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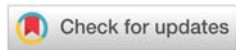
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Research Article

Body types following obesity surgery and skin re-contouring: A secondary level of analysis

Abstract

Purpose: To identify body types and normative transformation after obesity surgery and body re-contouring.

Methods: A qualitative secondary analysis was conducted involving 20 transcripts, extracted from one primary dataset containing interview data. A model of empirically grounded type construction was employed and adapted to analyse data.

Results: Four emerging body types were revealed including type 1 'identity disruption', type 2 'overcoming identity lag', type 3 'refining appearance' and type 4 'transformed new me'. The findings shed light on the normative transformation process and the huge challenges that patients encounter. It is crucial to acknowledge that body types 1 and 2 experienced identity disruption and emotional turmoil, post body recontouring surgery. Contrastingly, types 3 and 4 showed strong determination and resilience throughout the transformation process despite embodied turbulence

Conclusion: This study makes plain the huge rupture to identity, appearance and body image that respondents experienced post-surgery, with the majority in a constant changing body and state of flux. This result provides nurses and allied health professionals with new research and insight to develop novel body esteem educational programmes to empower this particular patient group.

Introduction

Weight loss surgery (WLS), despite significant risks, is frequently tied up to huge health and wellbeing benefits. There is a robust body of knowledge and growing empirical evidence showing marked improvements in comorbidities and quality of life (QoL) after obesity surgery [1]. Obesity reviews point to the huge benefits of bariatric surgery impacting massive weight loss (MWL), remission of type 2 diabetes and reduction in cardiovascular risk factors [2]. Another review revealed interesting improvements in memory recall and executive function, and use of language following bariatric surgery but further research is required over longer follow up periods [3].

Although the majority of patients attain dramatic weight loss targets and improvements in QoL for most this is hooked up to ongoing appearance challenges triggered by bothersome redundant skin after MWL. This is also influenced or amplified by the internalisation of cultural beliefs or values regarding the beauty ideal, triggering emotional turmoil and ongoing distress [4].

In the context of extreme weight loss following obesity surgery, patients seeking body contouring surgery reported higher body image dissatisfaction, in comparison to the general population [5]. This particular review highlighted the complexity of body image concerns following obesity surgery and the scarcity of research that investigates body image domains tied to body dissatisfaction. A further study revealed that after dramatic weight loss, patients struggled with excessive skin and felt unprepared for the direct consequences on body image, shape, appearance, function and QoL [6]. In reporting this, the majority expressed a strong wish for body re-contouring surgery.

Body re-contouring encompasses a huge range of aesthetic plastic surgery techniques to improve the appearance by targeting particular areas of fat or loose skin to give the body a leaner look. These types of procedures include, for example, abdominoplasty, liposuction, breast re-shaping, upper body lifts or lower body lifts [7]. (See patient information guidelines) [8].

Studies indicating the benefits of body re-contouring

after MWL are now evolving but many are single-centred investigations. A small scale qualitative study investigating the psychological impact of body contouring surgery pointed to an increase in self-esteem, confidence, greater social mobility and improvement in overall wellbeing [9]. This study illuminated the positive influence of plastic surgery among MWL individuals with most feeling less body conscious post-surgery. Contrastingly, a different study reported that 'self-acceptance' and 'shame' seem to oscillate wildly amongst their female participants, especially in the post-body contouring period [10]. This appeared to trigger a destabilised sense of embodiment impacting body esteem and wellbeing.

Nonetheless, there are insufficient quantities of international research that portray body types that evolve after MWL and body re-contouring surgery; impacting care provision. No body types are noted in the literature, so far. This has repercussions for nurses and health professionals because rehabilitation following surgery is complex and it's vital to open up professional domains to that complexity. Against this backdrop, this paper reports a secondary level of analysis of an exploratory qualitative study and focuses on perceptions of body types and restorative transformation processes for patients who underwent obesity surgery and body contouring.

Methods

This article is focused on a secondary level of analysis applied to an original data set derived from in-depth interviews conducted with people, medically classified as morbidly obese, after significant WL following obesity and body re-contouring surgery. The application of the secondary analysis adopted the process developed and recommend in the literature [11,12], in particular putting forward an outline of the original research, data collection methods and data analysis techniques. This was followed on by a secondary analysis in order to shed light on distinct 'body types' and normative transformation processes following obesity and body re-contouring surgery.

