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Medical students' sexuality – beliefs and attitudes

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Summary

Introduction: The ability and readiness to talk with patients about sexual problems not only depend on education in sexual physiology and pathology, but also on the doctors' beliefs and attitudes towards sexuality. Considering the importance of these matters, the authors decided to collect and evaluate the data regarding attitudes and cognitive schemata of medical students.

Aim: Analysis of selected convictions and attitudes towards sex life of IVth grade students of medicine.

Methods: Self-report Questionnaire on Satisfaction with Sexual Life (KSS2) was applied. Medical students filled the questionnaire when attending the courses of Psychopathology of neurotic disorders or Psychotherapy.

Results: Analysis of the collected data revealed differentiation of the studied group in regard of beliefs and attitudes towards sex life, dialogue about sex in erotic relationships, and seeking for professional help. Regarding some aspects, significant differences between women and men occurred. The following factors, which may negatively influence medical doctor's competencies in the domain of sexual health, were identified: discomfort considering their own sexuality, avoidance of sexual drive, negative moral judgment of sexual activity.

Conclusions: Assessment of the influence of students' and doctors' own sexuality on their competencies in diagnostics and treatment requires further studies. There is a clear indication to look for the means for prophylaxis and correction of ineffective attitudes and convictions of future doctors' through professional sexual education or interpersonal trainings.

Key words: sexuality, medical students, beliefs and attitudes, sexual disorders

Introduction

Some studies conducted in groups of medical students indicate that ,which may seem surprising, the subjective attitude of students to sexual life has a greater impact on their approach to include sexual health of patients in the diagnostics and treatment than the substantive quality of education in this field [1, 2, 3, 4]. It can be expected that

people who negatively experience their own sexuality will have difficulty in conducting a free and neutral conversations about sexuality of others - due to, for instance, the possibility to project on them their own shame, embarrassment or insecurity. Since sexual activity is still in many homes shameful and overlooked subject [5, 6], doctors play a special role in promoting a healthy and fulfilling sex life.

Despite the fact, in 1995 still 90% of medical schools in the United States had not conducted teaching in sexual issues [7, 8, 9], and in 1993 representatives of all medical practitioners in the U.S. were recognized as under-educated in the field of sexual health. *National Institute of Health (NIH Consensus Conference)* has recommended then the introduction of courses in this subject, including a detailed study of practical interview in this area, and the establishment of postgraduate training courses, taking into account the interdisciplinary nature of sexual problems [7].

In this context, the phenomenon of progressive decline of the validity of discussing sexual issues with patients in the subsequent years of education, as described by McGarvey et al [9] - caused, inter alia, by modeling of the attitudes of older senior doctors, revealing their own discomfort associated with dealing with the subject of sexuality in an interview with the patients and the tendency to avoid it in the conducted interviews, seems to be particularly interesting. These authors also described the gradual marginalization of sexual difficulties for the "more serious" medical situations.

On the other hand, Boekeloo et al. (as cited in Williams and Goebert [1]) found that the doctors' perception of the importance of dealing with sexuality and reducing the tendency to risky sexual behavior has not changed under the influence of education. Doctors in the field of sexuality are conservative, reluctant to discuss sexual issues in conversation with patients, as it was noted in numerous, mostly American studies. However, there is a lack of data allowing to assess whether this problem affects their communication as well: "discussing and negotiating sexual behaviors" with their partners. Williams and Goebert suggest that maybe the doctors are likely also for personal reasons to inhibit dialogue on sexual health [1].

So far, there have been not many researches on sexuality of medical students. They all point to a considerable psychophysical and emotional burden of the students and its impact on their sexual health (during the period of the most intense needs and sexual activity as well as selection of partners). It is connected with a significant, even greater than in the general population, prevalence of sexual dysfunctions among them [10, 11], occurrence of intrapsychic conflicts concerning masturbation and sexual orientation, as well as difficulties in the treatment of "patients sexually provoking".

Particularly unfavourable in working with patients whose sexual health may be adversely affected - whether because of purely sexual dysfunctions or mental disorders, or, for example due to the use of drugs or surgery - seems to be treating by medical personnel sexuality as taboo, its omitting or using moral judgments.

