The Prevalence and Risk Factors of Sexual Dysfunction amongst Czech Women

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Condensation

These results indicate there are risk factors for developing female sexual dysfunction (FSD) which can be identified, and there are serious negative consequences.

ABSTRACT

Objectives. This article presents the results of a representative national study highlighting the risk factors of female sexual dysfunction in the Czech Republic.

Study Design. A representative quota survey of 1000 Czech women of 15 years of age and older. The questionnaire is a part of a wider long-term survey of sexual behavior within the Czech population, which started in 1993. Besides the various aspects of sexual behavior the questionnaire included a specific section on sexual dysfunction.

Results. The prevalence of sexual dysfunction amongst women in the Czech Republic is 20%. Risk factors that increase the likelihood of sexual dysfunction are: sexual abuse during childhood and having been forced to engage in sex during their lifetime. Having sexually transmitted disease and positive attitudes towards casual sex.

Sexual characteristics which strongly associate with SD are: not being satisfied with sex and having faked orgasm "often and almost always".

Conclusion. These results indicate that there are risk factors for developing female sexual dysfunction (FSD) which can be identified, and there are other related characteristics that can have a negative impact on sexual behavior.

Key words: female sexual dysfunction, sexual desire disorders, arousal disorders, orgasm disorders and sexual pain disorders.

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Introduction

Female sexual dysfunction (FSD) is a significant worldwide public health issue. It is suggested that sexual problems among women are more frequent than the number of diagnosed FSD cases indicate (Basson, Althof, David, Fugl-Meyer, & Goldstein, 2004). Surveys of patients in physician's offices suggest that each year, family practitioners will treat several women or couples presenting with sexual problems, and even more if the physician inquires about the patient's sexual health (Nazareth, Boynton, & King, 2003).

The purpose of this article is to highlight data about risk factors for developing a sexual dysfunction and describe related behavioral characteristics which associate with female sexual dysfunction within the Czech Republic. Describing sexual dysfunction within a wider perspective will conceivably enable a greater number of health experts to successfully approach afflicted women with the intention of providing them with effective help or advice.

Material and methods

The research was conducted under the supervision of the Institute of Sexology, Charles University and approved by the Ethics Committee at the First Medical Faculty of Charles University in Prague. This research was performed within the scope of a broader study comparing the sexual behaviors of women within the Czech Republic.

The data was obtained through field research conducted between October and December 2008. Qualified interviewers from a professional data collecting agency were obliged to find a fixed number of respondents according to defined quotas. In order to get a representative sample the

standard stratified sampling was used. The population was divided into characteristics of importance - compared to census data - for the research such as age, education level, religion, economic activity, place of residence – size of abode and region. Then the population was randomly sampled within each category (stratum). This survey data was also utilized for additional publications (Brody & Weiss, 2011; Brody & Weiss, 2010; Weiss & Brody, 2009).

A total of 1000 women were the final participants in the study and the cohort was representative of the Czech Republic according to age (from 15 years of age upwards), level of education, economic status and size of abode.

The survey was administered anonymously by trained researchers at DEMA, a public opinion research agency under the supervision of the Institute of Sexology, Charles University, Prague. Respondents were assured of complete privacy and anonymity concerning the personal information acquired from them, and were also required to give informed verbal consent in order to participate in the survey. The interviewers firstly utilized a face-to–face interview method to obtain demographic data and to inform the participants about the subject of this survey. Then the women were given a questionnaire and a stamped envelope so that they could anonymously post their completed questionnaires to an agency. There were no major problems concerning the procurement of participants, nor with their understanding of the questions. Participants‘ questions about the survey were answered by the qualified interviewers in a standard manner. The questionnaire response rate was 52%. The response rate is comparable to those obtained in many other large surveys. Given the demographic representativeness of the respondents, there is no basis for inferring that there was any bias away from representativeness of the sexually consenting female Czech population.

