ORIGINAL RESEARCH—INTERSEX AND GENDER IDENTITY DISORDERS

A Report from a Single Institute's 14-Year Experience in Treatment of Male-to-Female Transsexuals

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ABSTRACT

Introduction. Gender identity disorder or transsexualism is a complex clinical condition, and prevailing social context strongly impacts the form of its manifestations. Sex reassignment surgery (SRS) is the crucial step of a long and complex therapeutic process starting with preliminary psychiatric evaluation and culminating in definitive gender identity conversion.

Aim. The aim of our study is to arrive at a clinical and psychosocial profile of male-to-female transsexuals in Italy through analysis of their personal and clinical experience and evaluation of their postsurgical satisfaction levels SRS.

Methods. From January 1992 to September 2006, 163 male patients who had undergone gender-transforming surgery at our institution were requested to complete a patient satisfaction questionnaire.

Main Outcome Measures. The questionnaire consisted of 38 questions covering nine main topics: general data, employment status, family status, personal relationships, social and cultural aspects, presurgical preparation, surgical procedure, and postsurgical sex life and overall satisfaction.

Results. Average age was 31 years old. Seventy-two percent had a high educational level, and 63% were steadily employed. Half of the patients had contemplated suicide at some time in their lives before surgery and 4% had actually attempted suicide. Family and colleague emotional support levels were satisfactory. All patients had been adequately informed of surgical procedure beforehand. Eighty-nine percent engaged in postsurgical sexual activities. Seventy-five percent had a more satisfactory sex life after SRS, with main complications being pain during intercourse and lack of lubrication. Seventy-eight percent were satisfied with their neovagina's esthetic appearance, whereas only 56% were satisfied with depth. Almost all of the patients were satisfied with their new sexual status and expressed no regrets.

Conclusions. Our patients' high level of satisfaction was due to a combination of a well-conducted preoperative preparation program, competent surgical skills, and consistent postoperative follow-up. **Imbimbo C, Verze P, Palmieri A, Longo N, Fusco F, Arcaniolo D, and Mirone V. A Report from a single institute's fourteen year experience in treatment of male-to-female transsexuals. J Sex Med 2009;6:2736–2745.**

Key Words. Male to Female Transsexualism; Vaginoplasty; Patient's satisfaction questionnaire; Sex Reassignment Surgery; Gender Identity Disorders; Transsexual

Introduction

The "Diagnostic and Statistical Manual of Mental Disorders", fourth edition, text revision (DSM-IV-TR) defines gender identity disorder (GID) as a "strong and persistent cross-gender identification and a patient's persistent discomfort with his or her sex and a sense of inappropriateness in the gender role of that sex" [1].

The current edition of the DSM has five criteria that must be met before a diagnosis of GID can be given [2]. When a patient's biological sex does not correspond with his or her inner gender identity and a strong desire that external appearance match

inner perception manifests, the trained mental health professional is obliged to determine whether a patient meets the criteria for an irreversible gender transposition, and once this is established, needs to assess whether he or she will benefit from sex-reassignment treatment [1,3].

Epidemiology

Today, it is still quite difficult to obtain epidemiological data on transsexuals, and, consequentially, statistical data is lacking. A recent large epidemiological study conducted at major plastic surgery and gender team centers in Belgium found an overall prevalence of 1:12,900 for male-to-female (M-to-F) gender transpositions and 1:33,800 for female-to-male transpositions, with a male/female sex ratio of 2.43 [4]. This data is comparable with that of other Western European countries [5–7], among those Italy, where Baldaro Verde and Graziottin reported a prevalence of 1:33,300 for male-to-female and 1:100,000 for female-to-male [8].

Sex Reassignment Course of Treatment

Once the diagnosis of GID has been made, the therapeutic approach is usually carried out in three stages known as triadic therapy: a real-life experience in the desired gender role, hormone therapy that will induce the characteristics of the desired gender, and, finally, surgery to convert the genitalia and other sex characteristics (sex reassignment surgery or SRS) [9]. While the patient undergoes this triadic course of therapy, the clinicians who follow the three therapeutic stages must take into account that some specifically diagnosed patients can suddenly change their minds, others might choose to make only partial changes to their gender identities, opting to forego the surgical route, while still others may renounce their desire to complete the triadic sequence in its entirety. These possible variations in therapy may explain the high drop-out rates of many gender identity referral centers, as well as the significant variations found in the percentages of patients who fail to benefit from triadic therapy. Clinicians are increasingly becoming aware that not all people diagnosed with GID necessarily need nor want all three elements of the triadic therapy [9,10].