First, it is crucial to be transparent about the primary study which generated the data set for this secondary level of analysis.

Primary data sources

The following data set furnished the sample of 20 persons (18 women and 2 men) whose transcripts were selected for inclusion in the secondary analysis.

Data set: Identity transformation and lifestyle/behaviour change following substantial weight loss and body contouring surgery [13].

This qualitative study explored the complexity of patient experience following MWL and body contouring surgery. The sample included 18 women and two men from one clinical setting in the South of England. The distribution portrays the gendered nature of bariatric surgery, with the majority of surgeries performed on women [14].

The aim of the primary study was:

To inquire into the lived experiences and quality of life

outcomes among patients who underwent body contouring after obesity surgery.

Collection of primary data

A qualitative approach was employed using interviews with patients about their experience of body contouring procedures and skin re-sculpting after MWL. An interview guide was used including questions such as: How did you feel about the excess skin? What was the trigger to undergo plastic surgery? How did you feel about your body after the surgery? How has your body image affected your lifestyle? Digital interview recording was used and the duration of the interviews was 1-2½ hours. Field notes and reflective journaling were deemed important and utilised to supply additional information. Supplementary data sources were also obtained from medical records with the participants' permission, including information on BMI, eating patterns or disorders and comorbidities.

Analysis of primary data

Thematic analysis was employed for the data analysis process [15]. Information gleaned from the medical notes was integrated as appropriate.

Ethical consideration

Ethical approval was obtained from the Heath Research Authority (HRA) London prior to the beginning of the fieldwork. With respect to the secondary level of analysis presented in this paper, the secondary aim was closely associated with the purpose and focus of the primary research; thus, after contemplation and discussion, the research team decided that the informed consent obtained in the primary research was adequate to proceed with the secondary analysis. To support this decision, HRA London was contacted and favourable approval for the secondary analysis was granted. This falls under governance arrangement for research ethics committees (GAFREC) cited in section 2.3 of the harmonised UK wider edition of GAFREC.

The secondary data analysis process

The aim of the secondary analysis was to discern body types and normative transformation after MWL and body contouring surgery.

The data sets were carefully analysed by a small research team that included one researcher who conducted the primary study and two researchers who were not involved. The methodology underpinning the secondary level of analysis was akin to an "ideal type" analysis pioneered by Weber as a sociological process [16]. This particular analysis followed the principle of the construction of types involving the combination of attributes and meaningful relationships. A model of empirically grounded type construction was employed for the secondary data analysis, comprising four distinct stages [17].

The first stage involved evaluating the data quality for 'appropriate depth' and 'pertinent detail' to support the substantive development of relevant analysis of dimensions of body types [18]. This activity involved careful reading and re-



reading the interview transcripts, extracting and merging part of the text concerning the research question. The second stage focused on arranging similar cases and analysing data using empirical theory and regulations. The third stage considered the analysis of salient relations between the cases and the development of the type construction as displayed in table 1, and the fourth focused on characterisation of the constructed types [17].

Rigour

Guba and Lincoln emphasise the importance of credibility within qualitative studies recommending procedures to enhance trustworthiness [19]. This includes activities such as the researchers prolonging engagement with the data set, thereby gleaning rich insights regarding the social setting and culture of interest. This process allows a more profound understanding of the participants' experience and the fullest

examination of the context involved. The rigor and worth of the primary study and data components, then, will determine the reliability of the secondary analysis.

As noted previously, the primary data sets were robust and satisfied the criteria for a secondary analysis. Importantly, the researcher who conducted the primary data collection and analysis was able to transfer her contextual knowledge to the secondary procedure. Following the secondary analytic coding, all three of the current authors discussed and developed the dimensions of the body types which formed the basis for the typology, and these were revised as appropriate. This coding process was followed on by construction of typologies yielded by the grouping of meaningful cases. The grouping strategy is important: the elements within each type must be identical, to the greatest extent possible to facilitate internal homogeneity, and the differentiation between the types as robust as feasible

