KMAN PUBLISHING INSTITUTE
Journal Website

Article history:
Received 07 April 2024
Revised 11 May 2024
Accepted 22 May 2024
Published online 01 July 2024

Applied Family Therapy Journal

Volume 5, Issue 3, pp 33-45

E-ISSN: 3041-8798

Comparing the Efficacy of a Specialized Package for Women with Body Dysmorphic Disorder and Schema Therapy on Perfectionism and Maladaptive Schemas in Women with Body Dysmorphic Disorder

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A r t i c l e I n f o

Article type:
Original Research

How to cite this article:
Rasouli Jazi, E., Torkan, H., & Yousefi, Z. (2024). Comparing the Efficacy of a Specialized Package for Women with Body Dysmorphic Disorder and Schema Therapy on Perfectionism and Maladaptive Schemas in Women with Body Dysmorphic Disorder. *Applied Family Therapy Journal, 5*(3), 33-45.
http://dx.doi.org/10.61838/kman.aftj.5.3.4

A B S T R A C T

Objective: This study aimed to compare the efficacy of a specialized package for women with body dysmorphic disorder and schema therapy on perfectionism and maladaptive schemas in women afflicted with body dysmorphic disorder.

Methods: The research employed a quasi-experimental design with pre-test, post-test, and follow-up phases involving two experimental groups and one control group, conducted among women with body dysmorphic disorder visiting psychological centers in Isfahan in the first half of 2022. For this purpose, 45 women were selected by convenience and randomly assigned to two experimental groups and one control group. The first experimental group received the specialized package for women with body dysmorphic disorder (researcher-designed), and the second experimental group underwent schema therapy according to the protocol of Young and colleagues (2023) over ten 90-minute sessions, while the control group received no intervention. Participants completed the Perfectionism Questionnaire (1995) and Young's Schema Questionnaire (1998) at pre-test, post-test, and follow-up stages. Data were analyzed using repeated measures ANOVA with SPSS software.

Findings: There were significant differences between the groups receiving the specialized package and schema therapy and the control group in terms of negative perfectionism and rejection schemas ($p < .01$). Additionally, there were differences between the group receiving the specialized package and the schema therapy group in terms of positive perfectionism, autonomy schemas, impaired performance, and impaired limits ($p < .01$), such that the specialized package had an effect on positive perfectionism, and schema therapy had an impact on autonomy schemas, impaired performance, and impaired limits ($p < .05$). Moreover, neither treatment had an effect on schemas of other-directedness and hypervigilance.

Conclusion: Specialists are recommended to utilize both interventions to improve women with body dysmorphic disorder in terms of reducing negative perfectionism and rejection schemas, to use the specialized package for enhancing positive perfectionism, and to employ schema therapy for reducing autonomy schemas and impaired functioning and limits.

Keywords: *Perfectionism, Maladaptive schemas, Schema therapy, Specialized package for women with body dysmorphic disorder.*

1. Introduction

One of the fundamental needs of humans in modern times is to be perceived as beautiful (Thornton et al., 2013), and modern society has set high competitive standards to satisfy this need (Rongmuang et al., 2011). Attention to appearance and being fit is present in everyone at any stage of life, but sometimes this attention becomes excessive and overly sensitive, manifesting as body dysmorphic disorder. This disorder is characterized by a preoccupation with an imagined defect in appearance, causing significant distress and impairment in important areas of functioning (Ganji & Hamze, 2013). Individuals with body dysmorphic disorder, despite having a normal or nearly normal appearance, persistently feel ugly in some aspects of their appearance, often leading them to seek various cosmetic surgeries (Phillips, 2015). The International Society of Aesthetic Plastic Surgery reported that the global number of cosmetic procedures increased by at least 9.10 million from 2010 to 2019 (Wu et al., 2022). However, note that the figures from the International Society of Aesthetic Plastic Surgery do not include data from all countries, so the actual numbers are likely much higher. In Iran, the pace of cosmetic surgery accelerated after the 1980s, primarily among women, although in recent years, men have also increasingly sought cosmetic surgery, with Isfahan being one of the top five cities in Iran for such procedures (Yari et al., 2020). Therefore, considering that body dysmorphic disorder is one of the main reasons for the increase in these surgeries, addressing this disorder is crucial in reducing unnecessary cosmetic surgeries.

Research has shown that perfectionism plays a role in the onset of this disorder (Quinn, 2018). Perfectionism is a personality trait defined as striving for flawlessness (Di Fabio et al., 2020), and numerous studies have confirmed its positive and negative effects on thoughts, emotions, and behaviors (Kwon et al., 2022; Ruiz et al., 2023). Individuals with high perfectionism set higher evaluation standards for themselves. They may have an unrealistic ideal of thinness, increasing the risk of body dissatisfaction and susceptibility to body dysmorphic disorder. Perfectionists are often dissatisfied with their performance and believe they cannot achieve what they want (Woodfin et al., 2021). The importance of perfectionism in body dysmorphic disorder is due to the fact that the high standards set by the perfectionist individual cause even a minor physical problem to create excessive and intrusive concerns (Ruiz et al., 2023). Thus, perfectionism can be considered one of the most important constructs related to this disorder (Al-Naggar et al., 2013).

