



UNIVERSITY OF NAIROBI

FACTORS AFFECTING PATIENT SATISFACTION FOLLOWING ABDOMINOPLASTY

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**A Research Proposal Submitted in Partial Fulfilment for the Award of Master of Medicine
degree in Plastic, Reconstructive and Aesthetic Surgery**

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STUDENT DECLARATION

I, Dr. Sarah Kemunto Nyakiongora, hereby certify that this dissertation is my original work and has not been submitted for any degree at any other institution.

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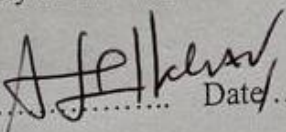
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This research proposal was presented at department of surgery meeting of the University of Nairobi held on 12th February 2021 and subsequently approved by Kenyatta Hospital - University of Nairobi Ethics and Research Committee on 9th December 2021.

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3.0 ACRONYMS AND ABBREVIATIONS

Body - QoL - Body Quality-of-Life

BMI - Body Mass Index

HRQL - Health-Related Quality of Life

KNH - Kenyatta National Hospital

PRP – Platelet Rich Plasma

PRO - Patient Reported Outcome

RMT - Rasch Measurement Theory

UON - University of Nairobi

4.0 ABSTRACT

Background

Abdominoplasty is a popular cosmetic procedure that involves the surgical excision of extra abdominal skin and fat, plication of the rectus muscle fascia, and umbilicus transposition with the purpose of improving the abdominal contour. Despite having a significant complication rate, particularly in individuals with risk factors, such as obesity, diabetes, and smoking, it has been discovered to have a high success rate. Furthermore, combining liposuction with abdominoplasty has been shown to improve patient satisfaction and decrease the number of re-operations.

This study aimed to determine the factors that affect patient satisfaction following abdominoplasty using a self-administered questionnaire and the Body-Q. These questionnaires were to be administered through a face - to -face interview with the patient during the pre-operative clinic visit. A second interview will be conducted 1 to 3 months post-operatively to determine the patient's satisfaction with the procedure as well as to document any complications that the patient might have encountered. This will be done as either in person interviews at the postoperative clinic or telephone interviews. The Body-Q questionnaire will be utilized to assess patient satisfaction with the abdominal contour before and after abdominoplasty, as well as the impact on patient satisfaction. It will be administered at the same time with the other questionnaire.

Broad objective

To determine factors that influence patient satisfaction following abdominoplasty.

Study design and population

A prospective longitudinal study of 44 adult patients undergoing abdominoplasty.

Study site

Kenyatta National Hospital, Nairobi Hospital, Coptic hospital, Plastic Surgery, Outpatient clinics, wards, and theatre.

Study duration 6 months

Materials and method

Patients presenting to the outpatient clinic for abdominoplasty will be recruited. After consent / assent to participate, a history and physical examination will be conducted. Those who meet the inclusion criteria shall be subjected to the Body Q questionnaire to assess their satisfaction with abdominal contour before the surgery and after the surgery. At the same time, another questionnaires will be administered to capture patient demographics and risk factors.

Intra-operatively, the principal investigator will act as an observer to garner information on the surgical technique and any adjuncts used. This will allow for correlation of surgical technique and patient satisfaction at the end of the study. The surgeons will be asked to carry out the surgical procedure in their usual manner, with no adjustments for purposes of the research study. 1 to 3 months post-operatively, another interview will be conducted to investigate the complications encountered by the patient and their satisfaction with the results of the overall procedure.

Categorical data will be analyzed and presented as frequency and proportion. Where applicable, continuous data will be examined as a mean with standard deviation or as a median with an interquartile range. Fischer's exact test and Pearson correlation will be used to associate complications and surgical technique with patient satisfaction.

Utility of the study

The evaluation of success of aesthetic surgery is not only dependent on the technical aspects of the surgery, but also on the patient's reported outcome such as satisfaction. There are various surgical techniques and adjuncts used when performing an abdominoplasty. This study will aim to advise on which techniques and adjuncts offer the highest patient satisfaction rates with the least number of complications. Aesthetic surgery is not new in Kenya, but it has just started gaining popularity. Therefore, such a study will be beneficial in streamlining surgical techniques, adjuncts used and patient selection when carrying out abdominoplasty.

Results

Patient satisfaction following abdominoplasty was found to be high at 92%. This is comparable to other studies that have been quoted throughout our paper. Factors that were thought to contribute to patient satisfaction positively were high preoperative BMI and the procedure meeting patients ex-

pectations. The factors that were detrimental to patient satisfaction included prolonged hospital stay and time off work due to development of complications.

CHAPTER 1

1.0 INTRODUCTION

Plastic surgeons all around the world perform abdominoplasty, which is one of the most popular cosmetic procedures. (1) Pitanguy popularized functional abdominoplasty for cosmetic purposes in 1967 when he invented the low transverse (bikini line) incision that could remove lower abdominal scars. Kelly first reported functional abdominoplasty in 1899, and Pitanguy popularized it for cosmetic purposes. (2)

It is a surgical treatment that involves rectus abdominis fascia plication and the removal of extra skin and fat from the abdominal wall. This is done to improve abdominal wall contour. A low-lying suprapubic incision, which can be hidden beneath the bikini line, is used to achieve this. (1)

Different health-care metrics can be used to measure patient service quality. Patient satisfaction is one of the measures that has been gaining momentum in the recent past. (3) Patient happiness and changes in quality of life are important indicators of surgical success. (4) (5). Different writers have reported variable levels of satisfaction with abdominoplasty, ranging from 75 to 90 percent. (6)(7)(8)

Other cosmetic procedures, such as reduction mammoplasty, have been investigated and shown to yield up to 94 percent patient satisfaction. (9)

Bragg et al. used a questionnaire that was designed to ask patients about various aspects of the operative experience. Answers were given via a four-point satisfaction scale (very happy, happy, satisfied or unsatisfied) with opportunities for individuals to add free text. They found that one out of every four NHS patients (23%) was dissatisfied with the outcome. This amounted to a 77% satisfaction percentage rate among respondents. Dog ears and a persistent abdominal overhang were mentioned as points of dissatisfaction. (6)

In their investigation of factors affecting abdominoplasty outcomes, Hensel et al reported an 85 percent patient satisfaction rate. They sent out a questionnaire to patients who had undergone abdominoplasty to gather information on age, weight, pregnancies, smoking history, reasons for abdominoplasty, and symptoms. They also asked patients to rate their level of satisfaction with the result as very satisfied, satisfied, disappointed, or regretful. Patients were also asked to indicate whether they would recommend the surgery to a friend. (7)

Swanson et al and colleagues conducted in-person interviews of 360 patients who attended a follow-up clinic at least one month following abdominoplasty. Questions were asked in six categories: patient data, indications for surgery, recovery, results, complications, and psychological effects. The results were compared between three procedure groups: liposuction alone, lipoabdominoplasty and abdominoplasty alone. With regards to satisfaction, patients used a three-point satisfaction scale (not satisfied, satisfied, and very satisfied). They discovered that abdominoplasty patients had an overall satisfaction rating of 88.8%. (10)

No study on patient satisfaction following abdominoplasty has been done in Kenya. Anecdotal data suggests that more patients are seeking out this cosmetic procedure in this population. This prospective study aims to find out the factors affecting patient satisfaction following abdominoplasty in Kenya.

