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Effectiveness of an Experimental Therapeutic Approach Based on A Combined Acupuncture and Homotoxicological Drugs Compared with an Allopathic Treatment in Four Cases of Male Bigorexia: Research Paper

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Abstract

Objectives: The aim of this study is to verify the effectiveness of an unconventional therapeutic approach, which includes the use of acupuncture and homotoxicological drugs for the treatment of male Bigorexia versus a classic treatment.

Patients and Methods: Four Italian male patients with a diagnosis of Bigorexia (body dysmorphic disorder and muscle dysmorphia) were randomly divided into two groups: an experimental group and a control group. Four participants, some standardised tests and questionnaires were administered to evaluate the clinical state and personal suffering (MDDI-ITA, QDC, EAI, SCL-90) before starting a conventional treatment with antidepressants and anxiolytics (control group) and a combined treatment of acupuncture and homotoxicological drugs (experimental group) at time 0. The control group continued with the classic treatment for 14 weeks, while the experimental group followed a protocol for the same period of 15 acupuncture sessions, the first three of which were performed in the first week, while the other 12 were performed weekly for a total of 13 weeks. During the treatment period, the two patients in the experimental group also followed a pharmacological protocol of homotoxicological drugs that they continued even after the end of the acupuncture sessions. In the week following the end of the sessions (t14), all the participants were evaluated with the same tests scheduled at time 0 and a satisfaction questionnaire was administered. The data

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obtained were then compared.
Results: We found a general improvement in both groups not only in the reduction of the "core symptoms" of bigorexia, but also in psychophysical and relational well-being. The results in both groups were comparable.
Conclusions: The data suggest that an unconventional treatment such as acupuncture associated with homotoxicology, might represent a valid alternative or a complementary treatment to a classical approach. The level of satisfaction of the experimental group was higher than the control group.

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KEYWORDS: bigorexia, acupuncture, homotoxicology, satisfaction questionnaire.

1. INTRODUCTION

Vigorexia, or bigorexia, is a psychological disorder that arises from the distorted idea of seeing oneself as too thin and not very muscular (Faccio E., 2007) and, at the same time, is characterised by an exaggerated obsession with fitness and diet (Ferrari E. et al, 2012).
In recent decades, various personal, social and media factors have contributed to the increase of this disorder and its development in the population not only among young people, but also among adults, to the point that even the DSM 5 includes it among the various disorders (APA 2013). Epidemiological data, poor at a national level and often controversial, report cases not only in the male sex, but also in the female sex and not only in the population of "bodybuilders", primarily more affected (Compte EJ., et al., 2015, Tod D, et al., 2016).
The therapeutic path reported in literature includes a classical approach with antidepressants and individual and family psychotherapy, while unconventional approaches are not contemplated at all (Leone JE, et al., 2005, Pope CG., et al, 2011).
As De Pascalis (2013) claims, hypertrophic and perfectly sculpted muscles are the goal to be pursued by an ever-increasing number of people through exhausting training and frequent visits to the gym. In people with vigorexia, physical exercise is at the top of every priority (Almudena García A., 2011); social life and work are in the background; every thought and every daily action revolves around the appearance of the body and nutrition, often leading to true orthorexia (Bratman S., et al, 2000, Bartrina JA, 2007, Brytek-Matera A., 2012). Vigorexia differs from orthorexia because in orthorexia there is a desire to maximize health, there is no altered body image or excessive physical exercise (Garano C., et al., 2016).
The first author who described the problem of vigorexia was Harrison G. Pope in his book "The Adonis Complex" (Pope et al. 2001). The title of the book comes from the Greek myth of Adonis who represents an example of perfect masculinity, embodying the canons of beauty and physical prowess.
At the beginning, the disorder was called reverse anorexia because the vigorexic always consider himself as thin even when he has achieved a very muscular physique, just the opposite that happens in anorexia, and the goal is to achieve a physical form that cannot be achieved in nature (ANTICORPI , 2008).
By defining as a muscle dysmorphophobia (Kanayma et al, 2011, Tod D., et al., 2016, Amabili M., 2013) as the focus is the concern that one's body is not muscular enough (Ferrari et al., 2012- Scarinci and Lorenzini, 2015), vigorexia typically has a multifactorial origin: very often, in fact, it depends on a combination of biological, psychological and social factors. In particular, people who develop vigorexia have been bullied at a young age, have low self-esteem and dissatisfaction with their body. Furthermore, they have a past history of social isolation or had a tendency to isolate themselves from others, perfectionist attitudes, fear of maturity, feelings of inadequacy, attention to appearances and the judgment of others and practice of high-level sports (Ferrari E., Ruberto MG, 2012, Pope CG, et al., 2005).
It generally affects young adults, belonging to the male gender, aged between15 and 24, but there is also a growing segment of people over 40 (Ferrari E., Ruberto MG, 2012) . The main and obsessive concern is that one's body is not sufficiently muscular, thin and athletic. The priority above everything (even work, family and social life in general) is training in the gym and maintaining muscle mass; every daily action and thought is a function of the appearance of one's body and of the diet which tends to be high-protein, low-calorie (Pope CG, et al. 2005, Contesini N., et al, 2013, Ayensa Baile JI, et al., 2011).
Athletes and professional sportsmen tend to develop vigorexia more easily, as the high levels of competitiveness to which they are exposed tend to foster greater self-criticism (Devrin A., et al, 2018, Longobardi C., et al., 2017, Ayensa Baile JI, et al., 2011).