Aim

The aim of the study was to analyze the selected convictions and attitudes towards sex life of IVth grade medicine students of the Faculty of Medicine of the Jagiellonian University Medical College

Material

In the years 2009-2011, during the courses on psychopathology of neurotic disorders and basis of psychotherapy a self-report questionnaire study was conducted in a group of 180 fourth-year students of the Faculty of Medicine. It was a part of multidirectional researches related to the sexual health of patients with anxiety and behavioural disorders, conducted in the Department of Psychotherapy of the Jagiellonian University Medical College. The study was anonymous and voluntary. The students filled in the questionnaires after finishing the course on psychopathology of neurotic, behavioural and personality disorders and basis of psychotherapy. During the courses elements of the knowledge on sexuality were introduced, connected with the etiology and the picture of neurotic disorders' symptoms. The students who participated in the study, had not previously had classes concerning directly sexuality. Three questionnaires were rejected due to incorrect or incomplete filling. The final study group included 177 subjects: 105 females and 72 male (table 1)

Table 1. **General characteristics of the studied group**

	Females	Males
Number of persons	n = 105	n = 72
Age		
Mean ± SD	23±1	23±1
Min.-Max.	21–26	21–28
Marital status/ relationship		
Marriage	3 (3%)	0 (0%)
Informal relationship	52 (50%)	33 (46%)
Has no long-term partner	50 (47%)	38 (53%)
Has never had a partner	18 (17%)	14 (19%)

Methods

Self-report Questionnaire on Satisfaction with Sexual Life (KSS2) by L. Müldner -Nieckowski and K. Rutkowski [6] was used in the study. This tool allows for a relatively quick gathering information on various aspects of sexuality, such as overall satisfaction with sex life, aggravating factors in the sexual development and the current life situation, sexual activity, sexual relationship with a partner, attitude to one's own gender, body and sexual functions, occurrence of sexual disorders, beliefs concerning sexuality and expectations related to treatment.

The material presented is a continuation of the description of a group of students, presented in the first part of the research, devoted to the development and realization of sexual needs of students of medicine [6]. As indicators of potential adverse approach to sexuality the following items were included: lack of acceptance of one's own body, physiology and sexual expression, rejection of own impulsive tendencies, including

sexual fantasizing and erotic dreams, sense of guilt associated with masturbation and associating sexual activity with unpleasant emotions and memories. Students referred in the questionnaire also to statements about attitudes towards dreams and erotic fantasies, understand their sexual behavior as an addiction and the need to improve sex life, including sexologist help.

The questionnaire contains a number of statements to which the person examined refers by selecting one of the answers: "yes", "rather yes", "no" or "rather not". Analyzing the responses to particular questions, the answers "yes" and "rather yes", as well as "no" and "rather not" were in some cases considered together This results from the assumption that the pole of response is more important than the doubts as to its properties, contained in the word "rather". There are no answers in the questionnaire completely neutral (e.g., "I do not know" or "neither yes nor no") which imposes on respondent selecting positive or negative response, regardless of the doubt in that regard.

Statistical analyses

To assess the significance of differences between the ratios, stwo-tailed test for two stratum weights was used for the two indicators of the structure. The calculations were done with the STATISTICA 8 PL package

Results

The vast majority of respondents (76% -78%) denied the feeling of disgust to their body. Such feeling, however, had three respondents and another four female students answered "rather yes". Four students (6%) did not answer (Table 2).

Table 2. **Negative feelings concerning one's own body and genitals**

	Females (n = 105		Males (n = 72)	
	I feel loathing for my body			
yes	2	2%	1	1%
rather yes	4	4%	0	0%
rather not	19	18%	11	15%
no	80	76%	56	78%
lack of answer	0	0%*	4	6%*
	I feel bad when I touch my genitals/my penis			
yes	3	3%	2	3%
rather yes	7	* 7%	0	* 0%
rather not	23	* 22%	10	* 14%
no	71	68%	57	79%
lack of answer	1	1%	3	4%

* $p<0.05$ test for two stratum weights, (percentages)

Discomfort associated with genital touching reported a few persons, only 3% of male and female students confirmed it unambiguously, at the same time significantly more female students gave the answer "rather yes" or – the other not entirely unambiguous answer - "rather not" (cumulative percentage of such answers of female students was also significantly higher than in the group of male students, 29% vs 14%, p <0.05).