CHAPTER 2

2.0 LITERATURE REVIEW

2.0.1 Introduction

Abdominoplasty remains a highly sought-after body contouring procedure. (1) Traditional abdominoplasty entails undermining a skin flap from the pubic symphysis to the xiphoid process, rectus muscle fascia plication in the midline, umbilicus translocation, and dermolipectomy of the lower half of the flap to remove superfluous skin and fat in a vertical vector. For patients who have normal abdominal contour with complaints of excess skin and fat below the umbilicus only, mini-abdominoplasty is the preferred surgical technique. (11)

New techniques include Saldanha's lipoabdominoplasty which combines abdominoplasty and liposuction without wide undermining of the abdominal flap. (12) Swanson et al found higher levels of satisfaction, 99%, for patients who had the combined procedure, lipoabdominoplasty. (10) In addition to tightening of the central abdomen, Lockwood's high lateral tension entails surgically tightening of the lateral abdomen, waist, groin, and upper thighs, permitting circumferential trunk and thigh liposculpture. (13)

Matarasso described the low modified transverse incision where the initial incision made is at the superior border of the skin flap that is to be excised. This is followed by undermining superiorly and inferiorly to allow closure and resection of the flap respectively. (14) Baroudi and Pollock's tension sutures help reduce the formation of seromas, which is one of the commonest complications following abdominoplasty and as we will see from literature, one of the areas leading to dissatisfaction with results. (15)

Abdominoplasty can be done in combination with other surgical procedures, both cosmetic and non-cosmetic. Brachioplasty, breast augmentation, breast reduction / mastopexy, medial and / or lateral thigh lift, gluteal lift, lower body lift and upper body lift are some of the cosmetic treatments that may be recommended. The safety of the patient should be the most important concern when deciding whether or not these extra treatments should be conducted. (11)

2.0.2 Patient reasons for seeking abdominoplasty

Abdominoplasty is performed for a variety of causes, including extra skin and muscle laxity after pregnancy and delivery, substantial weight loss after bariatric surgery, and past scarring. (6) (10)

2.0.3 Patient satisfaction following abdominoplasty

Patient satisfaction and quality of life are two important outcomes that can be used to evaluate surgical success (4) (5). The most essential factor of surgical success in aesthetic surgery is patient satisfaction. (4)

No appropriate tool to measure patient satisfaction following aesthetic surgery has been developed. Ordinal or visual analog scales were commonly employed to rate satisfaction on a scale of unsatisfactory to outstanding. Because most of the satisfaction measures were designed by the researchers themselves, the instruments utilized in these studies are diverse. No validity or reliability testing appears to have been performed on any of the instruments. (5)

Bragg et al. used a questionnaire that was designed to ask patients about various aspects of the operative experience. Answers were given via a four-point satisfaction scale (very happy, happy, satisfied or unsatisfied) with opportunities for individuals to add free text. (6)

Hensel et al. asked patients to rate their level of satisfaction with responses ranging from very satisfied, satisfied, disappointed, or regretful. Patients were also asked to indicate whether they would recommend the surgery to a friend. (7) Swanson et al. asked patients to rate satisfaction using a three-point scale of not satisfied, satisfied or very satisfied. (10)

Furthermore, several circumstances unrelated to surgery may skew patient satisfaction perceptions. Reich, for example, discovered that poor interpersonal relationships throughout the preoperative, operational, and postoperative phases were the primary cause of dissatisfaction in a group of aesthetic surgery patients. (17) Previous research has found that the factors that are most closely linked to patient satisfaction were health care providers' courtesy and the physician's personal manner. (18)

Chen et al. discovered that patient satisfaction is directly related to how they perceive their care provider. Patients were most likely to suggest plastic surgeons and practices whose care is charac-

terized by empathy and communication, which is linked to high patient satisfaction, according to his findings. (3)

Patients' self-esteem and body image, expectations of the outcome, and the effects of the surgery, as well as how these expectations are met, are all important elements that can affect patient satisfaction. The operation's technical success is also critical. (9)

The above confounders will not be studied in this paper.

Scales such as the Body-Q can be used to rate patient satisfaction with their abdomen and body. They are validated tools that can be used both for body contouring and weight loss patients. (19)

2.0.4 Patient demography and effects on patient satisfaction following abdominoplasty

Hammond et al investigated patient satisfaction after abdominoplasty in overweight and obese patients. He had a total of 46 patients, each with a BMI of 32.0kg/m². A patient survey was mailed to all patients. The survey aimed to identify factors of patient satisfaction, focusing on specific aspects of each of the patient's lifestyle that may have been affected. Patients were asked if they were satisfied with the final results of the operation and could choose between answering 'yes, they were satisfied' or 'no, they were not satisfied' with the option of writing additional text to explain their areas of dissatisfaction. The vast majority of patients who replied to the study (97.2 percent) said they were pleased with the results and would have the surgery done again. Despite a higher complication rate in this patient group, satisfaction was found to be extremely high, indicating that body contouring treatments in overweight and obese individuals are viable. (20)

Cooper et al. their study on patient satisfaction following panniculectomy had sixty-eight patients, majority of whom had gastric bypass done. With regard to overall results of the surgery, patients were asked to rate their satisfaction from very satisfied, somewhat satisfied, somewhat dissatisfied, to very dissatisfied. The average BMI was 38kg/m², with majority of the patients suffering from comorbidities such as hypertension (25%), asthma (25%), obstructive sleep apnea (29%), diabetes (25%), coronary artery disease (13%) and smoking (8%). Despite the various risk factors for the development of complications and a higher tendency towards complications, the patients had a high satisfaction rate of 81%. (21)

2.0.5 Surgical techniques affecting patient satisfaction following abdominoplasty

The addition of liposculpture, lipoabdominoplasty, has been a major advancement in the area of abdominoplasty. (1) Swanson et al found overall satisfaction rates of 88.8% for patients who had undergone liposuction or abdominoplasty, and higher levels of satisfaction, 99%, for patients who had combined procedure, lipoabdominoplasty. (10)

In their study, comparing the outcomes of combined lipoabdominoplasty with standard abdominoplasty, Heller et al. used a binary yes/no scale to assess patient satisfaction at a postoperative follow-up point of 0.5 to 1.5 years. He found that dissatisfaction rates were closely related to reoperation rates, with patients undergoing the conventional abdominoplasty having higher dissatisfaction and reoperation rates as compared to patients who had combined lipoabdominoplasty. There was significantly different satisfaction rates between the different techniques employed. The patients undergoing conventional abdominoplasty had dissatisfaction rates of 42% while those with combined lipoabdominoplasty had dissatisfaction rates of only 3%. (8)

2.0.6 Abdominoplasty complications and their impact on patient satisfaction.

Abdominoplasty has a 4.7 percent complication rate according to a recent survey of cosmetic surgeons. Other studies have found that abdominoplasty complications range from 0% to 43%. (22)

Hematoma, seroma, wound dehiscence, and skin necrosis afflict up to 32% of nonsmokers and up to 52% of smokers. Systemic consequences of abdominoplasty include deep vein thrombosis, pulmonary embolus, ileus, sensory problems of the thighs' skin, nerve palsies in the upper limbs, and death. (8)

Saldanha's lipoabdominoplasty, which combines abdominoplasty with liposuction without extensive abdominal flap undermining, has been found to have a lower risk of complications such as hematoma and seroma formation, as well as a shorter, more aesthetically acceptable scar without standing cone abnormalities. (12)

