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Neuropsychological Bases for the Introduction of Changes to the Classification of Sexual Disorders

Neuropsychologiczne podstawy wprowadzenia zmian w klasyfikacji zaburzeń seksualnych

Dorota Rogala¹, Aleksandra Mazur^{1,2}

¹Department and Clinic of Oncology Gynecology and Gynecological Nursing,

Nicolaus Copernicus University in Toruń, L. Rydygier Collegium Medicum in Bydgoszcz, Poland

²Department of Gynecological Oncology, Professor Łukaszczyk Oncology Center in Bydgoszcz, Poland

Abstract

This paper aims to compare and contrast proposed American Psychiatric Association website DSM 5 definitions of sexual dysfunctions with that of ICD-10 — F52 and explains the rationale for making changes. All the DSM classifications until present time based definitions of sexual dysfunctions on expert opinions that were not supported by sufficient clinical or epidemiological data. Additionally, included vague terms such as satisfactory, soon after, rapid, short, minimal, recurrent and persistent which were not precise and difficult to interpret. Showed male and female sexual dysfunctions on the same continuum based on unified sexual response cycles.

The fifth version of the APA's classification was released in May 2013. The DSM-5 merged female desire and arousal diagnosis into one entity defined as female sexual interest and arousal disorders, vaginismus and dyspareunia as genito-pelvic pain/penetration disorder, deleted sexual aversion, the diagnostic classification separated for men and women. DSM attempted to operationalize the diagnostic criteria and avoided vague terms. It is also expected to introduce changes in the classification of disorders in ICD-10. (JNNN 2014;3(3):136–141)

Key Words: sexual dysfunction, diagnostic criteria, DSM-5, ICD-10 — F52

Streszczenie

Niniejsza praca ma na celu pokazanie i porównanie propozycji definicji zaburzeń seksualnych według Amerykańskiego Towarzystwa Psychiatrycznego, zawartych w DSM-5 z klasyfikacją ICD-10 — F52 oraz wyjaśnienie powodów wprowadzenia zmian. Wszystkie dotychczasowe klasyfikacje DSM zawierające definicje seksualnych dysfunkcji oparte na opinii ekspertów nie były poparte wystarczającymi badaniami klinicznymi i epidemiologicznymi. Dodatkowo zawierały niejasne terminy, takie jak satysfakcja, wkrótce po, szybka, krótka, minimalne, nawracające i trwałe, które były nieprecyzyjne i trudne do interpretacji. Pokazywały męskie i kobiece zaburzenia seksualne na tym samym continuum jednolitego cyklu reakcji seksualnych.

Piąta wersja klasyfikacji według APA została wprowadzona w maju 2013 r. DSM-5 połączyła kobiece pragnienie i pobudzenie w ostatecznie jeden podmiot — zaburzenie zainteresowania i pobudzenia, a pochwicę i dyspareunię w zaburzenia związane z bolesnością genitalno-miedniczną/penetracją, skreśliła awersję seksualną, oddzieliła klasyfikację diagnostyczną dla kobiet i mężczyzn. DSM próbuje zoperacjonalizować kryteria diagnostyczne i unika niejasnych terminów. Oczekiwane jest również wprowadzenie zmian w klasyfikacji zaburzeń w ICD-10. (PNN 2014;3(3):136–141)

Słowa kluczowe: dysfunkcje seksualne, kryteria diagnostyczne, DSM-5, ICD-10 — F52

Introduction

Proper functioning of a man in the sexual sphere, from a physiological point of view, is conditioned on the existence of interdependence between nervous, endocrine systems, including hormonal, cardiovascular system as well as on mental factors. Impairment of activities within any of the systems may result in the emergence of problems in sexual life, however the biggest role in the development of disorders is attributed to psychogenic factors.

As frequent reasons for sexual dysfunction with men and women there are mentioned biological factors, such as smoking, psychoactive substance abuse, hormonal disorders, psychogenic factors, eg. personality disorders, developmental disorders, social and cultural factors such as educational and religious rigor, forming a distorted image of sexuality in the media, or stereotypes functioning in society [1–11].

In the diagnosis of sexual functioning in men and women, there are applied criteria according to ICD-10 classification (International Statistical Classification of Diseases and Health Problems — International Statistical Classification of Diseases and Related Health Problems) as well as DSM criteria (Diagnostic and Statistical Manual of Mental Disorders) according to American Psychiatric Association (American Psychiatric Association — APA).

