



## Original Article

## Exploring motivation for bariatric surgery among Indigenous Māori women

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## ABSTRACT

**Introduction:** Bariatric surgery is the most effective intervention for alleviating obesity and its complications. Indigenous people worldwide experience higher rates of obesity and obesity disease burden. However, few studies exploring bariatric surgery among Indigenous peoples are published. In this study we aimed to explore the motivation of Māori women in coming forward for bariatric surgery.

**Methods:** Māori women who had bariatric surgery prior to December 31, 2014, were invited to participate in semi-structured interpersonal interviews. Kaupapa Māori research, an Indigenous Māori research methodology, informed this study. Interviews were recorded, transcribed and subject to inductive thematic analysis.

**Results:** Twenty-nine Māori women participated in semi-structured interpersonal interviews. The majority of women reported that the presence of obesity-related disease alongside the desire for a better quality of life served as the greatest sources of motivation for having bariatric surgery. Whānau (family) were key for participants achieving the preoperative milestones needed to be accepted for bariatric surgery. Interpersonal experiences of fat-shaming and yo-yo dieting also impacted their choice to have surgery.

**Conclusion:** This study is one of the first to describe the motivations of Indigenous Māori women to have bariatric surgery. Our study conveys the importance of health, a desire to have a better quality of life and whānau in motivating Māori women to come forward for bariatric surgery.

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## Introduction

Bariatric surgery is the most effective intervention for alleviating obesity and its sequelae, including type 2 diabetes mellitus (T2DM) [1]. In Aotearoa, New Zealand (NZ), significant ethnic disparities in the prevalence of obesity and obesity-related diseases exists where Māori, the Indigenous people of NZ, have disproportionately higher rates of obesity and obesity-related disease than non-Māori [2].

Healthcare providers in NZ have a responsibility and growing commitment to reducing health inequities and advancing social justice [3]. Despite this, health and social inequities continue to persist between Māori and non-Māori [4]. An important area of focus is that of access to gold standard health interventions [5]. Bariatric

surgery is no exception and studies have found that Māori, and Indigenous peoples the world over, experience lower than expected access to publicly-funded bariatric surgery [6,7].

Counties Manukau Health (CMH) is one of three district health boards (DHBs) in Auckland, NZ that serves nearly 11% of the total NZ population [8]. This DHB serves one of the most ethnically diverse regions of predominantly Māori (16%), Pacific (21%) and Asian (24%) peoples whilst also housing the largest publicly-funded bariatric service in NZ [8,9]. Laparoscopic sleeve gastrectomy is the most commonly performed bariatric procedure at CMH [10].

Clinical research investigating bariatric surgery in Indigenous peoples is scarce [7]. Of note, even fewer qualitative studies describing Indigenous experiences of bariatric surgery have been published. This study aimed to begin developing the literature in this space by exploring the motivation of Indigenous Māori women for having bariatric surgery.

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**Table 1**  
Key principles of Tikanga Māori applied throughout the study.

Principle	Description	Application
Whānaungatanga	Embraces genealogy and focuses on building relationship [16].	<ul style="list-style-type: none"> <li>Researcher-participant connection as Māori through whakapapa</li> </ul>
Utu	The principle of reciprocity which seeks to maintain relationships [16].	<ul style="list-style-type: none"> <li>Koha (token of appreciation) given for participation and sharing of stories</li> <li>Advice regarding re-referral back to the bariatric service and to other primary and secondary services for ongoing support</li> </ul>
Manaakitanga	Nurturing relationships, looking after people and being careful about how others are treated [16].	<ul style="list-style-type: none"> <li>Ensuring interview dates, times and location were best suited to participants</li> <li>Travelling to participants' homes to alleviate time and travel constraints</li> <li>Bringing kai (food) to interviews</li> <li>No time pressures placed on interviews</li> </ul>

## Methods

This study presents a qualitative analysis of semi-structured interviews with Māori women who had a primary bariatric procedure performed from January 2010 to December 2014 at CMH. Kaupapa Māori Research (KMR) informed the methodological processes of this study, ensuring research responsiveness to Māori and protection of Māori beliefs, concepts and culture [11,12]. Ethical approvals were granted by the Human Disability and Ethics Committee (reference 17/CEN/83) and the CMH Research Advisory Committees. This study is reported in accordance with the consolidated criteria for reporting qualitative studies (COREQ) [13].

### Kaupapa Māori research

Kaupapa Māori Research affirms the right to self-determination for Māori knowledge, values, practices and language [14]. Māori aspirations for self-determination centre on Māori having the opportunity to do what is required for Māori in critically informed ways [15]. Tikanga Māori (Māori customs) informs KMR and is defined as a set of beliefs associated with practices followed in conducting the affairs of a group or an individual [16]. Table 1 describes the main principles of Tikanga Māori that informed this study.