Baroudi and Pollock's tension sutures help reduce the formation of seromas. (15) Several studies have been done to evaluate the effect of complications on patient satisfaction. Garcia-Garcia et al. stated that complications were strongly associated with patient satisfaction, reoperation rate, and longer hospital stay after abdominoplasty post-bariatric surgery. The occurrence of complications, not the cosmetic results, had a detrimental impact on patient satisfaction. Complications were

associated with a higher likelihood of reoperation, a longer hospital stay, and more unhappiness. (23)

Momeni et al. their study correlating complication rate and patient satisfaction following abdominoplasty found that postoperative complications did not negatively influence patient satisfaction. A limitation of the study was a poor response rate of only 32.4%. The study utilized the patient satisfaction questionnaire - 8 to measure patient satisfaction with services. (24) Out of a possible 32, the median CSQ-8 score was 29, and there was no statistically significant difference in patients with complications versus those without. (25)

In their study of abdominoplasty in overweight and obese patients, Hammond et al discovered that, despite a higher complication risk, the vast majority of patients (97.2 percent) were satisfied with the results and would choose to have the procedure done again. (20)

Cooper and colleagues looked on patient satisfaction after panniculectomies. Despite a substantial trend toward increasing complication in patients with higher BMI and pannus weights (49 percent), they discovered a high level of patient satisfaction (81 percent). (21)

2.0.7 Satisfaction with body contour before abdominoplasty and its effect on overall satisfaction

According to Cash's epidemiological assessment, 51-71 percent of women were unsatisfied with their mid-torso, which dropped to only 30% after abdominoplasty. (26) (27)

Body-Shape-Related Quality of Life (Body-QoL) is a novel patient-reported instrument developed by Danilla et al. It is divided into a collection of subscales that address satisfaction with each body-contouring treatment and each anatomic region such as the arms, back, buttocks, waist, thighs, and abdomen. (28)

Body-Q is a newer patient-reported outcome (PRO) instrument that assesses how patients feel about their weight loss and/or body sculpting. It is part of a new generation of PRO instruments designed utilizing the Rasch Measurement Theory (RMT), a sophisticated psychometric technique. The scales that make up a PRO measure in RMT are all designed to measure and score a single dimension (no total score). Data that match the Rasch model's requirements offer interval-level measurement in

scale development. Accurate tracking of clinical change can be achieved when a scale has good content validity and is targeted to measure a concept as experienced by a sample.

Body-QoL is limited in scope when compared to Body-Q because it solely focuses on body contouring patients and comprises a small number of scales that measure contentment with the body (i.e.abdomen), sex life, self-esteem, and social performance, as well as physical complaints. (19)

The Body-Q is made up of a number of scales that each measure one of three domains (appearance, HRQL, and experience of healthcare). There's also a symptom checklist for people who are obese. The main focus of our research will be on a scale that measures abdominal satisfaction.

2.0.8 Adjuncts used in abdominoplasty procedure

Seroma formation is one of the commonest complications following abdominoplasty. It represents an inflammatory process following surgical trauma. Anker et al in their study on triamcinolone in abdominoplasty patients found a reduction in cumulative seroma volume most accentuated shortly after treatment, 1 week. (29)

Another method of reducing seroma formation is the use of platelet rich plasma (PRPs) with calcium thrombin spray onto the surgical site. Jackson et al in their study found that the use of PRP promotes healing and prevents seroma formation in abdominoplasty patients. (30)

From the literature review, few studies were focusing on patient satisfaction following abdominoplasty, and none from Kenya. This study aims to establish the patient satisfaction rate in our society following abdominoplasty using a self-developed questionnaire that will be administered to the patients pre-operatively and between 1-6 months, post-operatively.

2.1 Study Justification

Patients' experiences, preferences, and values are taken into account in outcome research, which examines the impact of medical procedures. (16) The goal of outcome research is to give evidence on which clinical decisions can be made. Various tools for evaluating cosmetic surgery outcomes have been developed. Regrettably, none of these have been widely adopted. It is becoming more difficult to evaluate the results of cosmetic surgery. (5)

Evidence-based information about patient-centred outcomes following abdominoplasty is needed. This information can be used for patient education before undergoing the procedure. It can also be

used to influence policy on insurance cover for patients seeking abdominoplasty following massive weight loss. Currently, in the UK, the NHS covers costs for abdominoplasty following bariatric surgery for massive weight loss. (6)

As cosmetic surgery procedures become more popular in Kenya, it will be important to compare the satisfaction rates of our patients with what has been documented in the literature. This will enable us to learn and also to teach our counterparts on abdominoplasty concerning our specific population.

No such study has been carried out in Sub-Saharan Africa.

2.2 RESEARCH QUESTION

What are the factors that influence patient satisfaction following abdominoplasty?

2.3 OBJECTIVE

2.3.1 Broad objective

To determine factors that influence patient satisfaction following abdominoplasty

2.3.2 Specific objectives

1. To determine the effect of patient demography on satisfaction following abdominoplasty
2. To determine satisfaction with preoperative body contours as a determinant to patient satisfaction.
3. To determine surgical procedures done and their effect on patient satisfaction.
4. To determine abdominoplasty complications and their effects on satisfaction.

CHAPTER 3

3.0 METHODOLOGY

3.1 Study design

This study will be a longitudinal descriptive study.

3.2 Study Area

The study shall be carried out in the surgical departments of 3 collaborating hospitals: Kenyatta National Hospital, the Nairobi hospital, and Coptic hospital.

The Kenyatta National and Referral Hospital is in the area to the immediate west of Upper Hill in Nairobi, the capital and largest city in Kenya. The location of the hospital is about 3.5 kilometres (2 miles) west of the city's Central Business District. The hospital complex measures 45.7 acres (18.5ha). It is the largest public national and referral hospital in Kenya. It has a bed capacity of over 1800 beds and has over 6000 staff members. It also houses the University of Nairobi medical school.

Coptic Hospital is on Ngong road in Nairobi, the capital city. Its location is about 1.5 kilometres from the Kenyatta National Hospital. It is a private institution that allows resident doctors to shadow the consultant plastic surgeons who are faculty members at the University of Nairobi for various body contouring procedures, including abdominoplasty.

The Nairobi Hospital is in Upper Hill Nairobi on Argwings Kodhek road. It is located approximately 4.5 kilometres (3 miles) west of the city's Central Business District. From the Kenyatta National Hospital, it is about 2 kilometres. It is a private hospital with a bed capacity of 355 as of 2016. The hospital also allows residents from the University of Nairobi to shadow faculty in theatre and the clinics. A wide variety of body contouring procedures are carried out in Nairobi hospital, including abdominoplasty.

Due to high cost of these body contouring procedures, they are more commonly done in the private institutions. Most of the patients recruited for the study are expected to come from these private hospitals.

Prior to data collection following ethics approval, permission and consent will be obtained from the different institutions. The in-charge of the plastic surgery departments' will be made aware of the study and notified of the data collection period.

