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## Introduction

Disorders of Sexual Development (DSD) is defined as congenital conditions in which the development of chromosomal, gonadal, or anatomical sex is atypical. In 46,XY DSD the phenotype of external genitalia ranged from typical female external genitalia to partial virilized external genitalia.

Psychosexual aspects are poorly investigated in 46,XY DSD patients. In 46, XY DSD the observations of sexual aspects are scarce, but they overall indicate that the SexQoL is impaired, particularly regarding sexual function and satisfaction.

In 46,XY DSD patients social sex change from female to male social sex is common, especially in 5 $\alpha$ -reductase-2 deficiency (50–60%) and in 17 $\beta$ -hydroxysteroid dehydrogenase-3 deficiency (39%).

In the literature review, there are 37 studies on psychosexual aspects in 46,XY DSD patients. but most of them include only patients with Androgen Insensitivity Syndrome (AIS).

Fig.1 - Number of patients according 46,XY DSD etiology

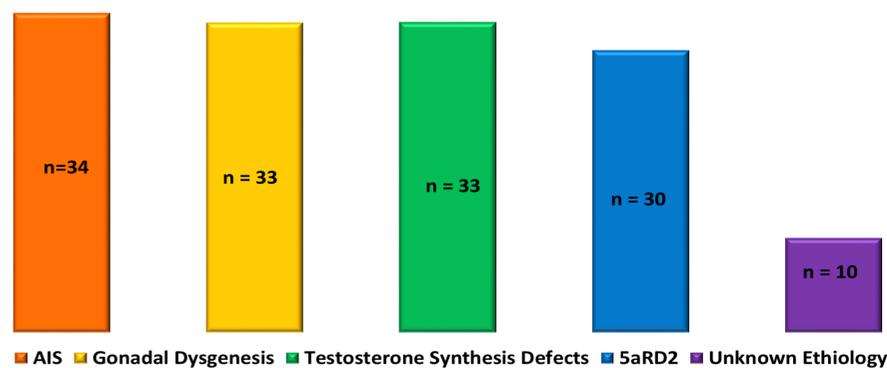
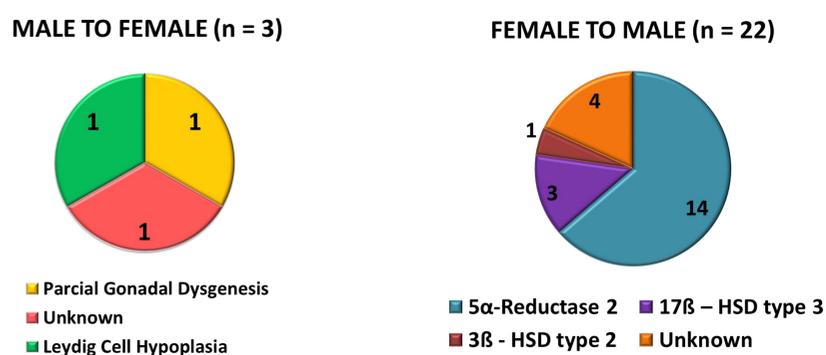


Fig.2 - Social sex change in adulthood according 46,XY DSD etiology



## Objectives

Our aims were:

- To evaluate the psychosexual outcomes in 46,XY DSD patients in adulthood
- To compare the psychosexual outcomes between:
  - Individuals who kept their social sex in adulthood with those who changed
  - Female and male DSD patients
  - DSD patients and the Brazilian population data

## Material and Methods

We applied a developed questionnaire with 137 questions on social, sexual and psychological aspects and **140 from 154 patients** accepted to answer the questionnaire

- The patients were split into two groups:
  - Individuals who changed their assigned sex (n = 25)
  - Individuals who maintained their assigned sex (n = 115)
- The psychosexual outcomes were compared between the groups according their final social sex in adulthood:
  - Female (n = 89)
  - Male (n = 51)

## Results

A total of 140 DSD patients due to different etiologies (testosterone synthesis defects (n=33), androgen insensitivity syndrome (n=34) gonadal dysgenesis (n=33), 5 $\alpha$ RD2 deficiency (n=30) and unknown etiologies (n=10) accepted to answer the questionnaire (Figure 1). Among these patients 115 maintained their assigned sex and 25 (18%) individuals changed their assigned sex (Figure 2). At adulthood, the social sex was female in 89 patients and male in 51 patients. Patients from both social sexes showed adequate sexual performance, but male social sex showed better results than female social sex in terms of satisfactory intercourse, masturbation and orgasm (p<.05) (Table 1). Patients who changed the social sex demonstrated similar rates of sexual outcome compared to those who maintained the social sex, except for the frequency of intercourse and self sexual life satisfaction (p<.05) (Table 2). Male social patients who kept his social sex demonstrated similar outcome in comparison with male patients who changed social sex, except for satisfactory intercourse (better in those who changed) and self satisfaction with sexual life (better in those who kept).

## Conclusion

Change from female to male social sex is frequent in 46,XY DSD patients and was observed in this cohort in 50% of 5 $\alpha$ RD2 patients and in 25% of 17 $\beta$ HSD3. Male social sex assignment should be considered in patients with 46,XY DSD especially in those conditions. Male social sex showed better rates of sexual adaptation than the female social sex in same sexual aspects (satisfactory intercourse, masturbation and orgasm. In general, patients who changed the social sex demonstrated similar rates of sexual outcomes compared to those who maintained the social sex.

Tab.1 – Psychosexual features of the patients accordingly to final social sex

Final social sex	Female (n = 89) (%)	Male (n = 51) (%)	p
Surgical genital intervention	84	93	0.360
Shame of body appearance	39	40	0.857
Age at first sexual intercourse (yr)	21	23	0.330
Partner	86	85	0.772
Frequent sexual intercourse *	47	52	0,704
Satisfactory sexual intercourse	60	83	<b>0.023</b>
Masturbation	36	60	<b>0.031</b>
Orgasm	55	88	<b>0.003</b>
Self satisfaction with sexual life	57	64	0.949
Heterosexuality	91	86	0.868

Tab.2 – Comparison of psychosexual features between patients who changed vs who kept their social sex

Psychosexual Outcomes	Change SS n = 25 (%)	Kept SS n = 115 (%)	p
Surgical genital intervention	93	86	0.47
Body Shame	31	39	0.5
Age at first sexual intercourse (mean, yr)	22	21	0.33
Partner	86	85	0.79
Frequent sexual intercourse *	54	48	0.86
Satisfactory sexual intercourse	40	65	<b>0.02</b>
Masturbation	62	42	0.89
Orgasm	81	63	0.21
Self satisfaction with sexual life	77	59	<b>0.02</b>
Heterosexuality	88	90	0.88

Tab.3 – Comparison of psychosexual features between male patients who changed vs who kept their social sex

Male Social Sex	Change SS n = 22 (%)	Kept SS n = 29 (%)	p
Surgical genital intervention	96	93	0.360
Body Shame	30	40	0.857
Age at first sexual intercourse (mean, yr)	22	23	0.330
Partner	90	85	0.772
Frequent sexual intercourse*	57	52	0.76
Satisfactory sexual intercourse	30	83	<b>&lt;.001</b>
Masturbation	61	60	0.32
Orgasm	78	88	0.273
Self satisfaction with sexual life	91	64	<b>0.02</b>
Heterosexuality	96	86	0.15

References: Mendonca BB, DeGroot 2013; Cohen-Kottanis PT et al, 2010 ; Costa EMF et al, 2012, Lee P et al, 2012; Schonbucher V et al, 2010; Kleinemeier E et al, 2010