Table 1: The four body types and normative transformation after massive weight loss and contouring surgery: major characteristics

| | Type 1 | Type 2 | Type 3 | Type 4 |
|-------------------------------------|--|---|---|---|
| Number of participants | 3 | 4 | 5 | 7 |
| Sex | 2 females, 1 male | 4 females | 4 females , 1 male | 7 females |
| Age range | 58-63 | 48-57 | 46-62 years | 29-61 years |
| Time post-surgery | 1-1.5years | 2 years | 2-3 years | 3-5 years |
| Body typologies | 'Identity disruption' | 'Overcoming identity lag' | 'Refining appearance' | 'Transformed new me' |
| Dimensions of body types | Characteristics | Characteristics | Characteristics | Characteristics |
| Body and identity | Identity fragmentation and difficulty letting go of the stigmatised 'fat identity' or 'body excess. Early scarring bothersome and aesthetic outcome in continued flux. | Destabilised embodiment and enduring huge changes in the body. Beginning to accept body modifications. Changing body image but sense of shame/distress of hidden body 'butchered', 'mutilated. Body esteem shifting and in flux. | Upwards transformation and effervescent identity. Dis/appearance of scarring impacted body image positively. Renegotiation of identity occurred involving refining appearance, priorities and expectations. | Body and identity transformation and a brilliant evolving 'new me'. Major shifts in visible appearance seemed to trigger a more authentic sense of self-worth and elevated psychological wellbeing. |
| Appearance and adjustment | Pre-occupied with appearance deficits and scarring. Seeking social acceptance but concerned about 'gaze' and external validation. Fear of lack of acceptance and disgust from others or punishment due to bodies not being how they 'ought' to be. | Psychological distress associated with scarring. Reducing self-focused attention and growing more confident in social situations, engaging in more social activities. For instance, going to the cinema/theatre. | Positive and enthusiastic with fading scars, increased body esteem, and levels of body appreciation and self-acceptance. Increasingly confident with body improvements and feeling accepted and integrated into society. | Cultivating and sustaining a positive body image. Celebrating the new empowered body and a greater sense of embodiment. Feeling more resilient, resourceful and pursuing new interests. |
| Self-perception and romantic appeal | Internal shame and self-devaluation. Anxious over scarring and disconnected from sexual vitality. Avoidance of new emaciated body and intense scarring. Unable to look at naked body in mirror or engage with close intimate relationships. | Body distress but sense of growing confidence and hope. Being less restricted by their bodies and improvement in depressive states and mood swings. More willing to allow others to accept changing body and possibility of sexual attractiveness/intimacy. | Letting go of antidepressants, feeling confident, positive and very optimistic. Enhanced sexual wellbeing, grooming, exercising and building new intimate connections. Investing in clothing/contemporary fashion and personal care products. | Emerging into a new serenity and a blissful sense of wellbeing. Increased sexual esteem, function, vitality and navigating new intimate relationships. High and stable levels of social acceptance pervaded by new exploration. |
| Shape and function | Weight loss success but difficulty letting go of the 'fat self'. More active lifestyle and taking more risks with personal interests. Functional limitation due to arthritis or joint problems. | Weight fluctuation and weight gain challenging. Triggers of unhealthy eating re-emerge. Bodies perceived as much more functional influencing body esteem and wellbeing. | Weight loss under surveillance and monitoring any weight gain. Moderate to high physical function including housework, Zumba, walking and swimming. Very active lifestyle in social and recreational activities. | Weight loss stable but ongoing regime of healthy eating and exercise. Vigorous and high physical activity including aerobic and resistance exercise. Creative, transformed lifestyle, enjoying new careers, hobbies and adventure travel. |

to demonstrate external heterogeneity [17]. The major characteristics for each body typology were discussed and fine-tuned by the group to preserve similarities and differences between the research elements.

Results

The body typologies varied greatly; and improvements in visible differences seemed to be associated with a variety of concerns about body image and function, psychosocial challenges and aspects of the intimate relationships considered an important component of healthy, meaningful adult lives. The majority of participants reported that plastic surgery was marvellous in terms of enhancing appearance, pointing out that the MWL body shape was noticeably severe or ugly in comparison to others, almost like a non-person with needs ignored. Nonetheless, normative transformation appeared to be a transitory process in the post-surgical body. A summary of the characteristics inferred from the data is presented in table 1.

