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Improvement in Quality of Life in Transmasculine Individuals After Chest Masculinization Surgery

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Abstract

Many transgender masculine individuals experience gender dysphoria, including body dysphoria. Body dysphoria is the experience that our body does not align with our gender identification. For many of these individuals, their chest is an area of body dysphoria. Subsequently, many seek out a surgical masculinization of their chest, or what is commonly called "top surgery" to reduce the dysphoria. This systemic review aims to evaluate the current literature on changes in quality of life in trans masculine individuals after top surgery. APA PsychArticles, APA PsycInfo, PubMed, Scopus, Web of Science, and ProQuest Dissertations & Theses Global were the databases utilized for this search. Chaining was also used as the literature is sparse concerning this subject. There was no date range, and exclusions were minimal due to the sparsity of literature. The search produced 8 articles that could be used for this review. All of the studies that utilized proper data analysis found statistically significant evidence that top surgery results in improved body image or body congruence. The studies that included psychological wellbeing or psychological symptomology as a form of quality of life found statistically significant improvement in those areas. All studies found that the majority of participants felt more satisfied with their chests than dissatisfied. Based on the above studies, there is evidence that quality of life does improve for trans masculine individuals who receive top surgery. These studies imply that the gender affirming model of care of transgender individuals is a viable model to use for the treatment of body dysphoria. More studies in this area need to be conducted on this topic in order to validate these findings.

Introduction

Gender Dysphoria is a marked incongruence between one's assigned gender at birth and their experienced gender, causing significant emotional distress and impairment in many functioning areas, such as school, work, and social relationships.[1] These individuals describe themselves as transgender or as a different gender than they were assigned at birth.

A 2016 systemic review found that self-reported transgender identities ranged from 100 to 700 per 100,000 people, or 0.1% to .07%.[2] However, these percentages are probably on the low end as the number of people verbalizing that they identify as transgender is increasing with no sign that it is leveling off.[3]

The 2015 U.S. Transgender Survey, completed by the National Center for Transgender Equality[4,5] found that 39% of respondents experienced severe psychological distress in the month before completing the survey, compared to only 5% of the U.S. population. Additionally, 40% of trans identifying individuals attempt suicide at some point in their lifetime, compared to only 4.6% in the U.S. population.

Quality of life can be defined as a person's perception of their own well-being and functioning. This can include a person's psychological, physical, and social functioning.[6] Transgender

individuals have a significantly lower quality of life than cisgender males and cisgender females.[7–9]

Body incongruence, or body dysphoria, is a common issue for most individuals with gender dysphoria. Transgender individuals assigned female at birth, who identify on the masculine end of the gender continuum or identify as males, often experience significant chest dysphoria. “Top surgery” is the number one surgery transmasculine individuals seek to reduce their body dysphoria. Until this surgery is available to them, they often bind their chest. Body image itself is a predictor of quality of life. A study by Navir, et al. found that body image was closely aligned with Quality of Life (QoL) when measured by the World Health Organization (WHO) QoL short form.[10]

Transmasculine individuals “bind” their chest to reduce their body dysphoria. Additionally, they bind to reduce their social dysphoria, with the hope of being gendered correctly in public.[11] Individuals may use such garments as elastic bandages, athletic or neoprene products, manufactured binders, or duct tape. Often, transmasculine individuals will layer more than one binding item in the hopes of flattening their chest as much as possible. Binding can cause pain and skin, musculoskeletal, neurological, gastrointestinal, and respiratory symptoms and damage.[12]

As stated earlier, chest dysphoria is a common experience for transmasculine individuals.[13] Many seek masculinization chest contouring to abate this dysphoria and improve their quality of life. The purpose of this rapid systemic review is to evaluate the research regarding change in quality of life in transmasculine individuals following top surgery.

Theoretical Understanding and Background of the Biopsychosocial Problem

The etiology of the transgender and gender diverse identity can be understood through a biological lens. One theory considers the timing of processes during the gestational period. The sexual differentiation of the genitals occurs during the first trimester of pregnancy, while the sexualization of the brain begins in the second trimester. These processes may work independently of each other, perhaps allowing for the incongruence of genitals and gender identity.[14] One study surmised that endocrine disruptors might play a role in forming a transgender identity[15]; however, more research in this area is vital before stating there is a correlation. Finally, genetics may play a role in the development of a transgender identity. The Diagnostic and Statistical Manual of Mental Disorders[1] indicates there is evidence for some heritability. There is a higher incidence of transgender identity between monozygotic same-sex twins than dizygotic same-sex twins.

