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Original article

## Prevalence and demography of transsexualism in Belgium

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## Abstract

**Aim.** – The Belgian medical world has acknowledged the diagnosis of transsexualism and accepted Sex Reassignment Surgery (SRS) as one of the steps in the treatment of choice since 1985. This prevalence and demographic study analyses data on all Belgian individuals who have undergone SRS since that year.

**Methods.** – All (188) plastic surgeons as well as all gender teams (Antwerp, Bruges, Ghent, and Liège) in Belgium were sent demographic questionnaires to be completed for each of their transsexual patients.

**Results.** – The results show an overall prevalence of 1:12,900 for male-to-female and 1:33,800 for female-to-male transsexuals in Belgium. In Wallonia (the French-speaking region of Belgium) the prevalence is significantly lower than in Flanders (the Dutch-speaking region) and in Brussels (the bilingual capital region). In the total Belgian population the male/female sex ratio is 2.43:1, again with a substantial difference between Wallonia on the one hand and Flanders on the other.

**Discussion and Conclusion.** – While in Flanders and in Brussels the prevalence is comparable to that in other Western European countries, in Wallonia it is markedly lower. Transsexualism in Wallonia appears to be socially less acceptable: persons suffering from gender dysphoria in that part of Belgium encounter more problems accessing gender clinics and receiving treatment.

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**Keywords:** Transsexualism; Prevalence; Demography; Sex ratio

## 1. Introduction

Investigating and determining the prevalence of transsexualism presents various problems. Not only do prevailing social conventions and ideas discourage transsexuals to express themselves, but the high cost of sex change operations also forms a material barrier [14]. Difficulties in locating all transsexuals, avoiding overlapping data and establishing a sound differential diagnosis constitute further restrictive factors

[16]. Furthermore, even if all transsexuals can be traced, their individual medical and social reports may still be incomplete.

Whereas the prevalence of transsexualism has been well documented in Western European countries such as the Netherlands, Germany, Sweden, Northern Ireland, England and Scotland [1,5,8,9,15–17] (Table 1), a comprehensive survey of epidemiological data on transsexuals is still lacking in Belgium. Singapore registers its transsexuals very accurately and comprehensively. It has a very high prevalence (35.2:100,000 or 1:2,900 male-to-female and 12.0:100,000 or 1:8,300 female-to-male transsexuals) [13]. These figures illustrate the impact of social conventions and ideas. Availability of Sex Reassignment Surgery (SRS) and cultural factors may play

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Table 1  
Review prevalence-studies

Authors	Country	Year	MF	FM	Male/Female
Pauly [10]	VS	1968	1:100,000	1:400,000	4:1
Walinder [15]	Sweden	1968	1:37,000	1:103,000	2.8:1
Hoenig and Kenna [8]	England and Wales	1973	1:34,000	1:108,000	3.2:1
Ross et al. [12]	Australia	1981	1:24,000	1:150,000	6,1:1
O’Gorman [9]	Northern-Ireland	1982	1:35,000	1:100,000	2.8:1
Eklund et al. [5]	The Netherlands	1980	1:45,000	1:200,000	4.4:1
		1986	1:18,000	1:54,000	3:1
Tsoi [13]	Singapore	1988	1:2900	1:8300	3:1
Bakker et al. [1]	The Netherlands	1993	1:11,900	1:30,400	2.5:1
Weitze and Osburg [16]	Germany	1996	1:42,000	1:104,000	2.5:1
Wilson et al. [17]	Scotland	1999	1:12,700	1:52,000	4:1

a role not only in the prevalence but also in the male/female ratio of applicants. A forceful attitude against male homosexuality in the community may induce non-transsexual homosexuals to resort to changing sex. An intolerance towards male homosexuals may result in a biased higher proportion of male-to-female transformations [12]. The male/female ratio in most Western European countries (Table 1) is quite different from that in Eastern European countries (1: 5.5). Different gender roles are thought to account for this different ratio in Eastern Europe [2,4,7].

One of the main reasons for the lack of epidemiological data in Belgium is the absence of legislation specifically pertaining to transsexuals. As of now, the national government is undertaking steps towards making transsexuals better accepted by society, by providing special legislation.