The DSM 5 (Diagnostic anMental Disordersnual of Mentrecognisesrs, APA 2013) recognizes Vigorexia as a true syndrome and outlines specific clinical pictures and criteria:
1st criterion: put physical exercise and attention to diet before anything that might make you give up a training session or eat inadequately;
2nd criterion: avoid showing your body to others for fear of not being thin or athletic enough and, if forcd, developing anxiety, stress and discomfort;
3rd criterion: obsessive concern with muscle tone and training resulting in social isolation, loss of job, etc.;
4th criterion: continuous practice of physical exercise and use of anabolics, despite awareness of the harmful effects that the latter have on health.
In vigorexia, the diagnosis is particularly complicated and is substantially based on the observation of the individual and his

habits (Garano C. et al, 2016, Salvini A, et al., 2012). People with vigorexia present symptoms such as: body dysperception; continuous checking of their physical appearance in the mirror or on other reflective surfaces; compulsive behaviors towards physical exercise (Ferrari and Ruberto 2012) and discomfort if training does not occur as planned; excessive attention in preparing meals and in particular with regard to protein intake, to the point of orthorexia or the application of strict dietary rules; frequent intake of food supplements and use of illegal substances; dissatisfaction with one's physical appearance (Pope et al. 2005).

The allopathic treatment that is usually prescribed for a subject with vigorexia includes not only individual and family psychotherapy, but also the association with selective serotonin reuptake inhibitor antidepressant drugs and anxiolytics (Leone JE, et al.,2005, Pope CG., et al, 2011, Ferrari E., et al.,2012, Longobardi C., et al, 2017).

The aims of this experimental work are different: first, to verify the efficacy of an unconventional approach, such as acupuncture and homotoxicology, in the treatment of vigorexia and secondly to evaluate whether such an approach might represent a valid alternative treatment to an allopathic approach.

2. CLINICAL CASES, MATERIAL AND METHOD

The goals of the treatments prescribed and carried out were the reduction of psychophysical stress, general and performance anxiety, obsessive thoughts and greater regulation of food intake. Where depressive symptoms were present, specific products and acupuncture points were treated. The therapeutic protocols in the experimental group were personalized in order to respond to the needs of the individual. The nomenclature of the acupuncture points refers to the abbreviations of the international acronym. The allopathic drugs used were selective serotonin re uptake inhibitor antidepressants and anxiolytics at therapeutic doses.

