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Medical students' sexuality – development and fulfillment of sexual needs

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Summary

Introduction: Education in human sexual physiology and pathology, as well as own sexual health of medical doctors, determine in a large proportion the ability to talk with patients about their sexual disorders. Therefore, the authors considered important to collect and assess data regarding sexual health and development of Medical Faculty students.

Aim: Analysis of selected aspects of psychosexual development and sex life of 4th grade medical students.

Material: Self-report Questionnaire of Satisfaction with Sexual Life (KSS2), an instrument created to assess sexual problems in patients treated with group psychotherapy, was applied. Medical students filled the questionnaire when attending the courses of Psychopathology of neurotic disorders or Psychotherapy.

Results: Analyses of collected data have revealed relatively high differentiation of the studied group in regard of satisfaction and experiences with sexual life, attitudes towards masturbation, relationships and sexual activity. In some aspects, significant differences have been found between females and males.

Conclusions: A set of factors have been identified, some of them may negatively influence on the medical doctor's competencies in the domain of sexual health, namely: not having sexual debut or even lack of any erotic experiences and lack of sexual satisfaction. The results indicate significant prevalence of factors, which may impede the students' education as well as taking into consideration the sexual issues during medical interview. Assessment of the influence of students' and doctors' own sexuality on their competencies in diagnostics and treatment requires further studies.

Keywords: sexuality, medical students, medical interview, sexual disorders

Introduction

The issue of sexual health, being one of the essential elements of the quality of life, plays an important role in the doctors' practice of majority of medical specializations. Doctors constitute a

professional group, from which the society expects a solid knowledge of physiology and pathology of sexual life, and readiness to bring up these issues while talking with the patient [1]. At the same time, many authors indicate the tendency of both clinicians and patients to avoid or skip in a medical interview topics related to sexual health [1, 2, 3, 4, 5]. It can result not only in neglecting the treatment of sexual dysfunctions, but also in not recognizing the symptoms of other disorders that may manifest themselves primarily in the form of disruption of sexual functioning (e.g. atherosclerosis or diabetes, being presaged by erectile dysfunctions) [6]. In this context, the research results indicating that the doctors with a good understanding of sexual issues more willingly and more easily enter into conversation concerning sex life with the patients, should be considered as particularly important [7]. At the same time, it is highly probable that the acceptance and comfort in the area one's own sexuality, regardless of the possessed knowledge, is an important factor influencing the easiness in making discussions about sexuality with the patients [8].

For these reasons, it seems justified to examine the development and sexual health of students of medicine after their third year of study, during which they have the first clinical contact with patients, and they are also in the period of establishing serious partner relationships, and after experiencing sexual initiation in most cases. It can be assumed that their difficulties in the sexual life will be the factor potentially limiting the freedom of making decision by the future doctors to talk with the patients about sexuality (or even not asking any questions about sexual life as a supposedly "too intimate", "awkward").

Some of the earlier Polish researches investigating similar problems in the group of male and female students in Wroclaw, including students of medicine, have indicated their poor knowledge on sexual health and contraception [9, 10]. Slightly newer studies concerned the sexual behaviors, attitudes toward sex and contraception, of medicine students of the Medical University of Gdansk [11, 12]. The obtained data have allowed to indicate in the study group high level of knowledge and practice in sexual life, although sometimes inspired by idealistic views, and recognition by the students this area of functioning as being important for self-esteem and for the

quality of relationship. These studies may be an important source of comparative data relating to the Polish population of future doctors, although it is difficult because of the use of different research tools.

Aim

The aim of the study was the analysis of selected aspects of psychosexual development and sexual life of 4th grade students of the Faculty of Medicine of the Jagiellonian University Medical College.

Material

As a part of multidirectional researches related to the sexual health of patients with anxiety and behavioral disorders, conducted in the Department of Psychotherapy of the Jagiellonian University Medical College, a survey by questionnaire, among other studies, has been carried out in the group of 180 fourth-year students of the Faculty of Medicine. The study, which was anonymous and voluntary, was conducted in two consecutive years of academic age-groups: 2009-2010 and 2010-2011, during the courses on psychopathology of neurotic disorders or psychotherapy. Three questionnaires were rejected due to incorrect or incomplete filling. The final study group included 177 subjects: 105 females and 72 males, which reflects the gender structure of medicine students (Table 1).

