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# The Outcome of Sex Reassignment Surgery in Belgrade: 32 Patients of Both Sexes

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*Several aspects of the quality of life after sex reassignment surgery in 32 transsexuals of both sexes (22 men, 10 women) were examined. The Belgrade Team for Gender Identity Disorders designed a standardized questionnaire for this purpose. The follow-up period after operation was from 6 months to 4 years, and four aspects of the quality of life were examined: attitude towards the patients' own body, relationships with other people, sexual activity, and occupational functioning. In most transsexuals, the quality of life was improved after surgery inasmuch as these four aspects are concerned. Only a few transsexuals were not satisfied with their life after surgery.*

**KEY WORDS:** transsexualism; sex reassignment; follow-up; quality of life.

## INTRODUCTION

Numerous articles on the outcome of sex reassignment surgery have been published in several countries (Benjamin, 1967; Blanchard *et al.*, 1987; Fahrner *et al.*, 1987; Green and Money, 1969; Junge, 1987; Kuiper and Cohen-Kettenis, 1988; Lief and Hubschman, 1993; Lindemalm *et al.*, 1986; Lundström, 1981; Mate-Kole *et al.*, 1990; Pauly, 1968, 1981; Tsoi, 1990;

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Green and Fleming, 1991). These studies and reports focused on different aspects of the operated patients' lives.

Abramowitz (1986) reported results several follow-up studies. A self-report instrument and a clinician-administered rating scale were used. The outcome of sex-reassignment surgery was better in terms of interpersonal adjustment than in terms of any other parameters. For example, changes in the socioeconomic status after the operation were found.

Ross and Need (1989) studied several bodily aspects and social and psychological functioning of transsexuals after sex reassignment surgery using a "Standardized Psychosocial Rating Format" (Hunt and Hampson, 1980). Social functioning of transsexuals improved and many of these patients displayed less psychopathology after sex reassignment surgery. They concluded that psychopathology in transsexuals was a consequence of transsexualism itself.

Lief and Hubschman (1993) examined a relationship of orgasm to sexual and general satisfaction in transsexuals after sex reassignment surgery, and found that orgasmic capacity decreased in male-to-female patients and increased in female-to-male patients. Despite the decrease in the ability to experience orgasm in male-to-female patients, satisfaction with the quality of sexual activity and general satisfaction with the results of surgery were high in both groups of patients.

Results of the reported follow-up and outcome studies of sex reassignment surgery depend on several factors: previous psychopathology in transsexuals, quality of the surgery, length of the follow-up period, number of patients, the sex of the patients being follow up, and aspects of the quality of life being examined.

The first sex reassignment surgery (male-to-female) in Belgrade (Yugoslavia) was performed in April 1989. Since then we have been following up transsexual patients of both sexes who underwent sex reassignment. The purpose of this paper, which is the first report of the Belgrade Team for Gender Identity Disorders, is to present the short-term outcome of sex reassignment in 32 transsexuals who were followed-up over a period of 6 months to 4 years. We examined and compared several aspects of these patients' quality of life and adjustment before and after the operation.

## METHOD

### Subjects

Subjects were selected for sex reassignment surgery on the basis of the following criteria: (i) unequivocal diagnosis of transsexualism; (ii) meet-

ing the requirements of the real-life test; (iii) sexual attraction to individuals of the same anatomical sex (homosexual transsexualism).

The diagnosis of transsexualism was made in accordance with the criteria of Standards of Care of Gender Dysphoric Persons (Harry Benjamin International Gender Dysphoria Association, 1985) and DSM-III-R (American Psychiatric Association, 1987).

To meet the requirements of the real-life test, transsexuals selected for sex-reassignment had to exhibit and be comfortable with *public* cross-gender behaviors, such as cross-gender dressing and cross-gender talking, for at least 1 year before the assessment for sex reassignment (Clemmensen, 1990). For this purpose, information obtained from family members and significant others was often very important, and family members and significant others generally took an active part in the process of selection for sex reassignment and during various phases of treatment and follow-up.

We have accepted for sex reassignment homosexual transsexuals only. The main reason for doing so was of a legal and social nature. There is no law in Yugoslavia that regulates sex reassignment issues. Unlike homosexual transsexuals, some heterosexual transsexuals do marry and become parents, and changing sexual identity in heterosexual transsexuals, especially in those with their own families, would expose our pioneering work to harsh public criticism. Under such social and legal circumstances and because of the homosexual transsexuals' more conspicuous cross-gender behavior, subjecting only homosexual transsexuals to sex reassignment was not too socially provocative and was not regarded as socially unacceptable.

Additional reasons for considering only homosexual transsexuals for sex reassignment surgery were as follows: In comparison with heterosexual transsexuals, we have observed that they seem more impaired functionally, and that they request help (and change of sex) more frequently, more forcefully, and at an earlier age.