Recently, the diagnostic criteria for sexual disorders by the APA have been increasingly subject to criticism [12]. Over the years, the number of supporters to form separate classification of sexual dysfunction for women and for men has increased. The number of appropriate epidemiological research regarding the incidence of sexual dysfunction was insufficient, methodological differences made it impossible to carry out analyses and comparisons.

This study shows the diagnostic criteria for sexual disorders according to ICD-10 and the APA as well as the changes introduced in the latest version of the DSM-5.

ICD-10 Classification

The ICD-10 classification adopted in our country, covers four main categories of sexual disorders: sexual dysfunctions, disorders related to sexual preference, disorders of identity and of preferences. On the basis of this classification there was established at the turn of the last few years a new tool by Kokoszka, which can be applied for screening, known as Sexuological Questionnaire [13].

In the ICD-10 classification sexual dysfunction, hindering or preventing proper intercourse, has been classified as category F52 — Sexual dysfunction not caused by organic disorder or physical disease [14].

Within this category, in terms of sexual disorders there have been distinguished:

F52.0 — Lack or loss of sexual needs;

F52.1 — Sexual aversion and lack of sexual enjoyment;

F52.2 — Lack of genital response;

F52.3 — Disorders of orgasm;

F52.4 — Premature ejaculation;

F52.5 — Vaginismus inorganic;

F52.6 — Dyspareunia inorganic;

F52.7 — Excessive sexual desire;

F52.8 — Other sexual dysfunctions without organic reasons or disease.

Female sexual dysfunction

Lack or loss of sexual needs according to ICD-10 regard disorders of desire. They are the primary, not secondary symptom, compared to other sexual problems such as dyspareunia or vaginismus. Lack of sexual needs including coldness or weakness of desire, makes sexual initiative on the part of the female partner less likely. This does not exclude arousal or sexual gratification.

The criteria which indicate a disorder include:

- lack or loss of sexual desire manifested in smaller interest in sexual matters, limitation of thinking about issues related to sex and to desire for sexual activity, decrease of images regarding sex;

- lack of sexual initiative, both in relation to the partner as well as to oneself in a situation of solitary masturbation, which leads to a reduction in sexual activity relevant to the age and to the circumstances occurred, or to a much lower frequency compared to the previous, significantly higher level.

The most frequently mentioned reasons for this type of dysfunction include medications used to treat various medical conditions, the occurrence of the disease itself, hormonal disorders, abnormal relationships between partners, overwork and too big sexual activity [14].

Aversion and lack of sexual pleasure are listed according to ICD-10 at code F52.1. Sexual Aversion — F52.10 is defined as the avoidance of sexual contact generated by strong negative feelings and anxiety associated with the prospect of the contact with the partner.

The criteria indicating an occurrence of disorder include:

- the mere prospect of sexual contact with a partner generates anxiety, resentment, fear to such a large extent that a woman avoids sexual activity or if it comes to it, it induces in her strong negative feelings and prevents experiencing pleasure;

- reluctance to contacts does not result from fear against the lack of ability (eg. after previous sexual failures).

The most common reasons for this type of dysfunctions are abnormal relationship between the partners as well as educational rigor experienced in the childhood [14].

Lack of sexual pleasure — F52.11 occurs whenever sexual relationship is correct (including orgasm) but the woman does not experience pleasure adequate to the situation. Such a disorder is more typical in the case of women than in the case of men and it occurs when the following criteria are fulfilled:

- during arousal there are normal genital reactions, feeling an orgasm, but it is not accompanied by a feeling of pleasure or satisfaction;
- at the time of activity there is no feeling of fear (in such circumstances sexual aversion would have been diagnosed).

The most common possible reasons for this disorder are depression and abnormal relationships between partners [14].

Lack of genital response according to ICD-10 is related to sexual arousal disorder. In the case of women, it most often regards the problem of suitable lubrication of the vagina. The reason may be of somatic nature, e.g. infectious or associated with a reduced level of estrogen at menopause, or more often of psychogenic one. In order to diagnose this disorder in women the following criteria must be met:

- lack of vaginal lubrication with insufficient swelling of the labia in each situation;
- lubrication does not last long enough (impossibility of placing the penis into the vagina);
- lubrication takes place only in certain situations (e.g. only with a specific partner, or only during masturbation).