Table 1 General characteristics of the study 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%)

Method

Questionnaire of Satisfaction with Sexual Life (KSS2) by Ł. Müldner-Nieckowski and K. Rutkowski was used in the study, including a wide range of variables relating to psychosexual development and psychosexual functioning. KSS2 enables to collect, in a relatively short period of

time, information concerning the following aspects of sexuality:

- General satisfaction with sex life
- Aggravating factors in the sexual development and in the current life situation
- Sexual activity and an attitude to it, causes of not undertaking it
- Current relation with sexual partner and difficulties associated with physical proximity
- An attitude to ones' own sex, body, sexual functions
- Presence of disorders related to sexuality and understanding of their causes
- Dysfunctional convictions about sexuality and treatment of its disorders
- Expectations regarding treatment of sexual disorders

In the presented study data on sexual development and current relationships, as well as on selected aspects of sexual functioning and satisfaction with sex life, were used. The Appendix contains a fragment of the questionnaire KSS2 as well as explanation of the notions included in it.

Statistical analyzes

Assessment of the significance of differences between proportions of particular variables was done by means of two-tailed test for two stratum weights. To compare the distributions Mann–Whitney U test was applied. The correlation between variables was assessed with the Chi-squared test. Correlations between the KSS2 items were assessed by means of Spearman's rank correlation coefficient. The analysis of correlation was performed in female and male subgroups, excluding the answers which were not constituting rank-order (“does not concern” or lack of answer). To conduct the assessments, the licensed STATISTICA PL package was used.

Results

In the research group of students, the vast majority of them were unmarried (97% of females, 100% of males) and childless (only one female student had a child). Half of the respondents declared functioning in an informal long-term relationship (50% F, 46% M), and less than 10% had frequent short-term sexual relationships (Table 2). One in five persons had never been in a relationship (17% F, 19% M, Table 5).

Table 2. Relationships, sexual activity in short-term relationships

	Females (n=105)		Males (n=72)	
	Informal relationship			
Yes	52	50%	33	46%
No	53	50%	38	53%
Lack of answer	0	0%	1	1%
	Marriage			
Yes	3	3%	0	0%
No	102	97%	71	99%
Lack of answer	0	0%	1	1%
	Frequent short-term sexual relations			
Yes	2	2%	3	4%
Rather yes	1	1%	3	4%
Rather not	8	8%	12	17%
No	94	*89%	52	*72%
Lack of answer	0	0%	2	3%

* p<0.05 two-tailed test for two stratum weights

Analyzing the answers given to particular questions, the answers "yes" and "rather yes", as well as "no" and "rather not" were sometimes considered collectively. This results from the assumption that the pole of the answer is more important than the doubt as to its characteristics contained in the word "rather". Lack of completely neutral answers in the questionnaire (e.g., "I do not know" or "neither yes nor no") enforces the respondent to choose positive or negative answer, regardless of his/her doubts in a given aspect.

Satisfaction with sexual life was declared by 57% of female and 56% of males (Table 3).

Table 3. Satisfaction with sexual life

	Females (n=105)		Males (n=72)	
	I am satisfied with my sexual life			
Yes	25	24%	15	21%
Rather yes	35	33%	25	35%
Rather not	19	18%	21	29%
No	23	22%	8	11%
Lack of answer	3	3%	3	4%

The age of gaining knowledge about sexual matters ("where do babies come from ") fell in the study group usually for a period of latency and pre-puberty, i.e. 6-13 years of age. It was significantly lower for women than for men (p <0.05), with a lag of one year later in the males group. In many families, sexuality had been an omitted subject. The parents of females, significantly

more frequently than of males, had not avoided topics related to sex (the difference is evident only in respect to the unambiguous answers - "no", and it is not significant after summation of answers "rather not" and "no"). More than a half of the respondents (51% -57%) claimed that parents had not prepared them well for sexual relationships (Table 4).