Type 1: Identity disruption

The type 1 individual appeared to display identity disruption associated with scar severity. Some talked about its lasting impact in the early post-surgical period (up to 1.5 years) as a distinctive feature of their body image. The prominence of intense scarring, coupled with individual body conscious beliefs, seemed to involve subjective traits such as reactions to scarring and its visibility. The women's narrations share many significant elements. Most powerfully, they medicalise the post-surgical body by the perceived violation by medical professionals. Some mentioned looking 'butchered', 'mutilated' and like 'Frankenstein' (sic – presumably Frankenstein's monster) with immense scarring. In addition, other accounts note that pre-surgical appearance flaws such as 'body excess' persist, damaging body esteem and causing distancing from significant others. This evinces feelings of isolation and a legitimate obstacle to change and transformation.

Many appeared to have huge problems with the changing body because in some cases the lower and upper body were out of proportion. This and the negative effects of others' reactions seemed to 'put an end to intimacy'. In some instances, such assertions were accompanied by psychological distress. This highlighted an understandable desire to feel like a 'normal woman'. Positive body image was deemed a requirement for beauty, wellbeing, success and romance, with 'excess skin' and long scars seen as a barrier.

The majority valued weight loss success, which enabled them to accomplish better function and a more active lifestyle. One man appeared unconcerned with his physical attractiveness but conveyed frustration about his limited physical function due to persistent arthritis, especially knee joint problems restricting active movement. Specifically, this participant referred to long-term arthritis due to 'body excess'.

Type 2: Overcoming identity lag

Similarly, the type 2 participants appeared overwhelmed

by scarring with a destabilised embodiment while enduring immense bodily changes (up to 2 years post-surgery). The majority were grappling with a mutilated body but showed a tendency to discard stigmatised fat identities, 'letting go' of the past and engaging positively in efforts to transition more dynamically. Given such a context, a few respondents said they experienced identity lag because of past traumatic experiences including sexual abuse or assault, or childhood abuse that had been unsuccessfully addressed. These incidents were credited as influencing slow psychological shifts, with bodily changes evolving more rapidly than inner perceptions. This lack of inner acceptance of bodily changes engendered a destabilised sense of embodiment in which the respondent seemed focused on some future state for the body.

Respondents' comments portrayed conflict and tension regarding body image, appearance and identity; yet the words also revealed resilient women who navigated pressures of social and culture influences. Some talked about the fashion and media industry 'out there' as a source of pressure revealing physical depictions of perfection, valuing beauty over wellbeing. These women conveyed interest with things that really mattered to wellbeing, for instance highlighting the importance of engaging with social activities, asserting hope in intimate relationships and of solidifying partnerships.

A few said that despite growing confidence and positive mood, they experienced ongoing weight struggles, especially with weight gain. This seemed to be triggered by emotional pain or inability to exercise robustly in the early post-surgical period. Unhealthy eating patterns were revealed with feelings of remorse and anger, with most alluding to the huge challenges imposed by weight control dialogue or debate, especially regarding goal attainment and vicious circles.

Others talked about positive functional accomplishments such as normalising social investment: going to the cinema or theatre, or engaging with low intensity gym exercises or swimming.

Type 3: Refining appearance

Type 3 respondents conveyed upwards transformation and effervescent identity alluding to huge shifts in appearance and increasing body esteem. This was mainly attributed to late accounts of scarring (two to 3 years post-surgery) following the body countering procedures and self-acceptance. Disappearance of scarring appeared to speak to identity implications of a more acceptable appearance. For example, several accounts point to 'fading' and 'shrinking' scars giving currency to the deliberate re-construction or reshaping of a new identity and to the hoped-for 'normal self'. Consequently, participants were expressing stronger feelings of self-worth and psychological wellbeing.

The shifts in appearance seemed to enhance higher levels of body appreciation, grooming and social engagement. Respondents described strikingly how their changing bodies felt non-identical to the pre-operative body. The women in particular talked about recovering lost time, reflecting

on a 'kind of freedom' in relation to inhabiting a new and different body. Several reported huge pleasure in shopping and invested in beautiful clothes to celebrate the new sense of self and positive body esteem. Along similar lines, the women's discourse noted beauty and sexual assertiveness as signifying power and autonomy. A few accounts shed light on active sexuality, mainly performed by wearing revealing clothing, connoting power, autonomy, individuality and success. The single participants in particular alluded to their sexual vitality enticing positive sexual attention and beginning new, exciting intimate relationships and social networking.