The follow-up of the operated patients consisted of surgical, endocrinological, and psychiatric monitoring. Here we present results of psychiatric monitoring only. The minimum period of follow-up was 6 months after surgery, because this is a period of recovery, necessary for immediate psychological and social readjustment. For example, it is during this period that most patients subject themselves to various administrative and legal procedures in order to "officially" change their sex and name.

Of the sample of 92 homosexual transsexuals who were evaluated in our hospital, 38 transsexuals of both sexes were operated during a period between 1989 and 1993. Of these, 6 were not included in the present study: 2 were lost to follow-up, and 4 were still in the period of recovery at the time of the completion of the study in October 1993.

Of the final sample of 32 operated transsexuals who were included in the study, 22 underwent a male-to-female surgery, and 10 underwent a female-to-male surgery. The mean age of the entire sample (32 transsexuals) at the time of the surgery was 26.80 years (SD = 6.94), and the median age was 25.50 years (range: 19–47). The mean age of those transsexuals who underwent male-to-female surgery was 26.36 years (SD = 7.76), and the median age was 24 years (range 19–47). The mean age of transsexuals with female-to-male surgery was 27.80 years (SD = 5.18), and the median age was 27 years (range: 23–37).

The mean period of follow-up for the entire sample of 32 patients was 21.75 months (SD = 13.40), and the median period of follow-up was 18 months (range: 6 months–4 years).

## Assessments

The psychiatric follow-up monitoring focused on four aspects of the transsexuals' quality of life and adjustment before and after sex reassignment: (i) attitude towards their own body; (ii) relationships with other people; (iii) sexual activity; (iv) occupational functioning. The first three aspects of the quality of life were chosen because they reflect the most salient features of transsexualism: refusal to accept bodily sexual characteristics, resistance towards the socially imposed sex roles which usually create difficulties in interpersonal relationships, and limited opportunities for the desired sexual activity. The fourth aspect, occupational functioning, was considered important as a general measure of the quality of life and social adjustment.

On the basis of the studies conducted so far, as well as empirical evidence, we hypothesized that the overall quality of life in transsexuals subjected to sex reassignment surgery would improve. We intended to test this hypothesis by comparing the aforementioned aspects of the quality of life and adjustment before and after surgery.

The stated aspects of the quality of life and adjustment were examined by the means of a self-report instrument we devised for the purpose of following up transsexuals after sex reassignment surgery. This questionnaire, "Adjustment to Sex Reassignment Surgery," consists of 10 questions (see Appendix). All 32 patients completed this questionnaire, and the report that follows is based on the transsexuals' self-ratings. We were able to verify the accuracy of most information obtained on the questionnaire through psychiatric interviews and contacts with the patients' family members and/or significant others. For the sake of continuity of contact and clinical care, the initial and follow-up assessments were made by the same

psychiatrists, who had extensive experience in the area of gender identity disorders.

## RESULTS

Responses to the first two questions of the Adjustment to Sex Reassignment Surgery Questionnaire provide information on the transsexuals' attitudes towards their bodies after sex reassignment. All patients (100%) in our sample were satisfied with the sex change. However, only 20 (62%) transsexuals were also satisfied with the way their bodies looked, 8 (25%) were satisfied to some extent, and 4 (13%) were not satisfied at all. Among transsexuals who underwent male-to-female surgery, 11 (50%) were satisfied with the way their bodies looked, 7 (32%) were satisfied to some extent, and 4 (18%) were not satisfied. Among transsexuals who underwent female-to-male surgery, 9 (90%) were satisfied with the way their bodies looked, and 1 (10%) was satisfied to some extent. There were *no* female-to-male patients who were not satisfied with the way their bodies looked.

Table I compares aspects of the transsexuals' quality of life before and after sex reassignment surgery. In the following areas there was a significant difference between the quality of life and adjustment before and after surgery: After surgery, transsexuals were more satisfied with interpersonal relationships, they were more successful at finding sexual partners, and more of them were engaged in full-time college studies.

Table II presents data on the ability to experience orgasm with sexual partners before and after sex reassignment surgery. After the surgery, there was an increase in the number of patients with sexual partners, and an increase in the percentage of patients who experienced orgasm with their partners.

## DISCUSSION

Our results suggest that even when all transsexuals are satisfied with the sex change, some may not be satisfied with the way their bodies look. Such dissatisfaction appears to have two main causes. The first pertains almost exclusively to male-to-female patients, and has to do with retention of those bodily features and aspects of the overall appearance that could not be changed completely by either surgery or hormonal manipulation. For example, male-to-female patients were often dissatisfied with remains of the beard, large feet and hands, quality of the voice, and persistence of Adam's apple.

