EAA Andrology Training Centre

Centre Report

2023

EAA Andrology Training Centre in Lodz, Poland

CENTRE REPORT

(2020-2022)

History of Centre

The Clinical Andrology Unit was established in 1981 as part of the Institute of Endocrinology at the Medical Academy in Lodz with Dr Krzysztof Kula as its head. In 2002 the Unit was transformed into the Department of Andrology and Reproductive Endocrinology with Prof. Kula as Director. In 2016, after Prof. Kula's retirement, Prof. Jolanta Slowikowska-Hilczer was nominated as the Director of the Department.

The Clinical Andrology Unit was recognised as a Clinical Training Centre of the European Academy of Andrology in 1995. The afiliation was renewed in the years 2002, 2011, 2016 and 2019. In the Centre 21 medical doctors were educated and received EAA Certificate of clinical andrologist.

Prof. Kula obtained a position as EAA Academician in 1994. He was a member of the EAA Executive Council in years 1992-2002. He was also the member of the EAA Accreditation Sub-committee at that time. Prof. Slowikowska-Hilczer obtained the position as EAA Academician in 1999. She was the member of the EAA Executive Council and Accreditation Sub-committee in years 2006-2010 and the member of the EAA Examination Sub-committee until now.

The Department was a seat of the Executive Council of the Polish Andrology Society (PAS) between 1993 and 2002 and again from 2011 until 2019. Prof. Kula was the founding and the first President of PAS. Prof. Jolanta Slowikowska-Hilczer was the President of PAS in years 2011-2015 and 2016-2019. Prof. Jolanta Slowikowska-Hilczer and Dr hab. Renata Walczak-Jędrzejowska are the members of the current Executive Council of PAS. Prof. Slowikowska-Hilczer is the chairman of Examination Committee of PAS.

Organization of Centre

The Centre is located at the Department of Andrology and Reproductive Endocrinology in Medical University of Lodz. It is connected with the Outpatient Clinic of Andrology

and Reproductive Endocrinology based at the University Hospital with Prof. Slowikowska-Hilczer as head of the Clinic. The Centre cooperates with other clinics and departments of the Medical University of Lodz, as well as the private Center of Infertility Salve-Medica. The cooperation includes both clinical and scientific activities.

Educational activities

The Centre is involved in the postgraduate training of medical doctors in endocrinology, urology and gynaecology. They also have the possibility to participate in a 3-day-long course on clinical andrology given annually by the Centre in the cooperation with the Polish Society of Andrology. So far, 21 medical doctors were trained by the Centre and passed the examination organized by EAA and received the Certificate of Clinical Andrologist. Moreover, 129 medical doctors passed the exam on clinical andrology organized by the Polish Society of Andrology (in Polish) from 2016.

The Centre also organizes courses on semen analysis according to the WHO guidelines for laboratory technicians in cooperation with the National Chamber of Laboratory Diagnostics and the Polish Society of Andrology. So far, ca. 300 diagnosticians have been trained.

The Department is also involved in andrology teaching at the Medical University of Lodz:

- 15 hrs per student (4th year – Medical Faculty) during the course on reproductive medicine and sexology
- 30 hrs per student (5th year - Laboratory Medicine Faculty) during laboratory training on semen analysis according to current WHO recommendations

Electives:

- Diagnostics of male reproductive system disorders - seminars -15 hrs/student, (4th year – Laboratory Medicine Faculty)

- Reproductive medicine and sexology - seminars -15 hrs/student, (1st year – Laboratory Medicine Faculty)
- Reproductive medicine and sexology - lectures – 6 hrs, seminars -10 hrs/student, laboratory training – 5 hrs (2nd year – Biomedical Sciences Faculty)

Research activities

1. Diagnosis and treatment of male infertility
2. Evaluating the impact of environmental exposure on commonly used synthetic chemicals that interfere with internal secretion of hormones related to hypothalamic-pituitary-testosterone in young men
3. The impact of lifestyle and selected environmental factors on semen quality in young men in Lodz
4. Gene expression for aromatase and estrogen receptors in testicular tissues of men with normal and defective spermatogenesis
5. Diagnostics of microcirculation disorders using the Flow Mediated Skin Fluorescence (FMSF) method in men over 40 years of age
6. Testicular, Epididymal and Vasal Anomalies in Pediatric Patients with Cryptorchid Testes and Testes with Communicating Hydrocele
7. The Effect of the COVID-19 Pandemic on the Assessment of Sexual Life-Repeated Cross-Sectional Surveys among Polish Adults in 2017, 2020 and 2021
8. Male ageing (European Male Ageing Study – EMAS results)
9. Clinical European study on the outcome of surgical and hormonal therapy and psychological intervention in disorders of sex development (dsd-Life results)