Table 3. **Attitudes towards fantasies and erotic dreams**

	Females (n = 105)		Males (n = 72)	
	Whenever I have erotic fantasies, I try to remove them from my thoughts			
yes	2	2%	0	0%
rather yes	11	10%	12	17%
rather not	57	54%	37	51%
no	32	30%	22	31%
does not concern	2	2%	0	0%
lack of answer.	1	1%	1	1%
	I happen to have erotic dreams			
yes	41	39%	27	38%
rather yes	23	22%	21	29%
rather not	34	32%	20	28%
no	7	7%	2	3%
lack of answer.	0	0%	2	3%
	I like recollecting erotic dreams			
yes	20	19%	12	17%
rather yes	31	30%	18	25%
rather not	30	29%	23	32%
no	23	22%	16	22%
does not concern	1	1%	0	0%
lack of answer.	0	* 0%	3	*** 4%**

* p<0.05 test for two stratum weights (percentages)

As it results from the data presented in Table 3, several times more people in the study tried to avoid erotic fantasies, but 10% of women and 17% of men reported such tendencies. Unambiguously affirmatively (the answer "yes") responded only two female students. There were no differences in the "suppression" of erotic fantasies between the groups of men and women. The occurrence of erotic dreams reported majority of respondents (61% females and 67% males), there were no gender related differences. Positively evaluated memories of erotic dreams reported almost half of the respondents. There were also no significant gender related differences in this case , except for a small subgroup of the three men, who skipped the question.

Table 4. **Feeling of guilt for masturbation and conviction of the addiction to it**

	Females (n = 105)		Males (n = 72)	
	During or after masturbation I have the feeling of guilt			
yes	7	7%	5	7%
rather yes	14	13%	10	14%
rather not	23	22%	19	26%
no	36	34%	32	44%
no and rather not ALTOGETHER	59	* 56%	51	* 71%
does not concern	24	*** 23%	2	*** 3%
lack of answer	1	1%	4	6%
	I think I am addicted to masturbation			
yes	0	* 0%	5	* 7%
rather yes	4	*** 4%	17	*** 24%
yes i rather yes ALTOGETHER	4	*** 4%	22	*** 31%
rather not	16	* 15%	22	* 31%
no	83	*** 79%	20	*** 28%
no and rather not ALTOGETHER	99	*** 94%	42	*** 58%
does not concern	1	1%	0	0%
lack of answer	1	** 1%	8	** 11%

* $p < 0.05$, ** $p < 0.005$, *** $p < 0.0005$, test for two stratum weights (percentages)

Sense of guilt associated with masturbation reported a similar percentage of men and women (respectively 20%, 21%), however, significantly more women reported that they do not masturbate at all (Table 4). The conviction of being addicted to masturbation was expressed both unambiguously and in version of combined response "yes" and "rather yes" more significantly by men. This question has also been omitted by very high proportion of men (11%). Almost no female student has confirmed this belief, including definite rejection of it by as many as 79% of women.

Table 5. **Negative associations with sex**

	Females (n = 105)		Males (n = 72)	
	I associate sex with something morally wrong			
yes	2	2%	0	0%
rather yes	4	4%	5	7%
rather not	28	27%	13	18%
no	71	67%	50	70%
lack of answer.	0	* 0%	4	* 5%

table continued on next page

	I associated sex with pain, suffering			
yes	1	1%	1	1%
rather yes	1	1%	0	0%
rather not	12	11%	7	10%
no	91	87%	61	85%
lack of answer.	0	* 0%	3	* 4%
	Sex is disgusting to me			
yes	1	1%	1	1%
rather yes	0	0%	2	3%
rather not	5	5%	3	4%
no	98	93%	61	85%
no and rather not ALTOGETHER	103	* 98%	64	* 89%
lack of answer.	1	* 1%	5	* 7%
	I think I am addicted to sex			
yes	1	1%	2	3%
rather yes	3	3%	5	7%
rather not	23	* 22%	27	* 38%
no	78	*** 74%	32	*** 44%
no and rather not ALTOGETHER	101	** 96%	59	** 82%
lack of answer.	0	** 0%	6	** 8%