Table 4. Parents' attitude to sexuality and sex education in the assessment of respondents

	Females (n=105)		Males (n=72)	
	Parents have avoided sex-related topics			
Yes	27	26%	25	35%
Rather yes	46	44%	30	42%
Rather not	22	21%	16	22%
No	10	* 9%	1	* 1%
	Parents have well prepared to sexual relations			
Yes	19	18%	7	10%
Rather yes	30	29%	24	33%
Rather not	43	41%	33	46%
No	11	10%	8	11%
Lack of answer.	2	2%	0	0%
	Introduced into the subject of sexuality at the age:			
Mean ± SD	① 9±3 year of age		① 10±3 year of age	
Min.-Max.	2 year of age- 15 year of age		2 year of age - 16 year of age	
Lack of answer.	7 (7%)		3 (4%)	

* p<0.05 two-tailed test for two stratum weights, ① p<0.05 Mann–Whitney U test

A similar proportion of males and females reported that they had already been in a first relationship, in an erotic situation and had sexual initiation. There were no differences found in the average age of having these experiences. Among the respondents, there was a small subgroup of individuals distinguished who had never been in an erotic situation (7% -11%) (Table 5). The average age of sexual initiation (first intercourse) fell, in the study group, for the period of sexual maturity (19 years). Attention draws the extremely low age of the beginning of the first relationship recognized, by some respondents, as a serious one (9 and 13 years of age), and the age of first intercourse (13 and 15 years of age). On the other hand, sexual intercourse (genital-genital or genital-anal) have never had 38% of women and 31% of men (the difference between genders not statistically significant).

Table 5. The first erotic situations, the first relationship, sexual initiation

	Females (n=105)		Males (n=72)	
	First serious relationship at the age of:			
Has never had	18 persons (17%)		14 persons (19%)	
Mean ± SD	18±3year of age		18±2year of age	
Min. - Max.	9 year of age - 23 year of age		13 year of age - 22 year of age	
Lack of answer	0		1 (1%)	
	First erotic situation at the age of:			
Has never had	12 persons (11%)		4 persons (6%)	
Mean ± SD	17±3year of age		17±3year of age	
Min. – Max.	7 year of age - 23 year of age		6 year of age - 22 year of age	
Lack of answer	0		1 (1%)	
	First sexual intercourse at the age of:			
Has never had	40 persons (38%)		22 persons (31%)	
Mean ± SD	19±2year of age		19±2year of age	
Min. - Max.	13 year of age - 23 year of age		15 year of age - 22 year of age	
	Has good memories of the first intercourse:			
Yes	24	23%	21	29%
Rather yes	23	22%	18	25%
Rather not	12	11%	11	15%
No	5	5%	1	1%
Has never had intercourse	40	38%	21	29%
Lack of answer	1	1%	0	0%
	Recalls the first intercourse as unpleasant:			
Yes	1	1%	0	0%
Rather yes	6	6%	1	1%
Rather not	20	19%	15	21%
No	35	* 33%	35	* 49%
There has been none	41	39%	21	29%
Lack of answer	2	2%	0	0%

* p<0.05, two-tailed test for two stratum weights

The memory of first sexual intercourse was described by men and women similarly, as a positive. Significantly more males unequivocally rejected (answer: "no") classification of the first intercourse as unpleasant ($p < 0.05$). The average number of heterosexual partners in the described subgroups of men and women did not differ with statistical significance. Male and female students have usually had one heterosexual partner (mode=1). At the same time, the greatest number of partners of some of the female (55) and male students (30) was high. Having homosexual partners was reported by 9% of females and 11% of males, and the number of partners of one man was described as "a lot" (Table 6).

Table 6 Number of partners in hetero- and homosexual relationships

	Females (n=105)		Males (n=72)	
	Number of heterosexual partners			
Has never had	19	18%	10	14%
1	32	30%	21	29%
2	20	19%	18	25%
3	21	20%	8	11%
Mean ± SD	2,5±5,5		2,8±4,1	
Min. - Max.	0 - 55		0 - 30	
Mode	1		1	
	Number of homosexual partners			
Has never had	96	91%	64	89%
1	6	6%	2	3%
Mean ± SD	0,2±0,6		0,5±2,5	
Min. - Max.	0 - 4		0 - 20	
Mode	1		1	

The realization of sexual needs through masturbation without restrictions ("whenever I feel like doing it") was declared by a third of females and a half of males, while the answer "I never masturbate" was given by 18% of females and by no male. The attempt to restrict the frequency of masturbation was declared by half of males and one fourth of females.