The psychological lens of Gender Dysphoria purports that the incongruence of a person’s body and gender identity causes emotional distress and impairment in critical functioning areas. However, evidence suggests that distress also originates from the social stigma associated with cisnormative societal expectations[16] and discrimination.[17] Facing the fear of this discrimination sets the stage for social dysphoria, where the individual worries they will be gendered incorrectly. In transmasculine people, their female chest is the “tell” to strangers that they were assigned female at birth. When this person is misgendered, they experience emotional distress.[13] Subsequently, body dysphoria and social dysphoria can be linked, indicating the importance of utilizing a psychological and sociological lens when viewing this problem.

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It makes sense then that chest masculinization surgery or "top surgery" will help reduce both body dysphoria and social dysphoria. It is possible that with the reduction of those two symptoms, the person will have an improvement in many aspects of their life.

The Diagnostic and Statistical Manual of Mental Health Disorders clarifies that gender dysphoria is not a mental illness.[1] It is the distress accommodating the dysphoria that is the psychological concern. Subsequently, the World Professional Association of Transgender Health (WPATH) suggests using a gender-affirming approach to managing and reducing the illness.[18] It is suggested that by following the WPATH Standards of Care (SOC) for treatment, individuals will receive the behavioral health and medical services they need to relieve their gender dysphoria, thereby improving their quality of life. One gender affirming treatment for gender dysphoria is "top surgery" or chest masculinization surgery.[18]

Search Methodology

As transgender research is a newer field, the search needed to remain as open as possible to ensure no material was missed. Subsequently, inclusion criteria included age 18 and up, any location, no time limits on when the studies were completed, and both peer reviewed and gray literature. The search terms used were, "Top Surgery" OR "chest masculinization surgery" AND "quality of life" for title, abstract, and key words. Exclusions included individuals assigned male at birth and individuals under the age of 18.

Databases used were APA PsychArticles, APA PsycInfo, PubMed, Scopus, Web of Science, and ProQuest Dissertations & Theses Global. The International Journal of Transgender Health was also searched for articles. Cochrane Library and Campbell Collaboration were searched using various search words, including the ones above, to ensure a recent systemic review had not been completed on the topic. Chaining from the bibliographies were also used in the search.

The initial search produced 72 articles through the database searches. There were 14 duplicates. 20 articles were found through chaining, leaving 78 articles to screen for title and abstract review. 46 articles were excluded using title search and abstract review, leaving 32 articles for full article review. 24 of those articles were excluded for not meeting criteria, leaving 8 articles to meeting the criteria to be a part of the literature review. Examples of reasons why some articles were excluded include some participants were under the age of 18, articles that did not separate out data of transfeminine surgeries and transmasculine top surgery, and one article that compared change in quality of life after chest masculinization between transmasculine individuals and cisgender males (figure 1).