SRS Standards of Care in Italy

In some countries such as the Netherlands, Germany, and Italy, local standards of care for GID patients have been established. In 1982, a law concerning the surgical alteration of gender was passed in Italy and remains in force today. This law stipulates that sex reassignment surgery can only take place once a court order is obtained and common consent between the operators looking after the patient is given. In their published Standards of Care, the Italian National Observation Board on Gender Identity specifies all phases of what is to be considered an adequate sexual reassignment course of therapy, beginning with a psychotherapeutic process lasting for at least 6 months prior to the initiation of hormone treatment. Once the psychotherapeutic process has commenced, the patient initiates his triadic therapy, usually starting with the "real-life experience" and the assuming of a new gender identity. This "role-playing" phase must last for at least a year. Before the actual surgical procedure can be performed, a minimum of 2 years must lapse, and it is within this 2 year time frame that the hormonal treatment and life experience requirements must be met [11]. Notwithstanding a preestablished protocol, Italian bureaucratic realities can result in considerable variations in the length of time patients must wait before undergoing the final surgical stage of their triadic therapy.

Despite the establishment of a well-defined sex reassignment course of therapy, currently, there is no published medical literature that can confirm whether Italian transsexual patients who are scheduled for their final surgical stage have actually adhered to a preassigned course of therapy. Moreover, we have found that as clinicians, knowledge of the cultural, social, and clinical background of our transsexual patients is intrinsic to determining, defining, and carrying out a successful M-to-F SRS course of treatment. The present lack in literature of a social and psychological profile of the transsexual can contribute to an information gap between the clinician and his patient who has been diagnosed with a mental pathology that has led to his personal decision to radically alter his biological sex. It is this estrangement between doctor and patient that most characterizes transgender surgery from all other types of surgery.

Aims

The article aims to arrive at a social, cultural and clinical profile of a relatively large sample of Italian M-to-F transsexual patients referred to our clinic for sexual reconversion surgery over the last 14 years in the final step of their sex reassignment course of treatment. Also, this study aims to better comprehend our patients' experience during the

course of their sex conversion therapy and evaluate sexual reconversion satisfaction levels by way of a postsurgical retrospective analysis in order to improve our clinical standards of care.

Methods

A study of 163 M-to-F SRS patients who had undergone surgery at our institution from January 1992 to September 2006 was conducted. SRS patients were asked to sign their consent form for surgical intervention and at the same time were asked to give their consent to be contacted for follow-up visits by our gender reassignment team and to be available to be interviewed for clinical study purposes. Patients were contacted by telephone 12–18 months after surgery and were requested to attend our clinic for a follow-up visit. At that time, they were requested to complete a Patient's Satisfaction Questionnaire devised by our gender physician team.

Out of the 163 patients initially contacted, 24 (15%) refused to participate in the survey for various reasons; thus, the results of our study are based upon the responses of the remaining 139 patients. A further 46 patients (33%) out of the study group were unable to visit our clinic in person and were interviewed over the telephone. In such cases, the phone interview was conducted by one of the urologists of our gender team.

Data compilation was examined from September 2007 to March 2008. Results of the more easily quantifiable responses are stated in percentages. In the case of multiple choice answers, a frequency rating result was prepared, and a qualitative analysis was made of the responses to the "open" questions.

Main Outcome Measures

The questionnaire employed was not validated due to the inexistence of a validated questionnaire in this area of study. Our physician gender team had been distributing it to patients since the start of performing M-to-F SRS at our institution in 1992. It consists of 38 questions, and covers a broad area of topics, including: (i) general data; (ii) employment status; (iii) Family status; (iv) personal relationships; (v) social and cultural aspects; (vi) presurgical preparation; (vii) surgical procedure; (viii) postsurgical sexual life; and (ix) postsurgical satisfaction.

Completed questionnaires were collected and classified.

