EPATH conference, Ghent 2015

A Year in Review – mental health

Johannes Fuß
Institute for Sex Research and Forensic Psychiatry
jo.fuss@uke.de
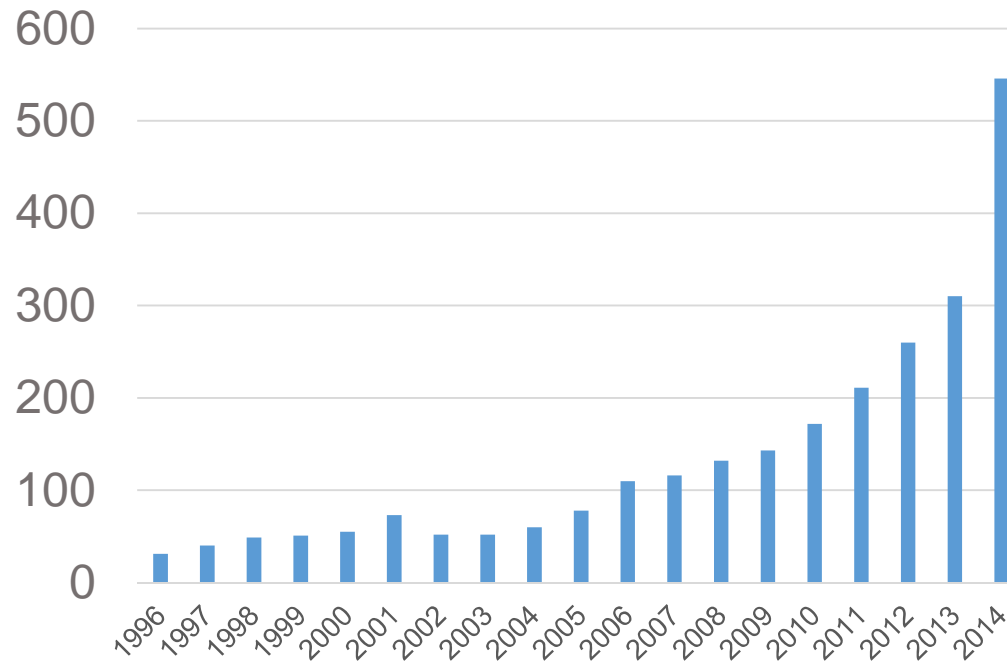
Universitätsklinikum
Hamburg-Eppendorf

Scientific output in 2014

PubMed

SEARCH: gender dysphoria OR gender incongruence OR transgender OR transsexual OR gender identity disorder

Universitätsklinikum
Hamburg-Eppendorf

- Mental health burden

- Treatment

- Biomechanism

ENIGI: Mental health of trans persons in the EU

Table 2 Axis I comorbidity in the four countries assessed with the Mini International Neuropsychiatric Interview – Plus

	Belgium	Germany	The Netherlands	Norway	All countries	P^a
Gender, *n*						
MtF	43	28	102	7	180	
FtM	20	25	45	28	118	
One or more Axis I disorders, n (%)						
Current						NS
MtF	13 (30)	15 (54)	34 (33)	7 (100)	69 (38)	
FtM	8 (40)	12 (48)	16 (36)	8 (29)	44 (37)	
Current and lifetime						NS
MtF	25 (58)	25 (89)	66 (65)	7 (100)	123 (68)	
FtM	19 (95)	18 (72)	30 (67)	17 (61)	84 (71)	
Affective disorders, *n* (%)						
Current	8 (13)	21 (40)	37 (25)	15 (43)	81 (27)	0.005
Current and lifetime	29 (46)	43 (81)	88 (60)	19 (54)	179 (60)	<0.0001
Anxiety disorders, *n* (%)						
Current	14 (22)	13 (24)	15 (10)	8 (23)	50 (17)	0.035
Current and lifetime	24 (38)	20 (38)	31 (21)	10 (29)	85 (28)	0.020
Substance-related disorders, *n* (%)						
Current	4 (6)	4 (8)	14 (10)	2 (6)	24 (8)	NS
Current and lifetime	16 (25)	6 (11)	23 (16)	2 (6)	47 (16)	0.028
Eating disorders, *n* (%)						
Current	1 (2)	1 (2)	0 (0)	0 (0)	2 (1)	NS
Current and lifetime	1 (2)	2 (4)	1 (1)	2 (6)	6 (2)	NS
Psychotic disorders, *n* (%)						
Current and lifetime	0 (0)	0 (0)	3 (2)	1 (3)	4 (1)	NS

FtM, female to male reassignment; MtF, male to female reassignment; NS, not significant.
a. Difference between countries for the MtF plus FtM groups combined.