Figure 1. PRISMA 2009 Flow Diagram

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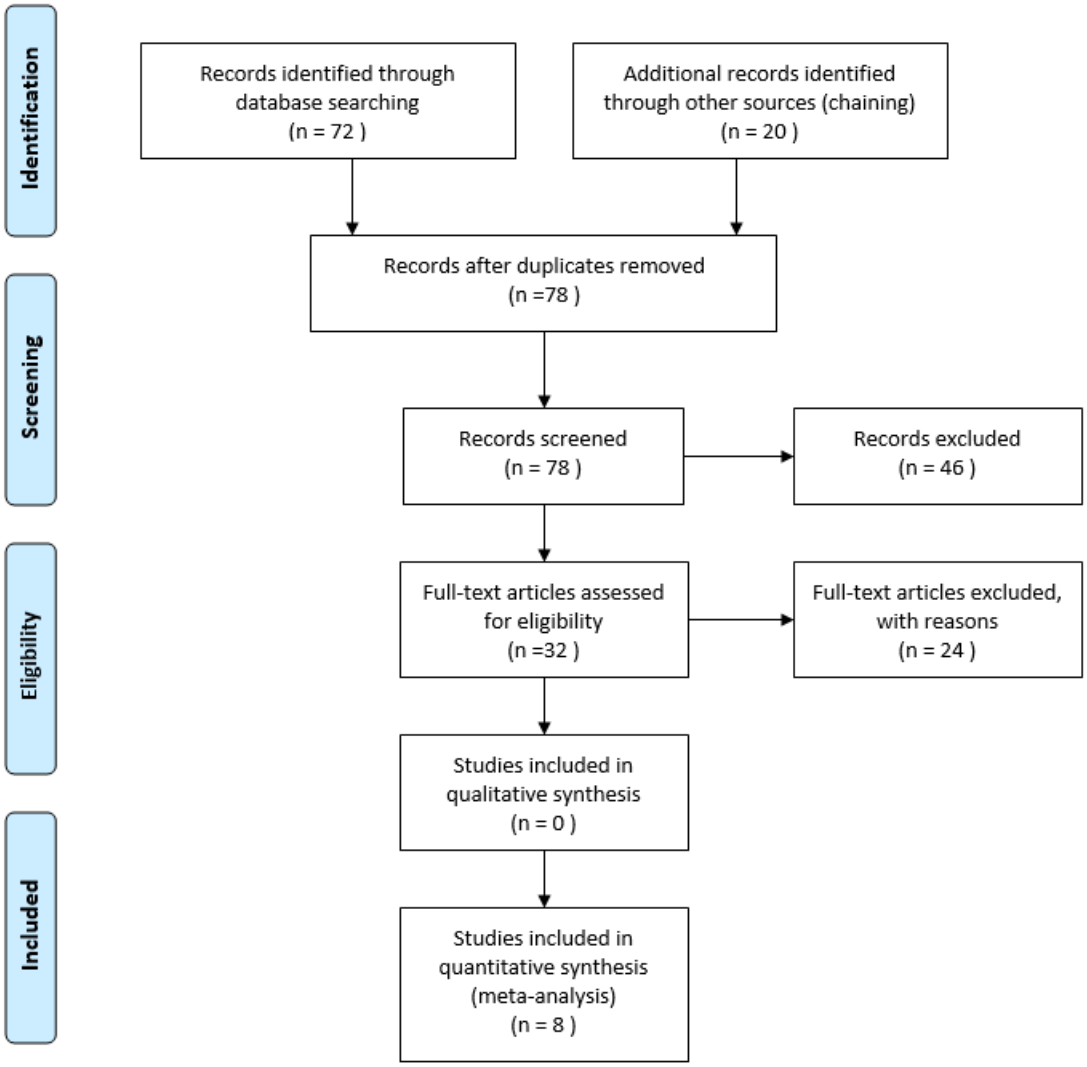

Data Extraction

Pertinent data was extracted from the literature and placed in table 1 below. The table states the author(s), aim of the study, design, sample size, measures used, and primary findings. All of the p values in the table are of statistical significance.

Table 1. Description of Studies Included within the Literature Review

Author/ Date	Aim of Study	Design	Sample Size	Measures Used	Primary Findings
Davis & Meier (2014)	Assess effects of chest reconstruction with/without testosterone on MH/QoL	Quasi-experimental	N=208	BAI, BAI-ll, CAS, novel Likert scale	Improved mental health, less body dissatisfaction for GAHT and GAHT/Top surgery groups. ($p < .0001$) GAHT/Top surgery group had less body dissatisfaction than GAHT group ($p < .001$)

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Author/ Date	Aim of Study	Design	Sample Size	Measures Used	Primary Findings
van de Grift et al. (2018)	Body Image and QoL after top surgery	Quasi-experimental (exploratory)	N=101 Preop=50 Postop=51	BODY-Q	Pre-op scored significantly lower on satisfaction of chest, nipples, and body ($p < .0001$) Pre-op scored higher on psychiatric symptoms ($p=.05$, statistically significant)
van de Grift et al (2017)	Asses QoL, gender dysphoria, psych sxs after gender affirming surgeries (top)	Quasi - experimental	N = 49	UGDS SCL-90 SWLS SHS CL	94% satisfied with outcome. Satisfied group had lower SCL-90 scores ($p=.05$) and higher SHS scores ($p=.04$) (both statistically significant)
Poudrier et al. (2018)	Assess QoL after top surgery	Quasi-experimental (Mixed methods)	N = 58	Modified BREAST-Q	Improved QoL and sexual confidence ($p < .0001$) 86% reported improvement in MH symptoms associated with GD
Argarwal et al. (2018)	Assess QoL, satisfaction, body image after chest wall masculinization	Quasi-experimental	N = 42	BREAST-Q BUT-A	BREAST Q = improvement in all domains ($p < .0001$) BUT-A = Global Severity Index (cuts across all domains) improvement ($p< .0001$)
Kraemer et al. (2008)	Assess improvement of body image after surgery	Quasi-experimental	N = 15 Preop=7 Postop=8	FBeK	Improvement in all 3 body image areas Stat. significance with accentuation of body image ($p< 0.001$)
Black, et al. (2020)	Assess patient satisfaction (“joy”) after chest masculinization	Quasi-experimental	N=50	IBM Watson Linguistic “Tone Analyzer”	Mean value medium strength of joy for Original Post **Original post** Mean ±SD 0.74±0.13 Range= 0.55-1.0 **Post** Mean ±SD 0.81± 0.13 Range =0.58-0.99 Responders presented with more joy than the original poster