This dysfunction is often accompanied by other disorders and the reasons most frequently mentioned in this case include abnormal relationship between the partners, hormonal disorders, guilt, anxiety [14].

Disorders of orgasm more often refer to women than to men. According to ICD-10 they consist in the lack of orgasm or its significant delay.

Orgasmic dysfunction takes the form of:

- absence of orgasm in all situations (the woman has never experienced orgasm);
- the woman used to experience orgasm, but currently she does not experience it in any situation and with any partner;
- she experiences orgasm only with a specific partner or in a specific situations, for example during masturbation.

There are numerous reasons for this type of disorder. The most commonly mentioned include: hormonal imbalance, diabetes, neurological disorders, depression, anxiety, addiction, psychiatric drugs, sexual trauma,

sexual problems of the partner, educational rigor, sexual trauma from childhood, postpartum problems [14].

Inorganic vaginismus (the so-called. vaginism) according to ICD-10 is an involuntary spasm of the muscles surrounding the vaginal vestibule closing its entrance, preventing satisfactory intercourse. A woman can achieve arousal, lubrication and orgasm, for example by means of masturbation. The mechanism of vaginismus involves the increase in the level of fear of vaginal penetration, either by the penis, or even a small speculum during the examination. No penetration by means of anything is possible in the primary vaginismus whereas in the secondary vaginismus it is possible to introduce a tampon or speculum but not the penis. The very thought of entering the penis may trigger the contraction of muscles surrounding the entrance to the vagina, a feeling of burning pain in the perineum. Vaginismus is often accompanied by insufficient lubrication which causes problems in the diagnosis of this type of disorder.

The following criteria must be fulfilled for the diagnosis:

- contraction of perivaginal muscles always prevented or hindered introduction of the penis (lack of correct responses);
- vaginismus developed after the period of correct responses and currently any attempt to introduce the penis into vagina triggers defensive reactions, such as squeezing the muscles of thighs;
- the woman responds correctly when the penetration of the vagina is not expected.

The reasons include troubled relationship between partners, sexual trauma, a thick hymen, anxiety disorders, problems with identification of the role of the woman [14].

Inorganic dyspareunia, which means pain during the intercourse, according to ICD-10 can be diagnosed only in the case of an impossibility to find the original source of disorder. The pain may be continuous or transient, with a specific location or spread.

The necessary criteria for diagnosing this type of disorder include:

- feeling pain either only at the moment of introducing the penis into the vagina or during the intercourse or only in the case of deep penetration of the vagina;
- vaginismus or insufficient lubrication of the vagina are excluded as the primary source of pain.

Most commonly the reasons include inflammation of reproductive organs, postpartum and postoperative changes, sexual trauma, problems in the relationship [14].

Classification according to the American Psychiatric Association

Disorders of desire were the most frequently reported sexual problems by women [15]. The studies showed that approximately 30–40% of women suffered from hipolibidemia [16,17]. The results obtained by Starowicz and Szymańska [18] confirmed this fact in the case of the Polish population.

The ongoing discussions regarding the implementation of new criteria for sexual dysfunctions have been mainly based on the rejection of the sexual response cycle paradigm which had been effective since the 1960's. According to numerous authors it was not consistent with the results of the latest studies regarding sexuality [19,20].

The existing view by Masters and Johnson, the pioneers of the research on sexuality, presumed that the cycle of sexual response consisted of 4 four successive phases: excitement, plateau, orgasm and relaxation [21]. Each phase was related to such physiological changes as: enlargement and congestion of the genitalia, rapid breathing, increased heart rate, sexual blush. They ignored however desire as a significant aspect of sexuality.

The model by Masters, Johnson was complemented by the introduction by Helen Kaplan of the phase of desire which prior to excitement [22]. She was also the first to introduce the term of desire disorders related to the decrease of libido including hipolibidemia [23]. The three phases of Kaplan's model (desire, arousal, orgasm) were the basis for the criteria included in DSM-III and DSM-IV [24].