Alongside perfectionism, early maladaptive schemas that are formed in individuals, which direct the processing of external information in an ineffective manner, also play a role in the onset of body dysmorphic disorder (Khoshini et al., 2022). Eighteen maladaptive schemas are introduced within five schema domains: disconnection and rejection; impaired autonomy and performance; impaired limits; other-directedness; and overvigilance and inhibition. Schemas arise due to unmet basic emotional needs during childhood. Patients early in life create maladaptive responses and coping styles to adapt to schemas, to avoid experiencing intense and overwhelming emotions. This usually leads to the perpetuation of schemas (Young, 2018). An individual with biases in their schemas is likely to experience different processes compared to someone without such biases (Calvete et al., 2013). The extent to which individuals invest in their appearance largely depends on their core schemas. Investment in body image is comprised of the schemas that an individual constructs about their physical appearance and based on which they process information related to their body (Khoshini et al., 2022). Research literature indicates that schemas of defect and shame create a predisposition to body dysmorphic disorder and chronic concerns about bodily deformity (Bailey et al., 2016). Given that body dysmorphic disorder is now a common disorder in the country (Ehsani et al., 2013), and the inclination towards cosmetic surgery among these individuals is very high, and Iran is one of the high-ranking countries in performing cosmetic surgeries in the world (Pondehnezhadan & Fard, 2018), considering exacerbating constructs (early maladaptive schemas) and their adverse consequences, it appears necessary to implement interventions aimed at

improving self-image, achieving a desired body image, and reducing the tendency for cosmetic surgeries.

Researchers, in order to assist women struggling with body dysmorphic disorder, have suggested interventions such as narrative therapy, cognitive-behavioral therapy (Pellizzer et al., 2018), mindfulness techniques (Aghili & Hejazi, 2022), body image modification training, and schema therapy (Dehbaneh & Bahrainian, 2018; Pondehnezhadan & Fard, 2018). Among these, schema therapy has received considerable attention, with empirical evidence supporting its effectiveness. Schema therapy, developed by Young to treat patients who do not respond adequately to conventional psychotherapeutic methods such as cognitive-behavioral therapy, combines the best and most effective elements of previous psychotherapeutic methods, including cognitive-behavioral therapy, psychoanalysis, attachment theory, and emotion-focused psychotherapy. In this therapeutic approach, the goal is to identify negative schemas, behaviors, beliefs, coping methods, and unhealthy emotions arising from them, and then to strive to replace them with healthy thought patterns, emotions, and behaviors (Young, 2018). Research findings indicate the efficacy of schema therapy in improving early maladaptive schemas (Aghili & Hejazi, 2022; Mahmoudiyandastnaee et al., 2019; Simpson et al., 2010), perfectionism (Montazeri et al., 2013), and body dysmorphic disorder (Dehbaneh & Bahrainian, 2018; Pondehnezhadan & Fard, 2018).

Despite research showing that each of the approaches of narrative therapy, cognitive-behavioral therapy, mindfulness training, body image modification training, and schema therapy can reduce symptoms of body dysmorphic disorder and some of its consequences, the lack of allocation of any of these as a specialized treatment for women struggling with body dysmorphic disorder has prevented widespread use of the available packages for these patients. Additionally, the poor therapeutic response of those affected to cosmetic surgeries and correction of perceived defects, and the high prevalence of cosmetic surgeries, demonstrate the inadequacy of existing treatments to improve the symptoms of this disorder. Therefore, the need to develop an effective intervention to address the problems of women with body dysmorphic disorder, considering their specific characteristics, becomes evident. Based on this, the researcher initially identified the specific problems of women struggling with body dysmorphic disorder through interviews and presenting cognitive, emotional, and behavioral techniques based on identified problems, and developed a specialized package for women with body dysmorphic disorder. This package is based on two domains: individual-psychological problems and interpersonal problems. The individual-psychological domain includes psychological problems, dissatisfaction with oneself, cognitive distortions, ineffective coping, and maladaptive schemas, while the interpersonal domain includes a high level of interpersonal sensitivity, poor communication skills, and social anxiety. Thus, the current study was conducted with the aim of comparing the efficacy of the specialized package for women with body dysmorphic disorder with schema therapy, as one of the most effective treatments available in this area, on perfectionism and early maladaptive schemas in women with body dysmorphic disorder.

2. Methods

2.1. Study design and Participant

The present study, considering its aim, was applied in nature and employed a quasi-experimental design with pre-test, post-test, and a 3-month follow-up. The population of the study comprised all women diagnosed with body dysmorphic disorder attending psychological centers in Isfahan during the first half of 2022, who had a medical file for the disorder at these centers. From this population, 45 patients were selected based on inclusion and exclusion criteria, and randomly divided using a lottery method into three groups of 15 each. The recommendation of having at least 15 participants per group in quasi-experimental studies informed this decision. Inclusion criteria included: 1. Age range of 25-45 years, 2. Minimum literacy level of reading and writing, 3. No acute or chronic psychiatric disorders within the past week (as verified by a psychiatrist or clinical psychologist), 4. Not undergoing concurrent psychological treatments, 5. No psychiatric medication usage within the past three months (inquired from the patients), and 6. No physical illnesses diagnosed by a physician that could impede participation in the study. Exclusion criteria were: 1. Unwillingness to continue with the study, 2. Failure to complete tasks assigned in the sessions, and 3. Absence from more than two sessions during the treatment. The research adhered to ethical principles including confidentiality, use of data solely for research objectives, full freedom and choice for participants to withdraw from the study, and accurate information provision upon participant request, alongside training for the control group after the experimental groups concluded their treatment.