Clinical activities

Andrological patients are admitted to the Outpatients Clinic of Andrology and Reproductive Endocrinology.. About 1000 visits per year are noted. The majority of patients are men from infertile couples. In addition, the Clinic takes care of a considerable number of patients with hypogonadism, sexual dysfunction, delayed or precocious puberty, cryptorchidism and gynecomastia.

Semen quality analysis is under annual external quality control provided by QuaDeGa (Centre Of Reproductive Medicine in Andrology, Munster, Germany). The

basic semen analysis is carried out according to WHO guidelines from 2021 partly in the semen laboratory of the Department and partly in the private Infertility Clinic Salve-Medica. In the Infertility Clinic there are performed also additional semen tests: DNA fragmentation test, HBA test, MAR test, swim up, biochemical tests and miceobiological tests.

Basic blood tests and hormone analyses are performed in the central laboratory in the University Hospital. Ultrasonography of testes and vas deferens is carried out in the Outpatient Clinic based at the University Hospital.

The Centre collaborates with the Department of Urology at the Medical University of Lodz concerning the surgical management of varicocele, testicular cancer, cryptorchidism and seminal ducts occlusions. Patients with an indication for the assisted reproduction are referred to private fertility clinic Salve-Medica.

Name and address of Centre

Department of Andrology and Reproductive Endocrinology
Medical University of Lodz
92-213 Łódź, 251 Pomorska str., Poland

Type of Centre

University	X
University Hospital	X
Private Centre	

Other (please specify)

1. Director Prof. dr. hab. med. Jolanta Slowikowska-Hilczer

Academician [X] Affiliated Member [ ] Clinical Andrologist [X]

2a. Clinical responsible Prof. dr. hab. med. Jolanta Slowikowska-Hilczer

Academician [x] Affiliated Member [ ] Clinical Andrologist [X]

3. Present Staff *(Senior Scientists)*

1) Name: Dr hab n. med. Renata Walczak-Jedrzejowska
Degree: Assistant professor, scientist, academic teacher, in charge of laboratory and teaching program
Speciality: molecular biology
full time

Academician [ ] Affiliated Member [ ] Clinical Andrologist [ ]

2) Name: Dr hab. n. med. Katarzyna Marchlewska
Degree: Assistant professor, scientist, academic teacher, in charge of contracts
Speciality: biochemistry
part time

Academician [ ] Affiliated Member [ ] Clinical Andrologist [ ]

Insert any additional staff below *(if required)*

MD/Biologists/Chemists

1) Name: Piotr Byczkiewicz
Degree: MD
Speciality: endocrinology
Full time/part time: part time

Academician [ ] Affiliated Member [ ] Clinical Andrologist [ ]

2) Name: Daria Adamczewska
Degree: MSc
Speciality: laboratory diagnostician
Full time/part time: ful time time

Academician [ ] Affiliated Member [ ] Clinical Andrologist [ ]

Laboratory Technicians

1) Name Bogusława Cyniak

Administrative Personnel

1) Name Anna Gościmska

4. Clinical Activity

A. Outpatients: Consultations per year in the last 3 years

	2020	2021	2022
New patients	119	145	153
Follow-up patients	880	940	1100

Type of patients in the last years (%)	2020	2021	2022
Infertility	30	25	20
Erectile dysfunction	35	35	35
Hypogonadotropic hypogonadism	1	1	1
Klinefelter	10	10	15
Gynaecomastia	4	4	5
Varicocele	4	2	2
Cryptorchidism	8	8	6
Male sex accessory gland infections	5	5	4
Testicular tumours	1	0	0
Disorders of gender identity	5	8	10
Other	2	2	2

B. Ultrasound (testis, penile, prostate)

	2020	2021	2022
Total	0	0	0
Controls	0	0	0

These procedures are performed at the Department of Radiology in the same hospital.

C. Andrological surgery procedures

	2020	2021	2022
Testicular biopsies	0	0	0
Varicocele ligation	0	0	0
Prostate biopsies	0	0	0
BPH	0	0	0
Prostate cancer	0	0	0
Vasectomy	0	0	0
Vaso-vasostomy	0	0	0
Other	0	0	0

These procedures are performed at the Department of Urology in another hospital.

