Integrative Complementary Medicine for Treatment of Bariatric Perioperative Symptoms: Patients' Experiences and Staff Evaluations

Yael Keshet, PhD,¹ Samuel Attias, MPH,² Eran Ben-Arye, MD,³
Miri Shaham, RN, BA,⁴ Ofra Grimberg, RN, BA,⁵ and Elad Schiff, MD⁶

Background: A unique integrative complementary medicine (CM) pilot program was launched in a general surgery department at a public teaching hospital in Israel. In addition to standard supportive care, CM treatments are used to support patients undergoing laparoscopic sleeve gastrectomy (LSG) in coping with perioperative distresses. We examined the experiences of patients and how the nursing staff evaluate these treatments.

Methods: Qualitative semi-structured open-ended interviews were used.

Results: Most patients reported that the treatments helped them to cope better with preoperative anxiety, and facilitated postoperative breathing and pain relief. Nurses reported that CM treatments enabled them to reduce doses of analgesics. Both patients and nurses suggested that preoperative CM treatment facilitated a better postoperative CM-associated outcome.

Conclusions: Integrative perioperative CM treatments improved pain and anxiety care in patients undergoing LSG. More research is needed to examine CM efficacy in improving standard LSG perioperative supportive care and to evaluate cost effectiveness.

Introduction

INTEGRATIVE MEDICINE, also known as integrated medicine or integrative health care, is an emerging field.¹ It constitutes the integration of complementary medicine (CM) practices, which are generally considered to be beyond the paradigm of conventional biomedicine,² within the setting of biomedicine-oriented conventional healthcare. Integrative medicine is widely accepted in the United States and Europe.³ In Israel, CM modalities are provided by all the health maintenance organizations on a fee-for-service basis covered by supplementary medical insurance, and by most of the larger hospitals.⁴ In all, about 65% of CM treatments in Israel are currently provided in these public organizations.⁵

An innovative and unique integrative medicine program was launched in 2010 in a general surgery department at Bnai Zion Medical Center, a public hospital in Israel.^{6,7} Some 2,000 operations are conducted in this accredited department every year. The surgical interventions performed are typical of a general surgery department, and include both open and laparoscopic approaches (about half of them are laparoscopic).

About 300 bariatric surgeries a year are conducted, 200 of which are laparoscopic sleeve gastrectomy (LSG). The integrative program in this public hospital is free of charge, and is the subject of ongoing research approved by the hospital's Helsinki committee. Integrating CM practitioners into the surgical department was termed an "Integrative Surgery Service," since it was presented to the department as a service that addressed hospitalized patients' unmet needs, such as anxiety, pain management, postoperative nausea and vomiting, insomnia, and problematic bowel movement. This paper presents research that focused on LSG patients who were treated with CM therapies immediately before surgery, in the holding room area, and following surgery in the post-anesthesia care unit (PACU).

Bariatric surgery is the only evidence-based method of treating severe obesity and curing obesity-related comorbidities,⁸ and an increasing number of bariatric operations are conducted laparoscopically.⁹ LSG is a relatively simple technique, with a short operating time, few complications, and very good results in excess weight loss.¹⁰

The prevalence of obesity has increased worldwide over the past 30 years in both developed and developing countries,

¹Department of Sociology and Anthropology, Western Galilee Academic College, Akko, Israel.

²Complementary/Integrative Surgery Service, Bnai Zion Medical Center, Haifa, Israel.

³Lin Medical Center, Clalit Health Services, Haifa and Western Galilee District, Israel.

⁴PACU Service, and ⁵Surgery Department, Bnai Zion Medical Center, Haifa, Israel.

⁶Internal Medicine Department, Bnai Zion Medical Center, and The International Center for Health, Law & Ethics, Haifa, Israel.

in all segments of society.¹¹ In Israel, almost half of the adult population (48.7%) is defined as being overweight (body mass index, BMI > 25), and 3.8% suffer from severe grade 2 and grade 3 obesity (BMI > 35).¹² During 2011, an estimated 4,500 bariatric operations were performed by 50 surgeons in Israel. Some 3,500 of these were conducted laparoscopically (personal communication).