### Research team

A collaborative team with expertise in Māori health, surgery and clinical academia was required for this study. This research took the position that Māori leadership was critical to undertaking KMR with Māori participants experiencing the phenomenon of interest but did not exclude non-Māori experts. The interviews were conducted by the primary author (JR) who is a Māori woman, a research fellow and surgical registrar with prior experience in both qualitative and quantitative health research. Study design and application of the principles of KMR, Tikanga Māori and Māori health were supervised by a Māori clinician and expert in Te Reo Māori (Māori language) (JT). The research was supervised by local experts in Māori health (MH), surgical academia (AH, AM) and bariatric surgery (AM).

### Participant recruitment

Patients who self-identified as Māori and had a primary bariatric procedure performed at CMH during the study period were invited to participate in semi-structured interviews. Exclusion criteria included people who had: a revision bariatric procedure performed; moved out of the CMH region; and passed away. Participants were invited by letter which was accompanied by a participant information sheet, consent form and postage-paid return envelope. Participants were informed that this study sought to understand their perceptions about having bariatric surgery and that whānau (family) were welcome to participate.

### Data collection

Eligible participants were identified by National Health Index numbers and extracted by a data analyst at CMH. Patient demographic and weight loss variables were collected from the electronic medical records. Semi-structured interviews were conducted in a consult room at CMH or at the participant's home with appropriate refreshments provided. Interviews were facilitated using an interview guide that was not pilot tested. Interviews were captured with a digital recorder and transcribed by an independent professional transcribing service. Only the interviewer and participants were present during the discussions. No repeat interviews or focus groups were conducted. Transcripts were returned to participants for review if requested.

### Data analysis

Interview transcriptions were subjected to inductive thematic analysis [17]. Independent coding was performed by two independent Māori clinician researchers (JR and JT) and then cross-compared and discussed for internal validity and the development of overarching themes and sub-themes. Any discrepancies in code or theme formation were discussed with the supervising authors.

## Results

Twenty-nine Māori women (21%) participated in this study and were subsequently interviewed from August 2017 to May 2018. No repeat interviews were conducted. Fig. 1 presents the flow of participants through the study. Demographics for all participants are presented in Table 2 and the preoperative evaluation pathway participants followed is outlined in Fig. 2. Transcripts were returned to seven participants with no amendments required following their review.

Thematic analysis identified five major themes: (1) comorbidity alarm bells; (2) a better quality of life; (3) whanau; (4) a lifetime of 'fattism' and (5) futile attempts at weight loss (Table 3). Fig. 3 presents quotes that best highlight the essence of each theme. The coding tree showing the development of the themes is presented in Table 2.

### Comorbidity alarm bells

A proportion of participants asserted that their motivation for bariatric surgery was due to a new diagnosis of an obesity-related disease and/or the progression of an existing condition. Increased body habitus featured as a secondary motivation. The threat of developing T2DM appeared to propel patients into considering bariatric surgery:

"I didn't feel I was fat. However, going to the doctor things were starting to happen. I had varicose eczema and they were saying I was going to be pre-diabetic."

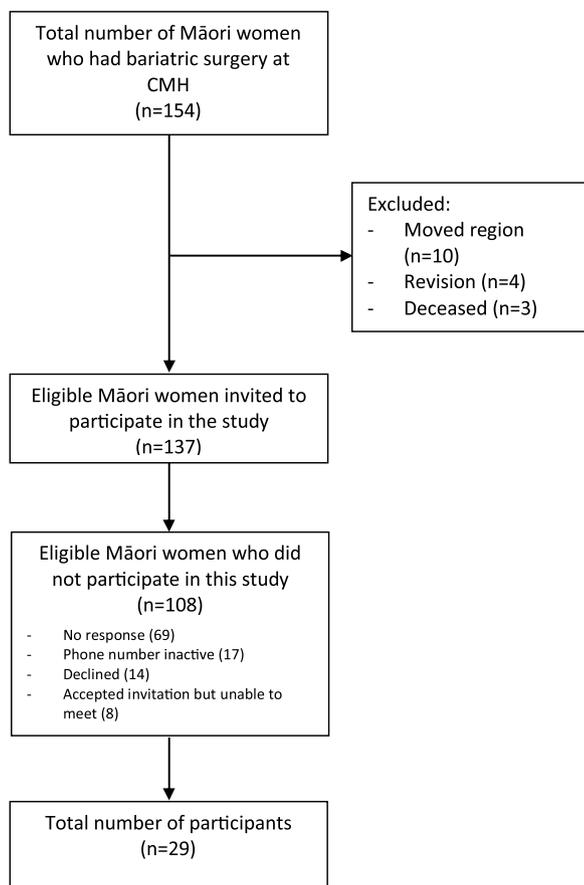


Fig. 1. Flow diagram of study participants.