5. A. Andrology laboratory activity

	2020	2021	2022
Semen analyses	84	96	88
Sperm antibodies	0	0	0
Seminal markers	0	0	0

Basic semen analysis is performed also in the private infertility clinic Salve-Medica, where laboratory staff of the Center is also employed. Moreover additional tests (i.e. sperm antibodies and seminal markers and other) are performed exclusively in the private Infertility Clinic Salve-Medica.

5. B. Andrology laboratory activity

Sperm banking donors	Yes		No	X
Sperm banking cancer patients	Yes		No	X

If yes:			
	2020	2021	2022
Number of samples	0	0	0

5. C. Histopathological evaluation of biopsies	Yes		No	X
5. D. Reproductive Hormones Assays	Yes	X	No	

Yes, in the central lab of the same hospital

If yes, please specify type of assays:
chemiluminescent immunoassay, CLIA (Dia Sorin Liason and Abbott Architect systems)

5. E. Y chromosome microdeletions according to EAA/EMQN guidelines	Yes [ ]	No [X]
If yes number of tests in the past year		
Participation to the EAA quality control scheme?	Yes [ ]	No [ ]
If no, specify if available in another lab of the same hospital	Yes [X]	No [ ]
Blood karyotyping	Yes [ ]	No [X]
If no, specify if available in another lab of the same hospital	Yes [X]	No [ ]

Other genetic tests (please specify)
FISH sperm
No
Pre-implantation genetic diagnosis Yes, in private infertility clinic Salve-Medica
Amniotic fluid karyotyping Yes, in another lab of the same hospital

6. Collaborations with other Clinical Units of the University/Hospital

IVF Unit ***If yes*** please specify:	Yes [ ]	No [X]
Urology Clinic	Yes [X]	No [ ]
Endocrine Clinic	Yes [X]	No [ ]
Genetics Lab/Unit	Yes [X]	No [ ]
Paediatric Unit	Yes [X]	No [ ]
Central Hospital Laboratory	Yes [X]	No [ ]

Private IVF Centre	Yes	X	No	

If yes please specify:
Medical University of Lodz: Clinic of Endocrinology – Prof. A. Siejka, Clinic of Endocrinology and Metabolic Diseases - Prof. A. Lewiński, Clinic of Pediatric Endocrinology – Dr hab. M. Hilczer, II Clinic of Urology - Prof. W. Różański, Dr E. Oszukowska, Clinic of Pediatric Surgery and Urology – Prof. J. Niedzielski, Department of Genetics – prof. A. Zmysłowska
Private infertility clinic Salve-Medica – dr B. Sobkiewicz

7. Clinical teaching activity

Duration of training for clinical andrology exam (years):	3

	Number
A: Trainees/ 5 years	7
B: Trainees who passed EAA-ESAU\exam for Clinical Andrologist/ 5 yrs	7
C: Trainees working in the centre preparing to pass the EAA-ESAU examination/ 5 yrs	4
D: PhD Students/ 5 yrs	5
E: Medical Students/year	650
F: Laboratory diagnostics, Biotechnology students/year	70

8. Formal Andrology teaching program for clinical andrology exam	Yes	X	No	
If yes: specify duration (years/months):	Years	3	Months	

	Hours of formal teaching per year	**Professional training (weeks/months)**
Medical Students	15	
PhD Students		
Post Graduate students		
Trainees	30	36 months
Other degrees (please specify) BSc – Faculty Medical Biotechnology – 5 h /year MSc – Faculty of Laboratory Medicine (Laboratory diagnostic) 25 h/year		

9. Research Activity

The full list of publications (years 2015 - 2020) are presented at the end of this report.

Fields of scientific interests:

1. Diagnostics of male infertility
2. The impact of environmental and liestyle risk factors on male fertility and general health
3. Disorders of sexual differentiation and development
4. Hormonal control of spermatogenesis
5. Pathogenesis of testicular cancer
6. Male aging

Main research funding during the last 3 years:

1. Medical University of Lodz - statutory grant: "The impact of lifestyle and selected environmental factors on semen quality in young men in Lodz", 2019-2023.