**Table I.** Quality of Life and Adjustment in Transsexual Patients Before and After Sex Reassignment Surgery

| | Male-to-female patients ($n$ = 22) | | | | Female-to-male patients ($n$ = 10) | | | | All transsexual patients ($n$ = 32) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Before surgery | | After surgery | | Before surgery | | After surgery | | Before surgery | | After surgery | |
| Variable | $n$ | % | $n$ | % | $n$ | % | $n$ | % | $n$ | % | $n$ | % |
| Satisfied with relationships | 0 | 0 | 11 | 50 | 0 | 0 | 8 | 80 | 0 | 0 | 19 | 59 |
| Satisfied with relationships to some extent | 0 | 0 | 7 | 32 | 2 | 20 | 2 | 20 | 2 | 6 | 9 | 28 |
| Not satisfied with relationships | 22 | 100 | 4 | 18 | 8 | 80 | 0 | 0 | 30 | 94 | 4 | 13 |
| Having one sexual partner | 0 | 0 | 5 | 23 | 3 | 30 | 8 | 80 | 3 | 9 | 13 | 41 |
| Having several sexual partners | 6 | 27 | 11 | 50 | 1 | 10 | 0 | 0 | 7 | 22 | 11 | 34 |
| Not having sexual partners | 16 | 73 | 6 | 27 | 6 | 60 | 2 | 20 | 22 | 69 | 8 | 25 |
| Having a job | 7 | 32 | 7 | 32 | 4 | 40 | 4 | 40 | 11 | 34 | 11 | 34 |
| Being a full-time student | 3 | 14 | 8 | 36 | 1 | 10 | 6 | 60 | 4 | 12 | 14 | 44 |
| Neither having a job nor being a full-time student | 12 | 54 | 7 | 32 | 5 | 50 | 0 | 0 | 17 | 54 | 7 | 22 |

The second reason for dissatisfaction with physical appearance effectively refers to dissatisfaction with the new genitals. Because of limitations in surgical techniques, this was more often the case with our female-to-male patients.

In comparison with our female-to-male patients, male-to-female patients were less satisfied with the way their bodies looked. This could also be explained by social pressures on women to pay more attention to their physical appearance, and by their consequent proneness to regard their bodies more critically and therefore be less satisfied with the way they look, especially when compared with other women.

Psychiatric improvement in our patients did not appear necessarily related to the degree of success of physical transformation, as assessed by the degree of satisfaction with physical appearance.

Results indicate that after sex reassignment surgery transsexuals are more satisfied with their interpersonal relationships. This finding corresponds to Abramowitz's (1986) conclusion that the greatest improvement after sex reassignment surgery is in the domain of interpersonal communication. Improvements in interpersonal communication, interpersonal relationships, and overall social functioning seem to be related to a greater sense of acceptance, that is, to the observation that persons in the patients' immediate surroundings have less difficulty in accepting them after the surgery. In turn, such acceptance appears to be related to less confusion about the transsexuals' gender identity after sex reassignment, i.e., to greater congruence between their gender identity and anatomical sexual characteristics.

As Abramowitz (1986) pointed out, social functioning and subjective state of transsexuals should be distinguished. Since many psychopathological features in transsexuals decrease or disappear after sex reassignment surgery (Ross and Need, 1989), it can be hypothesized that improvement in the subjective state of transsexuals, that is, their decreased psychopathology, leads to better social functioning as well.

Another indicator of a decreased psychopathology in transsexuals after sex reassignment surgery is a dramatic decrease in the number of visits to psychiatrists. In our sample, 30 of 32 transsexuals continued coming only for the regularly scheduled follow-up examinations. Only 2 patients, both of whom underwent a male-to-female surgery, continued seeing a psychiatrist after the surgery. One had significant adjustment problems because she was not accepted by her local community after sex change. The other patient, with paranoid personality disorder and recurrent major depression before surgery, sought treatment mainly to improve communication and interpersonal skills that she had not had the opportunity to develop before the surgery; personality functioning was more adequate and episodes of depression were less frequent and less intense after surgery.

Transsexuals in our study had less difficulty in finding sexual partners after sex reassignment. There may be several reasons for this finding. Our patients reported that they felt more self-confident and more comfortable in seeking sexual partners after surgery because they had genitals that corresponded to their gender identity. A better sense of acceptance was also conducive to greater self-confidence. In addition, our patients considered themselves more effective in their overall social functioning, which gave them opportunities to look for partners.

There were more transsexuals who experienced orgasm with their sexual partners after surgery. In our sample, orgasmic capacity increased in both male-to-female and female-to-male patients, but fewer of the sexually active female-to-male patients experienced orgasm in comparison with the sexually active male-to-female patients. Increase in the ability to experience

orgasm may in part be a result of the formation of a new sexual identity, which along with its accompanying gender-specific roles, may facilitate processes leading to an experience of orgasm.