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E-ISSN: 3041-8798

2.2. Measures

2.2.1. Perfectionism

Developed by Terry-Short et al. (1995), this scale is designed to measure levels of positive and negative perfectionism. It consists of a 40-item test with 20 questions each for positive (questions 2, 3, 9, 6, 14, 16, 18, 19, 21, 23, 24, 25, 28, 29, 30, 32, 34, 35, 37, 40) and negative perfectionism (questions 1, 4, 5, 7, 8, 10, 11, 12, 13, 15, 17, 20, 22, 26, 27, 31, 33, 36, 38, 39). It uses a five-point Likert scale (from 1=completely disagree to 5=completely agree), with score ranges for each subscale between 20 to 100, where a higher score indicates higher levels of perfectionism. Terry-Short et al. (1995) demonstrated the scale's construct validity through factor analysis confirming two factors: positive and negative perfectionism (Terry-Short et al., 1995). In Iran, Vatan Khah and Samani (2015) reported the reliability of this questionnaire for positive and negative perfectionism using Cronbach's alpha as .90 and .89, respectively. Its validity was also established by correlating subscale scores with scales from Goldberg's General Health Questionnaire and Coopersmith's Self-Esteem Inventory, and by principal component analysis (Hasheminejad et al., 2024). The Cronbach's alpha in this study for the positive perfectionism subscale was .82 and for the negative subscale was .81.

2.2.2. Early Maladaptive Schemas

This self-report questionnaire, designed by Young (1998), was used to measure early maladaptive schemas. It includes 75 items rated on a 6-point Likert scale (from 1=completely false to 6=completely true) covering 15 subscales including emotional deprivation (questions 1 to 5), abandonment (questions 6 to 10), mistrust/abuse (questions 11 to 15), social isolation (questions 16 to 20), defectiveness/shame (questions 21 to 25), failure (questions 26 to 30), dependence/incompetence (questions 31 to 35), vulnerability to harm (questions 36 to 40), entrapment (questions 41 to 45), subjugation (questions 46 to 50), self-sacrifice (questions 51 to 55), emotional inhibition (questions 56 to 60), unrelenting standards (questions 61 to 65), entitlement (questions 66 to 70), and insufficient self-control/discipline (questions 71 to 75). Each set of five items relates to a schema, and an average score is calculated for each set. The higher scores indicate a predominant schema in that individual. Cronbach's alpha for the entire test was reported as .96, and all subscales were above .85 (Young, 2018). This questionnaire was translated and validated in Iran by Ahi et al. (2005), reporting internal consistency using Cronbach's alpha for females as .97 and for males as .98. In a study by Yousefnejad Shirvani and Pivasta-Negr (2010), Cronbach's alpha for emotional deprivation was .80, abandonment was .87, mistrust/abuse was .77, social isolation was .70, defectiveness/shame was .83, failure was .84, dependence/incompetence was .80, vulnerability to harm was .73, entrapment was .71, subjugation was .70, self-sacrifice was .71, emotional inhibition was .79, unrelenting standards were .73, entitlement was .66, and insufficient self-control/discipline was .71, with an overall questionnaire score of .90 (Yoosofnejad Shirvani & Peyvastegar, 2011). The Cronbach's alpha obtained in this study for the entire questionnaire was .87.

2.3. Intervention

2.3.1. Schema Therapy

In this study, the first experimental group underwent 10 weekly 90-minute sessions of schema therapy (Young, 2018). This treatment involves strategies for identifying one's schemas and their developmental roots from childhood and adolescence. Participants were taught to recognize their maladaptive coping styles (surrender, avoidance, and overcompensation) and see how their coping responses perpetuate their schemas. Session summaries for this therapy were as follows:

Session 1: Introduction and Program Overview

The first session is focused on establishing rapport and empathy. Participants are introduced to the concept of early maladaptive schemas, their formation, and how they function, including typical schema operations and associated maladaptive coping responses. Questionnaires are administered to assess participants' initial status. No specific homework is assigned in this session.

Session 2: Explanation of Schema Therapy

This session evaluates the initial state of the group and introduces the conceptual framework of schema therapy. Participants learn about the theoretical underpinnings of schemas, including their developmental roots and domains. The task for participants is to identify their own maladaptive schemas.

Session 3: Education on Recognizing Early Maladaptive Schemas

Participants receive detailed instructions on identifying and understanding their early maladaptive schemas. Two cognitive techniques, schema validity testing and redefining

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E-ISSN: 3041-8798

schema evidence, are taught and practiced. Homework involves assessing the validity of applied schemas.

Session 4: Introduction to Schema Domains

This session focuses on familiarizing participants with different domains of early maladaptive schemas and how to identify them. The homework involves mapping identified schemas into their respective domains.

Session 5: Education on Cognitive Harmony and Maladaptive Coping Responses

Participants explore their maladaptive coping responses through personal experiences. They are tasked with writing a schema log, documenting instances of schema activation in their daily lives, to identify everyday schemas.

Session 6: Schema Therapy Assessment and Education Phase

This session involves identifying individual maladaptive schemas, providing an opportunity to recognize feelings toward parents, and facilitating the expression of blocked emotions. Homework includes recording distress from childhood experiences.