Results

No significant differences in responses between the questionnaires and the telephone interviews have been noted, and, therefore, the results from both methods of information gathering are non-differentiated and reported in the subsections here below. Results are summarized in Table 1.

General Data

The average patient age was 31.36 ± 5.08 years old (range 21–59 years).

Eight patients (6%) had a university degree, 92 (66%) had completed high school, and 39 (28%) had an education lower than the high school level.

Employment Status

Questions concerning employment status revealed that 88 patients (63%) were steadily employed at the time of completing the questionnaire, 22 (16%) were students, and the remaining 29 (21%) were looking for employment. Eighty-two of the patients (93%) who were employed reported having never encountered any prejudice from work colleagues, and, instead, felt that they had been shown sympathy and understanding for their condition both before and after their operations.

Family Status

Questions concerning family revealed that 131 patients (94%) had received satisfactory emotional support and comprehension during the hormonal and psychotherapeutic preparation phases prior to surgery, particularly from their mothers (78 patients) and siblings (51 patients). Only eight patients (6%) reported a lack of sympathy and acceptance from their families after having undergone SRS.

Personal Relationships

Six out of the 139 patients in the study (4%) were legally married at the time of completion of the questionnaire. Under Italian law, transsexuals are able to marry once their legal gender identity change has been made official. Another 61 patients (44%) had a steady male partner, and the remaining 72 (52%) had no partner at the time of the interview. Sixty-five patients (47%) reported an increase in the number of partners after their surgery, 49 (35%) reported no specific change in number of partners, and 25 patients (18%) reported a reduced number of partners postsurgery.

Table 1 Table summarizes the results of Patient's Satisfaction Questionnaire

General data	
Age	31.36 ± 5.08 years
Educational level	
University degree	8 (6%)
High school	92 (66%)
Lower	39 (28%)
Employment status	
Employment status	
Steady job	88 (63%)
Student	22 (16%)
Unemployed	29 (21%)
Colleagues awareness	
Yes	88 (100%)
No	0 (0%)
Some of them	0 (0%)
Colleagues acceptance	
Yes	82 (93%)
No	6 (7%)
Family status	
Marital status	
Single	72 (52%)
Steady partner	61 (44%)
Married	6 (4%)
Separated	0 (0%)
Divorced	0 (0%)
Widow	0 (0%)
Relatives awareness	
Yes	97 (70%)
No	0 (0%)
Some of them	42 (30%)
Family support	
Yes	131 (94%)
No	8 (6%)
Personal relationships	
Partners' gender	
Male	67 (100%)
Female	0 (0%)
Change in no. of sexual partners after SRS	
Increased	65 (47%)
Unchanged	49 (35%)
Reduced	25 (18%)
Social and cultural aspects	
Contemplated suicide	
Yes	70 (50%)
No	69 (50%)
Attempted suicide before SRS	
Yes	4 (2%)
No	135 (98%)
Attempted suicide after SRS	
Yes	1 (0.7%)
No	138 (99.3%)
Legal identity change	
Yes	134 (97%)
No	5 (3%)
Member of transsexual associations or clubs	
Yes	56 (40%)
No	83 (60%)
Presurgical preparation	
Underwent psychotherapy	
Yes	139 (100%)
No	0 (0%)
Duration of psychotherapy	32.07 ± 8.95
Hormonal therapy	
Yes	139 (100%)
No	0 (0%)
Duration of hormonal therapy	24.7 ± 7.95 months
Doubts or regrets during course of therapy	
Yes	3 (2%)
No	136 (98%)
Surgical procedure	
Type of SRS	
Penile skin inversion	47 (34%)
Peno-scrotal flap	85 (61%)
Enterovaginoplasty	7 (5%)
Adequately informed about surgery	
Yes	139 (100%)
No	0 (0%)
Pre surgical information source	
Surgeon	139 (100%)
Psychologist	0 (0%)
Associations	0 (0%)
Other	0 (0%)
Other plastic surgical operations	
Yes	134 (97%)
No	5 (3%)
Type of other plastic operation	
Additive mastoplasty	134 (100%)
Other	0 (0%)
Revisionary surgery after SRS (labiaplasty)	
Yes	117 (84%)
No	22 (16%)
Postoperative pain	
Minimum	24 (17%)
Moderate	91 (66%)
High	24 (17%)
Postsurgical sexual life	
Sexual activity after SRS	
Yes	124 (89%)
No	15 (11%)
Type of sexual activity (non exclusive categories)	
Oral	56 (40%)
Coital	60 (43%)
Anal	75 (54%)
Masturbation	33 (24%)
Ability to reach orgasm (coital)	
Always	6 (10%)
Often	19 (32%)
Seldom	15 (25%)
Never	20 (33%)
Ability to reach orgasm (anal)	
Always	0 (0%)
Often	49 (65%)
Seldom	10 (13%)
Never	16 (22%)
Ability to reach orgasm (masturbation)	
Always	21 (64%)
Often	6 (18%)
Seldom	0 (0%)
Never	6 (18%)
Sexual discomfort after SRS (nonexclusive categories)	
Lack of lubrication	63 (45%)
Pain during intercourse	57 (41%)
Anorgasmia	20 (14%)
Other	0 (0%)
Satisfaction with sexual life after SRS	
Improved	104 (75%)
Worsened/unchanged	35 (25%)
Postsurgical satisfaction	
Satisfaction with appearance of neovagina	
Very satisfied	50 (36%)
Satisfied	44 (32%)
Quite satisfied	14 (10%)
Dissatisfied	31 (22%)
Satisfaction with depth of neovagina	
Very satisfied	15 (11%)
Satisfied	25 (18%)
Quite satisfied	38 (27%)
Dissatisfied	61 (44%)
Overall satisfaction	
Very satisfied	88 (63%)
Satisfied	25 (18%)
Quite satisfied	18 (13%)
Dissatisfied	8 (6%)
Regrets after SRS	
Yes	8 (6%)
No	131 (94%)