The objective of the research was to evaluate the effects of CM treatments integrated into the department to support bariatric surgical patients. The study sought to examine: (1) the experiences of patients who have undergone LSG and were treated with CM therapies to reduce perioperative distress; and (2) how the nursing staff evaluate these treatments.

Methodology

Data were collected by means of semi-structured in-depth interviews with patients and nurses by the principal sociological researcher and a research assistant. Inclusion criteria were patients who underwent LSG without complications, operated on between August 2011 and July 2012, who agreed to participate and to be interviewed, and who were treated by the same CM practitioner. During this period, this practitioner offered CM treatments to 29 LSG patients. Of these, six did not wish to be treated, and another two patients were treated but refused to be interviewed. We interviewed 21 patients (14 female). The patients were interviewed while still hospitalized in the surgery department between 24 and 48 hours after the operation, since we wished to record their impressions while they were still fresh in their memory.

Nurses were interviewed twice: 6 months after the initiation of the integrative project (August–September 2010) and 2 years later (August 2012). We interviewed the senior nurse in the holding room, and the two senior nurses and one qualified nurse in the PACU.

We used open-ended questions. The interview guide was used flexibly. It began with more general and open-ended questions, enabling participants to raise issues they considered relevant. Patients were asked about the operation experience, including perioperative distress and treatment; their recollections of the time immediately before and after the surgery; the influence of the CM treatments; whether they thought that the hospital should regularly incorporate these treatments; and whether they would recommend to friends who undergo such surgery to use these treatments. Each interview lasted between 11 and 35 minutes, with an average length of 18.4 minutes. Nurses were asked to evaluate the effects of the integrated CM treatments. The interviews with the nurses lasted between 17 and 60 minutes, with an average length of 35 minutes.

Ethics approval

The ethics committee of the Bnai Zion Medical Center approved the study. All the patients were given information on the study, and informed consent was obtained from each of the participant patients.

Data analysis

Interviews were recorded and transcribed verbatim. The principal sociological researcher used Atlas-ti software, and content analysis methodology.¹³ Content analysis is used to

identify, analyze, and report patterns or themes within qualitative data in order to detect recurring patterns of meaning,^{14,15} and has been widely used in health studies in recent years.¹³

Results

A total of 21 semi-structured in-depth interviews were conducted with patients, and nine interviews were conducted with nurses. All the interviewed patients commended the professional, attentive, and supportive care of the hospital staff and advocated the integration of CM therapies in their overall supportive care. All the interviewees would recommend the use of these treatments to friends who intended to undergo the operation.

When the interviewees were asked what the effects of the CM treatments were, three main issues were raised: (1) coping with preoperative anxiety; (2) facilitating postoperative breathing and pain reduction; and (3) the importance of preoperative treatment in facilitating postoperative care.

"At the threshold between life and potential death": coping with preoperative anxiety

The CM practitioner accompanies the patient to the operating theaters. Although the patient has received a tranquilizer, he is anxious. The treatment comprises a combination of guided imagery, breathing training, and reflexology.

When asked about their feelings prior to the operation, patients described a range of emotions: a few felt only mild anxiety before surgery, while most experienced intense anxiety, even though they had received a tranquilizer. They reported fearing anesthesia, being afraid of "not coming back," and a concern about surgery complications.

When asked about the effects of the CM treatment before the operation, all patients mentioned the relaxing effect of these treatments. While one patient regarded the treatment as "nice, but nothing more," all the others reported that it had helped to reduce their anxiety and enable them to become calm. One patient told us that the practitioner had calmed her considerably: "It really released the tension, I almost fell asleep...I really needed it." Another patient compared her experience to a previous operation, in which she "was afraid. Now I went calmly, it was just amazing." Yet another patient related in a trembling voice, "The moment we entered the operating room the pressure began, suddenly my blood pressure rose to 145, probably because of the stress. He immediately came and started doing reflexology and I really felt I was being calmed down."

The senior nurse in the holding room noted the difference between CM-treated patients and those who were not treated. The staff had previously believed that it was sufficient to administer sedatives to patients, and that she "and their family would try to calm them down, but with CM treatments we see a big difference...the treatments induced a sense of calm, I think it gives the patient a good feeling...the patient is more relaxed."