The changing body appeared to be accompanied by a reported improvement in mood and a decrease in anxiety. The growing sense of wellbeing and increased energy levels after the body work was commented on as a turning point, along with a "letting go" of prescribed antidepressants. This vitality was associated with functional aspects such as strength and physical condition. Several talked about fulfilment and increased body esteem after participation in sports such as Zumba, swimming or power walking.

All type 3 respondents discussed the struggles involved maintaining weight loss but pointed to weight surveillance and healthy eating patterns as crucial to staying in shape. Within the prevailing culture of fitness and positive wellbeing, aerobic exercise and competitive sports values were portrayed with enthusiasm.

Type 4: Transformed new me

Implicit among this body type was the immense power differential observed several years post- surgery (up to 5 years). Those respondents who portrayed a robust sense of personal transformation in coexistence with radical bodily alteration could allude to graceful embodiment and wellbeing. The respondents' bodies appeared to have undergone significant and multiple shifts, having changed considerably in shape and size. Several respondents articulated a perception of the end of their journey as a 'new me' with huge shifts in visible appearance, creating happiness and a fabulous sense of self-worth. The majority mentioned the concordance between the thinner body and new confident identity, impacting risk-taking, social integration and sexual intimacy.

In contrast to the limiting pre-surgical body, where respondents could not enter a shopping mall and purchase fitted jeans or a lovely dress, the current esteemed body image enabled greater choice and self-indulgence. Some accounts appear to highlight digital cultural values about appearance matters and the importance of investing in the makeover culture, embarking on shopping trips and celebrating their new sense of self. A few of the female respondents alluded to the increasing importance of the body in the workplace, for personal strength, dexterity, speed and interactive service and in some instances, a sexually marketed body. The women who pursued new careers seemed to be celebrating the feminine body and its assertive power, strength and departure from fragility.

The self-improvement, enhancement and modification of the existing body appeared to cultivate more risk-taking. For instance, the link between glamour and autonomy was central to normalisation, with several women navigating new intimate relationships. This seemed to greatly enhance self-confidence, conferring a sense of wellbeing and comfortableness in public and affirming self-determination. In striving for transcendence, the women had begun to enjoy more travel, adventure, fitness and energy levels. For instance, gym-going and high aerobic activity were re-framed with positive health and 'eating sensibly'.

Discussion

The primary data set employed for the secondary analysis was substantial, providing splendid potential to examine and consider issues that, although connected to the specific area of interest of the primary research study, had not been its major focus. The secondary analysis appeared to accomplish the aim of: (i) identifying body types after MWL and body contouring surgery; and (ii) addressing a normative transformation process that may be challenging because of the sensitive nature of appearance matters.

Furthermore, the diligent application of a secondary level of analysis enabled the development of a body typology that is tentative and could be explored further in future primary research. There is notable evidence here of four body types including 1 Identity disruption, 2 Overcoming identity lag, 3 Refining appearance and 4 Transformed new me.

The results point out that the process of normative transformation is complex, the reshaping of the body and negotiation of a new identity being in a constant state of flux. Type 1 individuals reported identity disruption associated with scar severity, especially within the first eighteen months after body contouring. For the majority, the long and severe scars appeared to generate psychological distress, impacting body esteem, social acceptance and romantic appeal. Similar torment and body image concerns affecting wellbeing have been reported in other studies by patients on the obesity journey [20]. Moreover the combination of attributes portrayed by the type 1 participants show distinctly that the changing body image and body esteem have huge influence for social engagement and romantic appeal, gains and losses being embedded in the body type characteristics. 'Fat' and scarring confer a deeply stigmatised status [21,22] especially among Western populations, where 'leaner' body shapes/sizes are parallel to the beauty ideal and thus validated and prized by society.

Type 2, Overcoming identity lag, suggested difficulty for some in catching up emotionally with the physical changes wrought by surgery; this has parallels to the process described by Norris and colleagues [23], where reimaging after an alteration to appearance involves stages of assimilation, accommodation and reinterpretation, uniquely paced. A forward trajectory is perhaps more evident in types 3 and 4, where refinement and transformation mean that change has become associated with positivity and strength.