The questionnaire requested for information about demographics; relationships; individual behavior, practices, attitudes and beliefs regarding sexuality. The presence of sexual problems was assessed according to the following question: "Have you ever in your life suffered from a sexual dysfunction? Do you suffer from a sexual dysfunction at the present time? Which type of sexual dysfunction did you suffer from: (1) lack of sexual desire; (2) inability to reach orgasm; (3) excessive sexual desire; (4) pain or unpleasant feelings; (5) vaginism (painful or unpleasant vaginal muscle spasm); (6) insufficient vaginal lubrication; (7) inability to experience arousal; (8) other." Respondents were permitted to answer yes to all that applied. For those who indicated the presence of a specific sexual problem, the age of occurrence was additionally asked. The questionnaire was created in 1993 and has been used ever since so as to be able to track any trends and changes in sexual behavior over time. The questionnaire was validated in a qualitative pilot study using the focus groups. On review by a panel individual items were selected for face validity and clinical relevance. This questionnaire was also utilized for additional publications, where the validity and reliability has been sufficient (Brody & Weiss, 2010) (Brody & Weiss, 2011) (Weiss & Brody, 2009).

For data processing and statistical analysis the professional data survey agency initially utilized the statistical software package SPSS (11.5 for Windows). Women were compared with and without sexual dysfunction using the chi-square test of independence. Following this the statistically significant data was analyzed in greater detail by a statistics specialist using IBM SPSS 19. Multiple logistic regression analyses were conducted to investigate the effects of potential socio-demographic confounders on sexual function. Multiple logistic regression analyses were used to test the relevant variables as risk factors of sexual dysfunction with significant confounders entered in the first block, early predictors in the second block and current behaviors in the last block. For all analyses, a P

value less than 0.05, relative risks (RR) or odds ratios (ORs) with a 95% confidence interval (CI) not including “1” were considered statistically significant, unless otherwise stated.

Results

Socio-demographic characteristics of females with sexual dysfunction

The socio-demographic characteristics of women with and without sexual dysfunction in life were compared and statistically significant differences were found. Concerning education, most women with FSD had completed secondary education. With respect to age both types of prevalence of sexual dysfunction were distributed evenly across the age groups except in the youngest age group (age 15-17) where the prevalence was near zero. The majority of women suffering from FSD were in the 49-59 year age group. Concerning marital status, there were more divorced women with FSD than without FSD. Divorced women are shown to have 1.66 times higher odds of experiencing FSD than women who are currently married. No statistically significant relationships of FSD with religion or education were revealed.

For logistic regression the youngest age group was excluded. The set of statistically controlled socio-demographic variables included age-group, marital status, having a higher education, and being religious plus two specific interactions that significantly affected the prevalence of FSD: being a divorced woman during middle adulthood (ages 30 to 44) and being a widow at ages 60 and above. The full interactions of socio-demographic variables were chosen not to be included, because the ratio of free parameters to samples size would decline too sharply.

Prevalence

Analysis of our data shows a prevalence of recent dysfunction of 10.5% and a lifetime prevalence of 20% for total FSD. Most of the women surveyed suffered from multiple FSD's at the same

time. Lifelong difficulties related to lubrication and dyspareunias were the most common sexual dysfunction, being present in 10.8% and 9.3%. Approximately every 8th women reported lifelong desire and orgasm (8.4%) problems. Inability to experience arousal was reported by only 5.6% of women. Frequencies of recent FSD were consistently lower compared with lifelong sexual dysfunctions across all domains except "other" (0.6% vs. 3.8%). Sexual dysfunction complicates partnerships. In the majority of women (71%) (N=104, women with FSD and with partnership) FSD complicated their partnership.

Comparison of women with and without FSD concerning risk factors

(Statistically significant risk factors are shown in the table 1)

A significantly higher number of women with FSD stated that they had undergone **abortion** in their life (31% vs. 19%, $\chi^2 = 11.153$, $p < .01$) or had experienced miscarriage (25% vs.17%, $\chi^2 = 6.341$, $p < .01$). However a higher statistically significant number of women without FSD did not answer the question about abortion (8%). However, in a multiple logistic regression controlling for other effects reporting having an abortion had no significant effect on lifetime prevalence of FSD.