"What happens when the soul returns to the body": facilitating postoperative breathing and pain reduction

After the operation, the CM treatment continues in the PACU. The patient is monitored for pulse rate, blood

pressure, and oxygen saturation level. The patient is only semi-conscious and is intermittently awake. He remains in the PACU between 3 and 4 hours. During this time, the therapist attends to him mainly by means of reflexology treatment and breathing training. If the patient wakes up and is attentive, the therapist makes suggestions by employing guided imagery. Reflexology treatment is applied in short sessions lasting 5 to 10 minutes. After a break and re-evaluation, it is resumed, again for a brief period. The patient receives between two and four such short reflexology treatments. The CM practitioner explains that this is administered according to the parameters of the patient's medical condition; the appearance of symptoms such as pain, nausea, and their severity; the treatment response; and, no less important, the type and dose of drugs. The therapist uses the metrics of the patient's heart rate, blood pressure, and oxygen saturation level to evaluate their condition and to give them feedback on the level of oxygen saturation, while encouraging them to breathe actively.

Almost all the patients recalled that the CM practitioner assisted them after the surgery. Some did not remember what he did, as they "fell asleep all the time." Some reported that his treatments helped to reduce pain, but what many patients emphasized the most was that he had helped them breathe properly. When we asked what their worst experience had been, many of them mentioned breathing difficulty: "After the operation, I felt terrible pain, and I remember his [the CM practitioner's] voice: breathe; breathe, he saved me. Because I suddenly realized I couldn't breathe and only because he told me I could breathe properly." Another patient described her inability to breathe and how she had felt: "I thought this is the end, I'm not breathing anymore, I felt suffocated. When the practitioner told me to breathe, I slowly felt myself again."

The nurses also talked about breathing: "Bariatric patients are large patients, very big. They have a problem with carbon dioxide removal. If they have a high concentration of carbon dioxide, they are not awake, they are down, and we have to watch them carefully." Yet while many of the patients emphasized that breathing difficulties induced acute distress after the operation and reported that the CM treatments had benefited them mainly with breathing, the nurses emphasized the reduction of pain among patients. They furthermore noted that CM-treated patients were far more relaxed, which allowed them to reduce the dose of medications, which also depress breathing, thereby perhaps enhancing the patients' recovery:

The dosage of opiates decreased. Usually during the patient's stay in the PACU, I administered 15 milligrams of morphine in titration; now, with the CM treatments, I can give 8, 7. It's significant that the patient is more awake, has less side effects; these patients should sit up and get out of bed as soon as possible, so I really see a difference.

Nurses described patients who suffered severe pain and were "absolutely fretful. These patients can jump out of bed, pull the drains out, and harm themselves. Sometimes all the staff is called to treat a patient in such a condition, especially when he is big and very heavy." In such cases, the CM practitioner "with his methods, his touching, he simply relaxes the patient. It is excellent."

All the nurses appreciated the fact that the CM treatments help most of the treated patients. They believe it reduces pain and "when the patient suffers less pain, he can breathe better."

They believe the CM treatments also reduce nausea and induce a sense of self-control: "It definitely and obviously reduces the general distress of bariatric patients in the PACU."

"He was in my memory": the importance of preoperative treatment in facilitating postoperative assistance

One of the prominent findings of our study is the importance patients attached to the connection between the pre- and post-operative CM treatments. The assistance they derived from therapy administered after the surgery depends on the pre-operative therapy. One patient, for example, told us, "I heard him before surgery, when he tried to calm me. With all this, I went into surgery, he was in my memory. Once out, I heard him again and followed what he said and started doing it."

The nurses likewise stressed the importance of the patients' preoperative condition for their condition after surgery:

When the CM practitioner does his work before the operation, the patient enters more relaxed, and he also leaves [the operation] more relaxed, because they return to the same point as before, because they do not remember what happened during surgery. So if he wakes and once again sees the therapist, the patient's attention goes to the therapist, and he is more relaxed and easier to handle.

One nurse described an example of treating a patient who had been very anxious before the operation:

His weight was rather unusual, even for bariatric patients; he was very big and very anxious before the surgery. We were afraid about what would happen when he came out of the operation, we expected that he would jump out of bed and begin to rage...and the therapist already knew him and was familiar with the problem, and worked with him before the surgery. Then, when he came out of surgery, he was calm and did not jump out of bed, and we got through it pretty smoothly.