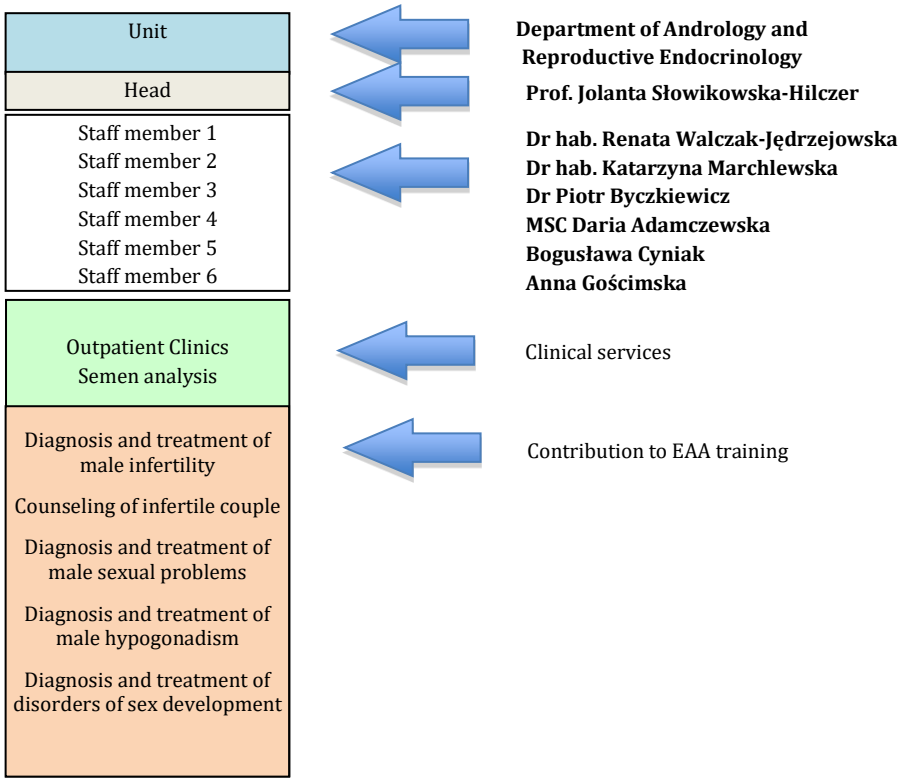
10. Research Funding

Please specify the amount of available funds in the last 3 years and their source

Year	2020-2022
Total amount (€)	ca. 64 000 **€**
Funding Source(s)	Medical University of Lodz

ORGANIZATION CHARTS

Organization charts legend: Department / Unit Structure



CENTRE PHOTOS

Staff of the EAA Training Centre in Lodz, Poland (March 14, 2023). Sitting (from left): Dr hab. Renata Walczak-Jędrzejowska, Prof. Jolanta Słowikowska-Hilczer, Dr Piotr Byczkiewicz. Standing (from left): Dr hab. Katarzyna Marchlewska, Bogusława Cyniak, Anna Gościmska, Msc Daria Adamczewska

