The present study is a qualitative research with the objective of analyzing the perceptions of patients in the face of the challenges in the bariatric surgery line through focal groups. All patients were treated with an outpatient protocol, however, they were divided into two groups, one participated in the educational process and the other did not. Four categories of analysis were drawn up and discussed in the light of the current literature. Patients from the educational process were able to express themselves with greater positivity in view of the challenges and they showed better resources for going through the emotional suffering, the worsening of comorbidities and the risk of death. The results show the potential of education in health and of group work in the promotion of self-care and well-being.

**Keywords:** Bariatric surgery. Obesity. Focus group. Qualitative research. Health education.
Introduction

Obesity has been seen as one of the main and most challenging problems in today’s health. It involves a systemic and multi-sectorial approach for transforming eating atmospheres and health practice. However, this challenge is still far from being faced. Increased obesity has become a worldwide concern due the costs involved and the subsequent effects on health, reduced life expectancies and high prevalence rates\textsuperscript{1,2}. Bariatric surgery has been seen as the main treatment for severe obesity, since it can lead to important weight losses in one year and guarantees that comorbidities are reduced\textsuperscript{3}. With this data at hand, we can see that the number of procedures has increased in Brasil\textsuperscript{4}, but not to the point of addressing the increased demand. From the day when the person entered the line until surgery has been carried out may mean a wait of up to five years\textsuperscript{5}.

The long wait for bariatric surgeries requires an effective educational process to mitigate the effects of excessive weight on the quality of life. We are also aware of the complications of obesity, that can lead to early death. Care for severe obesity is complex and challenging, and health professionals everywhere seek better methods for achieving effectiveness, including control over comorbidities and other methods for promoting weight loss\textsuperscript{5,7}.

Educational action in health, based on a problematizing, participative approach to eating and nutrition, has been an important strategy to promote greater bonds between professionals and patients. It is aimed at transforming reality, and provides better self-perception when patients are getting sick and/or caring for illness\textsuperscript{8}.

This article is an attempt to analyze the perceptions of bariatric patients who experienced an educational process in an outpatient clinic of a university hospital, as compared with perceptions of bariatric patients who did not have the same educational experience.

Method

Subjects of the study

This article presents a qualitative analysis of the perceptions of patients who were accompanied during one year while on the waiting list for bariatric surgery. They were recruited at the general surgery outpatient clinic of the University Hospital of São José do Rio Preto, State of São Paulo, Brazil\textsuperscript{5}. The present article is derived from a larger study which involved 88 patients, who had been divided into two large blocks, with 44 patients in each. The first block was referred to as the “educational groups” and the second was referred to as the “non-educational groups”.

<table>
<thead>
<tr>
<th>Sex</th>
<th>n(%)</th>
<th>n(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>1 (12.5%)</td>
<td>1 (16.7%)</td>
</tr>
<tr>
<td>Female</td>
<td>7 (87.5%)</td>
<td>5 (83.3%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economic Classification*</th>
<th>n(%)</th>
<th>n(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1 (US $ 914.74)</td>
<td>3 (37.5%)</td>
<td>1 (16.7%)</td>
</tr>
<tr>
<td>C2 (US $ 521.70)</td>
<td>4 (50.0%)</td>
<td>1 (16.7%)</td>
</tr>
<tr>
<td>B2 (US $ 1,654.22)</td>
<td>1 (12.5%)</td>
<td>1 (16.7%)</td>
</tr>
</tbody>
</table>
Table 1. Characteristics of patients who participated in the focus groups. São José do Rio Preto/SP, Brazil 2018-2019

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Non-educational group (n=8)</th>
<th>Educational group (n=6)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n(%)</td>
<td>n(%)</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
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</tr>
<tr>
<td>Male</td>
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<td><strong>Economic Classification</strong>*</td>
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<tr>
<td>C2 (US $ 521.70)</td>
<td>4 (50.0%)</td>
<td>1 (16.7%)</td>
</tr>
<tr>
<td>D/E (US $ 218.43)</td>
<td>-</td>
<td>3 (50.0%)</td>
</tr>
<tr>
<td><strong>Work</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>3 (37.5%)</td>
<td>4 (66.7%)</td>
</tr>
<tr>
<td>No</td>
<td>5 (62.5%)</td>
<td>2 (33.3%)</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
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<td></td>
</tr>
<tr>
<td>Single</td>
<td>1 (12.5%)</td>
<td>2 (33.3%)</td>
</tr>
<tr>
<td>Married / Stable union</td>
<td>7 (87.5%)</td>
<td>4 (66.7%)</td>
</tr>
</tbody>
</table>

To hold the meetings of the block known as the “educational group”, the patients were divided into four smaller groups, each one containing 11 participants. The “educational groups” held 18 meetings between February, 2018 and February, 2019. At these meetings the patients were evaluated and monitored on their clinical, physical, nutritional, and psychological conditions over the period of one year, and an educational experience was carried out at the same meetings.