Discussion

We examined the perceived impact of the integration of CM treatments—guided imagery, reflexology, and breathing practices—on patients immediately before and after LSG. Patients felt that the treatment helped to reduce preoperative anxiety and enabled them to cope with postoperative breathing difficulties and pain. The nurses likewise believed that the treatments assisted most of the patients, who became relaxed and suffered less pain, which allowed the PACU nurses to reduce the doses of analgesics after surgery.

Our research indicates that relaxation practices that reduce anxiety prior to LSG surgery also alleviate patients' restlessness, pain, and breathing difficulties following surgery. We suggest that this may be due to the effect of relaxation prior to surgery and/or the patient's prior acquaintance with the practitioner and with breathing practice. Both patients and nurses stressed the importance of presurgical treatment to the success of postsurgical treatment. These preliminary findings are supported by previous findings from research on pain management and coping with postoperative respiratory difficulties among severely obese patients. Preoperative anxiety, obesity, fear of surgery, and catastrophising pain have been identified as the main predictors of postoperative pain.¹⁶ A systematic review of studies found that anxiety was the most

common predictor of postoperative pain and was shown to be positively correlated with pain intensity.¹⁷

A further finding of our study was that CM treatments helped patients to cope with postoperative respiratory difficulties. Obesity, particularly severe central obesity, affects respiratory physiology both at rest and during exercise.¹⁸ Obesity likewise constitutes a risk factor for impaired postoperative oxygenation.⁸ Severe obesity may be associated with significant perioperative respiratory complications. Optimal postoperative management includes early mobilization, deep breathing and coughing, pain control methods that minimize the use of opiates and the ensuing respiratory depression, and the full reversal of all anesthetic agents.¹⁹ Short-term respiratory physiotherapy during the PACU stay was found to promote more rapid recovery of postoperative lung function in obese patients during the first 24 hours.²⁰ We likewise point to the importance of preoperative treatment in enhancing the effectiveness of postoperative respiratory treatment.

Our study, which concentrates on bariatric surgery, complements a number of previous studies that have investigated the use of CM relaxation therapy alongside analgesics to help postoperative patients better manage pain and anxiety.^{21–25}

Parameters to be taken into account

Several parameters must be taken into account when evaluating the usefulness of CM treatments in helping LSG patients to cope with perioperative distress. First, the feelings of the patients: these treatments may reduce patients' anxiety, and hence may reduce the drop-out rate or postponement of surgery (for a thorough discussion of this point, see Keshet *et al.*²⁶), and may mitigate the traumatizing effect of surgery and subsequent emotional consequences. Second, treatments that reduce anxiety, pain, and restlessness after surgery can assist the medical staff working in the holding room and PACU. Third, the long duration of these treatments: the CM practitioner accompanies and treats the patient for several hours. Fourth, the treatments must match the operating schedule. For example, when operations were conducted in the afternoon, the CM treatment continued into the night. Fifth, these treatments may reduce the amounts of medication needed, which may have implications for the patient's recovery rate and the number of lost workdays.

Research limitations

Our research is based on qualitative methodology characterized by in-depth interviews with a limited number of interviewees. Further studies that combine both quantitative and qualitative methodologies are necessary to confirm our current findings among a larger population of participants. Another limitation is that our study focused on only one surgical ward and on surgical patients who were treated by a single CM practitioner. The ability to generalize on the strength of the results arises not from the representative nature of the sample but rather from concepts and insights that are likely to be relevant in other similar integrative medicine settings.

A further limitation lies in the study's evaluative nature. It is based mainly on the subjective evaluations of nurses and on patients' descriptions of their own feelings. This is a conse-

quence of our initial objectives and preference to explore the subjective point of view of the participants.

Disclosure Statement

No competing financial interests exist.

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Address correspondence to:

Yael Keshet, PhD

Department of Sociology and Anthropology

Western Galilee Academic College

P.O. Box 2125

Akko 24121

Israel

E-mail: yaelk@wgalil.ac.il