Universitätsklinikum
Hamburg-Eppendorf

Cross-sex hormones and Mental health I

Transsexual patients' psychiatric
comorbidity and positive effect of cross-sex
hormonal treatment on mental health:
Results from a longitudinal study

Marco Colizzi [*], Rosalia Costa, Orlando Todarello

Table 4 Means, standard deviations and prevalence of symptoms of depression measured with SDS scale in transsexual patients before (phase 1) and after cross-sex hormonal treatment (phase 2), and statistical comparisons with t-test and Chi-square.

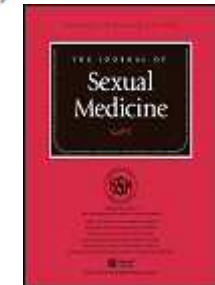| SDS (Normal range)	Transsexual patients before HT (phase 1) ($n = 107$) M (SD)	Transsexual patients after HT (phase 2) ($n = 107$) M (SD)	Statistical comparisons	
			t	p
(25—49)	48.04 (10.5)	39.98 (10.79)	6.16	<.001
Depression (scores)	n (%)	n (%)	χ^2	p
None (25—49)	62 (58%)	83 (77%)	19.05 [a]	<.001
Mild (50—59)	31 (29%)	18 (17%)		
Moderate (60—69)	10 (9%)	6 (6%)		
Severe (70—100)	4 (4%)	—		

SDS, Zung Self-Rating Depression Scale; HT, cross-sex hormonal treatment.
[a] Comparison between transsexual patients without symptoms of depression and transsexual patients with some symptoms of depression.

Universitätsklinikum
Hamburg-Eppendorf

Cross-sex hormones and Mental health II

Effects of Different Steps in Gender Reassignment Therapy on Psychopathology: A Prospective Study of Persons with a Gender Identity Disorder

Gunter Heylens, MD,* Charlotte Verroken,* Sanne De Cock,* Guy T'Sjoen, MD, PhD,*† and Griet De Cuypere, MD, PhD*

Table 2 Mean SCL-90-scores of "treated population" vs. "general population"

SCL-90 subscale	General population (SD)	Study group Baseline (SD) n = 56	P	After hormone therapy (SD) n = 47	P	After SRS (SD) n = 42	P
ANG [10–50]	12.8 (4.4)	17.0 (6.4)	<0.001	12.4 (5.1)	0.220	13.5 (4.2)	0.286
AGO [7–35]	7.9 (2.3)	9.5 (4.2)	0.065	8.1 (1.8)	0.402	8.2 (2.0)	0.264
DEP [16–80]	21.6 (7.6)	34.7 (14.3)	<0.001	23.8 (9.0)	0.090	24.4 (9.2)	0.086
SOM [12–60]	16.7 (5.3)	18.6 (6.7)	0.042	15.2 (2.7)	<0.001	17.1 (6.2)	0.453
IN [9–45]	12.6 (4.3)	16.6 (7.0)	<0.001	12.8 (4.4)	0.359	15.1 (6.7)	0.051
SEN [18–90]	24.1 (7.6)	31.8 (11.7)	<0.001	24.6 (7.9)	0.277	25.8 (7.1)	0.097
HOS [6–30]	7.2 (2.1)	8.2 (3.0)	<0.001	7.4 (2.0)	0.181	7.2 (1.8)	0.237
SLA [3–15]	4.5 (2.2)	5.8 (3.2)	<0.001	4.4 (1.7)	0.192	5.2 (3.4)	0.033
NEUR [90–450]	118.3 (32.4)	157.7 (49.8)	<0.001	119.7 (32.1)	0.359	127.9 (37.2)	0.082

P values show differences between "treated population" and "general population."
AGO = agoraphobia; ANG = anxiety; DEP = depression; HOS = hostility; IN = paranoid ideation/psychoticism; NEUR = overall psychoneurotic distress; SCL-90 = Symptom Checklist-90; SD = standard deviation; SEN = interpersonal sensitivity; SLA = sleeping problems; SOM = somatization