Our study aims to assess the prevalence and demography of transsexualism in Belgium. Its results should contribute to our understanding of how medical systems and/or cultural factors influence the currently known data and should enable researchers to investigate possible etiological factors.

## 2. Materials and methods

The target population of this retrospective study consisted of all Belgian transgendered individuals who had undergone Sex Reassignment Surgery (SRS) since 1985, when the Belgian medical world started to acknowledge the diagnosis of transsexualism and accept SRS as one step in the treatment of choice. All plastic surgeons ( $n = 188$ ) as well as all gender teams (Antwerp, Bruges, Ghent, and Liège) in Belgium were sent questionnaires to be completed for each of their transsexual patients. The questionnaires included the following demographic items: first consultation, marital status, age, place of residence, children, educational level, occupation, and age at which SRS had been performed. A reminder message was sent to non-responders. Forty-two plastic surgeons and all four gender teams agreed to collaborate. Thirty-three of these surgeons had never performed any sex reassignment surgery, but had referred patients with gender dysphoric symptoms to more experienced colleagues. This allowed us to identify the major sex reassignment surgeons. These were personally contacted by telephone and encouraged to complete our

questionnaires. To eliminate double reporting, the questionnaires were matched by birthdates and initials.

A total of 469 questionnaires were returned, including eight incomplete and 49 doubles. Thus the study covered an 18-year period and involved 412 transsexuals who had undergone the complete procedure of sex reassignment.

## 3. Results

### 3.1. Prevalence

In 2003 there were a total of 412 Belgian-born transsexuals reported to us. They included 292 male-to-females and 120 female-to-males, which yields a male/female sex ratio of 2.43:1. In January 2003 there were 3,758,969 males and 4,048,095 females aged 15 and above in Belgium. Therefore the prevalence of male-to-female transsexuals was 7.74 per 100,000 population (or 1/12,900) and of female-to-male transsexuals 2.96 per 100,000 (or 1/ 33,800). Table 2 subdivides these results into the three Belgian regions. Furthermore, 42.7% of the

Table 2  
Results for prevalence of transsexualism in the three Belgian districts

	Amount	Prevalence	Sex Ratio (M/F)
Belgium (100%)			
Total	412	1/18,975	2.43/1
Male-to-female	292	1/12,886	
Female-to-male	120	1/33,784	
Flanders (73%)			
Total	309	1/15,385	2.51/1
Male-to-female	228	1/10,204	
Female-to-male	91	1/26,909	
Brussels (13%)			
Total	47	1/12,500	1.61/1
Male-to-female	29	1/9363	
Female-to-male	18	1/17,575	
Wallonia (14%)			
Total	55	1/45,045	1.62/1
Male-to-female	34	1/34,483	
Female-to-male	21	1/75,758	

transsexuals reside in urban areas and 22.1% in rural areas, but no such information was available for the other 35.1%.

### 3.2. Age at first consultation

For 91 transsexuals (55 males and 36 females) the age at which they had first consulted a psychiatrist or a plastic surgeon was not reported. For the other 321, the ages ranged from 14 to 71 years, with a mean age of 31.56 (SD = 10.25). For male-to-female transsexuals a mean age of 32.65 (SD = 10.39) was found, with an age range from 14 to 71 years. For female-to-male transsexuals, we found a mean age of 28.48 (SD = 9.25) with an age range from 16 to 52 years.

### 3.3. Marital status

At their first consultation, 189 of the subjects were not married, 57 patients were divorced and 1 was widowed. This means that 60% of the transsexuals did not have a partner at first application. The other 40% were married (60) or living together (105). The partners were female for 68% of the male-to-female and for 80% of the female-to-male subjects. In Table 3 the marital status data are compared with the statistical data of the general population as reported by the Belgian National Institute for Statistics (NIS) [3].

### 3.4. Parenthood

When they first consulted, 310 transsexuals (75.24%) did not have children, while 102 had from 1 to 7 children. The average of 0.49 children for all transsexuals is the result of an average of 0.62 for male-to-female and 0.18 for female-to-male transsexuals.