The members of the “non-educational group” were also evaluated and monitored in their clinical, physical, nutritional, and psychological conditions over the period of one year, but no educational process was carried out.

All those patients who agreed to participate voluntarily in the study signed the informed consent form. The study was approved by the Research Ethics Committee (FCF-Unesp, n. 2289208), and the Brazilian Register of Clinical Trials (ReBEC) RBR – 775y3d was carried out.

The focus group technique (FG) was applied in order to understand the perceptions of the patients regarding their experiences while waiting in line for bariatric surgery. The proposal was to compare the perceptions of the patients who participated in the educational encounters with the perceptions of those who had not participated. Therefore, an encounter was held with ten representatives of the educational block (chosen at random), and another encounter with representatives of the non-educational block. These two encounters, carried out at the end of a year of monitoring, were carried...
out in the FG format, as a research method to compare the different perceptions about living in the waiting line for those who had been through the educational experience, and those who had received only clinical monitoring (Figure 1).

![Flow chart and guide to focal groups. São José do Rio Preto/SP, Brazil. 2018-2019.](image)

The researchers decided on the FG technique because it gives positive results in evaluating qualitative research. It also allows analysts to note various perceptions by the group while respecting the differences of each participant\(^{10,11}\).

The two FGs were held in the outpatient environment. According to the FG method, the participants sat in circles in order to promote interaction among the members\(^{12}\) and each FG meeting lasted an hour and a half. In order to apply the FG technique, a team that had had no previous contact with any of the patients was formed, consisting of a trained mediator, an adviser and an observer of non-verbal expressions\(^{13}\). According to Figure 1, they used a script with questions concerning the area of bariatric surgery. The recorded material was transcribed to a Word archive for later analysis. The written phrases spoken during the meetings were repeated several times so that the researchers could organize the data in order to identify flows of meaning and categories of analysis.

To identify the subjects’ phrases that are presented in the section on results and discussion, the following letter codes were used: 1 - REG means representative of the educational groups and, 2 - RNEG means representative of the non-educational groups.
The educational process

The educational process was aimed at promoting general care in order to guarantee integration of the fields of knowledge and relationships among the patients. This was seen as a way to broaden their viewpoints and promote more complete care14.

The meetings of the groups of patients were held once every two weeks during the first semester of 2018, and monthly during the second semester, always on the same day of the month and at the same time and place. The educational meetings lasted for 60 minutes. A round of initial conversation was held, in order to come up with topics of interest to the patients, and these topics were dealt with during the meetings.

The educational process was coordinated by the interdisciplinary team, which included a nutritionist, a physiotherapist, a physical education professional and a psychologist. The professionals who participated in this study worked in an interdisciplinary way, with similar actions of welcoming, establishing of bonds, group promotion and qualified listening to the groups’ demands. The areas operated together, gathering knowledge and sharing information and perceptions. However, specific practices of each profession were called upon to promote behavior changes in synchronized and broader ways in the different areas of knowledge. The approaches carried out by each area of knowledge are described in Frame 1.

Frame 1. Description of approaches carried out by each area of knowledge.