Universitätsklinikum
Hamburg-Eppendorf

Cross-sex hormones and the Brain

Effects of Cross-Sex Hormone Treatment on Cortical Thickness in Transsexual Individuals

Leire Zubiaurre-Elorza, PhD,*[†] Carme Junque, PhD,*[†] Esther Gómez-Gil, MD, PhD,[‡§] and Antonio Guillamon, MD, PhD[¶]

Table 4 Cortical regions showing decrease after estrogens and anti-androgens treatment in male-to-female transsexuals

	Pretreatment	Posttreatment	t statistics (P values)	Effect size[‡]
Left isthmus cingulate	2.79 ± 0.24[†]	2.68 ± 0.21	t = 2.97 (0.01)	0.45
Left rostral anterior cingulate	3.09 ± 0.19	2.98 ± 0.17	t = 2.97 (0.01)	0.58
Left lateral occipital	2.40 ± 0.09	2.35 ± 0.09	t = 3.52 (0.004)	0.56
Left supramarginal	2.73 ± 0.17	2.65 ± 0.18	t = 3.12 (0.008)	0.47
Left superior frontal	2.88 ± 0.15	2.82 ± 0.16	t = 3.19 (0.007)	0.40
Right superior frontal	2.80 ± 0.13	2.74 ± 0.15	t = 2.79 (0.015)	0.46
Right inferior parietal	2.76 ± 0.13	2.69 ± 0.15	t = 3.74 (0.002)	0.54
Right bank of sts	2.85 ± 0.18	2.78 ± 0.16	t = 3.47 (0.004)	0.39
Right fusiform	2.91 ± 0.12	2.79 ± 0.13	t = 5.01 (<0.0001)	1.00
Right insula	3.27 ± 0.18	3.14 ± 0.15	t = 5.37 (<0.0001)	0.72
Right precuneus	2.59 ± 0.14	2.48 ± 0.18	t = 3.93 (<0.002)	0.79

Only results with $P \leq 0.01$ were considered.
[†]Mean ± SD
[‡]Effect size: 0.20 (small); 0.20–0.50 (medium); ≤0.50 (large)
sts = superior temporal sulcus

Universitätsklinikum
Hamburg-Eppendorf

Gender dysphoria and the Brain

White Matter Microstructure in Transsexuals and Controls Investigated by Diffusion Tensor Imaging