There were important characteristics influencing sexual life in this survey that were considered for comparison: sexual **abuse** is thought to be the leading cause of sexual problems. Women with SD were abused significantly more often during childhood than women without FSD (16% vs. 5%). Greater numbers of women with FSD were also **forced to engage in sex** during adulthood as well (21% vs. 9%, $\chi^2= 28.59$, $p < .00$) (from 16% abused in childhood, 40% were additionally abused during adulthood). The variable "abused in childhood and forced to engage in sex" increased the odds of a prevalence of sexual dysfunction in the multivariate model.

Additional statistically significant difference was found with the following question: many women with FSD answered that they **had an STD** (13% vs. 3%, $\chi^2 = 29.86$, $p < .01$). This variable was found to be significant as risk factor for increasing lifetime prevalence of FSD.

The difference in FSD prevalence among women with various levels of the need for sexual satisfaction was statistically significant. More women with FSD needed sexual satisfaction (58% vs. 44%, $\chi^2 = 12.912$, $p < .01$). **Having the need for sexual satisfaction** also increased the odds of lifetime prevalence of sexual dysfunction in the multivariate LR model.

More women with FSD were uncertain about their sexual orientation (6% vs. 1%, $\chi^2 = 11.99$, $p < .01$). Women who were uncertain about their **sexual orientation** were more likely to have FSD during their lifetime (RR 3.51, CI 1.45, 8.48).

The responses regarding varying attitudes towards sexual topics were not statistically related to FSD, **except attitudes towards casual sex**. Women with FSD more often thought that this type of sex was normal and acceptable (37% vs. 22%, $\chi^2 = 21.5$, $p < .00$). This attitude increases the lifelong prevalence of FSD.

Sexual characteristics which strongly associate with FSD are:

It was statistically significant that women with FSD frequently stated that they were "**not satisfied**" with their sexual life, in comparison to women without FSD (40% vs. 25%, $\chi^2 = 17.041$, $p < .01$) However, it is worth noting that the majority of women (even those with FSD) were satisfied (60%) with their sexual life despite their sexual dysfunction. Further analysis revealed that women who **were satisfied with their sexual life** had lesser odds of lifetime prevalence of sexual dysfunction.

Orgasm dysfunction is considered to be one of the markers for sexual dysfunction, hence the study examined for statistically significant differences among women regarding this phenomenon. Women with FSD in more cases **faked orgasm "often and almost always"** (39% vs. 21%, $\chi^2 = 35.08$, $p < .00$) in contrast to women without FSD, who more often stated that they almost never faked orgasm (30% - without FSD vs. 16% with FSD, $\chi^2 = 21.5$, $p < .00$). The variable "faking orgasm" statistically significantly increases the odds of lifelong sexual dysfunction.

Comments

Limitations

This representative survey of the Czech population studied sexual dysfunctions across a wider context. However, the current analysis has its limitations. The first limitation derives from the nature of sexual dysfunction itself. It isn't possible to be entirely objective while examining FSD, since subjective evidence is always relied upon. Thus, the answer is invariably influenced by the sincerity and willingness of a research subject (or lack thereof) in talking about such an intimate topic. The second limitation proceeds from the definition of sexual dysfunction itself, which has been revised and specified over time. Other limitations arise from the methodology utilized. Survey research in itself does not enable detailed communication with respondents, thus limiting the validity of the questions used. Hayes´s research indicates that different instruments can produce substantially different prevalence estimates of FSD and that "simple questions instead of multi-item scales can have substantial impact on prevalence estimates" (Hayes, Dennerstein, Bennett, & Fairley, 2008).