Contrary to the study by Lief and Hubschman (1993) who found that the orgasmic capacity in male-to-female patients decreased after the surgery, there was a slight increase in the proportion of our male-to-female patients who experienced orgasm (see Table II). This discrepancy might be due to sample and/or methodological differences between the two studies, but more important, the ability to experience orgasm depends on numerous factors and does not necessarily have to be related to transsexualism and sex reassignment surgery. Therefore, our finding in male-to-female patients should be considered preliminary and its further discussion is beyond the scope of this report.

There were 14 transsexuals in our sample who found sexual partners only after surgery. Five of these patients did not experience orgasm with their sexual partners—a finding that suggests that ability to experience orgasm after sex reassignment is not necessarily related to surgical and hormonal treatment. Some of these patients were in a phase of adjustment to their newly found partners, and they have not yet developed their sexual skills and ability to experience orgasm at the time of the follow-up examination.

It is of interest to note here that Lief and Hubschman (1993) found an increase in the frequency of sexual activity after sex reassignment. Although we did not specifically examine the frequency of and satisfaction with sexual activity, our findings and observations correspond to those of Lief and Hubschman who suggested that satisfaction with sexual activity might be related to a change in body image and sexual identity, and not

**Table II.** Orgasm with Sexual Partners in Transsexual Patients Before and After Sex Reassignment Surgery

| | Male-to-female | | Female-to-male | | All transsexual | |
|---|---|---|---|---|---|---|
| | Before surgery ($n$ = 6) | After surgery ($n$ = 16) | Before surgery ($n$ = 4) | After surgery ($n$ = 8) | Before surgery ($n$ = 10) | After surgery ($n$ = 24) |
| | $n$ % | $n$ % | $n$ % | $n$ % | $n$ % | $n$ % |
| Experiencing orgasm | 3 50 | 10 62.5 | 0 0 | 2 25 | 3 30 | 12 50 |
| Not experiencing orgasm | 3 50 | 6 37.5 | 4 100 | 6 75 | 7 70 | 12 50 |

necessarily to orgasmic capacity. In the same vein, Lief and Hubschman reported that phalloplasty did not appear to be a critical factor in orgasm or in sexual satisfaction. The effects of sex reassignment on the satisfaction with sexual activity, as well as on the ability to experience orgasm, obviously merit further study.

All patients in our sample who had a job before sex reassignment surgery kept the same job after operation and therefore, their professional status did not change. The reason for this might be in the nature of jobs that our transsexuals had before surgery. These usually corresponded to the patients' gender identities, e.g., male transsexuals worked as hairdressers and cooks, and female transsexuals were often involved in sport-related jobs and activities or gender-unrelated jobs, such as those in arts (painting) and architecture.

Our finding of more than a threefold increase in the number of full-time college students among transsexuals who underwent sex reassignment surgery deserves comment. Our patients who committed themselves to college studies after surgery stated that they were able to do so because of greater understanding and better financial support from their families, higher motivation to study, better cognitive abilities (attention, concentration, and memory), fewer symptoms of anxiety (especially social anxiety) and depression, and less trouble with sleep.

Although the proportion of transsexuals who were not satisfied with various aspects of their lives after sex reassignment was relatively small, it is important to pay more attention to them. This study was not designed to consider predictors of an unfavorable outcome of sex reassignment surgery, but clearly such a study is in order because of the need to identify those transsexuals in whom sex reassignment is not likely to be effective. Moreover, long-term follow-up studies are needed to assess the enduring effects of and changes after sex reassignment.

## APPENDIX

### Adjustment to Sex Reassignment Surgery Questionnaire

1. Are you satisfied with the sex change?
   YES TO SOME EXTENT NO

2. Are you satisfied with the way your body looks now?
   YES TO SOME EXTENT NO

3. Were you generally satisfied with your relationships with other people before the surgery?

YES TO SOME EXTENT NO

4. Have you generally been satisfied with your relationships with other people after the surgery?

YES TO SOME EXTENT NO

5. Did you have sexual partners just before the surgery?

YES, ONE PARTNER YES, MORE PARTNERS NO

6. Have you managed to find sexual partners after the surgery?

YES, ONE PARTNER YES, MORE PARTNERS NO

*Questions 7 and 8 should be answered by individuals with sexual partner(s)*

7. Did you have orgasm with your partner(s) before the surgery?

YES NO

8. Did you have orgasm with your partner(s) after the surgery?

YES NO

9. Did you have a job or were you a full-time student before the surgery?

I HAD A JOB I WAS A FULL-TIME STUDENT NEITHER

10. Have you had a job or have you been a full-time student after the surgery?

I HAVE HAD A JOB I HAVE BEEN A FULL-TIME STUDENT NEITHER

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