SRS = sex reassignment surgery.

Social and Cultural Aspects

Questionnaire results revealed that 70 patients (50%) had contemplated suicide at some time in their lives, although only 4 patients (2%) had actually attempted to do so at some time in their lives before surgery, while only one patient (0.7%) did attempt suicide after SRS.

Fifty-six patients (40%) belonged to official transsexual associations or clubs. One hundred thirty-four patients (97%) had fully completed their sex reassignment therapy and succeeded in obtaining a legal change of identity and female name after surgery.

Presurgical Preparation

All patients had completed a period of psychological counseling ranging from 12 to 48 months with a psychologist prior to surgery, and all had received presurgical hormonal therapy for an average period of 24.7 ± 7.95 months (range 12–40 months).

Questions pertaining to the presurgical phase revealed that all patients were firmly convinced of their decision to undergo surgery, with the exception of 3 (2%), who were hesitant for fear of experiencing reduced sexual sensitivity.

Surgical Procedure

All patients felt that they had been well informed by the surgical team on what to expect of the SR process and on possible postsurgical complications. One hundred thirty-four out of 139 (97%) patients indicated that they had undergone other plastic surgery alterations to alter their physical appearance prior to SRS, all of which were breast augmentations.

Forty-seven of the patients (34%) had undergone the simple penile skin inversion procedure, and 85 (61%), the peno-scrotal flap inversion. In seven cases (5%), an enterovaginoplasty had been performed as a rescue surgical measure to remediate the failure of a preceding operation.

At the time of the interview, 84% of the patients had undergone a second-stage labioplasty operation to correct eventual aesthetic imperfections, all of which were performed at our clinic.

When questioned about postsurgical discomfort and pain, 115 patients (83%) had a moderate to highly painful postoperative period; of those, 24 (17%) extremely painful, 91 (66%) quite painful, and 24 (17%) only slightly painful.

Postsurgical Sexual Life

One hundred four of the patients (75%) reported a more satisfactory sex life after SRS. Pain during intercourse was the most common complaint reported by 63 of the patients (45%), while 57 patients (41%) complained of a lack of lubrication, and 20 patients (14%) complained of an inability to achieve orgasm. Data from multiple-choice questions regarding postsurgical sexual activity revealed that 124 (89%) patients engaged in sexual activities, and that 60 (43%) used the coital approach, 75 (54%) anal penetration, 56 (40%) oral sex, and 33 (24%) masturbation.