Session 7: Utilizing Cognitive Strategies in Schema Therapy

Participants work on modifying maladaptive schemas and coping styles, finding new ways to relate, and moving away from avoidance, surrender, and overcompensation coping styles. The task is to record new coping strategies.

Session 8: Utilizing Experiential Strategies in Schema Therapy

This session aims to change and improve the emotional level of maladaptive schemas through imaginative dialogues, identifying unmet emotional needs, and combating schemas on an emotional level. Participants identify these unmet needs as homework.

Session 9: Teaching Pattern-Breaking Methods

Participants learn to replace maladaptive behaviors with healthy, effective behaviors through mental imaging of problematic situations and role-playing. Homework involves practicing these new behaviors in everyday life.

Session 10: Summary and Evaluation

The final session reviews the effectiveness of schema therapy, overcoming behavioral change barriers, and concludes the treatment. No specific homework is assigned, but ongoing application of learned techniques is encouraged.

2.3.2. Specialized Package for Women with Body Dysmorphic Disorder

The second experimental group underwent ten weekly 90-minute sessions of a specialized package designed for women with body dysmorphic disorder. It is worth noting that this therapeutic package was developed for the first time in this study, tailored to the problems and needs of women involved with body dysmorphic disorder. Analytical methods were used to identify the components of this program. For this purpose, to discover the needs and issues required to define the network of basic themes for the specialized treatment package for women with body dysmorphic disorder, interviews were conducted with 20 women diagnosed with the disorder. In the second phase, the needs and issues for women with body dysmorphic disorder were extracted by defining semantic units - open codes - subsidiary and main categories, and the main theme. The validity of the themes concerning the needs and issues of women with body dysmorphic disorder was evaluated and confirmed using the holistic method (PAO = 0.818). In the fourth stage, after identifying the network of themes of needs and issues for women with body dysmorphic disorder, scientific resources were used to determine and place educational techniques and strategies in the specialized treatment package for women with body dysmorphic disorder. After establishing the therapeutic techniques in the fourth stage, based on the frequency and extent of each of the main categories of needs and issues of women with body dysmorphic disorder, and the appropriateness of the necessary therapeutic techniques for each of the main categories, the specialized treatment package for women with body dysmorphic disorder was preliminarily prepared. In the stage of determining the execution validity, after calculating the agreement coefficient (internal agreement) using Cohen's kappa coefficient and re-evaluating the package by experts, the specialized treatment package for women with body dysmorphic disorder was ready for implementation. The selection of expert samples was purposeful, and their number was based on the minimum number required for evaluating content validity (59). The criteria for participation in the study included a willingness to participate in the research project, expertise in designing and evaluating psychological interventions, a minimum educational level of a doctoral degree, and at least the academic rank of assistant professor. The average agreement coefficient assessed was 0.942, which is higher than the standard value for this index (0.79); therefore, the concepts in two areas—individual-psychological problems (including psychological issues, self-dissatisfaction, cognitive distortions, ineffective coping, and maladaptive schemas) and interpersonal problems (including high interpersonal sensitivity, poor communication skills, social anxiety, and

couple interpersonal issues)—were introduced and their validity confirmed. After achieving the network of themes, 15 sources were used to determine and place educational techniques and strategies. The agreement coefficient of ten evaluators on the content, timing, structure, and sufficiency of the developed package ranged from 0.92 to 0.98.

Session 1: Introduction, Understanding BDD, and Assessment

Welcome the participants, introduce the therapist, review the structure of the sessions, go over the general rules of group participation, provide an overview of body dysmorphic disorder, and conduct a self-assessment of BDD symptoms. Homework involves identifying personal BDD symptoms and consequent behaviors over the week.

Session 2: Identifying and Addressing Ineffective Coping Damages, Teaching Effective Coping Methods

Review homework, discuss the damages of ineffective coping with symptoms, review participants' coping methods, and teach problem-solving techniques. Homework is to identify a problem in life and apply a solution, completing a personal interview form.

Session 3: Self-Discovery

Review homework, describe self and its types, explain the differences between thoughts, emotions, and behaviors, identify personal needs, thoughts, and emotions. The task is to be aware of triggering situations and identify personal thoughts and emotions and those of others.

Session 4: Recognizing Cognitive Distortions and Challenging Them

Review homework, introduce ten dysfunctional cognitive beliefs, identify dysfunctional metacognitive beliefs, replace them with positive thoughts, and challenge ineffective cognitive beliefs. Homework is to report the effect of changing dysfunctional metacognitive beliefs in daily life.

Session 5: Testing Schemas, Achieving Self-Coherence

Review homework, define dysfunctional schemas, evaluate one's position in the social context, identify schemas, assess personal beliefs, challenge problematic standards, and teach integration of selves. Homework involves reporting outcomes from practicing revised beliefs and standards.

Session 6: Mindfulness Training

Review homework, teach focused meditation on awareness, introduce self-guidance and the importance of living in the present, and instruct on body scanning and soothing breathing techniques. Practice body scanning and breathing exercises.

Session 7: Self and Others Forgiveness

Review home assignments, practice seated mindful meditation, mindfulness towards the five senses, and teach mindfulness of forgiveness towards oneself and others. Practice forgiveness mindfulness as homework.