2.1 First clinical case with experimental protocol

34-year-old male, living with a 4-year-old son and employed as a teacher in a secondary school. The personal history did not reveal any delays in the acquisition of developmental stages and a fully normal psychophysical development. The patient reports a difficult integration into nursery school which he stopped after about a year. The primary school period is remembered as happy and peaceful. Towards the age of 13-14, with the development of puberty he began to experience dissatisfaction with his body and developed a tendency to isolate himself from others. In the field of sports, although achieving good results, he was never satisfied with the goals achieved. He reports that he was often mocked for his physical appearance which he said was disharmonious. During high school, he developed tendencies towards perfectionism, feelings of inadequacy and excessive attention to appearances and the judgment of others. The university years passed with periods of psychophysical well-being alternating with periods of extreme anxiety and depressive symptoms not related to study stress. During this period, he suffered a serious bereavement in the family (his father's death from a tumor) which was followed by a depressive disorder treated with serotonin antidepressants. His entry into the workplace coincided with a constant anxiety disorder linked to a sense of inadequacy and fear of comparison with colleagues which led him to lose control in various areas including eating. This resulted in excessive weight gain (auxological parameters: height 180, weight 130 kg) with repercussions on his physical health. Two years ago he made the decision to lose weight and followed a balanced diet associated with attending a gym. In less than a year he reached a weight of 84 kg (starting from 130) and during this period he intensified his gym attendance and evening running (5 days of gym and 3 days of evening running of at least 1h30min). His emotional relationships were not very satisfying. Despite the results achieved, he is dissatisfied with his physical appearance: he considers it not very muscular and often checks it in the mirror focusing on small imperfections (flabby hips and sagging chest, according to him). Despite a fully normal sexual development, he considers himself unattractive. Furthermore, he has developed excessive attention in preparing meals and in particular with regard to protein intake. Recently, he also visited a plastic surgeon for an abdominal surgery intervention. General and neurological objective tests are fully normal.

Treatment performed with Homotoxicological products:

Injeel f. tonic – 3 vials per week;
Detox 17 (Guna) gtt – 15 gtt three times a day
Ignatia heel cp – 1 cp three times a day
Nux vomica homaccord drops – 10 drops three times a day
Valerianaheel gtt – 10 gtt three times a day

Acupuncture:

Neiguan (PC 6), Daling (PC7), Shenmen (HT7), Hegu (LI4), Taixi (KI3), Sanyinjiao (SP6), (General and performance anxiety, toning, stress and depressive symptoms). Toning Technique

Tongli (HT5), Zusanli (ST36), Taichong (LR3), Fenglong (ST40), Yanglinquan (GB 34) (Obsessive Thoughts, Depressive Symptoms, Food Regulation). Dispersion Technique

2.2 Second clinical case with experimental protocol

24-year-old single male with no children, unemployed and looking for work. He completed high school and enrolled in university, which he left after a year. He changed several jobs and participated in public competitions without being able to enter the relevant ranking. He is currently unemployed, but is waiting for a response for a fixed-term position at a local company. He is thinking of undertaking the training course as a Social Health Worker as he considers himself inclined to a job helping people. The period of childhood and pre-adolescence is reported to be serene and calm. Puberty development coincided with an increase in weight that led him to a level of first-grade obesity, and in the last year of first-grade secondary school, he was the object of bullying with dissatisfaction with his body, inadequacy and fear of the judgment of others. At the beginning of high school, he began to play sports at a competitive level (Basketball) and to follow a more balanced and healthy diet (according to him) that completely changed his body. In addition to Basketball, he began to attend a gym regularly with the aim of shaping the muscles that he always considered to be

too underdeveloped. He constantly checked his physical appearance in the mirror, and despite the compliments of friends, he never felt satisfied. He never showed particular interest in lasting emotional relationships, and the sexual aspect leaves him indifferent. Over time, he developed an excessive attention to the preparation of meals and, in particular, with regard to protein intake, and he started a strict dietary rule. For a few months, he has suffered from insomnia. For a period, he also took anabolics. Currently, he presents the following auxological parameters: height 180 cm, weight 75 kg, well-developed and hypertrophic muscular system. General and neurological objective tests are completely normal.