The survey was conducted for the first time in 1993. At that time there were no validated instruments for studying FSD in the Czech language. Sexuality is an issue of complexity, and a simple questionnaire does not reveal the whole complexity of the issue. The intricate combination of disorders impairs the interpretation process. Comparisons with international studies are impaired by the disunity of questions, the age of respondents and religious beliefs, as well as the open expression of thoughts, feelings or attitudes. For some people sexual dysfunction is only an adverse life event, whereas for others it is an illness requiring treatment. The borderline between health and malady is unclear.

The data about prevalence of FSD is inconsistent across varying studies attributable to definitional disparities, differing operational criteria of dysfunction, disparate classifications of severity, varying cultural or religious beliefs, different age stratas studied etc. (Lewis & Fugl-Meyer, 2004). In the present study the prevalence of FSD is 20% (CI 17.5; 22.5). Data from other significant international representative studies suggest the prevalence of FSD is much higher. For instance, (Laumann, Paik, & Rosen, 1999) or (Wallwiener, Wallwiener, Seeger, Muck, Bitzer, & Wallwiener, 2010) stated the number to be as high as 43%. Higher rates of FSD are also indicated in studies with smaller samples, for example Teheran´s study showed the prevalence of FSD to be 38% (Shokrollahi, Mirmohamadi, Mehrabi, & Babaei, 1999) and in addition a 2004 Turkish study found 46,9% of women with FSD (Cayan, Akbay, Bozlu, Canpolat, & al., 2004).

Besides the above stated limitation of prevalence estimates, it is speculated that differences could also be due to the poor knowledge Czech women have concerning their health in general, as well as their sexual health in particular. At the same time, the Czech term “dysfunction” associates with the term 'distress’ and some researches show that higher prevalence of FSD occurs when

distress is not included in the formation of questions (Basson R. , 2001). Thus, even though the question was simple, it can be presumed that the feeling of distress was implicitly included.

Traditionally perceived risk factors for developing FSD were confirmed. They are: sexual abuse - both during childhood and having been forced to engage in sex during lifetime, having an STD, and with current FSD also a painful first sexual intercourse. STD was proven to be an important factor for instance in a study by (Sadeghi-Nejad, Wasserman, Weidner, Richardson, & Goldmeier, 2010) and Wilson et al. (Wilson, a další, 2010). Sexual abuse has also been shown to have a negative impact on sexual life (Laumann, Paik, & Rosen, 1999) (Dunn, Croft, & Hackett, 1998) (Öberg, Fugl-Meyer, & Fugl-Meyer, 2002). However, the negative influence of abortion on sexual life, found in two major studies (Coleman, Rue, & Coyle, 2009) (Fok, Siu, & Lau, 2006), was not confirmed by our study.

When considering the influence on partnerships, the majority of women stated that their partnership was negatively influenced by the FSD and the odds of developing FSD increases when women experienced sexual desire. From other study (Moore & Heiman, 2006) positive perceptions of partnerships correlated positively with frequency of sexual intercourse within the relationships, and additionally, those couples who experienced problems or crises within their relationships suffered overall impairment of sexual functioning. Sexual and overall partnership satisfaction is considered to be deeply entwined and mutually reciprocating. However, sometimes they can also be mutually exclusive. In a study conducted by (Moore & Heiman, 2006), it was revealed that couples who sought help for their FSD's referred to their relationships as 'satisfactory' despite their sexual problems, thus highlighting the potential mutual exclusiveness of these two factors. It is significant and surprising to note, that few empirical studies fail to consider partnership difficulties while studying FSD's. It is limited and restricting to consider

sexuality from an exclusively individual psycho-biological viewpoint. Sexuality is a complex matter that concerns couples as a whole, rather than isolated individuals. This is especially relevant when FSD is involved, since sexual dysfunction can have a significant impact upon partnership satisfaction - and vice-versa (Moore & Heiman, 2006).