FULL LIST OF PUBLICATIONS (with IF) of staff members from the last 3 years

1. Decoding the role of cytochrome c in metabolism of human spermatozoa by Raman imaging. Abramczyk H, Sobkiewicz B, Walczak-Jędrzejowska R, Marchlewska K, Surmacki J Front Cell Dev Biol. 2022 Nov 25;10:983993. doi: 10.3389/fcell.2022.983993. **IF 5.69**
2. The Leydig cell biomarker INSL3 as a predictor of age-related morbidity: Findings from the EMAS cohort. Ivell R, Heng K, Severn K, Antonio L, Bartfai G, Casanueva FF, Huhtaniemi IT, Giwercman A, Maggi M, O'Connor DB, O'Neill TW, Punab M, Rastrelli G, Slowikowska-Hilczer J, Tournoy J, Vanderschueren D, Wu FCW, Anand-Ivell R. Front Endocrinol (Lausanne). 2022 Nov 8;13:1016107. doi: 10.3389/fendo.2022.1016107. **IF 6.055**
3. Association of age, hormonal, and lifestyle factors with the Leydig cell biomarker INSL3 in aging men from the European Male Aging Study cohort. Anand-Ivell R, Heng K, Severn K, Antonio L, Bartfai G, Casanueva FF, Huhtaniemi IT, Giwercman A, Maggi M, O'Neill TW, Punab M, Rastrelli G, Slowikowska-Hilczer J, Tournoy J, Vanderschueren D, Wu FCW, Ivell R. Andrology. 2022 Oct;10(7):1328-1338. doi: 10.1111/andr.13220. **IF 4.456**
4. The impact of Klinefelter syndrome on socioeconomic status: a multicenter study. Franik S, Fleischer K, Kortmann B, Stikkelbroeck NM, D'Hauwers K, Bouvattier C, Slowikowska-Hilczer J, Grunenwald S, van de Grift T, Cartault A, Richter-Unruh A, Reisch N, Thyen U, IntHout J, Claahsen-van der Grinten HL. Endocr Connect. 2022 Jun 29;11(7):e220010. doi: 10.1530/EC-22-0010. **IF 3.335**
5. Testicular, Epididymal and Vasal Anomalies in Pediatric Patients with Cryptorchid Testes and Testes with Communicating Hydrocele. Niedzielski J, Nowak M, Kucharski P, Marchlewska K, Słowikowska-Hilczer J. J Clin Med. 2022 May 26;11(11):3015. doi: 10.3390/jcm11113015. **IF 4.964**
6. Reproductive hormone levels, androgen receptor CAG repeat length and their longitudinal relationships with decline in cognitive subdomains in men: The European Male Ageing Study. Overman MJ, Pendleton N, O'Neill TW, Bartfai G, Casanueva FF, Forti G, Rastrelli G, Giwercman A, Han TS, Huhtaniemi IT, Slowikowska-Hilczer J, Lean ME, Punab M, Lee DM, Antonio L, Gielen E, Rutter MK, Vanderschueren D, Wu FC, Tournoy J. Physiol Behav. 2022 Aug 1;252:113825. doi: 10.1016/j.physbeh.2022.113825 **IF 3.742**
7. The Fate of Leydig Cells in Men with Spermatogenic Failure. Adamczewska D, Słowikowska-Hilczer J, Walczak-Jędrzejowska R. Life (Basel). 2022 Apr 12;12(4):570. doi: 10.3390/life12040570. **IF 3.251**
8. Erectile dysfunction predicts mortality in middle-aged and older men independent of their sex steroid status. Antonio L, Wu FCW, Moors H, Matheï C, Huhtaniemi IT, Rastrelli G, Dejaeger M, O'Neill TW, Pye SR, Forti G, Maggi M, Casanueva FF, Slowikowska-Hilczer J, Punab M, Tournoy J, Vanderschueren D; EMAS Study Group. Age Ageing. 2022 Apr 1;51(4):afac094. doi: 10.1093/ageing/afac094. **IF 12.782**

9. The Effect of the COVID-19 Pandemic on the Assessment of Sexual Life-Repeated Cross-Sectional Surveys among Polish Adults in 2017, 2020 and 2021. Izdebski Z, Słowikowska-Hilczer J, Mazur J. Int J Environ Res Public Health. 2022 Mar 30;19(7):4110. doi: 10.3390/ijerph19074110. **IF 4.536**
10. Expression of G-Protein-Coupled Estrogen Receptor (*GPER*) in Whole Testicular Tissue and Laser-Capture Microdissected Testicular Compartments of Men with Normal and Aberrant Spermatogenesis. Walczak-Jędrzejowska R, Forma E, Oszukowska E, Bryś M, Marchlewska K, Kula K, Słowikowska-Hilczer J. Biology (Basel). 2022 Feb 26;11(3):373. doi: 10.3390/biology11030373. **IF 5.168**
11. The influence of a combination of lifestyle modification and a new formula supplement with antioxidative and antioestrogenic activity on mild idiopathic abnormalities of semen parameters-A pilot study. Slowikowska-Hilczer J, Walczak-Jedrzejowska R, Dobronski P. Andrologia. 2022 Feb;54(1):e14279. doi: 10.1111/and.14279. **IF 2.532**
12. Aging Men With Insufficient Vitamin D Have a Higher Mortality Risk: No Added Value of its Free Fractions or Active Form. Dejaeger M, Antonio L, Bouillon R, Moors H, Wu FCW, O'Neill TW, Huhtaniemi IT, Rastrelli G, Forti G, Maggi M, Casanueva FF, Slowikowska-Hilczer J, Punab M, Gielen E, Tournoy J, Vanderschueren D. J Clin Endocrinol Metab. 2022 Feb 17;107(3):e1212-e1220. doi: 10.1210/clinem/dgab743. **IF 6.134**
13. Inflammatory markers are associated with quality of life, physical activity, and gait speed but not sarcopenia in aged men (40-79 years). Dupont J, Antonio L, Dedeyne L, O'Neill TW, Vanderschueren D, Rastrelli G, Maggi M, Bártfai G, Casanueva FF, Giwercman A, Słowikowska-Hilczer J, Punab M, Huhtaniemi IT, Wu FCW, Tournoy J, Koppo K, Gielen E. J Cachexia Sarcopenia Muscle. 2021 Dec;12(6):1818-1831. doi: 10.1002/jcsm.12785. **IF 12.063**
14. Worldwide trends in hypertension prevalence and progress in treatment and control from 1990 to 2019: a pooled analysis of 1201 population-representative studies with 104 million participants. NCD Risk Factor Collaboration (NCD-RisC). Lancet. 2021 Sep 11;398(10304):957-980. doi: 10.1016/S0140-6736(21)01330-1. **IF 202.731**
15. Physical and Reported Subjective Health Status in 222 Individuals with XY Disorder of Sex Development. Gong XL, Raile K, Slowikowska-Hilczer J, Pienkowski C, Quinkler M, Roehle R, Nordenström A, Neumann U. J Endocr Soc. 2021 Jun 2;5(8):bvab103. doi: 10.1210/jendso/bvab103. **IF 3.49**
16. Heterogeneous contributions of change in population distribution of body mass index to change in obesity and underweight. NCD Risk Factor Collaboration (NCD-RisC). Elife. 2021 Mar 9;10:e60060. doi: 10.7554/eLife.60060. **IF 8.713**
17. Concentrations of urinary biomarkers and predictors of exposure to pyrethroid insecticides in young, Polish, urban-dwelling men. Rodzaj W, Wileńska M, Klimowska A, Dziewirska E, Jurewicz J, Walczak-Jędrzejowska R, Słowikowska-Hilczer J, Hanke W, Wielgomas B. Sci Total Environ. 2021 Jun 15;773:145666. doi: 10.1016/j.scitotenv.2021.145666. **IF 10.754**