Session 8: Teaching Acceptance

Review home assignments, discuss ways of dealing with oneself and evaluate it among participants, guide clients to view themselves from another perspective and start changing, explain the concept of acceptance, and teach acceptance of unpleasant thoughts and emotions. Homework involves identifying self-blaming mindsets during the week, recognizing unpleasant thoughts and emotions, and assessing the advantages of acceptance.

Session 9: Problem-Solving, Identifying Values and Life Paths

Teach compassionate attention to problems, compassionate mindfulness with problems, write daily gratitude, determine and choose important life paths, and teach steps towards achieving values. Complete a values form as homework.

Session 10: Enhancing Social Skills, Adjusting Interactive Cycle with Spouse

Review homework, teach emotional control, teach postponement of worry/rumination, define self-expression, teach self-expression skills, review negative interactive cycle, adjust the negative interactive cycle, conclude, appreciate and thank. Post-test is conducted, and no specific homework is assigned.

2.4. Data Analysis

After data collection, at the descriptive level, means and standard deviations were used, and at the inferential level, after checking the normality of data distribution through the Shapiro test, equality of error variances through the Levene's test, and sphericity through Mauchly's test, repeated measures ANOVA and subsequently the Bonferroni post hoc test were utilized to examine the research hypotheses. Data were analyzed using SPSS software version 24. The acceptable significance level used in the current research was set at a minimum of 0.001 and a maximum of 0.05.

3. Findings and Results

According to demographic indices and based on the Chi-square test of significance, the members of the groups were homogeneously selected. Table 1 presents descriptive indices for the variables of perfectionism and maladaptive

schemas, differentiated by research group and across three stages of the study.

Table 1

Means and Standard Deviations of Perfectionism and Maladaptive Schemas Across Three Research Groups and Three Time Points

Variable	Stage	Special Package for Women with BDD Mean (SD)	Schema Therapy Group Mean (SD)	Control Group Mean (SD)
Positive Perfectionism	Pre-test	40.000 (3.546)	40.133 (3.420)	40.200 (3.364)
	Post-test	44.933 (4.148)	44.067 (3.515)	40.133 (2.924)
	3 months	44.800 (3.570)	43.733 (3.348)	40.033 (2.554)
Negative Perfectionism	Pre-test	56.400 (4.548)	56.933 (3.555)	56.133 (4.068)
	Post-test	49.067 (6.341)	49.000 (3.185)	56.000 (0.606)
	3 months	48.867 (5.705)	48.800 (3.509)	56.000 (3.402)
Rejection	Pre-test	80.533 (3.907)	83.800 (3.986)	82.933 (5.431)
	Post-test	76.000 (3.402)	76.467 (3.335)	82.867 (4.779)
	3 months	75.533 (3.340)	74.933 (2.840)	82.800 (4.161)
Impaired Autonomy and Performance	Pre-test	50.933 (2.086)	48.600 (2.613)	49.800 (2.678)
	Post-test	46.867 (3.091)	44.067 (3.654)	49.533 (2.356)
	3 months	46.467 (2.475)	43.667 (3.244)	49.333 (2.193)
Impaired Limits	Pre-test	32.800 (2.513)	32.467 (2.503)	33.400 (3.135)
	Post-test	31.533 (3.067)	29.467 (2.446)	33.267 (3.144)
	3 months	31.400 (2.922)	29.200 (2.336)	33.267 (2.685)
Other-Directedness	Pre-test	33.867 (2.100)	33.333 (1.839)	33.333 (2.225)
	Post-test	31.333 (2.664)	31.200 (1.781)	33.133 (2.386)
	3 months	31.133 (2.588)	31.000 (1.852)	33.200 (2.007)
Hypervigilance	Pre-test	50.600 (2.473)	49.933 (2.631)	48.267 (2.815)
	Post-test	47.600 (3.042)	44.400 (5.517)	48.133 (2.326)
	3 months	47.467 (2.326)	43.800 (4.632)	48.067 (2.251)

Based on the results in Table 1, in measures of perfectionism and maladaptive schemas, both the specialized package for women with body dysmorphic disorder and the schema therapy group showed changes at the post-test and follow-up stages compared to the control group.

Before performing the repeated measures ANOVA, pre-assumptions of the analysis were tested: the Shapiro-Wilk test confirmed that data distributions were normal at all three stages ($p < .05$); Levene's test indicated that the error variance was equal among the three groups ($p < .05$); the Box's M test confirmed the equality of covariance matrices ($p < .05$), and Mauchly's test of sphericity confirmed that this assumption was also met ($p < .05$).

Table 2

Results of Repeated Measures Analysis of Variance (ANOVA) for Research Variables

Research Variables	Source of Variation	F	p	Effect Size	Statistical Power
Positive Perfectionism					
	Within Group - Time	51.083	.000	.549	1.000
	Time*Group	13.197	.000	.386	.999
	Between Group	3.864	.029	.495	1.000
Negative Perfectionism					
	Within Group - Time	75.414	.000	.642	1.000
	Time*Group	17.983	.000	.461	1.000