Data will primarily be collected from;

1. Plastic surgery outpatient clinic: conducted in Clinic 24 of the Kenyatta National Hospital every Tuesday between 8:00a.m-1:00p.m. It is situated on the ground floor of the hospital's outpatient clinics.
2. Plastic surgery breast, hand and craniofacial clinic: conducted at Clinic 24 of the Kenyatta National Hospital every Thursday between 2:00-5:00p.m. It is situated on the ground floor of the hospital's outpatient clinics.
3. Breast clinic: an outpatient clinic that is conducted in Clinic 24 of the Kenyatta National Hospital on its ground floor. It runs every Wednesday afternoon between 2:00p.m-5:00p.m
4. Plastic surgery ward 4D: located on the 4th floor of Kenyatta National Hospital. These ward houses preoperative and postoperative plastic surgery patients.
5. KNH plastic surgery theatres that are in the main theatre running twice a week Mondays and Thursdays in theatre 7 and 10. The main theatre is located on the 1st floor of the KNH
6. The Coptic Hospital plastic surgery theatre that runs whenever there is a plastic surgery case booked.
7. The Plastic Surgery outpatient clinic at the Anderson centre in Nairobi Hospital which runs every Monday between 2:00p.m - 5:00p.m and Saturday 9:00a.m-12:00noon.
8. The Nairobi Hospital main theatre during the plastic surgery procedures in the main theatre that is located on the 1st floor of the hospital.

3.3 Study population

All consenting adult patients undergoing abdominoplasty within the study period.

3.3.1 Inclusion criteria

1. All consenting adults age 18-65years undergoing abdominoplasty and panniculectomy.
2. All consenting patients undergoing abdominoplasty or panniculectomy in combination with another procedure (cosmetic or non-cosmetic)

3.3.2 Exclusion criteria

1. Patients with known psychiatric illness
2. Patients with large postoperative subcostal scars
3. Patients actively smoking
4. Patients actively taking contraceptive pills
5. Patients undergoing repeat abdominoplasty
6. Patients not fluent in English (Body-Q loses its validity if translated to another language)

3.4 Sample size calculation

Sample size will be calculated using Cochran's formula

$$N = \frac{Z^2 P(1 - P)}{d^2}$$

N=sample size

Z= statistic value for a desired level of confidence=1.96

P=expected prevalence or proportion. From a previous study patient satisfaction with abdominoplasty was 97.1%. (10)

d=Precision, set at 0.05

substituting in the formula gives a sample size of 44 participants.

3.5 Sampling procedure

Convenience sampling. All consenting patients who present to the study areas described above seeking abdominoplasty will be recruited in the study.

3.6 Study duration

This study will span a period of 6 months. Patients will be followed up over a period of 1 to 3 months post operatively.

3.7 Study procedure

Patients who are to undergo an abdominoplasty will be recruited by either the principal investigator or the operating plastic surgeon. Upon the first contact with participants, the study will be explained to them in detail following which informed consent will be sort. History will be taken, and a physical examination conducted. This will be followed by data collection using an interviewer-administered questionnaire and the Body Q, to collect patient demographics and satisfaction with abdominal contour respectively. 1 - 3 months post operatively, the custom designed questionnaire will be administered again to find out patient satisfaction with the results of the abdominoplasty either as in person or over the phone interviews.

STEP 1

PARTICIPANT
RECRUITMENT

STEP 2

CONSENT / ASSENT

STEP 3

HISTORY AND
PHYSICAL EXAM

STEP 4

INCLUSION CRITERIA

EXCLUSION CRI-
TERIA

STEP 5

Pre op - Body Q
Post op 1-3months - Custom
questionnaire assessing patient
satisfaction

EXIT

3.8 Variables

3.8.1 Independent variables

Independent variables will be data comprising demographic information like age, gender, smoking status, and other variables such as indications for surgery, satisfaction with the results and complications.

3.8.2 Dependent variable

The main output variable will be patient satisfaction and complication rates.

3.9 Data collection

Data will be collected using a specially designed tool that will capture six data categories which include demographic information, indications for surgery, recovery data, results, and complications.

3.10 Data management and analysis

The data collected will be cross-checked, cleaned, categorized, and entered using the statistical analysis software package, SPSS version 22. The folder containing the data will be password-protected and uploaded to a cloud storage drive, and backup will be done daily to prevent missing entries. Measures of central tendency such as mean and standard deviation will be used to describe variables with normal distribution such as variables related to patient recovery in days while skewed distributions will be described in terms of medians and interquartile ranges. Descriptive statistics such as frequencies and percentages will be used to describe demographic characteristics like age and sex. Complication rates will be calculated as a proportion of patients with complications relative to the total study population. Association of satisfaction rates concerning the presence or absence of complications will be done by use of Chi-squared analysis. Comparison of satisfaction with indications for surgery will be done by Fisher's exact analysis. An Independent sample T-test will be used to establish an association between continuous variables and patient satisfaction variables. Pearson correlations will be used to assess the relation of two continuously measured variables. Paired t-tests will be used to assess mean differences between continuously measured variables for matched pairs. A P value of <0.05 will be our cut-off for statistical significance for a 95% confidence interval. Data will be presented as figures, text and tables.

3.11 Study limitations

The study will be a multicenter study and results may vary widely in different centres. There are several factors that can affect patient satisfaction that can be considered confounders that will not be

studied. An example is the patients' attitude towards the admitting surgeon or the kind of care offered in the various surgical practices.

3.12 Ethical Considerations

Ethical approval will be obtained from the Kenyatta National Hospital / University of Nairobi Ethical Review Committee (KNH/UON ERC).

Permission will be obtained from Kenyatta National Hospital, Coptic Hospital, and Nairobi Hospital administration before the commencement of the study according to ethical approval. An introductory letter from the department of surgery seeking permission to collect data in the various institutions will be presented to each institution before data collection.

The participants recruited will receive full disclosure of the nature of the study before any informed consent / assent will be taken. They will be informed that participation in the study will be voluntary and they will be free to withdraw from the study at any time without giving any reason and this will not affect the quality of care that they receive. Patients who decline to participate will not be discriminated against and will receive the same quality treatment as those participating. In the event of language barrier or inability to fully comprehend the questions presented in the interview, a third party will be included to translate and relay the information to the patient. Utmost confidentiality will be maintained. No extra cost will be incurred by the participants for participating in the study. The questionnaire shall be filled on their routine plastic surgery outpatient clinic visit. They shall not be reimbursed for transport to and from clinic visits. There are no postulated conflicts of interest financial or otherwise in this study.

3.13 Study results dissemination plan

The results of the study will be disseminated through scientific presentations at conferences, departmental academic meetings, publications in peer-reviewed scientific journals, and even regular newspapers where necessary.

3.14 Study closure plan

At the end of the study, the raw data will be destroyed and deleted from any existing hard copies by paper shredding, formatting and deleted from any soft copy storage devices including computers, flash disks, and hard disks.

Infection prevention measures will be taken to safeguard the participants during the Covid-19 pandemic. This will include, but will not be limited to hand hygiene (hand washing or hand sanitizing)

cough and respiratory hygiene (use of the recommended masks at all times) and keeping a distance of more than 3 feet apart. To minimize contact, the principal investigator or the operating surgeon will administer the questionnaire as they are part of the team involved in caring for the patient.