* $p < 0,05$, ** $p < 0,005$, *** $p < 0,0005$, test for two stratum weights (percentages)

The association of sex with negative moral evaluation (Table 5) concerned very few of the examined (6-7%). Similarly, the overwhelming majority of respondents (85-87%) rejected the association of sex with pain or suffering. Again, apart from a small subgroup of men (4%) skipping this question, there were no significant gender-related differences. The feeling that sex is disgusting reported similar, a small percentage of men and women (1-4%), but significantly fewer men negated this view (combined answers "no" and "rather not"), and more men than women omitted this question.

The conviction about sex addiction confirmed a few persons. Differences emerged in the degree of rejection of this statement - significantly more often unambiguously excluding answers ("no") was given by women (74% vs 44%), they also more frequently chose the less definite answer ("rather not" 38% vs 22%). Again, men were more likely to omit this question (Table 5).

Three-quarters of respondents (76% -75%) - definitely disagreed with the statement that the conversation with a partner (spouse) about issues concerning sex negatively affects sex life (Table 6), but this opinion had 4% of the surveyed women.

Table 6. **The desire to improve sexual life, treatment / advice**

	Females (n = 105)		Males (n = 72)	
	Conversation with a partner about sexual issues negatively influences sex life			
yes	2	2%	0	0%
rather yes	2	2%	0	0%
rather not	21	20%	14	20%
no	80	76%	54	75%
lack of answer.	0	0%	4	5%
	I want improvement of my sex life			
yes	32	* 30%	11	15%
rather yes	28	27%	24	33%
rather not	16	15%	12	17%
no	13	12%	9	13%
does not concern	16	15%	13	18%
lack of answer.	0	0%	3	*** 4%**
	I had sexologist consultation (ever in my life)			
yes	1	1%	1	1%
no	104	99%	69	96%
lack of answer.	0	0%	2	3%
	I have a need to get sexologist consultation or to undertake sexological treatment			
yes	3	3%	1	1%
rather yes	2	2%	3	4%
rather not	12	11%	6	8%
no	88	84%	59	82%
lack of answer.	0	0%	3	* 4%

* $p < 0,05$, test for two stratum weights (percentages)

The desire to improve sex life (Table 6) reported as many as about half of the respondents (57% of females and 48% of males), unambiguous affirmative answers in this matter were given by significantly more women (30% vs. 15%), while significantly more men skipped the answer to this question (4%).

Until the time of the research, one female and one male student from the studied group had sexology consultations Two males repealed to answer. Five percent of people have expressed the need to have sexology consulting or treatment. Three men did not answer.

Discussion

Attitude toward one's own body is an important factor influencing the quality of sexual life [13,14]. In the studied group a few people had a negative attitude towards their physicality. However, obtaining from 6% of women and 1% of men answers expressing negative experiencing of their body worries especially because it may be a sign of existing mental health problems. Attention also draws the number of responses less unequivocal ("rather not"), indicating the ambivalent attitude of respondents to their body or the vague emotions connected with their own physiology, which was reported by as many as 18% of women and 15% men. Similarly, although discomfort with touching one's own genitals was expressed unambiguously by not many persons, a large number of intermediate responses (14-29%) may indicate an ambivalent attitude to those parts of the body, which are after all often the subject of medical examination, e.g. in genecology, urology or surgery. Taking into account the frequent mechanism of projection (transfer) of one's own fears and uncertainties on other persons, a situation in which a feeling of disgust to one's own body will negatively affect the attitude to the patient's body , making it more difficult for the doctors to make basic tasks such as physical examination of the patient and performing the necessary procedures (e.g., catheterization, digital rectal examination), cannot be excluded.

Erotic fantasies, appearing in daydreaming and in dreams are one of the natural signs of sexuality. [15] Attitude towards them reflects the broader experiencing of one's own impulsiveness - the content of dreams or daydreaming may reveal unconscious or conscious preferences concerning the objects and forms of realization of sexual needs. Therefore, the tendency to consciously remove the erotic content from the imaginary space may indicate a lack of acceptance of own sexual needs or a strong need for control, often as it seems, because of the presence of cognitive schemas overly restrictive, generated in the process of socialization. It can also result from beliefs, such as religious, subjecting this type of experiences to moral evaluation. Most people reported experiencing dreams and erotic fantasies, and only a small group confirmed the tendency to consciously remove them from memory.