<table>
<thead>
<tr>
<th>PSYCHOLOGY</th>
<th>NUTRITION</th>
<th>HUMAN MOVEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive Behavior Therapy (BCT) as a support tool in clearly understanding the phenomenon of distress generators, coping strategies focused on solving problems and diaphragmatic breathing exercises. Restructuring of thoughts, dysfunctional behavior and self-sabotage, as well as reception and anxiety management strategies that limited behavior changes. Practice of visualization exercises to favor a self-care posture to increase self-esteem.</td>
<td>Behavioral approach including counselling strategies, motivational interviews and techniques for intuitive eating. Guidance as to the different kinds of hunger (physical, social, intentional and emotional) as well as beliefs, thoughts and feelings that involve eating.</td>
<td>Greater stress on regular physical activity, orientation about safe practices and identification of the main barriers that lead persons with serious obesity to put off the regular practice of physical activity. Presentation of strategies for adapting exercises and suggestions that can favor active routines.</td>
</tr>
</tbody>
</table>

The educational process was based on the active method of learning. Topics and problematizing questions favored dialogue and the exchange of knowledge among the dynamic singularities and differences of each group. This educational practice is highly recommended in the literature because it is based on learning through problems and on meaningful learning. It is organized into small groups, since this aspect is considered essential to guarantee the broadest possible learning15.
The educational process of the professionals took place as a permanent space of reflection and perfection of the project that was being developed with the educational groups of patients. All these professionals had participated in an educational process for one year and eight months (between June, 2017, and February, 2019), in partnership with an educational institute, in order to guarantee a process of reflection on the practices being recommended.

The education was designed to reflect on practices jointly with health professionals and thus establish a line of care for obesity, focusing on Food Security and Nutrition. The purpose of all this was to discover links between teaching and action, with the objective of supporting the experience that was being developed concurrently with groups of patients.

Results and discussion

The analysis of the discourse used by the patients in the FG was grouped into four analytic categories, distributed in the following way: 1 - Patients’ perception of bariatric surgery; 2 - Self-image: reflection in the mirror and its judgment; 3 - Triggers and barriers regarding obesity; and, 4 - Changes perceived by the participants of the educational group.

Perception of patients about bariatric surgery

This category shows the perceptions of the patients about bariatric surgery as a clinical procedure and the difficulties that they imagine they will have in this process. A number of doubts and uncertainties were observed in the group that had not been through the educational process:

Expectations and anxiety every day, learning more about the topic. What is the surgery going to be like? What won’t it be like? In other words, everybody’s in this anxiety to know what [the surgery] is going to be like. (RNEG)

An analysis of the narratives made it possible to identify differences in the perceptions about the surgery between the two focal groups. Both groups presented feelings of fear of the unknown and anxiety in relation to the results, but the patients that had not gone through the educational process showed a more expressive idealization in relation to bariatric surgery, and transformed it into a “magic” formula to resolve obesity, just like all of life’s other problems.

I failed all these long years by trying to lose weight, and my final solution is the bariatric operation. (RNGE)
The unrealistic expectations for bariatric surgeries are frequently referred to in the literature, which reinforces the importance of detailed accompaniment of patients and the construction of legitimate post-surgical benefits\textsuperscript{16}. In the reports presented by the group that went through the educational strategies, it could be observed how valuable the educational activities had been as strategies for broadening and changing the paradigm.

You have to use your head before you decide to get a bariatric.... My cousin, for example, got an operation four years ago but all the fat is coming back because she went back to eating again. On the other hand, she’s no longer afraid that the surgery might open up. (REG)

Self-image: reflection in the mirror and judging it

This category refers to the self-perceptions of the patients about their bodies stop and the challenges of being obese in a society that sees the body as something idealized. Living with the stigma makes patients feel sad, or even furious at themselves, with important impacts on their mental health.

I look at myself in the mirror and I see myself from the front and from the side. Everything is ugly. I had a cesarean operation so there’s a lot of lard there, it’s connected to my legs, I can’t look at them and see them as something beautiful. It’s all ugly. It’s so much lard that I want to tear everything out if there were some way I could. I’d like to eliminate it all. (REG)

My feeling was to stay at home, all locked up and crying, you know? I looked at myself in the mirror and I saw myself fat, and I felt angry and I felt hate for myself, yá understand? (REG)

The meetings in the educational group could not deconstruct this deep view from the cultural and social context. Despite the promising results attained in the group meeting of the educational process, like self-perception and its treatment, some barriers against changes in comportment were chosen by the patients of both groups. They were motivated by aspects of each one’s personal life, through prejudices and social barriers.

In this sense, the two groups of patients presented similar views about their bodies and showed that they see bariatric surgeries as a strategy for them to be “fixed” and therefore accepted by today’s aesthetic patterns.