CHAPTER 4

4.0 RESULTS

4.1 Clinicodemographic parameters

There were a total of 39 female patients recruited for the study, all of whom had children. The mean age of the participants was 38 years +/- 6 years with a range of 27years to 53 years **Table 1**. The overall satisfaction was 92.3%. **Fig 1**

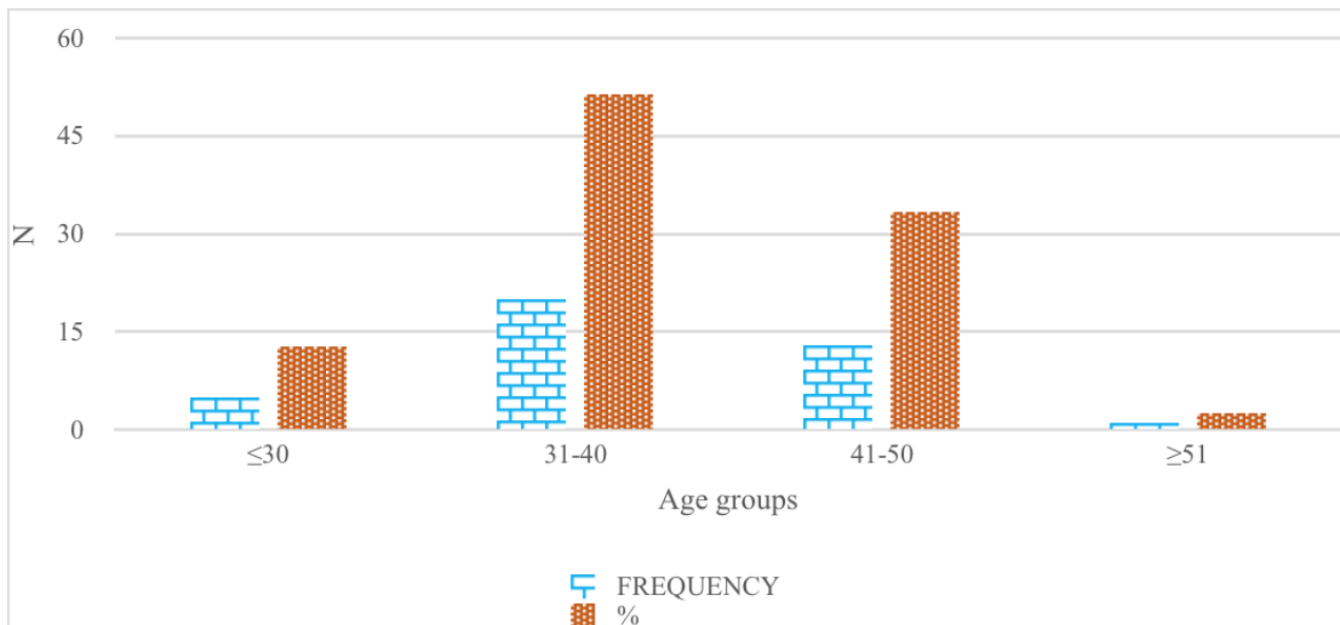


Table 1 : Age groups

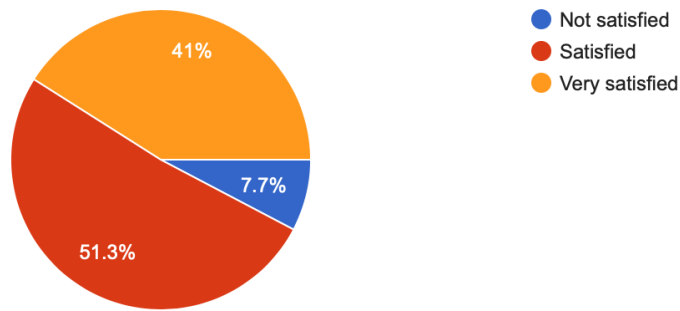


Fig 1: Pie chart representing percentage satisfaction rate

Variable	Minimum	Maximum	Mean	Standard Deviation	Standard Error
Preoperative weight	39	110.0	84.0	14.0	54.0
Preop BMI	39	40.0	30.0	6.0	5.0
Preop weight loss	39	20.0	3.0	5.0	0.0

Table 2: Patient demographics - Continuous variables

Variable	Response	Frequency	%
Smoking	Yes	1	2.6
	No	38	97.4
Previous abdominoplasty	Yes	3	6.7
	No	36	92.3
Surgery for	Self	37	94.9
	Other	1	2.7
	Both	1	2.7

Table 3: Patient demographics - categorical variables

11 patients had comorbidities, the commonest of which was hypertension. Other common diseases were asthma and diabetes mellitus.

4.2 Body contours

Satisfaction with body contour was measured using a validated PRO instrument called the Body-Q. This tool is a series of questionnaires that can be used independently to measure satisfaction with any of the body contouring procedures including abdominoplasty. It is designed utilizing the Rasch

Measurement Theory, a sophisticated psychometric technique (RMT). The scales that make up a PRO measure in RMT are all designed to measure and score a single dimension (no total score).

In our study, the single dimension that we looked at was satisfaction with the abdomen. The higher the score, the better the outcome or the more satisfied the patients were with the outcome.

All patients had a low preoperative satisfaction with their abdomen, with an average score of 8 (SD 2.29). Post operatively, patients had higher scores, on average 24.0.

BODY Q

	N		Mean	SD	Minimum	Maximum
	Valid	Missing				
Preoperative totals	39	0	8.05	2.29	7.00	16.00
Postoperative totals	38	1	24.00	3.80	14.00	28.00

Table 4: Satisfaction with abdomen body contour

4.3 Surgical technique

In both conventional abdominoplasty and lipoabdominoplasty, the abdomen was infused with up to 1 litre of tumescent that was composed of normal saline, lidocaine and epinephrine. In some centres, a steroid (triamcinolone), was also added to the infusion. 18 patients (46.2%) had triamcinolone used as an adjunct to reduce seroma formation while in 21 patients (53.8%) no adjuncts were used.

Abdominoplasty started with a standard long curvilinear incision from ASIS to ASIS, along the bikini line or as an extension of a previous pfannensteil incision. Dissection was done in a supra-scarpa plane, preserving as much loose areolar tissue as possible, up to the costal margin.

In conventional abdominoplasty, where no liposuction was done, wide undermining of the flap was carried out. In contrast, undermining limited to the central abdomen was done in patients who had liposuction concurrently. This was to ensure preservation of as much blood supply to the flap as possible.

Rectus muscle plication was performed in a single layer with nylon 1 sutures and tension sutures inserted with vicryl 2-0. Rectus muscle plication was done for all the patients while 27 patients (69.2%) had tension sutures inserted.

Translocation of the umbilicus was carried out and the abdomen was closed in layers. Liposuction was carried out prior to any incision in some centres, whereas in other centres, it was carried out after closure of at least 2 layers of the abdominal wall. The central abdomen was treated with deep, careful liposuction, while the flanks were treated aggressively, both in the superficial and deep layers. 25 patients (64.1%) had liposuction done at the same time with abdominoplasty while 14 patients (35.9%) had conventional abdominoplasty.

Drains were used in all patients, except 3, for whom no drains were used. Clinically, these patients did not have an increase in complication rate, specifically seroma formation.