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Author/ Date	Aim of Study	Design	Sample Size	Measures Used	Primary Findings
Nelson, et al. (2007)	Assess patient satisfaction, surgical outcome, psychological morbidity	Quasi-experimental	N = 12	Non-valid novel survey	N= 8 very satisfied patients N= 3 satisfied patients N = 1 unsatisfied patient

Literature Review

The studies below are organized according to the strength and rigorousness of the study. All of the studies were quasi-experimental studies. The JBI Critical Appraisal Quasi-Experimental Studies was applied to all articles.

Davis and Meier conducted a cross-sectional, mixed methods study.[6] The qualitative portion of the study assessed changes in mood and sexuality since beginning gender -affirming hormone treatment (GAHT). The quantitative study compared the emotional and body satisfaction changes in transmasculine people in three different stages of transition. The first group had not had any medically affirming transition treatment, the second group was taking GAHT, and the third group was taking GAHT and had top surgery.

Two hundred and eight (208) trans masculine people participated in the study. It was a 98-question written survey. Purposive sampling included the internet, two transgender listservs, chain referral, and San Francisco community events. Individuals took the test with pencil and paper or online. The questionnaires included the Beck Anxiety Index (BAI), the Beck Depression Inventory (BAI-II), the Snell Clinical Anger Scale (CAS), and a novel 10 question Likert scale to determine Body Dissatisfaction. The BAI and BDI-II were found to have excellent internal reliability. Both the CAS and the Body Dissatisfaction scale were determined to have good internal reliability. No validity data was provided. The authors used appropriate statistics to answer the main research questions. The key variables were defined and measured clearly.

Both the transmasculine people who were on GAHT (n= 46) and the GAHT/ top surgery (n=72) group were statistically significantly less depressed ($p < .001$), less angry ($p < .001$), less anxious ($p < .001$), and had less body dissatisfaction ($p < .001$) than the no treatment group (n=78). As expected, the GAHT/top surgery group (n=72) reported statistically significant less body dissatisfaction than the GAHT group (n=46) ($p < .001$). The authors tested for internal consistency which was found to be consistent and the key variables were operationalized clearly. One clear strength of this study is that it had larger than usual number of participants for studies of this type.

Klassen, et al. conducted a cross-sectional study using the BODY-Q chest module to assess improved satisfaction with body, psychological wellbeing, and quality of life.[19] The study was conducted at the Department of Plastic, Reconstructive and Hand Surgery at the Center of Expertise on Dysphoria of the VU University Medical Center, Amsterdam. The preoperative group was recruited when they first approached the Center for surgery. The postoperative group were recruited at one of their postoperative visits. One hundred and one (101) persons participated in total. There were 50 preoperative participants and 51 postoperative participants.

Preoperative participants scored statistically significantly lower than postoperative participants in satisfaction of their chest, nipples, and body ($p < 0.0001$) and statistically significantly higher on psychological symptoms ($p = .05$).

The key variables were operationalized and specified clearly in the study. The chest and nipple scales of the BODY-Q module were developed and validated for trans masculine people; the other BODY-Q scales did not include trans people in its development. The authors used appropriate statistics to answer the main research question.

One limitation of this study that it is a cross sectional design. The study would be improved if the scales were given pre- and post-surgery with the same individual. Additionally, the small sample size and the anxiety and depression items were not validated measuring tools. One strength of this study is that the two of the scales in the BODY-Q module were validated for transmasculine people.