Patients also were questioned about their ability to reach orgasm during three different sexual activities: coital approach, anal penetration, and masturbation. Out of the 60 patients using the coital approach, 6 (10%) always achieved orgasm during vaginal penetration, 19 (32%) often achieved orgasm (more than half of the time), and 15 (25%) seldom achieved orgasm (less than half of the time). Twenty patients (33%) had never achieved orgasm during coital intercourse.

Anal penetration questions resulted in 49 patients (65%) reporting often reaching orgasm, 10 patients (13%) seldom reaching orgasm, and 16 patients (22%) never reaching orgasm. During masturbation, 21 patients (64%) always achieved orgasm, while 6 patients (18%) often achieved orgasm, and the remaining 6 (18%) had never achieved orgasm.

Postsurgical Satisfaction

One hundred eight patients (78%) were satisfied with the aesthetic appearance of their neovaginas: 50 (36%) were very satisfied, 44 (32%) were satisfied, and 14 (10%) were quite satisfied, while 31 patients (22%) were dissatisfied. Seventy-eight (56%) of the patients were satisfied with the depth of their neovaginas: 15 (11%) were very satisfied, 25 (18%) were satisfied, 38 (27%) quite satisfied, while 61 (44%) were dissatisfied.

Finally, the survey explored overall satisfaction and eventual regrets. Results revealed that 131 patients (94%) were satisfied with their new sexual status and did not regret having undergone their surgery, while 8 patients (6%) were dissatisfied with results and regretted the surgery.

Discussion

The transsexual universe is a very complex one made up of individuals who are classified under a variety of gender-oriented definitions, all of whom share a psychological incongruence between biological sex and gender identity, which manifests

in an acute discomfort with their own bodies. The firm resolve to harmonize physical appearance with gender identity propels many transsexual patients to undergo definitive sex conversion, entailing a long and complex procedure [12].

Based upon analysis of our accumulated data, it can be confirmed that all transsexual patients who had received SRS at our center had fully adhered to their assigned sex reassignment course of treatment. The lengthy time necessary for the Italian courts to give legal permission to proceed with this particular operation can explain the substantial variations in the presurgical waiting periods reported by the patients.

A minority of patients reported having contemplated suicide at some time before their surgical intervention, although only a minimal percentage had actually attempted to do so. While these findings contrast with other publications that report a prevalence of presurgical suicide attempts in 25–32% of a heterogeneous population of transsexual patients [13–16], the social and cultural conditions that transsexuals are exposed to can vary enormously from country to country, and these factors can perhaps explain the variations in our findings. This could be an interesting topic for future research.

The patients who undergo SRS at our clinic are generally young, averaging 31 years of age. Studies at other clinics have observed that patient age can be an important determining prognostic factor in ensuring a more successful outcome [17]. Our experience tells us that the high motivation of younger patients to undergo gender reconversion surgery can be attributed to the painful awareness of their condition at the puberal and postpuberal age. The strong desire to modify and adapt one's physical appearance at a relatively young age is supported by the fact that all of the patients in the study had undergone breast augmentation before receiving feminine genitoplasty.

Ninety-four percent of the patients interviewed reported having received satisfactory emotional support from their families during their entire course of therapy, particularly from their mothers and siblings. Familial support is a contributing factor in a patient's decision to undergo SRS, and Lobato et al. found that following SRS, family relationships had actually improved in 26.3% of the cases [18]. Furthermore, Landen et al. reported that a lack of support from a patient's family represents one of the most important predictive factors in the regret of sex reassignment surgery [19].

The employment rates reported by our patients are similar to, or a bit higher than, those reported in studies conducted in other European countries [20–24]. The unexpectedly high employment and work colleague acceptance rates reported in the study contrast with other published studies, which report high incidents of workplace prejudice and discrimination [25,26]. This discrepancy can perhaps be attributed to cultural factors or the nature of the employment itself, which was not specified in our questionnaire. Nevertheless, the data lead us to conclude that the majority of our transsexual patients are not marginalized individuals but rather active participants who feel no need to hide their condition from others.