Another important aspect of sexuality is the attitude towards masturbation. Masturbation is nowadays considered to be one of the natural, healthy behaviours of adults [16], unless it is non-intrusive activity in a compulsive disorder, is not an element of sex addiction connected with hypoactive sexual desire disorder or is not linked to perverse behaviors. In situation of being healthy, it should allow for the discharge of sexual tension and experiencing the pleasure accompanying it. All discomfort psychological experiences related to masturbation indicate lack of acceptance of the performed autoerotic activities or some other components of dissatisfaction with one's own sexuality. On the other hand, the ability to freely masturbate is linked to the general experiencing sexual satisfaction. [16] Information obtained from students about more frequent masturbation in men are consistent with the literature [17]. In the studied group, a significant percentage of people (20%) confirmed experiencing sense of guilt accompanying masturbation, while in the male group the high rate of recognizing masturbation as addiction (30%) draws attention. If indeed (which requires further confirmation) the autoerotic behavior profile in this

group would have this character, experiencing the sense of guilt could be assigned to one of the mechanisms of dependence syndrome. In the subgroup of women, a similar relationship does not occur - in terms of the perception of masturbation addiction is rare. This difference at this stage of the study could not be explained.

Morally negative associations with sex reported 6% of female students and 7% of the male students, and one may wonder whether the respondents differentiated sexual activity within married and outside it, for instance due to the fact that - apart from three women -174 examined persons were not marriage. This variant of answer, although relatively rare, may worry when one takes into account the possibility that future doctors can be guided in they work not by medical standards but by moral assessment.

Association of sex with pain and suffering concerned in the study group only some individuals. This is a positive result, however, the fact should take into consideration that filling in of the questionnaire was voluntary, and it can be assumed that people who have experienced sexual trauma or avoid sexual issues for other reasons, may have withdrawn from participation in the study. This last , difficult to verification possibility, is probably important for the interpretation of the all observed or detected dependencies. The percentage of completed questionnaires obtained in our study was 75% (the questionnaire was filled in by 180 of the 240 students invited to participate in the study) and is higher than the highest given in the literature, e.g. by Ozana et. al [3] for students of medicine (66.8% from a group of 301 persons), and significantly higher than the one obtained by Ferguson et. all in a study of residents and participants of postgraduate courses (20%) [11], and seeming to depend on, inter alia, the specialization of the students, residents and health care workers [1, 10, 17]. It seems that the response rate may also depend on the context of the study (classes in the subject "psychopathology of neuroses" and "basis of psychotherapy"), the "location" of the study in the curriculum, and of course on the metrical age of the respondents (in the Polish socio-cultural context the period of studies and sexual initiation overlap in a large extent).

Gender differences of the subjects do not seem to reflect, declared by male students of medicine, knowledge and comfort in sexuality matters, whether of the patients or of their own. In a study of the foreign population (Croatian students) men were more likely to change partners and introduce diverse sexual behavior, which is also regarded as typical regardless of the studied faculty, country etc. [18]. The differences also present in the population of students of medicine are associated with various sources of getting sexual awareness - for females mostly mothers, books, magazines for "women" for males - television and newspapers. Another differences are associated with the traditional moral evaluation of undertaking intercourse before marriage - positively valued by men (and with regard to them), and tolerated by women, but primarily with regard to premarital sex of men [3]. In our study group this phenomenon probably reflects the fact that the only examined persons in marriage were three women. On the other hand, the literature suggests that female students of medicine better understand the issues of sexual development although - like most women - are more burdened by their menarche than males by first ejaculation, have less loose attitude to masturbation, sexual initiation and premarital sex. [3] Williams and Goebert [1] highlighted the re-

luctance of residents to discuss sexual behaviours with both partners as well as with patients, similar suggestions were put forward by many authors put about doctors in Poland and abroad [7, 19, 20, 21, 22].