Georg S. Kranz,[1] Andreas Hahn,[1] Ulrike Kaufmann,[2] Martin Küblböck,[3] Allan Hummer,[3] Sebastian Ganger,[1] Rene Seiger,[1] Dietmar Winkler,[1] Dick F. Swaab,[4] Christian Windischberger,[3] Siegfried Kasper,[1] and Rupert Lanzenberger[1]
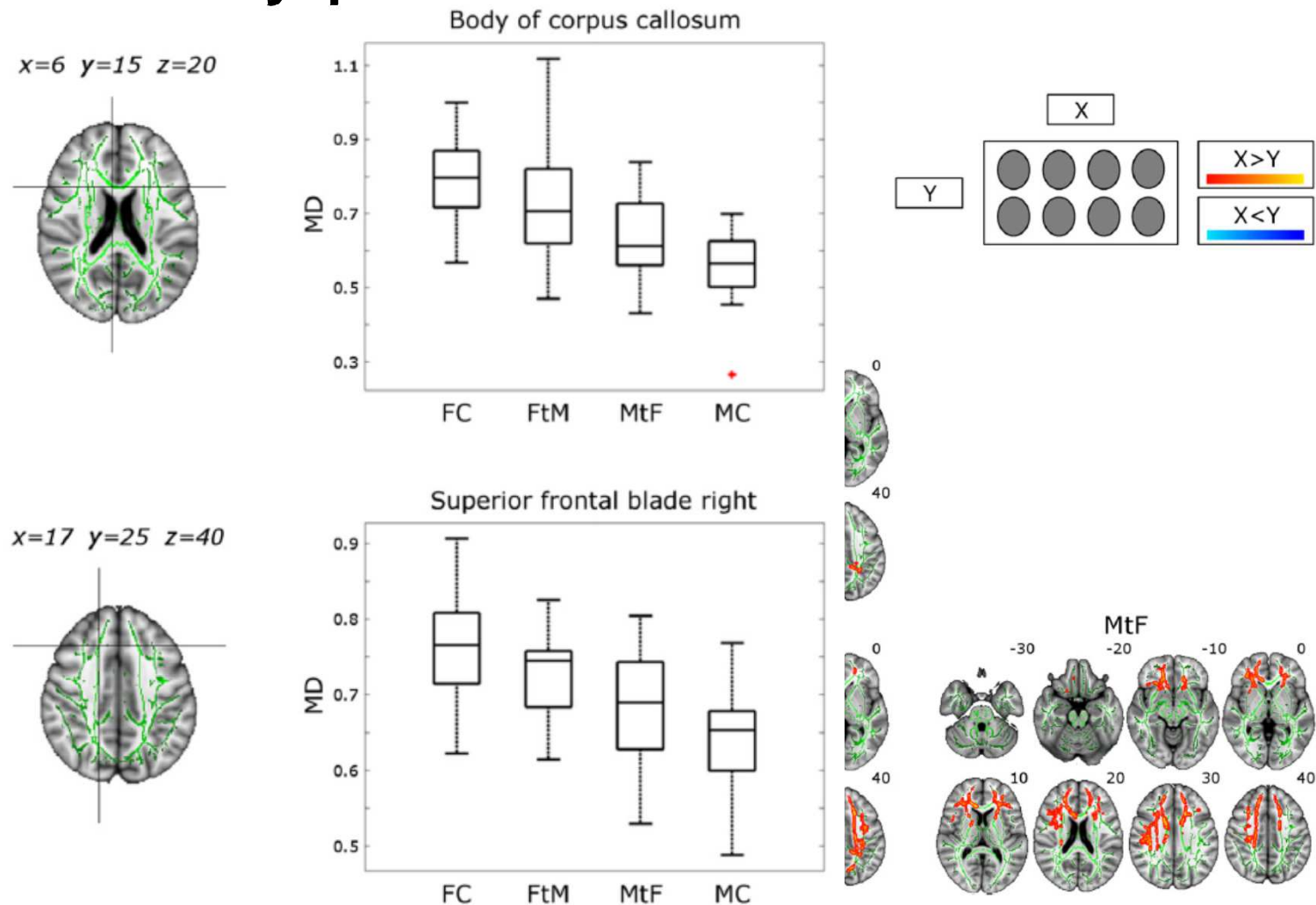
Trans persons before cross-sex hormone treatment

	FCs	FtM transsexuals	MtF transsexuals	MCs
n	23	23	21	22
E_2 (pg/ml)	$110.86 \pm 130.82^{c,d}$	$100.00 \pm 70.10^{c,d}$	$28.70 \pm 17.69^{a,b}$	$26.62 \pm 9.66^{a,b}$
T (ng/ml)	$0.29 \pm 0.14^{c,d}$	$0.38 \pm 0.18^{c,d}$	$4.94 \pm 2.22^{a,b}$	$5.31 \pm 1.89^{a,b}$
P_4 (ng/ml)	0.81 (0.41/7.44)	$1.18 (0.72/9.76)^{c,d}$	$0.59 (0.48/0.80)^c$	$0.74 (0.61/0.90)^c$
Sexual orientation (n)				
Females	5	19	4	16
Males	15	1	5	6
Bisexual	3	3	12	0
GMV (ml)	$630.32 \pm 52.37^{c,d}$	633.86 ± 50.58^d	671.81 ± 48.55^a	$712.89 \pm 48.64^{a,b}$
WMV (ml)	$489.57 + 42.22^{c,d}$	$497.91 + 54.83^{c,d}$	$538.65 + 57.19^{a,b}$	$578.45 + 42.99^{a,b}$
CSF (ml)	$214.45 \pm 16.81^{c,d}$	$212.47 \pm 22.05^{c,d}$	$242.56 \pm 36.29^{a,b}$	$245.16 \pm 34.29^{a,b}$
TIV (ml)	$1334.35 + 83.45^{c,d}$	$1344.24 + 104.17^{c,d}$	$1453.02 + 117.71^{a,b}$	$1536.49 + 113.57^{a,b}$

Universitätsklinikum Hamburg-Eppendorf

Gender dysphoria and the Brain

Summary

- Anxiety and depressive disorders are more prevalent in trans persons

- Cross-sex hormone treatment improves anxious and depressive symptoms

- Cross-sex hormone treatment reshapes the brain

- The white matter microstructure and brain volumes of transmen and –women fall in between that of cissexual female and male brains

Universitätsklinikum
Hamburg-Eppendorf