A more complex mechanism of female sexual cycle was indicated by Basson, who claimed that the Masters and Johnson model refers to the cycle of male sexual responses and to only a limited group of women [25,26]. Sexuality in the case of the majority of women is more complex and vulnerable to changes. Previous conception of desire indicated necessary occurrence of thoughts and fantasies as determinants of spontaneous desire. Research shows that in most women desire is a reaction "in response" to the sexual situation where the main role is played by the feeling of emotional closeness, which is the main motivator of the strive for sexual intimacy [27–31]. According to Basson's model sexual contact from a woman starts from the desire for the feeling of closeness in the course of which the woman experiences excitement triggered by stimulation from her partner, which generates the feeling of desire and leads to excitation manifested by somatic and psychological symptoms. Previous unpleasant stimuli are transformed into powerful erotic sensations. As a result of the excitement, evaluation the woman achieves her sexual satisfaction, with or without orgasm, and establishes emotional closeness with the partner [32]. In women there are distinguished three levels of sexual arousal: the central level (changes

taking place in the brain), peripheral extragenital level (changes in the breasts nipples and skin), peripheral genital level (erection of the clitoris) [33]. The contemporary model of sexual response draws attention to the complexity of this response in the woman as well as to the fact that sexual activity is conditioned on relevant structures of the central nervous system: the limbic system responsible for emotions, the cerebral cortex responsible for cognitive functions and the amygdala responsible for the motivation for sexual initiation [34].

This new attitude to the problem of hipolibidemia is reflected in the DSM-5 classification.

Works on the fifth version of DSM were already commenced in 2008. (previous: DSM-IV in 1994 and DSM-IV-TR in 2000). Introduction of the new version was preceded by numerous conferences, discussions, clinical tests as well as by retrospective analysis of data, aiming at the development of new science-based criteria for the classification of disorders. In the case of sexual disorders it is particularly significant considering the "delicacy of the matter studied" and the difficulty in obtaining reliable, empirically-based research results.

In works on the new DSM version there participated 3 groups within the Work Group for the Sexual and Identity Disorders (The Sexual and Gender Identity Disorders Work Group) LED by Zucker, dealing with the issue of sexual dysfunction disorders, gender identity and sexual preferences disorders.

Eventually, in the current DSM version, effective since May 2013 (compared to the forth DSM-IV-TR version), new changes regarding sexual disorders were implemented:

- Gender Identity Disorder was replaced by Gender Dysphoria (gender dysphoria syndrome);
- Male Orgasmic Disorder was replaced by Delayed Ejaculation;
- Male Erectile Disorder was replaced by Erectile Disorder;
- Hypoactive Sexual Desire Disorder (lowered sexual desire) and Female Sexual Arousal Disorder were replaced by Female Sexual Interest/Arousal Disorder;
- Vaginismus and Dyspareunia were combined in Genito-Pelvic Pain/Penetration Disorder;
- Hypoactive Sexual Desire Disorder (lowered sexual desire) was replaced Male Hypoactive Sexual Desire Disorder (lowered male sexual desire);
- Premature Ejaculation was replaced by Premature/Early Ejaculation;
- Sexual Aversion Disorder was deleted;
- Female Orgasmic Disorder was left unchanged;
- Sexual Dysfunction Due to General Medical Condition and Substance Induced Sexual Dysfunction were combined into Substance/Medication-Induced Sexual Dysfunction;

- Sexual Dysfunction Not Otherwise Specified was changed into Other Specified Sexual Dysfunction;
- Unspecified Sexual Dysfunction was introduced;
- in the terms: Voyeurism, Exhibitionism, Frotteurism, Sexual Masochism, Sexual Sadism, Pedophilia, Fetishism the word Disorder... was added, eg. Voyeurism Disorder;
- Transvestic Fetishism was changed into Transvestic Disorder;
- Paraphilia Not Otherwise Specified was replaced by Other Specified and Unspecified Paraphilic Disorder [35].

Additionally, all previous DSM effective classifications included unclear and hard to determine terms such as: 'shortly after', 'fast', 'short', 'minimum', 'satisfactory', 'recurrent', 'permanent'. DSM-5 criteria were changed by introduction the duration time and the frequency of disorders. In order to differentiate 'sexual problems' as a transient issues from 'disorders', additional criteria were introduced: duration time — minimum 6 months, and frequency — minimum 75% of all sexual events.