The process, as much as the emergent types, is of great interest since it suggests potential stages or phases through which individuals might pass after MWL and BCS. As with any such model, the process is dynamic and oscillation is expected. Further exploration of this will lead to interesting additional research.

The current evidence portrays type 3 participants in particular surpassing depressive states and transcending into a modern state of tranquillity. The participants narrated vividly about overcoming shame, and valuing and cherishing the experience of their body shape in the here-and now (2-3 years post- surgery). This powerful shift is advanced by the immense determination made by the respondents to relinquish antidepressant medication and start to appreciate their evolving body state. This is akin to previous research results demonstrating enhanced body esteem and mental health following body contouring surgery [24, 25].

There is striking evidence to suggest that respondents' transforming body shape and identity improved their inner sense of sexual vitality and romantic appeal, especially for type 3 and type 4 individuals. This positive shift enabled them to be more active in exploring internet dating, attracting sexual attention and navigating new intimate relationships. This concurs with previous research [26]. In some cases, the accounts connect to 'personal growth' associated with a marked change in appearance, and growing and harnessing new lifestyle choices in daily life. This is most powerfully displayed where respondents talked about their sexual vitality marking a major shift, and emergence into an enhanced sexual self-esteem and a stronger sense of wellbeing. Nonetheless, some of the type 1 and type 2 participants, despite substantive shifts in body shape, size and contouring, appeared to experience ongoing humiliation, embarrassment and debilitating anxiety, especially in showing parts of the body to others that are usually hidden. This type of bodily unease could trigger defensive avoidance behaviour and strong emotional reactions.

Attunement and adaptation to the new evolving body poses further concern for some participants, especially in adjusting to the sociomaterial process of food consumption, alongside sustaining weight loss and function. Most of participants who had undergone obesity surgery prior to body re-contouring hoped that they could sustain eating differently. The changed stomach pouch triggers new sensorial stimuli and eating patterns that impose bodily limits [27]. Some people encounter radical food dislikes or detestation or shifts in preferences. Despite the fact that most respondents in the primary study reported MWL, the way an individual deals with long-term eating patterns is a personal choice and some appeared to indulge in comfort eating/weight regain. In the current study the evidence denotes that most participants experienced dramatic changes in eating practices and were conscious of when and what they eat, with most keeping their weight under surveillance. Healthy eating, recognised within this study, shored up the importance of exercise and physical activity, and triggered participants to look at changing lifestyle patterns. All of the participants talked about the importance of exercise in

this new life phase despite limitations inflicted by arthritis or joint pain, because those activities were related to weight loss stability, self-esteem and wellbeing.

There are several limitations regarding this exploratory, retrospective study. The sample size is small with limited representation of men, and Asian and black ethnic groups. Moreover, this is a single-centred study: more research is required to expand the findings with multi-centred sampling and perhaps a prospective element.

Conclusion and Implications

Notwithstanding the limitations, the results offer a deeper understanding of the body types that emerge after MWL and body contouring surgery. The typologies reveal important evidence that describes and interprets the enormous shifts that respondents experienced, with most in an evolving state. The identity disruption and lag experienced by those inhabiting body types 1 and 2 strongly suggest a place for psychological support during this transition. Types 3 and 4 showed strong determination and resilience throughout the transformation process.

Constructing a body typology sheds light on normative transformation following MWL and body re-sculpting, and the considerable challenges that patients encounter. This provides important implications for practice, since living through obesity, obesity surgery, MWL and re-contouring can affect identity, body image/appearance, function and adjustment. Health professionals including nurses, doctors, physiotherapists, dietitians and counselling therapists need to be aware of the huge sense of disembodiment and fracture to wellbeing, especially in the early post-surgical period.

This process changes the fundamental embodied experience of each individual patient, and demonstrates that ongoing education and support are vital, especially regarding identity shifts and body image enhancement. The most popular interventions for body image turbulence and body esteem disruption are cognitive behavioural therapy (CBT) and education [28], to help modify dysfunctional thought patterns, emotions and behaviour that underpin the Charybdis of despair. However, these may not tackle the issue of severe scarring and poor body esteem. It might be beneficial for health professionals and therapists to develop a novel educational programme that focuses on both body image/appearance matters and fitness components (such as healthy lifestyle behaviours). A creative and interactive body-educational programme could greatly enhance normative transformation and empower service users to attain individual wellbeing and functional goals.

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