PhD in Biomedical Science and Neuroscience from the Morehouse School of Medicine. While obtaining her PhD, Dr Jefferson was awarded a highly competitive Ruth L. Kirschstein Predoctoral Individual National Research Service Award (an F31 grant) from the National Institute of Neurological Disorders and Stroke (NINDS) of the National Institutes of Health (NIH).

Following her formal education, Dr Jefferson completed a joint postdoctoral research fellowship in behavioral neuroscience and clinical sleep medicine at the Emory University School of Medicine Sleep Center and Morehouse School of Medicine Sleep Diagnostic Center under an Atlanta Clinical and Translational Science Institute (ACTSI) Award.

Dr Jefferson has held positions in industry as a research scientist at one Fortune 500 and two Fortune 100 corporations. She has been a part of leading scientific and pharmaceutical research teams that have worked on vaccine development, toxicogenomics testing, and major project under hauls in the analysis of select G-protein coupled receptors in pharmaceutical product development.

Dr Jefferson began her academic career at Spelman College where she served as a Howard Hughes Medical Institute (HHMI) Undergraduate Education-funded faculty research mentor and Acting Chair of the former Environmental Sciences and Health Studies program.

Dr Jefferson's unique background positioned her to develop one of the few combined neurobiology, bioengineering, and sleep-based academic research labs in the country. Recently, Dr Jefferson's interdisciplinary research with physicists and chemists, engineers, and surgeons has led to translational and commercial research patents for important national programs,

including the BRAIN Initiative and Precision Medicine Initiative. She has also been awarded two single PI awards from the National Science Foundation (Award #1842510 and Award #1649717) for neural engineering, bioengineering, and systems engineering research and a collaborative award for the statistical analysis of biological data and trends using GIS and spatial statistical analysis also from the National Science Foundation (Award #1435152). Her research partnerships range from medical schools, technology incubators, nonprofits, and international university collaborations. Dr Jefferson has 26 peer-reviewed scientific journal articles and has mentored 3 doctoral, 7 master's, and 32 undergraduate students on formal research projects.

CONFLICT OF INTEREST

The authors report no conflict of interests for this research.

FUNDING

This research was supported in part by two grants awarded to the two primary authors:

1. Seed Grant, Alliant International University, awarded to Darren D. Moore, PhD.
2. NSF Grant #1649717 awarded to Felicia Jefferson, PhD.

REFERENCES

1. Sung-Chan P, Sung YW, Zhao X, et al. Family-based models for childhood-obesity intervention: A systematic review of randomized controlled trials. Obes Rev 2013;14(4):265–78.
2. Moore D, Willis M. Men's experiences and perspectives of social support after weight-loss surgery. J Men's Health 2016;12(2): 25–34.
3. Young MT, Phelan MJ, Nguyen NT. A decade analysis of trends and outcomes of male vs. female patients who underwent bariatric surgery. J Am Coll Surgeons 2016;222(3):226–31.
4. Fuchs HF, Broderick RC, Harnsberger CR, et al. Benefits of bariatric surgery do not reach obese men. J Laparoendosc Adv Surg Tech 2015;25(3):196–201.
5. Mazzeo SE, Saunders R, Mitchell KS. Gender and binge-eating among bariatric surgery candidates. Eat Behav 2006;7(1):47–52.
6. Moore D, Cooper C. Life after bariatric surgery: Perceptions of male patients and their intimate relationships. J Marital Fam Ther 2016;43(3): 495–508. doi: 10.1111/jmft.12155.
7. Natvik E, Gjengedal E, Moltu C, et al. Translating weight loss into agency: Men's experiences 5 years after bariatric surgery. Int J Qual Stud Health Well Being 2015;10(1):27729.
8. Arterburn D, Livingston EH, Schifftner T, et al. Predictors of long-term mortality after bariatric surgery performed in Veterans Affairs medical centers. Arch Surg 2009;144(10):914–20.
9. Connelly LM. What is phenomenology? Medsurg Nurs 2010;19(2):127–29.
10. Groenewald T. A phenomenological research design illustrated. Int J Qual Methods 2004;3(1): 42–55.
11. Lewis S. Qualitative inquiry and research design: Choosing among five approaches. Health Promot Pract 2015;16(4):473–75.
12. Thomson R, Holland J. Hindsight, foresight and insight: The challenges of longitudinal qualitative research. Int J Soc Res Methodol 2003;6(3):233–44.
13. Britten N. Qualitative research: Qualitative interviews in medical research. BMJ 1995;311(6999): 251–53.
14. Burnard P, Gill P, Stewart K, et al. Analysing and presenting qualitative data. Br Dent J 2008; 204(8):429.
15. Chen A, Gussenhoven C, Rietveld T. Language-specificity in the perception of paralinguistic intonational meaning. Lang Speech 2004;47(4):311–49.
16. Sikorski W. Paralinguistic communication in the therapeutic relationship. Arch Psychiatry Psychother 2012;1:49–54.
17. Birks M, Chapman Y, Francis K. Memoing in qualitative research: Probing data and processes. J Res Nurs 2008;13(1):68–75.