For example, to diagnose the disorder — Hypoactive Sexual Desire Disorder and Female Sexual Arousal Disorder it was: A. Persistent, periodic or permanent lack of sexual thoughts and fantasies. Currently, in DSM-5 for the combined Female Sexual Interest/Arousal Disorder there is:

A. No interest/arousal of sexual nature within the period of last 6 months manifested at least in 3 of the following aspects:

- absence/decrease of frequency or intensity of interest in sexual activity;
- absence/decrease of frequency or intensity of the occurrence of sexual thoughts and fantasies;
- absence/decrease of the frequency of sexual activity initiation and no response to partner's efforts to initiate contact;
- absence/decrease of frequency or intensity of sexual arousal in at least 75% of all sexual contacts;
- sexual interest/arousal is rarely or never triggered by external or internal erotic stimuli (for example verbal or visual);
- absence/decrease of frequency or intensity of genital or non-genital sensations in at least 75% of situations.

Conclusions

Significant changes in DSM-5 include:

- combination of desire Disorders with Disorders of arousal of desire in women based on the theory of more frequent existence of desire as a reaction "in response" to a sexual situation than of spontaneous desire;

- combination of Vaginismus and Dyspareunia as dysfunctions difficult to define and differentiate, often coexisting with each other, into a single diagnostic entity — disorder associated with genito-pelvic/penetrance pain;
- deletion of sexual aversion as a too difficult and too rare diagnosis in clinical practice and not supported by sufficient research;
- separation of diagnostic classifications for men and women, taking into account the complexity of women's sexual response and individuality of the sexual response cycle.

It is indicated however, that the application of the 6 months' standard to determine disorders may generate delay of diagnosis, and thus delay of treatment. Furthermore, it can be risky for couples that due to difficulties in sexual life are losing hope for a solution to the problem and stand on the edge of their relationship breakdown. Also, it is questionable whether potential patients will be able to remember the exact frequency and duration of their failures.

Numerous reports indicate that, similarly to the DSM-5 classification, there may be also expected variations in the classification of sexual disorders according to ICD-10 in 2015.

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References

- [1] Skrzypulec V., Nowosielski K., Droszdzol A., Kowalczyk R. Zaburzenia seksualne w wybranych endokrynopatiach. *Endokrynologia Polska*. 2005;6:964–969.
- [2] Zaborski J., Darda-Ledzion L. Zaburzenia czynności płciowych u pacjentów ze stwardnieniem rozsianym. *Farmakoterapia w Psychiatrii i Neurologii*. 2005;3:273–278.
- [3] Gomuła A. Wpływ hormonów płciowych i neurotransmiterów na funkcje i zachowania seksualne. *Seksuologia Polska*. 2006;1:21–33.
- [4] Radomski D., Jarząbek G., Pawlaczek M., Friebe Z. Występowanie dyspareunii u kobiet z endometriozą. *Seksuologia Polska*. 2006;1:13–15.
- [5] Zdrojewicz Z., Lelkowska K. Rola stresu w problemach, zaburzeniach i preferencjach seksualnych. *Seksuologia Polska*. 2006;2:69–79.
- [6] Anolis A.J., Dumas M., Viigima M., Narkiewicz K. Nadciśnienie tętnicze a zaburzenia funkcji seksualnych. *Choroby Serca i Naczyni*. 2007;2:65–69.