An additional representative study in the USA revealed that women with hypoactive sexual desire experienced elevated conflict levels within their relationships, increased relationship discontent, reduced sexual activity, infrequent orgasms and experienced greater overall levels of stress (Leiblum, Koochaki, Rodenberg, & Rosen, 2002). In another study (Davies, Katz, & Jackson, 1999), sexual and partnership discontent was shown to emerge as a result of a discrepancy between the sexual appetites of the two partners. In a German study, researchers discovered that sexual satisfaction was significantly influenced by the quality of intercourse itself. For German women, intercourse was considered to be more important than petting or masturbation (Philippsohn & Harmann, 2009).

The variable “frequency of orgasm during intercourse with a man” did not increase the odds of lifetime prevalence. However it was significantly related to current FSD. Thus, even though there was FSD in the past this may not affect the current presence of orgasms. Orgasm problems are easily forgotten. During acute FSD, problems are more likely to
be reported. However FSD which occurred sometime in the past is less likely to be reported.

Having faked orgasm “often and almost always”, and not being satisfied with sex also appears to be increasing the odds of having an FSD. These variables however could be seen as exactly the opposite – that sexual dysfunction increase the likelihood of faking the orgasm, and not being satistfied with sex. (Laumann, Paik, & Rosen, 1999) as well as. (Dunn, Croft, & Hackett, 1998) postulate that most women with FSD are dissatisfied with their sexual lives. In contrast, the

overall sexual satisfaction of Czech women was high, with over 60% of women shown to be satisfied with their sexual lives.

Conclusion

The prevalence of sexual dysfunction across the lifespan of women within the Czech Republic was 20%. Most of the women surveyed suffered from multiple FSD's at the same time. The two most frequent types of FSD were insufficient vaginal lubrication and dyspareunia. The majority of women suffering from FSD were in the 49-59 year age group. Considering marital status, there were more divorced women with FSD than without FSD. The majority of women with FSD experienced complications within their partnerships.

Risk factors that increase the likelihood of sexual dysfunction are: sexual abuse during childhood and having been forced to engage in sex in lifetime. Having a sexually transmitted disease and being uncertain about their sexual orientation. Having the need for sexual satisfaction and positive attitudes towards casual sex.

Sexual characteristics which strongly associate with FSD are: not being satisfied with sex and having a faked orgasm "often and almost always".

These results indicate that there are risk factors for developing FSD which can be identified, and there are serious negative association related with FSD which can be prevented when properly examined and treated.

Table 1. Multiple logistic regression model of lifetime prevalence of SD

		OR	95% C.I.for OR	
			Lower	Upper
Block 1	has higher education	,63	,34	1,16
	is religious	,89	,61	1,30
	age group 30-44*	1,16	,57	2,37
	age group 45-59	1,52	,68	3,38
	age group 60 and above	1,62	,68	3,85
	marital status divorced**	,99	,53	1,88
	marital status single	1,46	,73	2,91
	marital status widowed	1,52	,44	5,23
	is divorced and age 30-44	1,77	,63	5,03
	is widowed and 60 and above	,30	,07	1,31
Block 2	had abortion	1,39	,90	2,15
	had miscarriage	1,35	,86	2,11
	abused in childhood	2,37	1,28	4,38
	forced into sex	2,361	1,463	3,81
	had an STD	2,35	1,19	4,64
	painful first intercourse	1,39	,96	2,02
Block 3	**needs sexual satisfaction**	1,74	1,14	2,66
	attituted towards casual sex	1,74	1,136	2,666
	satisfied with sex life	,61	,41	,91
	frequency of faked orgasm	1,63	1,30	2,05

Notes: *reference age group is 18-29 **reference marital status is married

Block 1: -2LL=851.24, chi-square(10)=19.5, p=.03, Nagelkerke R2=.04.

Block 2: -2LL=812.14, chi-square(5)=39.1, p<.01, model Nagelkerke R2=.10.

Block 3: -2LL=765.10, chi-square(5)=47.0, p<.01, model Nagelkerke R2=.18.

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