**Table 2**  
Summary of participant demographics and post-operative outcomes.

Characteristics	Mean ± SD or n (%)
Age (range)	46.4 ± 9.7 (range 25–65)
Years since surgery	5.6 ± 1.53 (range 1.4–8.2)
Type of surgery	
- Sleeve gastrectomy	27 (93)
- Gastric bypass	2 (7)
Baseline BMI (kg/m <sup>2</sup> )	49.7 ± 7.1 (range 39–67)
Baseline weight (kg)	136.3 ± 19.5 (range 94.6–181)
Preoperative comorbidity	
- T2DM	12 (41.4)
- Hypertension	13 (44.8)
- Hypercholesterolaemia	12 (41.4)
- OSA	8 (27.6)
Mean total weight loss (kg)	49.6 ± 16.7 (range 7.9–78.8)
Lowest postoperative weight (kg)	87.2 ± 20.8 (range 50–158)
Current weight (kg)	96.7 ± 23.1 (range 47–169)

BMI – body mass index; OSA – obstructive sleep apnoea; T2DM – type II diabetes mellitus.

Comorbidities inhibiting the quality of life of our Māori women were not limited to physical disease. Mental health illness was debilitating and often created a circuitous loop to social isolation and unemployment:

“I was on a sickness benefit and I had issues because of depression, huge anxiety, agoraphobia, claustrophobia.”

Whilst physical and mental health disease brought about as consequences of severe obesity formed a large part of patient motivation for bariatric surgery, excess weight gain was still an important motivator for seeking bariatric surgery:

“I’ve always sort of yo-yoed, my weight had always been up and down, up and down, up and down and then I thought oh my gosh if I keep this up, I’m either going to have to retire early or I’m going to get really, really sick. . .”

#### A better quality of life

The desire for a better quality of life was uniform across our participant cohort. As highlighted in ‘comorbidity alarm bells’, a better quality of life was sought through improving health. Health was viewed in many ways but was notably holistic:

“My health wasn’t very good and not only my physical health but my mental health as well. I just see they all are connected.”

Awareness of addressing life-long ‘bad habits’ that contribute to weight gain was noted. Several participants attributed weight gain to ‘overeating’ and ‘overindulging’ in unhealthy foods. Hence, they were motivated to seek out bariatric surgery to attain healthier eating behaviours that would optimise weight loss:

“Because you know that in your mindset that you have to reduce your meals and how you eat. . . like eating and chewing your meal and allowing you to actually enjoy eating it instead of just shoving it down and going for gold.”

The desire for enhanced social connection was also prominent among our participants in all aspects including intimacy, whānau and wider friendships. The underlying notion that losing weight makes you ‘look and feel good’ emerged and looking good was seen as the ultimate outcome to achieving inner peace and security:

“I just think anyone having this op really, ultimately just wants to look good, so they feel good. And I think unless you can really look good properly then it does play a bit of havoc with you.”

Overall, the desire for a better quality of life among the participants was envisioned as a combination of holistic health improvement, positive self-image and enhanced social connection.

#### Whānau

Whānau were important motivators for our participants. Mokokopuna (grandchildren) served as strong motivation for participants’ desire to live longer:

“But what kept me going was the goal to have it done and the moemoeā (dream) for me was to get well for the mokos.”

A number of participants described whānau as being key in their motivation to stay on track in order to be accepted on to the CMH bariatric program:

“At times I thought ‘oh stuff it when your numbers up, it’s up’ you know? I was just going to give up and it was my family that said don’t give up.”

In addition, experiences of whānau ill-health also motivated participants to prioritise their goals of losing weight and alleviating obesity disease burden:

“I was following the steps that my siblings were heading and was quite scared. It frightened me. Am I going to end up like my aunty and my father on dialysis? Was that a normal progression of how my family, my whānau, what I was going to be?”