7 patients (17.9%) had concurrent procedures done such as umbilical hernia repair, bilateral tubal ligation, BSO and TAH, mastopexy, breast augmentation, BBL and scar revision with lipofilling

Variable		Frequency	%
Liposuction done	Yes	25	64.1
	No	14	35.9
Tension sutures	Yes	27	69.2
	No	12	30.8
Rectus plication	Yes	39	100.0
	No	00	00
Adjuncts	Triamcinolone	18	46.2

Table 5 : Surgical procedure

Variable	N	Mean	±SD	Minimum	Maximum
Days needing assistance	36	12.0	7.0	0.0	30.0
Days off work	37	27.0	22.0	0.0	90.0
Pain rating	39	6.0	2.0	1.0	10.0
Pain duration	39	10.0	4.0	3.0	21.0
Duration of analgesia use	39	10.0	5.0	3.0	30.0
Time to removal of drains	36	5.0	2.0	1.0	14.0
Duration of hospital stay	39	4.0	3.0	0.0	21.0
Duration of compression garment use	35	66.0	56.0	0.0	180.0

TABLE 7

Variable		Frequency	%	
Complications	Yes	17	33.6	
	No	22	66.4	
Local	Delayed wound healing	3	13.6	
	Hypertrophic scar	1	4.5	
	Infection	1	4,5	
	Persistent excess fullness	4	18.0	
	Hematoma	2	9.0	
	Seroma	8	36.0	
	Skin necrosis	1	4.5	
	Liposuction burns	1	4.5	
	Systemic	Anemia	0	00
		Reaction to medication	0	00
Nausea vomiting		0	00	
Deep venous thrombosis		1	4.5	

Table 8: Complications

4.3.1 Patients recovery from procedure

The average hospital stay was 4 days **Table 7**. There were patients who had the procedure done as a day case, with same day discharge. Other patients had prolonged hospital stay, up to 21 days, mostly due to development on complications.

4.4 Complications

There was a complication rate of 33.6% (17 patients). The commonest complication was seroma formation in 8 patients (36.0%), followed by persistent excess fullness in 4 patients and delayed wound healing in 3 patients. 1 patient developed DVT/PE leading to admission in HDU. **Table 8**

With regards to patient demographics, the preoperative BMI was found to be statistically significant in influencing patient satisfaction (p value = 0.01). Patients with higher BMI prior to abdominoplasty were more satisfied with the procedure than those with lower preoperative BMI.

Duration of hospital stay and time off work were also statistically significant (p value = 0.005 and 0.002 respectively). Longer duration of hospital stay and time off work were detrimental to patient satisfaction. **Table 9**

Increase in postoperative outcomes of body contour was found to be statistically significant in determining patient satisfaction (p value = 0.005). **Table 10**

Patient expectations being met and possibility of recommendation of the procedure to someone else were both found to be statistically significant in determining patient satisfaction following abdominoplasty (p value = 0.04 and 0.04 respectively). **Table 11**

Development of complications was also found to be borderline statistically significant in determining patient satisfaction (p value = 0.05). **Table 11**

SATISFIED OR NOT	Not satisfied			Satisfied			P-value
	Mean	N	SD	Mean	N	SD	
AGE	38.67	3.00	7.57	38.25	36.00	6.37	0.92
Preoperative weight	78.00	3.00	18.36	85.19	36.00	14.38	0.42
BMI	19.23	3.00	11.93	31.77	36.00	5.04	0.01
Time to surgery	20.00	3.00	6.93	25.36	33.00	33.25	0.79
Duration of compression garment use	58.00	2.00	2.83	67.33	33.00	58.45	0.83
Duration of hospital stay	10.33	3.00	9.45	4.44	36.00	2.45	0.005
Time to DC drain	5.67	3.00	1.15	5.55	33.00	2.72	0.94
Duration of use of painkillers	8.00	3.00	5.57	10.50	36.00	5.95	0.49
Duration of pain	11.67	3.00	4.04	10.00	36.00	4.71	0.56
Pain rating	7.67	3.00	3.21	6.36	36.00	2.52	0.4
Time off work	64.67	3.00	43.88	23.97	34.00	17.89	0.002
Days of assistance	14.67	3.00	15.01	12.06	33.00	7.11	0.58

Table 9 : Factors affecting patient satisfaction - patient demographics and recovery

SATISFIED OR NOT		PRE TOTAL	POST TOTAL	p-value
Not satisfied	Mean	8.67	16.67	0.65
	N	3	3	
	Std. Deviation	2.08	2.51	
Satisfied	Mean	8.00	24.60	<0.005
	N	36	35	
	Std. Deviation	2.33	3.19	

Table 10 : Body contour and its relation to satisfaction following abdominoplasty

DETERMINANTS OF SATISFACTION

Variable		Satisfied	Not satisfied	P-value
Smoking	Yes	1(2.8%)	00	1.00
	No	35(97.2%)	3(100%)	
Previous abdominoplasty	Yes	3(8.3%)	00	1.00
	No	33(91.7%)	3(100%)	
Use of tension sutures	Yes	26(72.2%)	1(33.3%)	0.22
	No	10(27.8%)	2(66.7%)	
Clothes fit better	Yes	36(100%)	2(66.7%)	0.08
	No	00	1(33.3%)	
Met expectation	Yes	36(100%)	1(33.3%)	0.04
	No	00	2(66.7%)	
Recommend	Yes	36(100%)	1(33.3%)	0.04
	No	00	2(66.7%)	
Complications	Yes	12(33.3%)	3(100%)	0.05
	No	24(66.7%)	00	
adjuncts	None	20(55.6%)	1(33.3%)	0.59
	Y e s (triamcinolone)	16(44.4%)	2(66.7%)	
Liposuction	Yes	42(96.0%)	1(4%)	0.30
	No	12(87.5%)	2(14.3%)	

Table 11: Determinants of satisfaction - surgical procedure

			SCARS		
			WELL HIDDEN	UNHAPPY	VISIBLE BUT OK
SATISFIED OR NOT	Not satisfied	Frequency	0	3	0
		%	0.0%	100.0%	0.0%
	Satisfies	Frequency	8	6	22
		%	22.2%	16.7%	61.1%

Table 12 : Abdominoplasty surgical scar

CHAPTER 5

5.0 Discussion

Many patients seek out aesthetic surgery due to dissatisfaction with a particular part of the body. In these cases, especially where function was not a concern, technical success of the surgery might not be a good enough outcome measure. In aesthetic surgery, patient satisfaction is one of the key determinants of a successful procedure.

This study was designed to determine what factors might influence patient satisfaction following abdominoplasty.

5.0.1 Effect of patient demography on satisfaction following abdominoplasty

All patients in the study were female. This is constant with the study by Swanson et al that had no male patients undergoing abdominoplasty only (total of 13 patients) and only 4 male patients undergoing lipoabdominoplasty (total of 128 patients). (10) From our study, we found that patients with a high preoperative BMI were more satisfied than patients with low preoperative BMI. This was statistically significant (p value = 0.01). Other variables such as age and preoperative weight were not statistically significant in determining patient satisfaction. **Table 9**

This is in keeping with the study by Hammond et al that found high satisfaction rates in patients with high BMI (32kg/m²). 97.2% of patients in his study said they were pleased with the results and would have the surgery done again. Despite a higher complication rate in this patient group, satisfaction was found to be extremely high, indicating that body contouring treatments in overweight and obese individuals are viable. (20)

5.0.2 Body contour

All the patients in the study had low preoperative satisfaction with abdominal contour. The postoperative body contour satisfaction scores were higher and this was found to be statistically significant (p value = 0.005). Those who were satisfied had higher postoperative scores than preoperative scores. **Table 10**

It might be suggested that an improved satisfaction with abdominal contour would lead to increased overall satisfaction with abdominoplasty results as most patients seek out the procedure due to dissatisfaction with mid-trunk region. Cash et al in their epidemiological study found that 51-71% of

women were unhappy with their mid-torso, which dropped to only 30% after abdominoplasty. (26)
(27)

5.0.3 Surgical procedure

The use of liposuction was not found to have an effect on patient satisfaction (p value = 0.30). **Table 11.** This was contrary to the study by Swanson et al, who found overall satisfaction rates of 88.8% for patients who had undergone liposuction or abdominoplasty, and higher levels of satisfaction, 99%, for patients who had combined procedure, lipoabdominoplasty. (10)

Heller et al also found significantly different satisfaction rates between the different techniques employed. The patients undergoing conventional abdominoplasty had dissatisfaction rates of 42% while those with combined lipoabdominoplasty had dissatisfaction rates of only 3%. (8)

Lipoabdominoplasty is thought to be more beneficial in patients who have a lower BMI. In their paper, Swanson et al had an average BMI of 26 while in our study, average BMI was 30. It is thought that lipoabdominoplasty did not have an effect on patient satisfaction since majority of the patients in our study had high BMI. The sample size used by Swanson et al was also large ($n = 360$) and follow up time long, on average 1.5 years.(10) Liposuction results are usually not very evident in a short period following the procedure.