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	Between Group	6.736	.003	.243	.897
Maladaptive Schemas: Rejection					
	Within Group - Time	46.431	.000	.525	1.000
	Time*Group	13.478	.000	.391	1.000
	Between Group	10.892	.000	.342	.986
Impaired Autonomy and Performance					
	Within Group - Time	36.095	.000	.462	1.000
	Time*Group	7.048	.001	.251	.962
	Between Group	13.394	.000	.389	.996
Impaired Limits					
	Within Group - Time	20.613	.000	.329	.999
	Time*Group	6.664	.001	.241	.961
	Between Group	5.133	.010	.198	.796
Other-Directedness					
	Within Group - Time	27.123	.000	.392	1.000
	Time*Group	5.667	.003	.213	.895
	Between Group	2.153	.129	.093	.416
Hypervigilance					
	Within Group - Time	33.599	.000	.444	1.000
	Time*Group	9.865	.000	.320	.996
	Between Group	3.879	.028	.156	.670

Table 2 summarizes the results of repeated measures ANOVA for within-group factors, the interaction of within-group factors with groups, and between-group factors for research variables. The results indicate significant differences in positive perfectionism, negative perfectionism, maladaptive schemas of rejection, impaired autonomy and performance, impaired limits, other-directedness, and hypervigilance between pre-test, post-test, and follow-up ($p < .01$). The interaction of these variables over time and across groups is also significant, indicating significant differences between the pre-test, post-test, and follow-up in both experimental groups and the control group. The between-group results also show significant differences between the two experimental groups and the control group in positive perfectionism, negative perfectionism, schemas of rejection, impaired autonomy and performance, and impaired limits, with effect sizes indicating that 49.5% of the variance in positive perfectionism scores, 24.3% in negative perfectionism scores, 34.2% in rejection schema scores, 38.9% in impaired autonomy and performance scores, and 19.8% in impaired limits scores are due to the application of the independent variables (special package for women with body dysmorphic disorder and schema therapy) and are confirmed with a power greater than 90% ($p < .01$).

Table 3

Bonferroni Test Results for Pairwise Comparisons Between Research Groups on Research Variables

Variable	Reference Group	Comparison Group	Mean Difference	Standard Error	Significance
Positive Perfectionism	Pre-test	Post-test	-2.933	.377	.000
	Pre-test	Follow-up	-2.844	.392	.000
	Post-test	Follow-up	.089	.177	1.000
	Special Package for Women with BDD	Schema Therapy	.600	1.151	1.000
	Special Package for Women with BDD	Control Group	-3.022	1.151	.036
	Schema Therapy	Control Group	-2.422	1.151	.124
Negative Perfectionism	Pre-test	Post-test	-5.133	.602	.000
	Pre-test	Follow-up	-5.267	.553	.000
	Post-test	Follow-up	.133	.224	1.000
	Special Package for Women with BDD	Schema Therapy	-.133	1.427	1.000
	Special Package for Women with BDD	Control Group	-4.600	1.427	.007
	Schema Therapy	Control Group	-4.467	1.427	.010

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Rejection	Pre-test	Post-test	-3.978	.561	.000
	Pre-test	Follow-up	-4.667	.641	.000
	Post-test	Follow-up	-.689	.307	.091
	Special Package for Women with BDD	Schema Therapy	-1.044	1.254	1.000
	Special Package for Women with BDD	Control Group	-5.511	1.254	.000
	Schema Therapy	Control Group	-4.467	1.254	.003
Impaired Autonomy and Performance	Pre-test	Post-test	-2.956	.497	.000
	Pre-test	Follow-up	-3.289	.491	.000
	Post-test	Follow-up	-.333	.236	.498
	Special Package for Women with BDD	Schema Therapy	-2.644	.805	.006
	Special Package for Women with BDD	Control Group	1.467	.805	.227
	Schema Therapy	Control Group	-4.111	.805	.000
Impaired Limits	Pre-test	Post-test	-1.467	.307	.000
	Pre-test	Follow-up	-1.600	.326	.000
	Post-test	Follow-up	-.133	.170	1.000
	Special Package for Women with BDD	Schema Therapy	1.533	.916	.304
	Special Package for Women with BDD	Control Group	-1.400	.916	.401
	Schema Therapy	Control Group	-2.933	.916	.008

Table 3 presents the results of the Bonferroni post hoc test for pairwise comparisons between the two experimental groups and the control group for the research variables. As can be seen in this table, there are significant differences between the special package group for women with body dysmorphic disorder and the schema therapy group with the control group in variables of negative perfectionism and schemas of rejection ($p < .01$), but there is no significant difference between the special package group and the schema therapy group. Also, in the variable of positive perfectionism, schemas of impaired autonomy and performance, and impaired limits, there is a significant difference between the special package group and the schema therapy group ($p < .01$), such that the special treatment package for women with body dysmorphic disorder has had an effect on positive perfectionism, and schema therapy has had an effect on schemas of impaired autonomy and performance, and impaired limits ($p < .05$). Additionally, none of the treatments had an effect on schemas of other-directedness and hypervigilance.

4. Discussion and Conclusion

The purpose of the current research was to compare the efficacy of a specialized treatment package for women with body dysmorphic disorder (BDD) and schema therapy on perfectionism and early maladaptive schemas in women suffering from BDD. The results from the first part of the study indicated differences in the effectiveness of the specialized package and schema therapy on perfectionism in women with BDD. Specifically, only the specialized treatment package for women with BDD had a significant impact on positive perfectionism. Additionally, the results showed no difference between the effects of the specialized package and schema therapy on negative perfectionism, as both treatments were able to durably reduce negative perfectionism in women with BDD.