18. Sgier L. Qualitative data analysis. An Initiat Gebert Ruf Stift 2012;April 19:19–21.
19. Basit T. Manual or electronic? The role of coding in qualitative data analysis. Educ Res 2003;45(2):143–54.
20. Zhang Y, Wildemuth BM Qualitative analysis of content. In: Wildemuth, B.M., editor. Applications of Social Research Methods to Questions in Information and Library Science. Santa Barbara, CA: ABC-CLIO; 2016.
21. Morse JM, Barrett M, Mayan M, et al. Verification strategies for establishing reliability and validity in qualitative research. Int J Qual Methods 2002;1(2):13–22.
22. Berger R. Now I see it, now I don't: Researcher's position and reflexivity in qualitative research. Qual Res 2015;15(2):219–34.
23. Tufford L, Newman P. Bracketing in qualitative research. Qual Soc Work 2012;11(1):80–96.
24. Krefting L. Rigor in qualitative research: The assessment of trustworthiness. Am J Occup Ther 1991;45(3):214–22.
25. Shenton AK. Strategies for ensuring trustworthiness in qualitative research projects. Educ Inform 2004;22(2):63–75.
26. Bradley LE, Forman EM, Kerrigan SG, et al. Project HELP: A remotely delivered behavioral intervention for weight regain after bariatric surgery. Obes Surg 2017;27(3):586–98.
27. Christou NV, Sampalis JS, Liberman M, et al. Surgery decreases long-term mortality, morbidity, and health care use in morbidly obese patients. Ann Surg 2004;240(3):416.
28. Mobarki H, Bian F. How much weight loss is expected after each type of bariatric surgery procedure? Bioactive Compounds Health Dis 2018;1(1):217–20.
29. Perez-Pevida B, Aldhwayanand M, Gibson R, et al. Poor responsiveness after bariatric surgery: Clinical and eating behaviour characteristics. Obes Update 2018; 53. BioScientifica.
30. Rusch MD, Andris D. Maladaptive eating patterns after weight-loss surgery. Nutr Clin Pract 2007;22(1):41–49.
31. Jung J, Forbes GB, Chan P. Global body and muscle satisfaction among college men in the United States and Hong Kong-China. Sex Roles 2010;63(1–2):104–17.
32. Yang CFJ, Gray P, Pope Jr HG. Male body image in Taiwan versus the West: Yanggang Zhiqi meets the Adonis complex. Am J Psychiatry 2005;162(2):263–69.
33. Sobal J. Men, meat, and marriage: Models of masculinity. Food Foodways 2005;13(1–2): 135–58.
34. Sierra Hernandez CA, Han C, Oliffe JL, et al. Understanding help-seeking among depressed men. Psychol Men Masculinity 2014; 15(3):346.
35. Willott S, Griffin C. 'Wham bam, am I a man?': Unemployed men talk about masculinities. Feminism Psychol 1997;7(1):107–28.
36. Artazcoz L, Cortès I, Escribà-Agüir V, et al. Understanding the relationship of Long working hours with health status and health-related behaviours. J Epidemiology Commun Health 2009;63(7):521–27.
37. Martin M, Beekley A, Kjorstad R, et al. Socioeconomic disparities in eligibility and access to bariatric surgery: A national population-based analysis. Surg Obes Related Dis 2010;6(1): 8–15.
38. Livhits M, Mercado C, Yermilov I, et al. Is social support associated with greater weight loss after bariatric surgery?: A systematic review. Obes Rev 2011;12(2):142–48.
39. McGoldrick M, Carter B, Garcia-Preto N. The expanded family life cycle: Individual, family, and social perspectives. Boston, MA: Allyn and Bacon; 2011.
40. Neill JR, Marshall JR, Yale CE. Marital changes after intestinal bypass surgery. J Am Med Assoc 1978;240(5):447–50.
41. Anderson WA, Greene GW, Forse RA, et al. Weight loss and health outcomes in African Americans and whites after gastric bypass surgery. Obes 2007;15(6):1455–63.