Van de Grift et al. conducted a quasi-experimental study of the associations of dissatisfaction with surgery and quality of life.[20] The study was conducted within the European Network on the Investigation of Gender Incongruence (ENIGI). Participants were from gender treatment clinics from Amsterdam (the Netherlands), Ghent (Belgium), and Hamburg (Germany). Forty-nine (49) postoperative transmasculine individuals completed the study. Scales included the Utrecht Gender Dysphoria Scale (UGDS), the Symptom Checklist 90-R (SCL-90), the Satisfaction With Life Scale (SWLS), the Subjective Happiness Scale (SHS), and the Cantril Ladder (CL).

Ninety-four percent (94%) of the participants were satisfied with their outcomes. The satisfied group had statistically significantly lower SCL-90 scores ($p = .05$) statistically significantly higher SHS scores ($p = .04$), and were trending in that same direction for the CL, as the dissatisfied group. The reasons given for dissatisfaction was aesthetic concerns, complications, or general treatment dissatisfaction. Notably, the dissatisfied individuals had higher levels of psychological symptoms and life dissatisfaction preoperatively. Although this group had a lower level of gender dysphoria than the satisfied group, their gender dysphoria was higher prior to surgery.

The variables were clearly defined in the study. There was no reliability or validity data provided on the measures. There was a non-probabilistic sample selection method. A proper statistical analysis was completed, including descriptive statistics. Selection bias was one of the limitations of the study as individuals with lower education were underrepresented.

Poudrier et al. completed a quasi-experimental, mixed methods study by sending an anonymous online survey to 81 transmasculine individuals who were postoperative patients (of at least 3 months duration) from New York University Langone Health.[21] Fifty-eight (58) respondents participated. Quality of life, mental health, satisfaction of surgical outcome, sexual confidence, and perceptions around “the role of top surgery in gender transition” were assessed.

Although not validated with transmasculine individuals, the measurement used in this study was the BREAST-Q, which is a validated questionnaire for use with cisgender females after cosmetic or reconstructive breast surgery. The measurement has two domains broken down into three matrixes each. The domains are Quality of Life and Satisfaction.[22] For this study, modified questions were created from three of the matrixes to better assess the psychosocial needs of transmasculine individuals. There is no information on what matrixes were used, which is a limitation of this study.

Only 30% of participants scored as satisfied on any of the preoperative measures. Postoperatively, quality of life and sexual confidence had statistically significant improvement ($p<0.001$) in all domains of the modified BREAST-Q measurement. Additionally, 86% of these postoperative individuals indicated improvement in mental health symptoms associated with gender dysphoria. The key variables were defined and clearly measured in the study. No reliability of the data is provided and the tool used was not a validated measure. A non-probabilistic sample selection was used. Appropriate statistics were used to answer the research question.

Agarwal, et al. conducted a prospective study assessing quality of life after chest wall masculinization utilizing the BREAST-Q and Body Uneasiness Test.[23] Both measurements have been validated with cisgender women, but not with transmasculine individuals. It does make sense that these are the measurements used for this population due to no other options being available. Together they assess body image, general well-being, and quality of life factors.[23,24] No reliability data was provided. A non-probabilistic sample selection was used. There were 87 eligible patients, with 42 deciding to participate in the surgery. The participants had top surgery with Dr. Cori Agarwal between April 2015-June 2016. The questionnaires were given before surgery and given six months after surgery.

The domains assessed with the BREAST-Q survey were physical well-being, psychosocial well-being, sexual satisfaction, and breast satisfaction. The BREAST-Q evaluation produced statistically significant improvement in all 4 domains. Physical well-being scores improved from 65.3±13.7 preoperatively to 80.3±11.8 postoperatively ($p<0.0001$). Psychosocial well-being improved significantly from 31.3±14.2 preoperatively to 78.9±15.9 postoperatively ($p<0.0001$). Preoperative scores for sexual satisfaction were 30.7±20.9 with an improved score of 71.4±19.2 <p0.0001) postoperatively. Lastly, chest satisfaction scores improved from preoperative values averaging 17.4± 14.0 with postoperative averages at 85.0±11.7 ($p<0.0001$).