Given that the specialized treatment package for women with BDD was designed and implemented for the first time in this research, there are no direct previous studies to compare these particular findings. However, these results can be indirectly aligned with studies confirming the positive effectiveness of schema therapy on the psychological status of individuals with BDD (Aghili & Hejazi, 2022; Farhadi et al., 2021; Kindynis et al., 2013; Mahmoudiyandastnaee et al., 2019; Montazeri et al., 2013; Morvaridi et al., 2019; Peeters et al., 2022; Pondehnezhadan & Fard, 2018; Simpson et al., 2010).

Explaining the enduring effect of the specialized treatment package for women with BDD on both positive and negative perfectionism can be based on the theoretical premise that high perfectionism is a risk factor for the onset and exacerbation of BDD. Perfectionism, by setting high performance standards and increasing unnecessary critical evaluations, can cause or intensify symptoms of BDD. These standards and evaluations stem from distorted beliefs and thoughts and a lack of awareness of one's needs, emotions,

and thoughts. Thus, offering a tangible definition of self in the specialized treatment package helped participants realize the most authentic aspect of their personal experiences. As recommended, the firmly held perceptions, beliefs, and ideas that construct an individual's self-information and affect their relationships with others were examined (Adler, 2021). This approach facilitated self-recognition, differentiation of the real self from the ideal self, and the examination of 'ought' self, allowing for a conscious approach to oneself and managing to curb the maneuver of inefficient thoughts and unhealthy emotions derived from them (Kindynis et al., 2013; Mahmoudiyandastnaee et al., 2019; Montazeri et al., 2013). This outcome led to a balance in setting self-evaluation standards and adjusting negative self-perceptions. By focusing on amending inefficient thoughts based on the self, the treatment balanced the three selves and changed the standards of self-evaluation through techniques for describing and scrutinizing the self, identifying unmet needs, and replacing positive thoughts with inefficient cognitive thoughts, thereby increasing positive perfectionism and reducing negative perfectionism (Farhadi et al., 2021). In this regard, Eddington et al. (2017) also believed that evaluating self-beliefs and problematic self-standards and challenging them are strategies to reduce perfectionism and its negative consequences (Eddington et al., 2017).

Regarding the mechanism of the enduring effect of schema therapy on negative perfectionism in women with BDD based on theoretical models, the underdevelopment of the adult state prevents coping with dysfunctional states, hindering the activation of better functional states. Throughout the sessions, it became clear that most of these patients have active schemas in the areas of defect and shame, undeveloped/self-trapped, social isolation/alienation, and dependence/incompetence. During this treatment, these schemas were emotionally activated, and clients were helped to identify the origins of these schemas stemming from adverse childhood experiences and establish an emotional connection between current problems and these experiences. Initially, the therapist and clients conceptualized the problems within the schema model and agreed upon them. Subsequently, the therapist endeavored to change their belief about the correctness of their schemas using cognitive techniques, learning to argue against their schemas and question their validity on a logical level. Young et al. (2023) suggested that presenting evidence that refutes or confirms clients' schemas could be successful in moderating them. Thus, this approach aimed to adjust clients' schemas, especially in the areas of defect and shame, undeveloped/self-trapped, social isolation/alienation, and dependence/incompetence. After cognitive changes in clients' dysfunctional schemas and their adjustment, the therapist used experiential techniques such as mental imagery and dialogue to enable individuals to confront their stress sources through mental imagery, support their vulnerable child, and provide peace by creating positive perspectives and emotions. Also, by practicing role-playing in stressful situations, clients were helped to break the cycle of perpetuating schemas and using inefficient mindsets on an emotional level (Young, 2018), leading to a reduction in worries and stresses caused by negative perfectionism. The ineffectiveness of schema therapy on the positive aspect of perfectionism in women with BDD is significant because it confirms the distinction between the positive and negative aspects of perfectionism and indicates a greater focus of schema therapy on the negative aspect of this construct. This treatment focuses on dysfunctional schemas that cause negative emotions and is unable to foster positive aspects. The difference in the effectiveness of the two treatments (the specialized package for women with BDD and schema therapy) on the positive perfectionism of women with BDD and the ineffectiveness of schema therapy on the positive aspect of perfectionism shows that focusing solely on repairing maladaptive schemas in improving the positive perfectionism of women with BDD was not effective, highlighting the need to design treatment packages with an integrated approach focused on the problems of women with BDD. The results from the second part of the research showed significant differences in the effectiveness of the specialized package for women with BDD and schema therapy on rejection, other-directedness, and hypervigilance in women with BDD, in that both treatment packages were able to significantly affect rejection in this group, while neither of the treatments could significantly reduce other-directedness and hypervigilance in women with BDD. Additionally, the results showed that only schema therapy had a significant effect on impaired autonomy and performance and impaired limits in women with BDD. Since the specialized treatment package for women with BDD was designed and used for the first time in this research, there is no research available to directly compare the results of this part of the study with previous studies. However, this part of the results can be indirectly aligned with studies that have confirmed the positive effectiveness of schema therapy on the psychological status of individuals with BDD (Aghili & Hejazi, 2022; Farhadi et al., 2021; Kindynis et al., 2013;

Mahmoudiyandastnaee et al., 2019; Montazeri et al., 2013; Morvaridi et al., 2019; Peeters et al., 2022; Pondehnezhadan & Fard, 2018; Simpson et al., 2010). This part of the findings also indirectly correlates with a series of studies that have confirmed the positive effectiveness of schema therapy on maladaptive schemas; Babazadeh (2019) reported that schema therapy affects maladaptive primary variables in the areas of rejection and abandonment, self-perception, limitation, and hypervigilance. Mahmoudiyandastnaee et al. (2019) also showed that schema therapy is effective in moderating maladaptive primary schemas in young patients with neurological disorders (Mahmoudiyandastnaee et al., 2019). Montazeri et al. (2013) reported that schema therapy has an effect on improving maladaptive primary schemas in a case with obsessive-compulsive personality disorder (Montazeri et al., 2013).