#### A lifetime of ‘fattism’

Many participants experienced discrimination for ‘being fat’ over the course of their lifetimes. Some of these experiences were

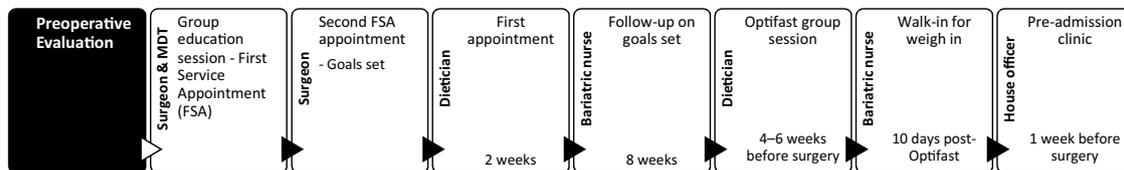


Fig. 2. Summary of the participant preoperative evaluation pathway at Counties Manukau Health.

Table 3  
Summary of code development into the overarching major themes.

Theme	Codes
1. Comorbidity alarm bells	<ul style="list-style-type: none"> <li>• Impending 'mortality'</li> <li>- New diagnosis of diabetes</li> <li>- Multiple comorbidities</li> <li>- Last chance to treat health issues</li> <li>• Urged by GP or specialist</li> <li>- Last chance</li> </ul>
2. A better quality of life	<ul style="list-style-type: none"> <li>• A desire to be healthy</li> <li>• Relationships</li> <li>- Love and social connection</li> <li>• Employment</li> <li>• Curbing lifelong bad 'habits'</li> <li>• Change as a necessity</li> <li>• Dependent on others</li> <li>• Mobility</li> </ul>
3. Whānau (Family)	<ul style="list-style-type: none"> <li>• Mokopuna (grandchildren)</li> <li>• Lost whānau members to obesity-related diseases</li> <li>• Solid support system</li> </ul>
4. A lifetime of fattism	<ul style="list-style-type: none"> <li>• Being 'big' all of my life</li> <li>• Discrimination</li> <li>- Size, shape and contour</li> <li>• Whakamā (shame)</li> <li>• Social isolation</li> <li>• Winter clothes in summer</li> </ul>
5. Futile attempts at weight loss	<ul style="list-style-type: none"> <li>• Tried everything</li> <li>- Diet</li> <li>- Exercise</li> <li>- Pharmacotherapy</li> <li>• Financial struggle</li> <li>- Limited food and lifestyle choices</li> <li>- Expensive diet and exercise programs</li> <li>• Limited through lack of support</li> </ul>

traumatic enough to drive social isolative practices and internal beliefs of negative self-image:

"I didn't like being out in public because I knew people were looking at me, cars would toot at me, people would throw things at me, kids would point and look at you, adults would do the same thing. So, there's bigotry for being a big slow person."

For some, the level of discrimination was only recognisable after losing weight following bariatric surgery. It was easily identified given the new kindness and respect they seemed to experience being 'smaller':

"Like in the lift, people open the door for me now. At the casino – if I'm going to the casino – they'll hold the door or hold the lift. I remember days when people were like quick-quick push your button. How rude is that?"

Another common phenomenon that participants reported was that of 'being invisible' or quite literally a 'non-person' (Fig. 1). An

example of this was feeling like their views and opinions were discounted:

"I see how people kind of treat bigger people. They don't do it on purpose. It's almost like you don't help sort of thing. Your opinions don't really count."

Overall, participant reflections on acts of discrimination they experienced prior to bariatric surgery were highlighted through their experiences of compassion and acceptance following bariatric surgery. The general understanding was that 'being bigger' carried a negative social stigma that influenced others' negative attitudes and behaviours towards them.

*Futile attempts at weight loss*

In general, participants felt they had tried everything before considering bariatric surgery. Multiple failed attempts at implementing better lifestyle changes through diet and exercise over a long period of time created despondency and drove participants to consider bariatric surgery. At times, their efforts did not go unnoticed and participants' health care providers would advocate for them:

"So, I started dieting and then I plateaued for about just over a year, at the same weight. No matter what I did I just couldn't get below it. The orthopaedic surgeon said we can see you trying – here's an option."

The most common frustration of trying multiple diet and exercise regimes for participants was the 'yo-yo' pattern of weight loss and weight gain. Whilst some progress was made, there was difficulty maintaining it which led to frequent changing of diet/exercise regimes:

"And I'd done weight loss programs, and nothing really stuck, and I wasn't achieving like I'd go down and go back up and all of that yo-yo type stuff."

Participants had realistically tried everything to achieve adequate weight loss to reverse severe obesity and obesity-related disease. Due to the unsustainability of any progress made, motivation for considering bariatric surgery was high.

**Discussion**

This study is one of the first to describe the motivation of Indigenous Māori women to have bariatric surgery using an Indigenous methodological approach. The presence of obesity-related disease and the desire for a better quality of life served as the greatest sources of motivation for having bariatric surgery. Whānau were key supports for our participants and interpersonal experiences of 'fattism' and the struggle of 'yo-yo' dieting also influenced the desire to access bariatric surgery.