### 3.5. Educational level

The educational level was categorized into lower secondary, higher secondary and higher or further education.

Table 3  
Comparing results of civil status (cohabited persons are counted as unmarried)

	Total	%	Male	%	Female	%
<b>Married</b>						
Total Belgian population	4,234,634	54	2,104,070	56	2,130,564	53
Transsexuals	60	15	55	19	5	4
<b>Unmarried</b>						
Total Belgian population	2,247,240	29	1,236,877	33	1,010,363	25
Transsexuals	294	71	185	63	109	91
<b>Divorced</b>						
Total Belgian population	641,074	8	290,073	8	351,001	9
Transsexuals	57	14	51	18	6	5
<b>Widower</b>						
Total Belgian population	684,116	9	127,949	3	556,167	13
Transsexuals	1	0	1	0	0	0

Questionnaires on 7 transsexuals lacked a value for this item. The other 405 subjects had completed lower secondary education, 268 of them had also completed higher secondary education, and 79 had a degree from a university or a college of further education. The separate results for male-to-female and female-to-male transsexuals are summarized in Table 4.

### 3.6. Occupation

Occupational status was not known for 7 subjects. The 152 non-working subjects were distributed as follows: 58 were on unemployment benefit, 28 on health benefit, 18 on subsistence benefit, 7 were retired, 26 were students, and 11 had an unspecified status. The 253 transsexuals who were in work included 86 factory workers, 102 office workers, 7 executive staff, 36 self-employed, and 22 whose job was unspecified. This work status is subdivided for male-to-female and female-to-male transsexuals in Table 5, but the figures cannot be compared with the overall Belgian population because the NIS uses different subdivisions.

### 3.7. Age at sex reassignment surgery

Finally, data on the age at which sex reassignment surgery was performed show that male-to-female transsexuals had a mammoplasty at a mean age of 35.51 and a vaginoplasty at a mean age of 35.73. Their ages range from 17 to 73 years, while female-to-male transsexuals have an age range from 15 to 54 years for the mastectomy (mean 28.65), ovariectomy/hysterectomy (mean 29.22), and phalloplasty (mean 30.21).

## 4. Discussion

This study presents an overview of the Belgian gender dysphoric patients who have undergone SRS since 1985. The prevalence of transsexualism is estimated to be 1:12,900 male-to-females and 1:33,800 female-to-males in 2003. The prevalence is rather similar to that in the Netherlands, which is a neighbouring country [1], and differs from the other European countries (Table 1). This finding does not come as a surprise because the Netherlands and Belgium are similar in many various aspects: economic, social (health care insurance), cultural and demographic. When data are considered

Table 4  
Results for education level of transsexuals in Belgium

	Total = 412	%	Male-to-female = 292	%	Female-to-male = 120	%
First years of secondary school	405	98	290	99	115	95
Last years of secondary school	268	65	181	62	87	73
College of higher education or university	79	19	55	19	24	20
Missing values	7		2		5	

Table 5  
Job status for male and female transsexuals

	Male	Female
Unemployed	109	42
Unemployment benefit	40	18
Health insurance	25	3
Subsistence	15	3
Retired	6	1
Student	12	18
Not specified	11	0
Employed	178	75
Worker	53	33
Clerk	74	28
Staff member	6	1
Independent profession	24	12
Not specified	21	1
Unknown	5	2

in the three Belgian regions separately, it is striking that (Dutch-speaking) Flanders and (bilingual) Brussels have a higher prevalence than the Netherlands, while (French-speaking) Wallonia shows lower figures. These differences may be explained by the higher degree of economic similarity between Flanders/Brussels and the Netherlands. Moreover, the time gap (1990 and 2003 respectively) between the Dutch study and ours may account for a possibly overestimated difference between Flanders/ Brussels, and the Netherlands. On the contrary, the comparison with the Netherlands may be unbalanced because different definitions of transsexuals are used. Our study included only patients who had undergone SRS, while the Dutch study also included patients who had been given hormone therapy [1]. The lower prevalence in Wallonia can be explained by a less progressive attitude towards transsexualism among psychiatrists and in the community at large. French-speaking Belgian psychiatrists, like their colleagues in France, tend to be more psychoanalytically oriented and consequently view the treatment of gender dysphoric individuals accordingly. In Wallonia transsexuals are also offered less opportunity to access gender clinics and treatment. The single gender clinic in Wallonia confines itself to providing psychological and hormone treatment. But in that part of Belgium there is no plastic surgeon who operates on these patients. The phenomenon of transgender people moving to where they can get treatment is well known [11]. Demographic analysis further demonstrates that 75% of Belgian transsexuals are located in Flanders, as opposed to only 12% in Brussels and 13% in Wallonia.