Few respondents declared experiencing sex as disgusting. Just as loathing for own body and genitals, disgust for imagining or experiencing sex with another person seems to point to the presence of disorder, such as sexual aversion. A low percentage of people who have declared this type of feeling, may also result from the disclosure of a similar tendency - to avoid - when deciding whether to participate in the study.

A relatively small group of people (especially women) were willing to identify themselves as a sex addict. The authors obviously did not take this single question as a criterion for the diagnosis of actual addiction, which would require a more detailed interview. However, affirmative responses to this question indicate the tendency of respondents to identify their sexual activity as uncontrolled or excessive. Such experiencing may lead to avoidance or the opposite - excessive desire to explore sexual issues with patients. The doctor not recognizing inadequacy of their behaviour or exhibiting overly restrictive cognitive patterns may have difficulty in assessing the correct functioning and the way of thinking of patients.

Undoubtedly beneficial meaning has distancing of the majority the surveyed students from the conviction about negative impact of talking about sex with a partner on sexual life. Such opinion expressed in the study group only 4% of women, and no men, which can be related to the greater sensitivity of women for the experience which may be for them such conversation, "compromising" them as sexual partners, or - more likely - to the belief about excessive reaction of men on providing them with feedback about the quality of sexual contact. Approximately 20% of the subjects had also doubts concerning the issue which in turn may indicate the limited freedom of behavior in this respect.

Indirect indicator of disturbances or frustration in relation to sexual life is the desire of its improvement. In the studied group, it turned out to be a very common phenomenon - it was reported by half of the females and more than half of males.

The confirmation of the actual nuisance of the problems connected with sexual life should be, however, the desire to have a professional help, in this case - sexology consultation. It was confirmed only by about 5% of the participants. Comparing this result with the 50% desire of improvement, it may seem that expectations of change go without undertaking actions in this direction. However, the conclusion would be apt to a small extent. It should be taken into consideration that many of the respondents may perceive dissatisfaction in their sex life as temporary, possible to be changed as a result of their own actions or changes in the life situation (marriage, graduation, own apartment, etc.). At the same time, the potential impact of factors such as low availability of doctors sexologists, especially offering refunded consultations, and the belief that medical school will provide knowledge to overcome difficulties in their sex life, cannot be ignored.

One of the main conclusions of our study is consistent with the postulate of Solursh [7] about the need to increase on medical studies teaching on sexuality. However, knowledge about behaviour and sexual disorders is not tantamount to the possession

of skills and competences sufficient for proper consideration of sexuality matters in the process of diagnosis and treatment. Therefore, we support the call for the implementation of new ideas in the education, for example, the model held at the University of Sherbrooke in Quebec, of obligatory group training aimed at exploration the students' own attitudes under the guidance of a specialist urologist and sexologist.

The authors also agree with Shindelem et. all [10] that it is not reasonable to assign all causes of sexual difficulties in life and in discussing them with patients, to ineffective in this respect medical studies. Other reasons are, however, highly individual and practically elusive when the applied research methodology is based on anonymous questionnaires. It seems that this indicates both the need for careful clinical training [23] as well as shaping attitudes of students through self-knowledge and psychological training.

Probably the final years of studies are the high time for the formation of future doctors, giving a chance to avoid ignoring the issues of sexuality in patients or - even worse - iatrogenic escalation of problems due to the students; own dysfunctional beliefs and attitudes, or lack of interpersonal skills. Such trend of changes in medical education, in line with the needs of doctors, patients' expectations and intentions of teachers of this profession, is now an educational challenge for the staff and students of not only Polish medical schools [1, 9].

Conclusions

1. It is justified to increase the emphasis on the teaching of health and pathology of sex life, also through the methods exploring the students' own attitudes.
2. Despite the relatively low frequency of informing about experiencing loathing for one's own body and perceiving sex as immoral or disgusting, it is worth to notice the risk they pose to adequate practice even of a few students of medicine manifesting such attitudes.
3. The obtained results indicate a relatively high prevalence among students of medicine factors (incorrect or suboptimal beliefs) that may hinder expanding of medical knowledge in this field and transferring it to patients, as well as conducting adequate interviews on sexual health and its disorders.
4. To make the functioning of future doctors easier in professional and social roles may become one of the aims of their own therapy or other forms of self-discovery, regardless of the planned specialization.

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