The relatively high level of social acceptance and stability revealed in the study can be supported by the fact that about a half of our patients had a steady partner. Many studies report that transsexuals are more likely to maintain a steady sexual relationship once their SRS has taken place, and that steady relationships with members of the opposite sex are more prevalent in M-to-F transsexuals than in F-to-M [21,27,28]. De Cuypere et al. found that transsexual patients who are in a stable relationship are more sexually satisfied, which contributes to their overall general satisfaction [27]. Many other studies report that M-to-F patients who were exclusively or almost exclusively sexually oriented toward women before SRS had shifted their sexual preference to men after surgery [27,28]. In a study on sexual preference before and after sex reassignment surgery in a wide population of M-to-F transsexuals, 8% of patients were categorized as homosexuals (i.e., male oriented towards male) before SRS surgery, while this percentage increased to 38% after SRS. The same study revealed that 72% of the patients who, in their male status, had engaged in sexual activities with women before SRS, diminished to 26% after surgery [28]. Forty-four percent of our patients had a steady male partner after SRS, which is consistent with the above findings; however, the postsurgical sexual orientation of the other patients who were not in a relationship is unknown.

Our results reveal that in most cases, our transsexual patients had gradually modified their sexual behavior after SRS, and although the number of sexual partners increased after surgery, sexual habits did not immediately alter in the majority of the patients. This is confirmed by the fact that only 43% of our patient sample used the coital

approach, while a large proportion continued to practice anal and oral approaches, as well as masturbation. It is likely that a more extended post-SRS observation period would reveal that reversion to the coital approach is the more common practice, as has been reported by several studies with more extensive follow-up periods [27–29].

All patients felt that they had been adequately and extensively informed by the surgical team about the details of the surgery they would be undergoing and the eventual risks and complications that could ensue. We consider the quality of the patients' preoperative counseling sessions to be of crucial importance, as it allows for the optimization of surgical outcome and discourages unrealistic expectations from forming.

While we utilize a number of options for surgical techniques in male-to-female surgical reconversion at our clinic, the majority of patients undergo the "peno-scrotal flap inversion," which guarantees optimal results in terms of cosmetic appearance and neovagina depth while preserving external sensitivity due to the construction of the neoclitoris.

The "simple penile skin inversion" technique, while less frequently performed, allows us to obtain an optimal cosmetic appearance by creating an adequately sized neovagina while preserving a deep internal sensitivity, which is created by suturing the neurovascular bundle and attaching the glans to neocavity's cul-de-sac. However, in many cases, the neovagina's depth might not be satisfactory for the patient, as it is directly proportional and limited to the size of the patient's penis. More rarely, an "enterovaginoplasty" is performed; however, in our clinic, this is done only as a rescue measure in cases of necrosis of the neovagina precipitated by the simple penile skin inversion procedure.

Most of the patients reported a moderate to highly painful postoperative period, although these findings are based upon subjective recall, and no validated instrument to objectively quantify postoperative pain was used. Notwithstanding the high postoperative pain level reported in our patient sample, all cases at our clinic were managed with standard analgesic drugs, such as nonsteroidal anti-inflammatory drugs, and no opioid drugs were necessary.

In the "sexual satisfaction" section of the questionnaire, the majority of the patients reported having a happier and more satisfying sex life after surgery than before. This data is comparable with that found in other studies, which report that more than 80% of patients were more satisfied with their personal and sex lives after SRS than before surgery [27,30–32]. The high postsurgical sexual satisfaction levels reported by the patients could be attributed to the intense dissatisfaction with their own bodies prior to surgery. Some of our patients reported experiencing their bodies as strange and not belonging to themselves and had an aversion to being touched both by themselves and others. After their SRS, patients' self-image had shifted in response to their new gender identity. and, with the right body with the right genitals, sexuality intensified. Previously published data shows that an improvement in sex life and sexual satisfaction is correlated with satisfactory surgical results and the newly acquired primary sex characteristics [27].

The relatively high frequency of pain during penetration that was reported is likely due, in part, to the patients' lack of sex education on the possible problems or complications that can incur from sexual activity with the neovagina. Although the patients reported feeling that they had received adequate pre- and postsurgical follow-up, the high pain level can interpreted as an indication that we must improve our postoperative counseling by more thoroughly educating patients on behavioral aspects, such as the resumption of gradual sexual activity, the lack of natural lubrication, which requires the use of artificial lubricating substances, and clitoral or prostatic stimulation techniques to achieve arousal.

The neovagina satisfaction level was determined by two criteria: aesthetics and depth. Some researchers have shown that improvement in sex life and overall sexual satisfaction in transsexuals strictly correlates to a satisfaction with surgical results and the acquired sex genitalia. [27–29].