- [7] Bilikiewicz A. *Psychiatria. Podręcznik dla studentów medycyny*. PZWL, Warszawa 2007.
- [8] Rembek M., Tylkowski M., Piestrzeniewicz K., Goch J.H. Problemy związane z aktywnością seksualną chorych kardiologicznych. *Polski Merkuriusz Lekarski*. 2007;134:151–154.
- [9] Jakima S., Murawiec S. Problemy seksualne w schizofrenii. *Seksuologia Polska*. 2008;2:83–90.
- [10] Jodko A., Głowacz J., Kokoszka A. Zgłaszanie zaburzeń funkcji seksualnych jako objawu podczas terapii zaburzeń lękowych. *Seksuologia Polska*. 2008;1:26–32.
- [11] Enzlin P., Rosen R.C., Wiegel M. et al. Sexual dysfunction in women with type 1 diabetes. Long-term findings from the DCCT/EDIC study cohort. *Diabetes Care*. 2009;32(5):780–785.
- [12] Sungur M.Z., Gunduz A. Critiques and challenges to old and recently proposed American Psychiatric Association's website DSM 5 diagnostic criteria for sexual dysfunctions. *Bulletin of Clinical Psychopharmacology*. 2013;23(1):113–128.
- [13] Kokoszka A., Cześnikiewicz W., Radzio R., Jodko A. Kwestionariusz Seksuologiczny — narzędzie do badań przesiewowych: założenia i trafność. *Psychiatria Polska*. 2011;45(2):235–244.
- [14] Wciórka J., Puzyński S. *Klasyfikacja zaburzeń psychicznych i zaburzeń zachowania w ICD-10. Opisy kliniczne i wskazówki diagnostyczne*. Uniwersyteckie Wydawnictwo Medyczne Vesalius, Warszawa 2000.
- [15] Nappi R.E., Terreno E., Martini E. et al. Hypoactive sexual desire disorder: can we treat it with drugs? *Sex. Relation. Ther.* 2010;25(3):264–274.
- [16] Rosen R.C. Prevalence and risk factors of sexual dysfunction in men and women. *Curr. Psychiatry Rep.* 2000;2:189–195.
- [17] Kingsberg S., Althof S.E. Evaluation and treatment of female sexual disorders. *Int. Urogynecol. J.* 2009;20(1):33–43.
- [18] Lew-Starowicz Z., Szymańska M. Zaburzenia seksualne i problemy osobiste kobiet powyżej 45 roku życia. *Przeegl. Menopauz.* 2010;6:381–384.
- [19] Basson R. The female sexual response: A different model. *J. Sex. Marital Ther.* 2000;26:51–65.
- [20] Levin J.R. Critically revisiting aspects of the human sexual response cycle of Masters and Johnson: correcting errors and suggesting modifications. *Sex. Relation. Ther.* 2008;23(4):393–399.
- [21] Masters W.H., Johnson V.E. *Human sexual response*. Little Brown and Company, Boston 1996.
- [22] Kaplan H.S. *Disorders of sexual desire*. Simon and Schuster, New York 1974.
- [23] Kaplan H.S. *The sexual desire disorders: dysfunctional regulation of sexual motivation.*: Brunner-Routledge, New York 1995.
- [24] Brotto L.A. The DSM diagnostic criteria for hypoactive sexual desired in women. *Arch. Sex. Behav.* 2009;39(2):221–239.
- [25] Basson R. Women's sexual dysfunction: revised and expanded definitions. *Can. Med. Assoc. J.* 2005;172(10):1327–1333.
- [26] Diamond L.M. The evolution of plasticity in female — female desire. *J. Psychol. Hum. Sex.* 2007;18:245–274.
- [27] Hill C.A., Preston L.K. Individual differences in the experience of sexual motivation: Theory and measurement of dispositional sexual motives. *J. Sex. Res.* 1996;33(1):27–45.
- [28] Basson R. Human sex-response cycles. *J. Sex. Marital Ther.* 2001;27:33–43.
- [29] Cain S.V., Johannes C.B., Avis N.E. et al. Sexual functioning and practices in multi-ethnic study of midlife women: Baseline results from SWAN. *J. Sex. Res.* 2003;40(3):266–276.
- [30] Meston C.M., Buss D.M. Why humans have sex? *Arch. Sex. Behav.* 2007;36:477–507.
- [31] Goldhammer D.L., McCabe M.P. A qualitative exploration of the meaning and experience of sexual desire among partnered women. *Can. J. Hum. Sex.* 2011;20(1–2):19–29.
- [32] Basson R., Leiblum S., Brotto L., et al. Revised definitions of women's sexual dysfunction. *J. Sex. Med.* 2004;1(1):40–48.
- [33] Lew-Starowicz Z. Seksualność kobiet. *Przeegl. Seks.* 2005;2:22–26.
- [34] Nowosielski K., Skrzypulec V. Cykl reakcji seksualnej u kobiety. *Ginekol. Pol.* 2009;80:440–444.
- [35] American Psychiatric Association. *DSM-5 table of contents*. Retrieved April 20, 2014, from <http://WWW.dsm5.org/Documents/>

Corresponding Author:

Dorota Rogala
Katedra i Klinika Ginekologii Onkologicznej
i Pielęgniarstwa Ginekologicznego UMK
ul. Techników 3, 85-801 Bydgoszcz, Poland
e-mail: dorotarogala@op.pl

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