Appropriate statistics were used in order to answer the research question. Statistically, significant improvement was seen in all domains in the BUT-A questionnaire. The Global Severity Index (a cumulative measure of all domains) decreased from 2.68±.73 preoperatively to 1.20± 0.68 postoperatively ($p<0.0001$). The most noteworthy domain for quality of life, body image concerns, decreased from 3.49±0.84 to 1.33± 0.77 ($p<0.0001$) after surgery.

Problems with the study included the lack of generalizability to other transmasculine individuals who have had this surgery. Only one surgeon completed the surgeries. Dr. Agarwal has been performing these surgeries for over 15 years, which is a much more extended period than most top surgeons in the United States. This variable should be taken into account when noting the significant improvement in chest satisfaction of the participants. This domain points to the aesthetics of the work. With that said, it needs to be noted that other studies have had similar findings.

Limitations in the study include selection bias in those who had an interest in taking the survey, the small cohort size, and the lack of racial diversity of the group (88% of the participants were white). As stated earlier, neither the BREAST-Q, nor the BUT-A are validated scales to use with this population. An additional concern is that the second questionnaire was completed after only 6 months. It is not known if after a more extended period of time if the participants would continue to experience this same improved quality of life.

Kraemer et al. conducted a quasi-experimental study comparing the feelings associated with body image in preoperative transgender individuals versus postoperative transgender individuals.[25] Although both transmasculine and transfeminine individuals were used in this study, they were compared separately. The participants were from the University Hospital of Zurich, which is a gender affirmation clinic in Switzerland. The sample was non-probabilistic and were previous / and current patients of the institution. The sample sizes were small for the transmasculine group, with 7 preoperative participants and 8 post operative participants, which is one limitation of this study. The study used a validated body image instrument called the Fragebogen zur Beurteilung des eigenen Körpers (FBeK). The authors tested for internal consistency which was found to be consistent and the key variables were operationalized clearly.

The scales assessed insecurity/concern, attractiveness/self-confidence, and accentuation of body appearance. The transmasculine postoperative group scored higher in all three areas in body image than the preoperative group. However, the only score of statistical significance was the accentuation of body appearance ($p = <0.001$). The authors noted that this might have been due to the small sample size, which is a significant limitation of this study.

Black, et al. completed a quasi-experimental study using linguistic analyzing technology using social media posts to assess feelings of "joy" after one has trans masculine top surgery.[13] The researchers used an IBM Watson tone analyzer which rated the presence of joy on a continuous scale of 0 – 1. The researchers used the social media APP Instagram, to assess 50 subcutaneous mastectomy postoperative results. An encrypted password-protected folder was used for the data. Hashtags used were #topsurgery, #transisbeautiful, #transispowerful, #transqueer, #transman, and #transgender. The original post and the responding comments were analyzed through the IBM Watson Linguistic "Tone Analyzer." This tool uses linguistic analysis to detect emotional and language tones in text. The "view JSON" setting was selected to allow joy analysis on a continuous scale. An additional part of the study was the use of 3 gender-affirming plastic surgeons to rate the aesthetic quality of the top surgeries.

Joy was analyzed on a scale of 0 – 1. The postoperative individuals' level of joy had a mean value of .74 (±0.13 with a range of .55-1.0). The level of joy was reported to be of medium strength. Interestingly, the individuals who commented on the original post had higher levels of joy than the postoperative person themselves. The mean value was 0.81 (±0.13 with range of 0,58 – 0.99) for the responders, which is a sign of emotional support among trans community members. Interestingly, the surgeons regarded the aesthetic quality of the work as only average (5.3 on a 1-10 scale, with a range of 2.8 to 8.5 out of 10). It seems the patients themselves found the results to be more appealing than 3 experienced surgeons.

Based on the information given on the linguistic analyzer, the appropriate statistics were used. However, validity nor reliability of the tool were provided. Selection bias is one limitation of the study, as patients are more likely to post photos of their surgical results if they are pleased with them. Additionally, the joy analyzer was not able to assess the positive emoticons in the posts, which is clear limitation of using this analyzer.

Nelson, et al. conducted a 5-year retrospective review evaluating 12 patients to assess surgical outcome, patient satisfaction, and psychological morbidity after top surgery.[26] The mean follow up period was 10 months, with a range of 2-23 months. The study was conducted through a postal questionnaire sent to 17 patients after their procedure (non-probabilistic sampling).