The use of adjuncts such as triamcinolone was also found to not be statistically significant in determining patient satisfaction (p value = 0.59).

The mean time off work was 27 days. There were a number of patients who were working from home due to the Covid-19 pandemic restrictions and reported to have been able to continue working almost immediately after discharge from the hospital. The mean time to removal of drains was 5 days. Of note, there were 3 patients who did not have any drains used in the post - operative period. On a scale of 1 to 10, the average pain score was 6, with duration of pain, on average, being 10 days.

5.0.4 Complications

The development of complications was found to be borderline statistically significant in determining patient satisfaction (p value = 0.05) **Table 11**. Complications in the immediate postoperative period led to longer duration of hospital stay and more time off work. Interestingly, these two factors were found to have a detrimental effect on patients' satisfaction (p value = 0.005 and 0.002 respectively). **Table 11**

This was in keeping with Garcia-Garcia et al. who stated that complications were strongly associated with patient satisfaction, reoperation rate, and longer hospital stay after abdominoplasty post-bariatric surgery. The occurrence of complications, not the cosmetic results, had a detrimental impact on patient satisfaction. Complications were associated with a higher likelihood of reoperation, a longer hospital stay, and more unhappiness. (23)

However, Hammond et al discovered that, despite a higher complication risk, the vast majority of patients (97.2 percent) were satisfied with the results and would choose to have the procedure done again. (20)

Cooper and colleagues looked on patient satisfaction after panniculectomies. Despite a substantial trend toward increasing complication in patients with higher BMI and pannus weights (49 percent), they discovered a high level of patient satisfaction (81 percent). (21)

In our study, we also found that all the patients who were dissatisfied with the outcome of the abdominoplasty, were also unhappy with their scars.

5.1 Study limitations

Due to the Covid-19 pandemic restrictions, there were fewer patients undergoing elective procedures and especially elective aesthetic procedures such as abdominoplasty. As such, we were only able to recruit 39 patients to the study.

The follow up time was also short. At 1 month post operatively, it would be difficult to assess final results of the lipoabdominoplasty or conventional abdominoplasty. At 3 months, results are more consistent but longer follow up period would be recommended.

Some of the post-operative interviews were done via telephone, which were somewhat more difficult to conduct than in-person interviews. There was no spontaneity in flow of

answers. It was difficult on our end to assess the accuracy of responses given over the phone.

5.2 Conclusions

Abdominoplasty is a common aesthetic procedure that is becoming popular in our set up. It has high patient satisfaction related to low complication rates. In our study, we found a high satisfaction rate of 92% which is comparable to the other studies quoted throughout the paper.

5.3 Recommendations

The preoperative counselling should adequately prepare the patient for the amount of permanent scarring that they will have. In addition, the amount of discomfort and tentative time off work should also be discussed.

Risk stratification in terms of development of DVT/PE should be done and appropriate measures taken to prevent it. Patients should also be forewarned on the signs and symptoms of adverse outcome so that they might seek out medical care promptly.

Surgical markings should be done to ensure that scars are well hidden. All care should be taken during the operation to ensure preservation of the areolar tissue so as to minimise risk of seroma formation.

STUDY PERIOD

Table 1 Table of study period

ACTIVITY	April 2021 - June 2021	July 2021 - August 2021	September 2021 - March 2022	April 2022	May 2022
PROPOSAL DEVELOPMENT					
ETHICAL APPROVAL					
DATA COLLECTION					
DATA ANALYSIS					
DISSERTATION WRITING AND SUBMISSION					

BUDGET

Table 2 Budget

BUDGET ITEM	UNIT COST (KSHS)	QUANTITY	TOTAL (KSHS)
Plastic Tape measure (metric)	300	5	1500
Digital weighing scales	5000	3	15000
Stationary			
a) Printing	15000		15000
b) Photocopying	5000		5000
c) Binding	35000		35000
d) Pens	500		500
Research fee for KNH/UON-ERC	5000	1	5000
Statistician consultation fee	30000	1	30000
Airtime	4 per minute		5000
Miscellaneous	20000		20000
Total			132000

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APPENDICES

APPENDIX 1: PATIENT INFORMED CONSENT

Title of the study: FACTORS AFFECTING PATIENT SATISFACTION FOLLOWING ABDOMINOPLASTY

Principal investigator: Dr. S.K. Nyakiongora

Co-investigators and institutional affiliation: Dr. Nangole F.W, Dr. Adan A. Department of Surgery, School of Medicine, University of Nairobi.

This informed consent has three parts:

- 1) Information sheet (to share information about the research with you)
- 2) Certificate of consent (for affirmation/ signatures if you agree to take part)
- 3) Statement by the researcher

You will be given a copy of the full informed consent

PART 1: INFORMATION SHEET

INTRODUCTION

My name is Dr. Sarah Kemunto Nyakiongora, a post graduate student in Plastic, Reconstructive and Aesthetic Surgery at the University of Nairobi. I am carrying out a research to determine the factors affecting patient satisfaction following abdominoplasty.

PURPOSE OF THE STUDY

Abdominoplasty is a surgical procedure that involves resecting excess skin and fat from the abdominal area, rectus sheath plication and translocation of the umbilicus. There are various procedures, techniques and adjuncts used in this procedure. Our study aims to find out what factors affect patient satisfaction following abdominoplasty.

This study will help to educate patients on the procedure. It might also be used as a tool to push for insurance to cover the cost of abdominoplasty.

Description of procedure

A Body-Q questionnaire shall be administered to you, the questionnaire will collect data on your satisfaction with your abdominal contour. Four weeks to six months after surgery, another

questionnaire will be administered during your routine clinic follow-up to find out your satisfaction with the results of the abdominoplasty. This study shall not change the course, mode or manner of your condition. The final findings of the project shall be shared with the patient. Photographs may be taken to illustrate the procedure described.

Voluntary participation/right to refuse or withdraw

You are free to participate or decline participation in this study. Whether you choose to participate or not will not change your current management and treatment, that is routinely offered in this hospital for your particular condition. You have a right to refuse or withdraw from this study at any point.

Confidentiality

The information obtained shall be treated with utmost confidentiality and only be available to the principal investigator and her research team. Your name will not be used and you shall remain anonymous. We shall not be sharing the identity of anyone participating in this research.

Sharing the results

The knowledge that we get from this study shall be shared with the policy makers in the Ministry of Health and doctors, through publications, conferences, journals and presentations. Confidential information shall not be shared with any third party.