Our overall prevalence figures might be an underestimate, because not all invited surgeons agreed to participate in our study. However, two important features of our research minimize this underestimation. First of all, as Belgium is a small country, all the surgeons performing SRS are known by the transgender community, and all of them, as well as all gender teams, collaborated in this study. Secondly, as information was not gathered from the patients themselves, barriers such as fear, taboo, and desire for anonymity were avoided.

The male/female sex ratio in Belgium is rather comparable to that in the other West-European countries e.g. the Netherlands and Germany [1,6,14,16]. A more detailed analysis of our results shows that Wallonia and Brussels have a much lower ratio (1.6:1) than Flanders. The explanation might be that for a male-to-female transsexual changing sex is more difficult in Wallonia than in Flanders, but this interpretation does not quite hold for Brussels. We do not have an explanation for the Brussels figures.

Whilst there is a higher proportion of male-to-female transsexuals, they presented themselves at a later age for psychic evaluation than female-to-male transsexuals. On average female-to-male patients contacted a medical doctor about their gender dysphoric symptoms eight years earlier than male-to-female transsexuals. In addition to this statistically significant difference ( $P < 0.001$ ), the age range for female-to-male transsexuals was much smaller. The mean ages at which SRS was performed also support these findings. A significant inequality in mean ages between female-to-male and male-to-female transsexuals was found ( $P < 0.001$ ): a mean age of 35.62 years for male-to-females versus 29.36 for female-to-males. These figures reflect the three-times higher number of students among the female patients. Comparable results were found in Germany where the mean ages were 34 for male SRS and 30 for female SRS [16].

The marital status table (Table 3) shows a different distribution between the male-to-female and the female-to-male transsexuals. As many as 60% of the transsexuals did not have a partner when they first consulted a medical doctor about their gender dysphoric symptoms. To compare our data with those of the NIS, cohabiting subjects were coded as unmarried. It appears that while more than 54% of the Belgian population are married, only 15% of transsexuals are [2]. Gender dysphoric persons do not feel at ease with their bodies and their lives in general. It is often impossible for them to start and maintain a stable relationship. Transsexuals also have a divorce rate that is twice as high as the Belgian average. The lower number of divorced female-to-males may be explained by the fact that fewer female-to-male transsexuals marry. They usually do not engage in a female life before transition.

The highest educational level is equally distributed among female-to-male and male-to-female transsexuals. Female-to-males score slightly higher for full secondary education. No specific explanation can be found for these figures.

As for general occupational status, two-fifths of the male-to-female as well as of the female-to-male transsexuals are not in work. The more specific distribution is approximately comparable for both groups, except for the number of students and pensioners, who include more female-to-male students and more male-to-female pensioners, which can be easily explained by the female-to-males' lower mean age at first consultation.

## 5. Conclusion

The prevalence of male-to-female (1:12,900) and female-to-male (1:3,800) transsexuals in Belgium is comparable

with that in other Western European countries. It is remarkable that Flanders and Brussels have a slightly higher prevalence than the Netherlands, while Wallonia has a significantly lower prevalence. Except for Brussels and Wallonia, the Belgian sex ratio (2.43:1) is similar to that in other Western European countries. In Wallonia, transsexualism is still less well accepted by society: persons suffering from gender dysphoria in that part of Belgium have more problems accessing gender clinics and receiving treatment. This may be the major explanation for the differences between Flanders/ Brussels and Wallonia.

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