Treatment performed
Homotoxicological products:
Injeel f. tonic – 3 vials per week;
Detox 17 (Guna) gtt – 15 gtt three times a day
Ignatia heel cp – 1 cp three times a day
Nux vomica homaccord drops – 10 drops three times a day
Selenium homaccord gtt – 10 gtt three times a day
Hepar cp heel – 3 cp three times daily

Acupuncture:
Neiguan (PC 6), Daling (PC7), Shenmen (HT7), Hegu (LI4), Taixi (KI3), Sanyinjiao (SP6), Qiuxu (GB40), Lieque (LU7) (general and performance anxiety, toning, stress, obsessive thoughts). Toning Technique
Tongli (HT5), Zusanli (ST36), Yanglingquan (GB 34) (obsessive thoughts, food regulation). Dispersion Technique

2.3 First clinical case with classical protocol
23-year-old male, university student, single and childless. University studies are progressing well with excellent results. He reports a certain satisfaction with his university career. The periods of childhood and adolescence are reported to be calm, even though he preferred to be on his own a lot. He has never cultivated particular friendships, whether female or male. From the early years of high school, he began to show thoughts of dissatisfaction with the shape of his body in comparison with peers who he said were much more muscular than him. He reports being particularly attentive to the judgment of others and having attitudes tending towards perfectionism both in his studies and in his daily life. Very competitive in sports, practiced at a competitive level since middle school. The need to sculpt his muscles led him not only to intensify the hours of sport, but also to go to the gym almost every day and to take supplements and sometimes anabolics. Sometimes he feels uncomfortable if he is unable, for study or other reasons, to go to the gym. He refers to no significant emotional relationships, and the sexual aspect does not interest him in a particular way at the moment. He often finds himself contemplating his body in the mirror, which he considers not perfect. In the last year, he has paid attention to the preparation of meals and, in particular, to the protein intake. For about six months, he has undertaken an individual psychotherapy path. The current auxological parameters are: height 185cm, weight 75Kg, well-developed muscular system. General and neurological objective exams are completely normal.

Pharmacological treatment
SERTRALINE cp. 150 mg/day
ALPRAZOLAM cp. 0.50 mg as needed

2.4 Second clinical case with classical protocol
32-year-old male in an open relationship without children. He is a professional freelancer with university level education. Periods of childhood and adolescence were reported without particular traumas or problems. In the last year of middle school, the subject reports having been bullied by new classmates of an older age. The teasing was related to his disharmonious physical appearance and tendency to be obese. On the advice of the paediatrician, he started a sport (swimming) which he then continued at a competitive level until the age of 20. He referred to himself as a shy child who stayed on his own even if he frequented a group of two or three trusted friends. Sport combined with frequenting a gym allowed him to lose excess weight and develop a strong and vigorous muscular system. He began many emotional relationships that ended after a short time. After graduation, he opened a private study together with other partners. He has been living with a partner for a few years, and the relationship seems to be progressing well. After quitting competitive sports, he began to feel dissatisfied with his physical appearance, which he considered to be lacking in muscle and disharmonious. Advised by his partner, he turned to a nutritionist who set him up on a diet that he said was healthy, but who imposed continuous checks on the type of food and the quantity of proteins to be consumed with the aim of further developing muscle mass. He often uses the mirror to check his muscular results after intense gym work. Comparing himself to other gym goers makes him feel uncomfortable. Work causes him a lot of stress, and the results obtained do not always satisfy him. Even going to the gym and swimming, which he has recently resumed, does not fully satisfy him. The current auxological parameters are: height 175 cm, weight 65 kg, well-developed muscular system. General and neurological objective tests are completely normal. A few months ago, he began an individual and couple path with a psychotherapist.
Drug treatment

ESCITALOPRAM cp 20 mg/day
ARIPRIPAZOLE cp 2.5 mg/day
ALPRAZOLAM drops 15 drops as needed