Table 7 Masturbation

	Females (n=105)		Males (n=72)	
	Masturbates whenever feels like doing it			
Yes	8	* 7%	15	* 21%
Rather yes	24	23%	24	33%
Rather not	28	27%	13	18%
No	26	25%	17	24%
Never feels like masturbating	19	** 18%	0	** 0%
Lack of answer	0	* 0%	3	* 4%
	Tries to restrict the frequency of masturbation			
Yes	13	12%	11	15%
Rather yes	15	** 14%	25	** 35%
Rather not	21	20%	16	22%
No	27	26%	14	19%
Never feels like masturbating	28	** 27%	2	** 3%
Lack of answer	1	1%	4	6%

* p<0.05, ** p<0.005 two-tailed test for two stratum weights

Significant gender related differences were indicated for the items "I masturbate whenever I feel like doing it" and "I try to restrict the frequency of masturbation" (p <0.005). None of the males declared that he never has a desire to masturbate, which was stated by 18% of females. Significantly

fewer women than men declared freedom in the realization of the need for masturbation. Significantly less females than males have declared freedom in its realization. Males significantly more often than females reported attempting to restrict its frequency.

The connections between the items presented in Tables 2-7 were assessed by means of the analysis of correlations. The age of the respondents in the moment of their first erotic situation was significantly correlated with the age of first sexual intercourse ($r=0.57$, $p<0.0001$, after controlling for gender: F: $r=0.64$, $p<0.0001$; M: $r=0.48$ $p<0.001$), as well as with the number of heterosexual partners ($r=-0.55$ $p<0.0001$; F: $r=-0.71$ $p<0.0001$; M: $r=-0.40$ $p<0.01$). The later start of sexual activity was associated with a smaller number of heterosexual partners ($r=-0.40$ $p<0.0001$), but again, this result concerned predominately females (F: $r=-0.55$ $p<0.0001$).

The analysis has revealed that if sexual initiation was remembered as an unpleasant experience, it was associated with significant risk of dissatisfaction with sexual life ($r = -0.30$, $p <0.005$). After controlling for gender, it has turned out that this correlation was significant for females only (F: $r = -0.52$ $p <0.0005$).

Similarly, although for the entire group positive correlation between being in an erotic relationship and satisfaction with sexual life has been found ($r = 0.33$, $p <0.005$), after controlling for gender it has turned out that the variables positively correlated in a statistically significant way only in the males group (M: $r = 0.47$, $p <0.001$). Sexual activity of male and female students in a long-term relationship was negatively correlated with their frequent establishing of short-term sexual relationship (overall: $r = -0.44$ $p <0.0001$, F: $r = -0.38$ $p <0.05$, M: $r = -0.46$ $p <0.005$) and was significantly associated with satisfaction with sex - stronger correlation concerned males (overall: $r = 0.56$ $p <0.0001$, F: $r = 0.42$, $p <0.005$, M: $r = 0.61$ $p <0.0001$). The number of partners (heterosexual) was not associated with satisfaction with sexual life, similarly as the age of sexual initiation.

Discussion of results

A graduate of medicine, regardless of the chosen specialization, should have the ability to freely and professionally converse with patients about the issues concerning sexuality, including sex education at the basic level (physiology, conception planning, prevention of sexually transmitted diseases, identification of the most common sexual dysfunctions). The role of a doctor is also promoting healthy sexuality, informing about the basic legal issues related to it, supporting the rights of sexual minorities, preventing and detecting sexual abuses, including sexual violence against children.

The described study was designed to analyze the factors associated with sexual development and functioning of medicine students, that may play a significant role in their future medical practice. To such factors the following have been included: a stable relationship, positive experiences associated with sexual activity, a sense of being prepared for sexual life and satisfying sexual functioning.