Studies exploring patient motivation for bariatric surgery have identified comorbidity as a primary source of motivation for bariatric surgery [18,19]. Other motivators include psychological, quality of life and family reasons [18,20]. Whānau were important sources of motivation for our participants throughout the bariatric



Fig. 3. Overall themes describing the key motivational factors that influenced Māori women to have bariatric surgery.

surgery journey. Mokopuna were especially important in driving participants to seek a healthier lifestyle through bariatric surgery. Robertson et al. similarly reported that their participants talked about ‘being there’ for their grandchildren and that ultimately losing weight and improving health ensured a better chance of being present at family graduations [19]. Our participants reported that whānau were often their only source of support through experiencing discrimination prior to having bariatric surgery.

Our Māori women reported explicit acts of discrimination throughout their lifetimes which inflicted profound mental and spiritual insult. The burden of obesity extends well beyond physical ill-health. Obesity stigmatisation exists and directly impacts clinical decision-making [21]. Stigmatisation and shame that have often been reinforced by the repetition of unsuccessful attempts at weight loss have been described as significant motivators for pursuing bariatric surgery [22]. For instance, obesity discrimination impacts poorly on mental health and overall quality of life [23]. In NZ, obesity discrimination has been shown to inflict controversial portrayals of bariatric surgery in the media which could invariably affect health practitioners’ practice in addressing severe obesity [24]. Therefore, health providers must advocate against obesity discrimination if the obesity epidemic is to be radically addressed.

As described previously, research into bariatric surgery among Indigenous peoples from access through to perioperative outcomes is scarce. A review summarising current knowledge on the important issue of bariatric surgery in Indigenous peoples stated that greater inquiry is required and that research in this area should be Indigenous-led [7]. We attempted to better understand motivation for bariatric surgery among Māori women using an Indigenous Māori research methodology. Māori concepts of health are holistic and emphasise the sociocultural and economic foundations of health [25]. Obesity and its complications serve as major health issues for Māori [5]. Studies describing NZ clinicians’ perspectives of Māori health describe repertoires that blame Māori for their ill-health, justify current public health service provision and label Māori as non-compliant due to Māori ignorance, poverty and self-destructiveness [26,27].

The aforementioned narratives are destructive and work against health policy and practice that seeks to improve Māori health

[5]. With respect to obesity, the complex interplay of genetic and environmental factors must be considered [28,29]. Our participants worked hard over many years with small but unsustainable achievements in weight loss and comorbidity control. Deficit analyses of Māori health and wider conceptualisations of obesity in NZ are intertwined [24,30]. Warbrick et al. suggest that ‘fat shaming’, in the context of Māori, may be a manifestation of entrenched societal racism [31]. They further suggest that ‘fat shaming’ Indigenous peoples serves to maintain the monocultural ideology of ‘Indigenous failure’ where Indigenous people are often presented as hapless and unable to engage in self-care [31]. Therefore, Māori patients who have bariatric surgery appear to be vulnerable given the interconnected tensions that exist surrounding obesity, Māori health and fat-shaming in NZ.

This study contributes little to describing the impact of severe obesity among Māori in general and its findings cannot be fully extrapolated beyond our participants. However, it presents a first inquiry into the reported experiences of Māori women who have had bariatric surgery in NZ. A substantial prospective analysis of Māori participants over several years designed with a mixed-methods analysis would certainly enhance this study. Furthermore, our study described the perspectives of women. Our cohort of Māori women were accepted for bariatric surgery and future research should also include the perspectives of those patients who were not accepted for surgery. Despite these limitations, we assert that research of this kind is important and necessitates Māori leadership and methodological approaches.

Māori women who underwent bariatric surgery at CMH describe the presence of medical comorbidity, a desire to live a better quality of life and the support of whānau as important factors in motivating them to have bariatric surgery. Whilst many of the participants reported discrimination as a lived reality in their experience of being severely obese, many were able to forge ahead due to the wider support of their whānau.

#### Declarations of interest

None.

## CRedit authorship contribution statement

**Jamie-Lee Rahiri:** Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Visualization, Writing - original draft, Writing - review & editing. **Jason Tuhoe:** Conceptualization, Formal analysis, Writing - original draft, Writing - review & editing. **Andrew D. MacCormick:** Writing - review & editing. **Andrew G. Hill:** Writing - review & editing, Supervision. **Matire Harwood:** Writing - review & editing, Supervision.

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## Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:<https://doi.org/10.1016/j.orcp.2019.09.004>.

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