2.5 METHOD
This study was conducted in accordance with the principles of the Declaration of Helsinki and in compliance with the EU General Data Protection Regulation (GDPR). Before starting the study, informed consent for participation and publication was obtained and signed by the participants, in which the experimental protocol was explained in detail. The patients were randomly divided into an experimental group that followed the unconventional protocol and a control group that followed a classical treatment. Participants were administered *face-to-face* by some standardised tests and questionnaires to evaluate the clinical state and personal suffering (MDDI-ITA, QDC, EAI, SCL-90, PSS) before the start of the treatments

(time 0). The experimental protocol included 15 acupuncture sessions, the first three of which were carried out in the first week, while the other 12 were performed weekly for a total of 13 weeks. During the treatment period, the patients also followed a pharmacological protocol of homotoxicological drugs that they continued even after the end of the acupuncture sessions. The participants in the control group began an antidepressant treatment combined with anxiolytics, a weekly individual psychotherapy course (with another therapist) and underwent a medical check-up every 15-20 days. In the week following the end of the sessions, the subjects in both groups underwent the same test evaluations scheduled at time 0, and the results obtained were compared with each other.

Statistical analysis

The comparison between the means obtained from the test scores was carried out with the Student t-test for the statistical significance of the differences. In addition, a qualitative analysis was also carried out.

2.6 Material Description

MDDI-ITA_(Muscle Dysmorphia Disorder Inventory – Italian version, Santarnecchi E., et al, 2012)

The MDDI-ITA is a self-administered questionnaire composed of 13 items able to determine the presence of a muscle dysmorphic disorder. It is based on a Likert scale from 1 to 5, and a score higher than 36 is considered clinically significant in the sample of "non-competing males". The questionnaire investigates three areas: a) Desire for shape; b) Intolerance of appearance; c) Functional deficit. It was validated in Italian in 2012.

QDC_(Body Dysmorphic Disorder Questionnaire, Cerea S., et al, 2017)

The QDC is a self-administered questionnaire composed of 40 items, which investigates personal experience regarding aesthetic defects or imperfections in physical appearance. It is a suitable tool for determining the presence of Body Dysmorphic Disorder. It was validated in Italian in 2017. The scores are based on a Likert scale from 1 to 7, and a total score greater than 130 is considered clinically significant and indicative of a disorder.

EAI (Exercise Addiction Inventory, Griffiths MD, et al., 2005)

EAI is a short questionnaire composed of 6 items used to assess exercise addiction. Based on a Likert scale of 1 to 5, a total score greater than 24 identifies a possible exercise addiction.

SCL-90_(Symptoms Checklist-90, Derogatis LR, 1973 – Italian adaptation by Sarno I. et al., 2011).

The *SCL-90* is a self-administered questionnaire that assesses a broad spectrum of psychological problems and psychopathological symptoms, measuring both internalising symptoms (depression, anxiety) and externalising symptoms (aggression, hostility, impulsivity). Validated in a large sample of people aged between 13 and 70 years. It is a 90-item questionnaire on a Likert scale from 0 to 4 that assesses 10 primary symptomatic dimensions. In general, mean scores equal to or greater than 1 for each individual area are considered to be of clinical interest.

PSS_(Perceived Stress Scale, Cohen S., et al., 1983 and 1988 – Italian translation by Andrea Fossati, Vita-Salute San Raffaele University of Milan, 2010)

The Perceived Stress Scale (PSS) is the most widely used psychological instrument to measure the perception of stress. It consists of 10 items and is based on a Likert scale from 0 to 4. A total score of more than 27 is clinically significant and identifies an overload of stress that negatively affects psychophysical well-being.

Satisfaction questionnaire

The questionnaire used is based on a Likert scale from 1 to 5 and investigated satisfaction regarding the treatments received, the location, the duration, the therapist's skills and general satisfaction.

3. RESULTS

The table below (Table 1) shows the sociodemographic data of the study participants.