I’m going to change my way of living and have the pleasure of being the way I want to be, which is thin. I’m embarrassed when I look at my fat arms and my fat face. I look at girls the same age as I am who were in my classroom, and they are thin. (RNGE)
The participants of both groups brought up situations of everyday life where they were very embarrassed and this generated feelings that were hard to handle. As they said in the literature, they are situations that make you stay away from your own social world. They cause you to have low self-esteem and feelings of impotence, uselessness, anxiety and depression17-19.

The preference to stay-at-home was seen in both groups. A justification for this position was their adaptation to the home as where there are fewer offenses and prejudices17. However, this choice can favor a very sedentary life, which was mentioned by the participants in this study that did not undergo educational intervention. This situation was worse when there are economic difficulties, lack of time, diseases leading to obesity and the difficulty of going to a gym20.

However, despite the barriers and rigidity found in the social context, we heard a voice of resistance in the group that participated in the educational process, although it was very timid. It was an invitation to perceive oneself beyond the aesthetic body, like an individual with the right to love and respect.

I see myself in the mirror and I feel very sad. I try to hide behind baggy clothes but it’s ugly. Then I remember that I have myself and I love myself. I have my family and I must struggle with them and for myself. If you don’t like me, relax, because some people do like me. (REG)

In this study, it was evident that the perception of obesity by the patients is understood as something bad, ugly and awful, a reflex of social imagination. Along the same line, a review of the literature noted the negative effect of the stigma and how such contacts centralize the obese patient as the guilty one. In this way, the individual is pointed out as responsible for his or her body, thus minimizing other dimensions, such as emotional and social aspects. Even health professionals who are caring for obese patients are sometimes responsible21.

**Triggers and barriers in obesity**

Everyday episodes interfere in the process of obesity, such as triggers for gaining weight or barriers against losing weight. Perceptions of triggers and barriers were mentioned by the participants of both focal groups in the reports about the difficulties when facing day-to-day life.

I come by bus, but now they won’t let you get on at the back. You have to go through the roulette. How can somebody this size, like you, get through the roulette? Sometimes you get stuck. I got stuck once. (REG)

So then, you have prejudices from people, because you feel rejected because nobody does anything for obese people. They only help a skinny person. I have to buy all the cloth to get my clothes made. (REG)
Aspects of personal life, prejudices and social obstacles, such as the lack of accessibility and public places, can be a barrier against any change in behavior. Similar results are seen in communities in Australia and New Zealand, where they concluded that the main barriers to change are directly connected to unreal expectations, low intrinsic motivation and unfavorable environmental aspects\(^\text{22}\).

Situations like these can be psychologically stressing and affect one’s humor, emotional state and eating behavior, causing changes in eating choices. The preferred options are the tastiest, and “comfort foods” are consumed to minimize negative feelings\(^\text{23}\).

Until I was around 25, I weighed 127lbs. that lasted until my first pregnancy. Then I put on another 105lbs. (RNGE)

Something that made me eat much more than I should have was my going to my mother’s house. It was like going to paradise, so you see that there are atmospheres and people that make you eat better or worse. (RNGE)

Also, about triggers, the study made by Porto et al.\(^\text{24}\) showed that patients can mention motives for starting to get fat, such as anxiety, eating too much, taking birth control medicines, hereditary traits, pregnancy, getting married, surgery and others. But there are some who cannot say when they started putting on weight\(^\text{24}\).

**Changes in posture perceived by patients in the educational group**

The perceptions of participants in the focal group made up of patients that had been through the educational process are that they began to change their posture in relation to being very sedentary, as well as changing everyday eating practices and paying less attention to mental health. The patients in this group showed a positive change in their narratives:

I learned a lot about eating. [...] You have to eat almost everything, but a little bit, not a lot. [...] And you have to know how to educate your stomach. (REG)

I have been taking a walk in the morning and in the afternoon. And the day that I can’t go out, I walk at home. I can stay at home and do anything I want there. I don’t stop anymore. I breath better because I get tired. I felt like my heart was going to jump out of me, but not anymore. I go to the gym, too, that community gym. (REG)

I take drugs for high blood pressure and my BP has gone down. I was so anxious, I took sertraline and fluoxetine, but today I don’t take anything.... I felt so much pain, but after I started walking and doing exercise, I feel better. (REG)
In a qualitative study carried out by Sharman et al. on participants who were on a waiting list for bariatric surgery, it was noted that the participants of the groups with health education spoke positively about the support that they received. They also noted how important it was to exchange ideas and experiences with other participants. The educational space given for exchanging experiences emotions and support was recognized by the patients of the educational group, and this is the basis of the process of changes referred to by them:

After about half a year, it was hard ... I wanted to give up, I didn’t want to come because my mother had died. It was a very hard moment, but these people helped me a lot, especially my friend, who gave me a lot of strength. (REG)

For me the best thing of all is that I felt alone and I came here and there was a lot of people who were all alone (laughter).... We all learn from the experience of other people. (REG)

On the contrary, patients waiting for surgery who didn’t go through an educational process found it hard to establish new positions to face the prejudices about fat bodies in the social context:

I’m not embarrassed about doing activities. And there is the fact, too, that I would like to go to a gym but I don’t because I know about the reputation that fat people have. Gyms are not for fat people. (RNGE)

The study carried out by Krukowski supports what we have been saying, that, over time, the bond between professionals and participants favors the loss of weight of the patients. Other studies also show positive results of educational processes in preparing for bariatric operations, whether they are for long or for short periods. They provide tools that give the patients the strength to change behaviors.

Participative educational processes that involve qualified listening are important because they provide patients with the possibility to abandon the condition of victim of obesity. In other words, they see that fat bodies cannot make everyday changes in eating practices, body movements and emotional balance.
Conclusion

The perceptions of the participants of the two different groups were not unanimous, but they came close to one another on some points, such as their approaches regarding bariatric surgery. Both of the groups realized the benefits presented by educational procedures and they maximize the advantages. They were able to identify that the stigma of self-images, prejudices, everyday difficulties and social isolation carry a certain weight for the patients of both groups. It was also easy to note that they all expressed themselves as a living presence in society that carries with it considerable prejudices to mental health. This is because the prejudice against fat bodies and obesity are cultural constructions that make change and self-care difficult.

The perceptions regarding the barriers against changing behavior and their positive view of the encounters in educational groups were seen as potential social support. This helped at moments of emotional difficulty based on the sharing of information, strengthening of bonds and resolution of problems that are characteristic of the pre-operative period. In this sense, the contribution of the educational space for the decision not to give up treatment in view of critical situations was referred to by some patients. The fact that people are obese in our society is challenging in general, but it can be even more difficult for those who are in line for surgery.

The life of an obese person in our society is a challenge in general. But it can become even more difficult for those who are in line for bariatric surgery, because the long wait involves emotional suffering, an increase in comorbidities and even the risk of death. Educational spaces that are participative and that promote autonomy also reaffirm the strength of preventive action to bring about changes in the behavior of patients with serious obesity, as shown by this study, as it compares the perceptions of the two different focal groups.
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Authors’ contribution
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Conflict of interest
The authors have no conflict of interest to declare.

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References


O presente estudo trata-se de uma pesquisa qualitativa com o objetivo de analisar as percepções dos pacientes diante dos desafios na fila da cirurgia bariátrica por meio de grupos focais. Todos os pacientes foram atendidos com protocolo ambulatorial, porém, foram divididos em dois grupos, um participou do processo educativo e o outro não. Quatro categorias de análise foram elaboradas e discutidas à luz da literatura atual. Os pacientes do processo educativo conseguiram se expressar com maior positividade diante dos desafios e apresentaram melhores recursos para atravessar o sofrimento emocional, o agravamento das comorbidades e o risco de morte. Os resultados mostram o potencial da educação em saúde e do trabalho em grupo na promoção do autocuidado e do bem-estar.


El presente estudio se trata de una investigación cualitativa con el objetivo de analizar las percepciones de los pacientes ante los desafíos en la fila de la cirugía bariátrica por medio de grupos focales. Todos los pacientes fueron atendidos con protocolo ambulatorio, pero se dividieron en dos grupos, uno participó en el proceso educativo y el otro no. Se elaboraron y discutieron cuatro categorías de análisis a la luz de la literatura actual. Los pacientes del proceso educativo consiguieron expresarse con mayor positividad ante los desafíos y presentaron mejores recursos para pasar por el sufrimiento emocional, el agravamiento de las comorbilidades y el riesgo de muerte. Los resultados muestran el potencial de la educación en salud y del trabajo en grupo para la promoción del autocuidado y del bienestar.