Seventy-eight of our patients reported a high overall satisfaction rate with their neovagina's aesthetic appearance; however, it must be taken into account that at the time of the interview, 84% had already undergone a labiaplasty to correct eventual cosmetic imperfections in a second-stage operation. Experience tells us that the vulvoplasty is always necessary in order to perfect cosmetic appearance, and our patients are advised of this eventual necessity before undergoing their initial operation. At our clinic, second-stage refinement surgery is never performed prior to 6 months from the date of the initial feminine genitoplasty, and patients are

advised accordingly. The 6-month waiting period allows for complete surgical recovery after which second-stage surgery can be performed. Another reason for imposing a minimum waiting period is the possible development of urethral meatus stenosis, which can be corrected at a second-stage operation.

The neovagina's depth is another important consideration, being directly related to an ability to perform coital intercourse. The majority of patients (56%) in our study were moderately to highly satisfied with the depth of their neovaginas. Our questionnaire revealed that the relatively high percentage (44%) of patients who were dissatisfied with their neovaginas' depth was due to the difference between the patient's high expectations going into the surgery and the reality of the surgical outcome afterwards, which is dependent upon anatomical limitations and the choice of the SR technique performed by the surgeon. Once again, in the case of patient satisfaction, preoperative counseling is of crucial importance, as it gives the clinician the opportunity to educate and inform the patient on what to expect so that the patient can adjust his expectations accordingly.

On the whole, the high overall satisfaction level of our patients is attributable to their strong desire for the SRS combined with a successful surgical outcome. These factors are in accordance with data published by other institutions [17,25,29]. As feelings of regret are not based solely upon a successful surgical outcome but also upon an individual's reassertion back into society in their new gender identity, we can only hypothesize that the rather high percentage of those who regretted having undergone the surgery was based partly upon the social context to which the patients returned, as well as unrealistic hopes and expectations regarding the personal and interpersonal changes that a new gender identity would bring about.

In our clinic, we try to prevent unrealistic expectations from being formulated in two ways. During the preoperative counseling sessions, the surgeon, together with the psychologist, attempts to uncover and validate the patient's motives for SRS. The patient's decision is again reconfirmed at the time that they give their formal consent shortly before surgery. Patients also receive final psychological counseling during their hospital stay while they await their operation, a period normally lasting 7 days prior to surgery.

The use of a nonvalidated questionnaire limited our study, as the data collected was based upon subjective self-assessment, and the sexual details reported could possibly have been subject to misperceptions and biases. We also find that socially desirable responses concerning various aspects of sexuality can prejudice self-reported data. Reports of sexual activity based upon recall often differ substantially from data taken from daily diary entries, even with recall intervals taking place within a few weeks [33,34]. In general, M-to-F transsexuals wish to portray themselves as typically feminine [35], which leads to a tendency to misrepresent their feminine role once they have achieved it. Moreover, we acknowledge that the limited number of questions in our questionnaire did not allow for enough distinction between patients' pre and postsurgical status on important issues, such as partner gender preference or suicide ideation.

While our patient sample is representative of Italian transsexuals, we must consider that conclusions might not be applicable to other European countries due to the wide variations in standards of care for transsexual patients and differences in social and cultural norms and attitudes toward transsexuals in general.

Conclusions

Results of our data analysis on the 163 M-to-F transsexual patients who have undergone SRS at our institution over the course of 14 years has enabled us to formulate a general profile of the Italian M-to-F transsexual. Our study reveals that most transsexual patients remain highly motivated throughout the course of their sex reassignment therapy, notwithstanding the bureaucratic time lags that are required in Italy. Patients consistently adhered to the Italian norms and standards of care, although wide variations in the duration of the preoperative preparation period are prevalent. We can conclude that the relatively high satisfaction level with the functional and aesthetic qualities of the newly acquired genitalia reported by the patients is the result of a combination of competent surgical skills, a well-conducted preoperative preparation program, and adequate postoperative counseling, which, based upon our experience, are indispensable for a successful SRS outcome. When these factors are present within the context of a supportive and accepting family and social environment, the transsexual patient can be considered sufficiently equipped to successfully cross the gender divide.

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