Risks

There are no risks in this study. All parameters are verbal and observations of your current management. No invasive investigations shall be used during the course of this study.

Cost and compensation

There will be no extra cost incurred for participating in this study.

Please read the following:

I understand that you cannot guarantee me that a particular person will perform the procedure. The person undertaking the procedure will however, have appropriate experience

I understand that any photographs taken and tissue removed as part of the procedure will remain anonymised and may be used for teaching or quality control and stored or disposed of in a manner regulated by appropriate, ethical, legal, and professional standards.

I understand that this research has been approved by the Kenyatta National Hospital/ University of Nairobi Ethics Review Committee (KNH/UON-ERC) and undertaken in accordance with

appropriate ethical, legal and professional standards.

I understand that data about me will be held electronically and may be passed between the Kenyatta National Hospital, University of Nairobi and any other university/ hospital, research institute collaborating with KNH/UoN, to facilitate research and my care.

I understand that my involvement in this research will be through clinical evaluation and that you will not expose yourself to any risks if you consent to participate

I understand that there will be NO financial benefits

I understand that results from this study may be published to enhance scientific knowledge

I understand that refusal to participate or withdrawal from the study will not in any way compromise the quality of care and treatment given to me

Please tick the box below to indicate if you either

agree

disagree

Contacts of researchers

KNH/UoN-ERC

This study has been reviewed and approved by the KNH/UoN-ERC which is a committee whose work is to make sure research participants are protected from harm. The contact information is given below if you wish to contact any of them for whatever reason:

Secretary:

KNH/UoN-ERC,

P.O. Box 20723-00202 KNH, Nairobi

Tel: 020-726300-9

Email: KNHplan@Ken.Healthnet.org , uonknh_erc@uonbi.ac.ke

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Department of Surgery, School of Medicine, University of Nairobi

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University of Nairobi research supervisors:

Dr. Ferdinand Wanjala Nangole

MBChB, M.MED (Surg.), FCS (UCT), Fellow of EBOPRAS (Brussels, Marseille)

Consultant Plastic, Reconstructive, Hand and Hair Transplant Surgeon and Senior Lecturer

Department of Surgery, School of Medicine, University of Nairobi

P.O. Box 2212-00202 KNH, Nairobi

Mobile: 0733864249

Email: nangole2212@yahoo.com

PART II: Certificate of Consent

I have read the above information, or it has been read to me. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I consent voluntarily to participate as a participant in this research. I hereunder impress my signature / thumbprint as proof of my consent.

Patient signature: Date:

Name (PRINT):

Witness' signature: Date:

Name (PRINT):

Statement of the interpreter (if appropriate)

I confirm that I have interpreted the information to the best of my ability, and in a way in which I believe s/he has understood:

Interpreter's signature Date:

Name (PRINT):

If Illiterate:

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Witness' signature: Date:

Name (PRINT):



Thumb print of participant

PART III: Statement by the researcher

I have accurately read out the information sheet to the patient and/or guardian(s), and to the best of my ability made sure that the patient or guardian understands the following:

- Refusal to participate or withdrawal from the study will not in any way compromise the care of treatment.
- All information given will be treated with confidentiality.
- The results of this study might be published to enhance the knowledge and understanding of medical professionals regarding the subject of the study.

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this Informed Consent Form has been provided to the participant.

Researcher's signature Date:

Name (PRINT): Designation:

APPENDIX 2: RESEARCH TOOLS

QUESTIONNAIRE 1: BODY Q

BODY-Q™ - SATISFACTION WITH ABDOMEN

For each question, circle only one answer. With your abdomen (i.e., your belly or tummy area) in mind, in the past week, how dissatisfied or satisfied have you been with:

	Very Dissatisfied	Somewhat Dissatisfied	Somewhat Satisfied	Very Satisfied
1. How your <u>clothes fit</u> your abdomen?	1	2	3	4
2. The <u>size</u> of your abdomen?	1	2	3	4
3. How your abdomen looks from the <u>side</u> (i.e., profile view)?	1	2	3	4
4. The <u>shape</u> of your abdomen?	1	2	3	4
5. How your abdomen looks in a <u>swimsuit</u> ?	1	2	3	4
6. How <u>toned</u> your abdomen looks?	1	2	3	4
7. How your abdomen looks when you are <u>naked</u> ?	1	2	3	4

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Note to Investigators: This scale can be used independently of the other scales.

BODY-Q™ - SATISFACTION WITH ABDOMEN CONVERSION TABLE

Instructions: Higher scores reflect a better outcome. If missing data is less than 50% of the scale's items, insert the mean of the completed items. Use the Conversion Table below to convert the raw summed scale score into a score from 0 (worst) to 100 (best).

SUM SCORE	EQUIVALENT RASCH TRANSFORMED SCORE (0-100)
7	0
8	7
9	14
10	19
11	23
12	28
13	32
14	35
15	39
16	43
17	46
18	50
19	55
20	60
21	65
22	70
23	74
24	78
25	82
26	87
27	93
28	100

QUESTIONNAIRE 2

SECTION 1: PATIENT DATA

Age, yr

Follow up time, mo

Sex

Female

Male

Smoking status

Non smoker

Smoker

Previous abdominoplasty

Yes

No

Previous liposuction

Yes

No

Preoperative BMI, kg/m²

Preoperative weight

Comorbidities

Yes

Specify - HTN, DM..

No

SECTION 2: INDICATIONS

Time considered having surgery, mo

Surgery for

Self

Other

Both

Have children

No

Yes

How many children/ How many pregnancies carried to term

Had you lost weight before the procedure

No

Yes

SECTION 3: SURGICAL PROCEDURE

Surgical technique

Conventional abdominoplasty

Lipoabdominoplasty

Tension sutures

Yes

No

Rectus muscle plication

Yes

No

Adjuncts used

Triamcinolone

PRPS

None

Drains, days

Yes

No

Compression garment, days

Yes

No

Concurrent procedure, as reported by the patient

Breast reduction

Liposuction (non abdominal)

Mastopexy

Breast augmentation

Gynecomastia excision...

SECTION 5: RECOVERY

Duration of hospital stay, days

Time to removal of drains, days

Time taking prescription pain killers, days

Duration of pain, days

Pain rating

Discomfort

less than expected

expected

more than expected

Time off work, days

Needed assistance after surgery, days

SECTION 6: PATIENT ASSESSMENT OF RESULTS

Clothes fit better

No

Yes

Scars

Well hidden

Visible but ok

Unhappy

Pleased with results

No

Yes

Met expectations

No

Yes

Would you go through the procedure again?

No

Yes

Would you recommend the procedure to someone else?

No

Yes

Were you satisfied with the results of the abdominoplasty

Not satisfied

Satisfied

Very satisfied

Planning a future touchup liposuction

No

Unsure

Yes

SECTION 7: COMPLICATIONS AS REPORTED BY PATIENTS

Complications

No

Yes

Local

Delayed wound healing

Dog-ear

Infection

Persistent excess fullness

Haematoma

Seroma

Skin necrosis

Systemic

Anemia

Allergic reaction to medication

Nausea/vomiting

Deep Venous Thrombosis

11% Confused
Dr. Kibet G. S.

DEPARTMENT OF SURGERY
FACULTY OF HEALTH SCIENCES
P O Box 19876 - 00202 KNI
NAIROBI
Tel: 020 4915043

25/08/2022
Confused
Dr. Nung'u

TU
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