Table 1: Sociodemographic data

	Experimental Group		Control Group	
Parameters	Pc 1	Pc 2	Pc 1	Pc 2
Sex	M	M	M	M
Age	34 years old	24 years old	23 years old	32 years old
St. Civil	Cohabitant	Single	Single	Cohabitant
Children	1	0	0	0
Work	Teacher	Unemployed	Student	Free prof.
Instruction	Degree	Maturity	University in progress	Degree

Table 2 shows the results obtained in the evaluation tests at both t0 and t14 for both groups.

Table 2: Scores obtained on the tests administered at time 0 and time 14

	Experimental Gr. t0		Gr. Control t0		Experimental Group t14		Gr. Control t14	
Parameters	Pc 1	Pc 2	Pc 1	Pc 2	Pc 1	Pc 2	Pc 1	Pc 2
QDC	140	150	146	148	120	115	120	116
EAI	25	26	27	25	13	18	20	19
MDDI-ITA	54	45	46	50	33	30	34	33
PSS	33	34	34	32	22	20	24	23
SCL-90								
GSI	1.15	1.18	1.9	1,2	0.65	0.68	0.74	0.8

SOM	0.16	1.35	1,2	0.8	0.16	0.8	0.78	0.45
OSS	2.5	2.4	2.1	2.6	1,2	1.4	1,2	1.1
INT	1.34	1.25	1.02	1,2	0.88	0.68	0.78	0.6
DEP	2.38	1.3	0.9	1.6	1.38	0.85	0.85	1.1
ANX	1.9	2.1	2.2	2.4	0.9	1	1.1	1,2
HOS	1	0.9	0.8	0.9	0.66	0.45	0.65	0.64
PHOB	0.14	0.3	0.5	0.4	0.14	0.1	0.5	0.1
PAR	0.16	0.24	0.26	0.2	0.16	0.2	0.2	0.2
PSY	0.2	0.18	0.21	0.21	0.2	0.16	0.21	0.21
SLEEP	1.33	1.43	1.36	1.4	0.66	0.8	0.9	0.88

Clinically significant cut-off values: QDC >130; EAI>24; MDDI-ITA>36; PSS>27; SCL-90>1. The values obtained with the t Student are reported in the table below (Table no. 3). It should be noted that the sub-scales of the SCL-90 that obtained scores < 1 were not considered, as they were considered clinically insignificant. The table reports the mean values with the standard deviations and the values of the t Student at t0 and t14 for a comparison of the two groups (α 0.05 – fd 2, critical t value 2.92).

Table 3: mean values and t Student value for the comparison of the mean obtained after the treatment

Parameters	Experimental group t0	Control Group t0	t value	Experimental group t14	Control Group t14	t value
QDC	145 (7.07)	147 (1.41)	0.36	115.5 (0.71)	117 (1.41)	0.15
EAI	25.5 (0.71)	26 (1.41)	0.35	15.5 (3.53)	19.5 (0.71)	0.13
MDDI-ITA	49.5 (6.36)	48 (2.83)	0.39	31.5 (2.12)	33.5 (0.71)	0.16
PSS	33.5 (0.71)	33 (1.41)	0.35	21 (1.41)	23.5 (0.71)	0.08
SCL-90						
GSI	1.16 (0.02)	1.55 (0.49)	0.19	0.66 (0.02)	0.77 (0.04)	0.04
SOM	0.76 (0.84)	1 (0.28)	0.37	0.48 (0.45)	0.62 (0.23)	0.37
OSS	2.45 (0.07)	2.35 (0.35)	0.37	1.3 (0.14)	1.15 (0.07	0.15
INT	1.3 (0.06)	1.11 (0.13)	0.10	0.78 (0.14)	0.69 (0.13)	0.29
DEP	1.84 (0.76)	1.25 (0.49)	0.23	1.11 (0.37)	0.97 (0.17)	0.33
ANX	2 (0.14)	2.3 (0.14)	0.08	1 (0.07)	1.15 (0.07)	0.05
HOS	0.95 (0.07)	0.85 (0.07)	0.15	0.56 (0.15)	0.65 (0.01)	0.24
SLEEP	1.38 (0.07)	1.38 (0.03)	0.5	0.73 (0.1)	0.89 (0.01)	0.08