The obtained results indicate that only half of the respondents have been satisfied with their sex life. At the same time, the majority of respondents have declared staying in a constant (although informal) relationship. It is difficult to state explicitly, what were the reasons of the dissatisfaction with sex life of the examined students, it can be only speculated, that for example unfavorable housing conditions, fear of pregnancy, various needs of partners or lack of sufficient experience (practice) may be some of the reasons that might be meaningful.

The internal differentiation of the study group, expected on the basis of with previous studies, has not raised any doubts - next to 1) the largest group of sexually active people in a long-term relationship, and 2) persons frequently changing partners, less numerous subgroups have emerged: 3) sexually inactive females, but being in a long-term relationship, 4) singles (mostly females), fulfilling sexual needs only through masturbation, and 5) single females sexually inactive and not masturbating.

Although one may wonder whether the doctors' own difficulties concerning sexual life

associated with difficulties in the relationship, allow for better understanding of patients suffering for the same reason (as in the concept of so called "Wounded healer"), the authors of this paper believe that they are factors hindering doctors undertaking the theme of sexuality in medical interviews. The presence of strong associations between a given sphere of life and difficult memories or contradictory emotional tendencies (mental complex) can cause, in the case of dealing with similar themes in relation with a patient, discomfort, tension, limited control, and thus tendency to avoid them [13].

The age of gaining knowledge about sexual matters by the examined students for most of them fell for the pre-puberty period, regardless of the very frequently reported parents' avoidance of the conversations on topics related to sexuality. It can be assumed that one of the possible causes of the difference between the answers of males and females was the girls' parents greater concentration on educating them about contraception.

It cannot be concluded, on the basis of the available studies, whether the optimal age and form of gaining information by a child on sexual life can be specified [14], and more explicate discussion on the issue exceeds the scope of the article. It should be pointed out here that children are interested in the issue of sexuality, especially concerning gender dissimilarity, already in the preschool period, directing their questions usually to parents. The given average age of 9-10 years is the period during which information about human sexuality can be obtained at school. The knowledge transferred by the teacher or older friends, usually contains information sufficient to learn the basis of physiology and practical aspects of sexual relations, although it may be insufficient to understand the emotional aspect of intimacy and sexuality, which would make it possible to, *inter alia*, conduct freely an interview with the patient on the subject, regardless of the knowledge about physiology and pathophysiology of sexual life, included in the medical school curriculum. Undoubtedly, the role of parents in adequate sexual upbringing of the child (which goes beyond sex education) is paramount [14]. Parents or caregivers are in fact the models of gender roles, partnership in relations, learn and raise, even if their impact considerably decreases alongside

with entering into peer relationships and a period of an adolescence rebellion. Although that in the subjective perception of approximately half of the surveyed, the task to prepare for sexual life had not been well fulfilled by the parents, the results of correlation analysis have not indicated connection of this assessment neither with satisfaction with sexual life nor with establishing partner relationships. Taking into consideration the professional role of the future doctors as those who should be able to initiate a conversation concerning sexual issues, it can be suspected that the experience of the parents' avoidance of this subject, especially if it was experienced as a taboo, can be a deterrent factor to mention it in the contact with the patient.

A complete lack of sexual experience concerned about 10% of respondents who had never been in a sexual situation with another person. On the one hand individual reasons such as personality disorders and neuroses (the prevalence of which in the general population reaches 10-30%) or sexual immaturity of the respondents (or other sexual dysfunction), on the other hand, possible broader cultural factors for example religious, should be considered.

It is also worth mentioning the postulated from some time differentiating of sexual orientation: asexual and autoerotic, which manifests in a complete lack of interest in sexuality or lack of needs for sexual contact with another person.

The fact that over a third of the respondents have not experienced sexual initiation yet is slightly less disturbing. It can be assumed that the reasons of the fact, apart from a conscious decision, may include limited opportunities to find a partner (for example because of absorbing studies), lack of housing conditions providing privacy, fear of pregnancy, etc. The average age of sexual initiation of respondents (19 years for both sexes), was analogous to the average in the Polish population of persons with higher education [15]. It does not change the fact that a person who has never had a sexual relationship may have difficulties in understanding some aspects of the relationship of the patient, even in case of having theoretical knowledge.