Regarding the mechanism by which the specialized package for women with body dysmorphic disorder (BDD) affects the schema of rejection in affected women, it can be noted that during the sessions of this therapeutic package (session five), maladaptive schemas were identified and challenged. This is because it was revealed during interviews that women with BDD possess maladaptive schemas, particularly in areas of rejection. Given the limited time (30 minutes) dedicated to this topic during the sessions, the main focus was on this schema, which accounts for the significant effectiveness of this treatment on the rejection schema and its non-significant effect on other areas. Conversely, schema therapy, by emphasizing changes in coping styles and correcting maladaptive schemas formed during childhood and explaining how they affect processing and confronting life events, has been developed with cognitive and behavioral techniques, and also emphasizes replacing older, dysfunctional coping styles and strategies with newer, more adaptive cognitive and behavioral patterns. It can be said that schema therapy, by targeting the developmental roots of BDD, has led to the restructuring of maladaptive schemas in areas of rejection, autonomy, performance, and impaired limits. According to Kindynis et al. (2013), schema therapy helps clients to distance themselves from their schemas, not to see the schema as an absolute truth about themselves, but rather as an intrusive entity. Schema therapy assists clients in questioning their schemas, creating a healthy voice in their minds, thus empowering their healthy mindset. This therapeutic approach helps clients to evaluate the correctness of their schemas. Through this approach, clients view the schema as an external truth that they can fight against using objective and experiential evidence (Kindynis et al., 2013). Clients were also helped to identify traumatic experiences from their childhood and understand that instability in relationships with significant others in their lives stems from these experiences and the need to gather evidence of support or lack thereof from their surroundings, and to align their thoughts with the realities they face (abandonment/instability schema). Clients learned through dialogue techniques and mental imagery to identify harms (mistrust/mistreatment schema), unmet needs, and deprivations experienced from significant others (emotional deprivation schema), shortcomings, and the feelings of defect stemming from them (defect and shame schema), and the feeling of being different or not fitting in with society (social isolation/alienation) and to challenge these by replacing them with appropriate thoughts, thereby correcting the maladaptive schemas in the rejection area. Previously, Simpson et al. (2010) reported the effectiveness of this process on primary maladaptive schemas, especially the defect and shame schema in patients with eating disorders. The use of cognitive techniques in schema therapy also reduces clients' preoccupations about their relationships with significant others (undeveloped/self-trapped), and grants individuality and social development to this group. Behavioral techniques of this approach taught clients to join groups and interact with others to gather evidence against their inability to accept responsibility (dependency/incompetence schema), ineffective coping with medical, emotional, and environmental catastrophes (vulnerability to harm or illness schema), and through this means to collect evidence supporting their progress and success in various fields and correct the schema of failure within themselves. It is worth mentioning that the impaired limit schema is a form of excessive compensation for other schemas like emotional deprivation and may be observed in some patients with BDD, hence efforts to correct emotional deprivation also play a role in repairing this schema.

5. Suggestions and Limitations

The ineffectiveness of the specialized package for women with BDD on the schemas of being other-directed and hypervigilance can be attributed to the focus on the cut-off/rejection schema and the need for more time in the therapeutic package to focus on other maladaptive schemas. Also, the need for more time in each session and an increase in the number of sessions in schema therapy may lead to the effectiveness of schema therapy on the schemas of being other-directed and hypervigilance in women with BDD.

AFTJ Applied Family Therapy Journal
E-ISSN: 3041-8798

Thus, the lack of treatment time could be a reason for the ineffectiveness of schema therapy on the schemas of being other-directed and hypervigilance in women with BDD.

Since this study was conducted on women with BDD in Isfahan, generalizing the results to other groups is limited. The inability to randomly sample all women with this disorder and the lack of standardization in selecting subjects mean that the results of this study are not generalizable to other regions. In light of the mentioned limitations, it is suggested that researchers conduct similar studies in other cities with different cultures and also on men with this disorder to provide a basis for comparison. Accordingly, specialists are advised to use both schema therapy and the developed therapeutic package to improve women dealing with BDD in terms of reducing negative perfectionism and rejection schemas, to increase positive perfectionism using the specialized package for women with BDD, and to reduce schemas of impaired autonomy, performance, and limits using schema therapy.

Authors' Contributions

All authors have contributed significantly to the research process and the development of the manuscript.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

Acknowledgments

We would like to express our gratitude to all individuals helped us to do the project.

Declaration of Interest

The authors report no conflict of interest.

Funding

This research was carried out independently with personal funding and without the financial support of any governmental or private institution or organization.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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Applied Family Therapy Journal
E-ISSN: 3041-8798