18. Masculinizing surgery in disorders/differences of sex development: clinician- and participant-evaluated appearance and function. van de Grift TC, Rapp M, Holmdahl G, Duranteau L, Nordenskjold A; dsd-LIFE group. BJU Int. 2022 Mar;129(3):394-405. doi: 10.1111/bju.15369. **IF 5.969**
19. Recommendations on the diagnosis of male infertility - genetic testing. Jankowska K, Kutkowska-Kaźmierczak A, Zgliczyński W, Kochański A, Słowikowska-Hilczer J. Endokrynol Pol. 2020;71(6):561-572. doi: 10.5603/EP.a2020.0081. **IF 1.569**
20. Self- and proxy-reported outcomes after surgery in people with disorders/differences of sex development (DSD) in Europe (dsd-LIFE). Rapp M, Duranteau L, van de Grift TC, Schober J, Hirschberg AL, Krege S, Nordenstrom A, Roehle R, Thyen U, Bouvattier C, Kreukels BPC, Nordenskjold A; dsd-LIFE group. J Pediatr Urol. 2021 Jun;17(3):353-365. doi: 10.1016/j.jpurol.2020.12.007. **IF 1.44**
21. Height and body-mass index trajectories of school-aged children and adolescents from 1985 to 2019 in 200 countries and territories: a pooled analysis of 2181 population-based studies with 65 million participants. NCD Risk Factor Collaboration (NCD-RisC). Lancet. 2020 Nov 7;396(10261):1511-1524. doi: 10.1016/S0140-6736(20)31859-6. **IF 202.731**
22. European Academy of Andrology guidelines on Klinefelter Syndrome Endorsing Organization: European Society of Endocrinology. Zitzmann M, Aksglaede L, Corona G, Isidori AM, Juul A, T'Sjoen G, Kliesch S, D'Hauwers K, Toppari J, Słowikowska-Hilczer J, Tüttelmann F, Ferlin A. Andrology. 2021 Jan;9(1):145-167. doi: 10.1111/andr.12909. **IF 4.456**
23. Risk of gonadal neoplasia in patients with disorders/differences of sex development. Slowikowska-Hilczer J, Szarras-Czapnik M, Duranteau L, Rapp M, Walczak-Jedrzejowska R, Marchlewska K, Oszukowska E, Nordenstrom A; dsd-LIFE group. Cancer Epidemiol. 2020 Dec;69:101800. doi: 10.1016/j.canep.2020.101800. **IF 2.89**
24. Repositioning of the global epicentre of non-optimal cholesterol. NCD Risk Factor Collaboration (NCD-RisC). Nature. 2020 Jun;582(7810):73-77. doi: 10.1038/s41586-020-2338-1. **IF 69.504**
25. Features of gonadal dysgenesis and Leydig cell impairment in testes with Sertoli cell-only syndrome. Adamczewska D, Slowikowska-Hilczer J, Marchlewska K, Walczak-Jedrzejowska R. Folia Histochem Cytobiol. 2020;58(2):73-82. doi: 10.5603/FHC.a2020.0008. **IF 1.49**
26. The risk of mental disorders in patients with disorders/differences of sex differentiation/development (DSD) and Y chromosome. Bajszczak K, Szarras-Czapnik M, Walczak-Jędrzejowska R, Marchlewska K, Slowikowska-Hilczer J. Endokrynol Pol. 2020;71(2):168-175. doi: 10.5603/EP.a2020.0005. **IF 1.569**
27. National trends in total cholesterol obscure heterogeneous changes in HDL and non-HDL cholesterol and total-to-HDL cholesterol ratio: a pooled analysis of 458 population-based studies in Asian and Western countries. NCD Risk Factor Collaboration (NCD-RisC). Int J Epidemiol. 2020 Feb 1;49(1):173-192. doi: 10.1093/ije/dyz099. **IF 9.685**