It seems that because of distinguishing in the studied population groups: of persons early entering erotic situations, undertaking sexual intercourse, establishing relationships, and on the

contrary, people not undertaking sexual intercourse until the research; it would be important to obtain information from the respondents about the causes and conditions of this state of things, i.e., factors that both facilitate and hinder establishing and functioning in a partner relationship.

The results concerning masturbation, obtained in the study, are interesting. Autoerotic behaviors are an important and natural element of psychosexual development, usually preceding genital sexuality in partner relations. They are essentials in the development of sexual sensitivity, knowledge of one's own body and sexual needs [16]. Realization of sexual needs through masturbation of already grown-up persons, especially not being yet in a relationship, is considered to be healthy, although when it is the only way of fulfilling sexual drive, it is often connected with disorders in the area of sexuality (including also potential disturbances in the ability to function in a relation with another person) [16, 17, 18].

The attempt to restrict the frequency of masturbation has been declared by one fourth of females and a half of males from the sample. It is not clear what was the reason of such answers. The most likely causes are the beliefs for example about the immorality and harmfulness of masturbation [19], or intensification of autoerotic behaviors, fear of addiction from masturbation and the accompanying circumstances (such as watching pornography), or less diverse fear of uncontrolled impulsiveness.

Assessment of the actual impact of the factors mentioned in this study on the ability of students and doctors to promote sexual health and to take into account sexuality in diagnostics and treatment, requires further investigation, including repeated studies (preferably in the same group) after the beginning of professional work by the current students. An attempt should also be taken to assess the efficiency and development of actual forms of education of physiology and pathology of sexual life in the course of medical studies. Reliable education may play a corrective role in increasing the awareness of the necessity to include the patients' sexuality in the medical interview and in the process of treatment as well as the doctors skills in the sphere.

Conclusions

1. Most of the surveyed students of the fourth year of medical studies have been in a long-term, informal relationship, in which they have been sexually active.
2. Only about half of the respondents have declared satisfaction with sex life.
3. Most of the respondents think that they had not been well prepared to sexual life and that their parents avoided talking about sex.
4. The minimal age of having first erotic situation and first intercourse was low, however early sexual initiation concerned only few persons, and most of the responders have good memories of the first intercourse.
5. The respondents have most commonly had one sexual partner of the opposite sex.
6. In the studied group 9% of females and 11% of males have declared homosexual experiences.
7. The obtained results indicate frequent significant occurrence of factors ("taboo" topics, own difficulties, lack of personal experiences) that may hinder the students' both broadening of their knowledge as well as taking into account sexual issues in the conducted interviews.
8. Because of the potential burden concerning their own sexuality, the functioning of doctors in professional and social roles may sometimes need to have their own psychotherapy or other methods of expanding knowledge and competence in the field of sexual life, irrespective of the planned specialization.

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APPENDIX

The respondents were asked to take a stance to the following statements describing their current life situation and experiences:

- I am in an informal relationship
- I am married
- I am sexually active in a long-term relationship
- I often enter into short-term sexual relations
- I am satisfied with my sexual life
- When I was a child, my parents avoided sex-related topics
- I think that my parents have prepared me well for sexual relations
- I got the knowledge about the subject of sexuality at the age of:
- I began my first serious relationship at the age of:
- I had my first erotic situation at the age of"
- I had my first sexual intercourse at the age of:
- I have good memories of my first sexual intercourse
- I recall my first sexual intercourse as unpleasant
- I have been in an erotic situation at least once
- Number of heterosexual partners
- Number of homosexual partners
- I masturbate whenever I feel like doing it
- I try to restrict the frequency of masturbation

Erotic situation was defined in the questionnaire as:

"erotic closeness between partners, not necessarily connected with genital-genital penetration, such as oral sex, petting (caressing of the genitals and other erogenous zones, without full sexual intercourse), necking (erotic caresses limited to the upper body)".

/ translation Katarzyna Cyranka, M.A. /