(α 0.05 – fd 2, critical t value 2.92)

Table no. 4 reports the values obtained from the satisfaction questionnaire

Table 4: Level of satisfaction

	Experimental Gr.		**Control Gr.**	
Parameters	Pc 1	Pc 2	Pc 1	Pc 2
General satisfaction	5	5	3	4
Usefulness of sessions or check-up visits	5	5	4	4
Duration of treatment	5	5	4	4
Place of the sessions	5	5	5	4
Tools used for assessment and treatment	5	5	4	5
Protocol explanation	5	5	5	5
Information received	5	5	5	5
Therapist skills	5	5	5	5
Total	40	40	35	36

Likert scale: 1 Not satisfied; 2 Slightly satisfied; 3 Satisfied; 4 Fairly satisfied; 5 Very satisfied.
A score above 25 indicates a sufficient level of satisfaction.

4. DISCUSSIONS

From Table 1, it is noted that the two groups considered present homogeneous sociodemographic characteristics regarding age, sex, level of education and occupation. Even the narration of personal stories presents common elements in all the participants of the study, both in the experimental group and in the control group.
As can be seen from Table 2, the scores obtained on the questionnaires and rating scales at time 0 (before treatments) are all above the "cut off" and have allowed the relative diagnoses of Vigorexia (Bigorexia) to be formulated. At the end of the treatments, a considerable reduction in scores was recorded in absolute terms. It should also be noted that some subscales of the SCL-90 test, despite a strong reduction in values, remain slightly above the threshold value (>1). In particular, to the Obsessive/Compulsive factor (OSS) for all patients, to the Anxiety factor (ANX) for patient no. 2 of the experimental group and both patients of the control group, and to the Depression factor (DEP) for patient no. 1 of the experimental group and patient no. 2 of the control group. Finally, it should be noted that some factors did not obtain scores above the threshold value, except the Hostility component (HOS) in patient no. 1 of the experimental group, both before and after treatments in patients of the two groups.

We refer to the subscales Phobic Anxiety (PHOB), Paranoid Ideation (PAR) and Psychoticism (PSY), and for this reason comparisons with the statistical tool of t Student were not carried out for these components.

The values obtained with the t Student statistical tool revealed non-significant differences at time 0 in the two groups (predictable since the two groups were homogeneous), but also no statistically significant differences between the improvements obtained with the two prescribed paths, thus indicating a real efficacy of both treatments (t values all below the critical value of 2.92).

By analysing the raw scores obtained from the satisfaction questionnaire, it is observed that the experimental group responded to all the expected items with a maximum score (40/40), while the experimental group did not obtain a full score (35.5/40). This latter value seems to be due to lower scores with respect to general satisfaction, the usefulness of the sessions/control visits, the duration of the treatment and partially to the location of the sessions and the tools used for the evaluations and the treatments themselves.

5. CONCLUSIONS

The results obtained by the two study groups at the conclusion of the two treatment paths and the statistical data allow us to formulate some conclusive considerations.

1. Classical and unconventional treatments seem to be both valid and effective for the treatment of Vigorexia or Muscle Dysmorphic Disorder;
2. Our study shows that classical treatments (antidepressant drugs and psychotherapy) and unconventional treatments (acupuncture and homotoxicological drugs) have a comparable efficacy in the treatment of Vigorexia;
3. The two proposed treatments might be considered equipotent;
4. The proposed unconventional protocol appears to be a valid alternative or a complementary approach to classical protocols;
5. The level of satisfaction is higher in the unconventional treatment than in the classic one.

This experimental study, despite its small number of cases, can represent a starting point that should be developed with a larger case study and also extended to the female gender to propose the protocol of sessions carried out as a model of effective treatment for vigorexia or muscle dysmorphia.

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