Twelve individuals returned the form. The invalidated questionnaire was created by the author and reviewed by the "sexual problems psychiatrist." There was no information on the reliability or validity of the questionnaire. Questions included how the participants experienced their nipple positioning, sensation, and scaring. Quality of life questions included asking if the patient felt more confident in their body since having the surgery. Ten of the twelve participants stated that they felt "much more confident" in their body since the operation, while two felt "a little more confident." Eight patients stated they were "very satisfied" with the surgery, three were "satisfied" and one was "unsatisfied." The article stated that all patients felt that the surgery had a positive impact on their lives. There was no statistical analysis completed, which is a significant limitation of the study. An additional limitation of the study is that participants completed the questionnaire at varying times after their surgery, affecting comparison among the group, as there is a "honeymoon period" for one year postoperatively.[27]

Synthesis of Findings

Gender dysphoria, specifically body dysphoria, is a well-documented problem for transmasculine individuals. All of the studies above showed statistically significant improvement in some area of quality of life except for two studies that did not provide proper data analysis.[13,26] All of the studies that utilized proper data analysis found statistically significant evidence that top surgery results in improved body image or body congruence (Agarwal, et al. 2018; Davis & Meier, 2014; Poudrier et al. 2019; van de Grift, 2017, 2018). The studies that included psychological wellbeing or psychological symptomology as a form of quality of life found statistically significant improvement in those areas.[6,20,21,23,28] All of the studies that asked about chest satisfaction found that the majority of participants felt more satisfied with their chests than dissatisfied. Although Black et al. states there is a correlation between "joy" and quality of life, no measurements were used to show this correlation.[13]

There was a significant number of limitations across studies. All the studies suffered from small sample sizes, which is common for transgender research. Davis and Meier did have 200 participants which is on the higher end for transgender research studies and they also tested for internal consistency.[6] Moreover, the majority of their measures were validated measures for the general population, including trans people. Additionally, in some ways, this study having a group of individuals who had no gender-affirming care could be seen as having a control group. However, this study, along with the others, were all quasi-experimental, had a non-probabilistic sample selection method, and suffered from a lack of diversity in race and socioeconomic class.

All the studies were in keeping with the theoretical gender affirmation model and the studies that did comment on the steps participants took before receiving medical treatment were steps in keeping with the WPATH Standards of Care. Several studies indicated the importance of improving aesthetic treatment outcomes for this surgery even though studies show the patients are satisfied with the work.

Implications and Recommendations

As stated earlier, research into trans healthcare and the transgender and gender diverse population is a newer field. Subsequently, research studies and the sample sizes in those studies are small. Although all of these studies were quasi-experimental, 6 out of 8 studies did proper data analysis. All of those produced statistically significant evidence that top surgery does improve some areas of quality of life in trans masculine individuals. Moreover, all of the studies

showed that more participants were satisfied with their chest than dissatisfied. These positive outcomes indicate that the gender affirming model for treatment recommended by WPATH followed by behavioral health and medical care providers is reasonable in its approach. We are moving in the right direction.

As more people publicly identify as a different sex than they were assigned at birth, more people are seeking medical transition. Within the United States, we are seeing more access to these treatments through medical coverage. Although academic literature does not yet show this, a larger number of transmasculine individuals are getting top surgery as they no longer must pay out of pocket for the surgery. Many states require that employers no longer have blanket exclusions of trans healthcare. This gives transgender people room to appeal denials of medically necessary transition related surgeries. In the past, the only means for transmasculine individuals to acquire this surgery was to pay out of pocket. However, it is not known how long the trend of private insurance paying for gender -affirming surgeries will continue as we see changes in coverage based on the changing political landscape of the United States.

Fortunately, the number of surgeons who are providing this surgery is expanding across the U.S. With the increase in surgeries being completed, and with more surgeons conducting these studies, we should see an increase in research on top surgery outcomes, including studies on postoperative quality of life.

A review of the literature shows that quantitative studies are being conducted on top surgery outcomes. It would be helpful if qualitative studies were completed in order to capture the subjective feelings of the participant. However, since qualitative studies are vulnerable to research bias, and reduces applicability, mixed methods studies would be a good choice to increase our knowledge in the area of quality of life after top surgery.

This rapid systemic review presented the available literature to date on quality of life after top surgery. The outcomes of these studies show a correlation between an improvement in quality of life and top surgery.

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