Handbook

1. Andrologia: zdrowie mężczyzny od fizjologii do patologii [Andrology: men's health from physiology to pathology] Słowikowska-Hilczer Jolanta (*red.*), 2021, Warszawa, Wydawnictwo Lekarskie PZWL, 1325 s., ISBN 978-83-200-6066-9

Chapters in handbooks

1. Diagnostyka laboratoryjna niepłodności [Laboratory diagnostics of infertility] Pabian Wojciech, Swornik Małgorzata, Jach Robert *[i in.],* W: Diagnostyka laboratoryjna z elementami biochemii klinicznej / Solnica Bogdan, Dembińska-Kieć Aldona, Naskalski Jerzy W. (*red.*), 2022, Wrocław, Edra Urban & Partner, s.629-689, ISBN 9788366960824
2. Wyniki europejskich badań nad jakością życia dorosłych pacjentów z zaburzeniami różnicowania i rozwoju gonad i narządów płciowych [Results of European research on the quality of life of adult patients with impaired differentiation and development of the gonads and genitals] Słowikowska-Hilczer Jolanta, W: O kształtowaniu się płci człowieka: konferencja popularno-naukowa / Gawrońska-Kozak Barbara, Wiśniewska Joanna (*red.*), 2022, Olsztyn, Polska Akademia Nauk, s.27-34, ISBN 978-83-942794-6-2
3. Zaburzenia determinacji i różnicowania płci [Disorders of sex determination and differentiation] Kula Krzysztof, Słowikowska-Hilczer Jolanta , W: Interna Szczeklika: mały podręcznik 2021/22 / Gajewski Piotr *[i in.]* (*red.*), 2021, Kraków, Medycyna Praktyczna, s.1-7, ISBN 978-83-74306-54-6
4. Choroby jąder [Diseases of testes] Kula Krzysztof, Słowikowska-Hilczer Jolanta , W: Interna Szczeklika: mały podręcznik 2021/22 / Gajewski Piotr *[i in.]* (*red.*), 2021, Kraków, Medycyna Praktyczna, s.1491-1499, ISBN 978-83-74306-54-6
5. Zaburzenia dojrzewania płciowego. Opóźnione dojrzewanie płciowe [Endocrinology. Sexual maturation disorders. Delayed puberty] Słowikowska-Hilczer Jolanta, Małecka-Tendera Ewa, W: Podręcznik pediatrii oparty na zasadach EBM / Pietrzyk Jacek, Szajewska Hanna, Mrukowicz Jacek (*red.*), 2021, Liszki, Medycyna Praktyczna, s.1-4, ISBN 978-83-7430-649-2
6. Przedwczesne dojrzewanie płciowe [Precocious puberty] Słowikowska-Hilczer Jolanta, Małecka-Tendera Ewa, W: Podręcznik pediatrii oparty na zasadach EBM / Pietrzyk Jacek, Szajewska Hanna, Mrukowicz Jacek (*red.*), 2021, Liszki, Medycyna Praktyczna, s.1-4, ISBN 978-83-7430-649-2