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## Determining environmental predictors of subjective feeling of depressive symptoms among Polish medical students

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### Abstract

**Introduction and objective.** Depression is a disease that impairs daily functioning. According to research, as much as 27.2% of medical students suffer from depression or show depressive symptoms and 11.1% of them experience suicidal ideation. The aim of the research was to investigate the occurrence of subjective feeling of depressive symptoms among Polish medical students during the course of their medical studies and to determine predictors of this phenomenon that are related to student's environment.

**Material and method.** A total of 1023 medical students from each year of medical education and different Polish universities took part in the study. The research tool was an author's questionnaire. Obtained data was subjected to a statistical analysis. To assess the relationship between two variables, the chi-square test of independence was used. The level of significance was set at  $p < 0.05$ .

**Results.** The statistical analysis showed that most respondents (52.79%) had noticed symptoms that might have pointed to depression during their medical studies. A statistically significant link was found between subjective feeling of depressive symptoms during the course of medical studies and: mother's level of education, relationship with parents, relationship with siblings, relationship with friends, knowing a person that one could count on in a difficult situation, knowing a person in which one could trust with all their problems,

frequent feelings of loneliness and feeling that one doesn't participate in social gatherings often enough.

**Conclusions.** The prevalence of subjective feeling of depressive symptoms among medical students is high. Results suggest that good relationships with others are important in prevention of depression.

**Key words:** depression; medical students

## **Introduction**

According to World Health Organization, depression is a disease characterized by: sadness, loss of interests and ability of feeling pleasure, feeling of guilt, low self-esteem, sleep and appetite disturbances, feeling of fatigue and impairment of concentration. It is also associated with reduced functioning capacity in all aspects of life, including the professional one. One of the groups particularly subjected to depression are medical students. According to analysis based on research conducted in 43 countries among medical students, 27.2% of them suffer from depression or show depressive symptoms and 11.1% of them experience suicidal ideation [1]. Many reasons exist behind high prevalence of depression in the above-mentioned group, including: workload, pressure (of time, but also environmental one), personality type and character traits of a student, such as: conscientiousness, individual approach to studies or ability to handle stress [2,3,4,5,6]. Interestingly, religious individuals, those with poor physical health, those with mental health disturbances (in themselves or in a member of family), low economic status or bad relationship with their parents are more susceptible to depression [7,8,9]. Depression is not only a threatening illness that impairs functioning, but also results in detrimental consequences, such as worse academic achievements and resignation from university [10,11]. According to research, among those who decide to temporarily or completely quit from medical studies, condition of mental health was second (after difficulties with learning) most common cause of withdrawal from education [12]. Graduation doesn't resolve the problem, because depression among doctors is also a disturbing issue. Specialists who suffer from this disease are at six times higher risk of committing a medical error [13].

## **Objective**

The aim of the research was to investigate the occurrence of subjective feeling of depressive symptoms among Polish medical students and to determine predictors of this phenomenon that are related to student's environment.

## **Material and method**

A total of 1023 medical students (773 females and 250 males) took part in the study. Among respondents there were students enrolled in each of the 18 universities in Poland that offer medical education. Students of each year of medical education took part in the study: 34.41% (n = 352) respondents studied in the 1st year, 25.51% (n = 261) – in the 2nd year, 18.77% (n = 192) – in the 3rd year, 10.36% (n = 106) – in the 4th year, 7.04% (n = 72) – in the 5th year and 3.91% (n = 40) – in the 6th year. Mean age of participants was 21.55 years. Author's

questionnaire containing closed one-choice questions with Likert scale was used. Questions concerned the sociodemographic characteristics of the investigated group and analyzed factors. Answers were collected in April of 2020 through placing the research tool on groups dedicated to different classes of medical students of different Polish universities on Facebook social networking service. The questionnaire was anonymous, and participation in the research was voluntary. Obtained data was subjected to a statistical analysis. To assess the relationship between two variables, the chi-square test of independence was used. The level of significance was set at  $p < 0.05$ .

## Results

Results indicate that to the question „During your medical studies, have you ever noticed symptoms in yourself that might had pointed to depression?” a little over majority of participants (52.79%;  $n = 540$ ) answered positively: 26.98% ( $n = 276$ ) definitely yes and 25.81% ( $n = 264$ ) rather yes. 19.16% ( $n = 196$ ) of respondents indicated their answer to this question as hard to tell. Whereas 28.05% ( $n = 287$ ) of respondents answered negatively: 19.55% ( $n = 200$ ) – rather not and 8.50% ( $n = 87$ ) – definitely not. Among participants who had noticed symptoms that might had pointed to depression during the course of their medical studies, 41.00% ( $n = 221$ ) sought professional help and 66.01% ( $n = 371$ ) turned to a trusted person with this problem.

13.49% ( $n = 138$ ) of the respondents had diagnosed depression, of which 68,12% ( $n = 94$ ) had been diagnosed with this disease during the course of their medical studies and 31,88% ( $n = 44$ ) – before entering medical studies.

During medical studies, women more often (54.98%) than men (46.00%) had noticed symptoms that might had pointed to depression. The established differences were close to statistical significance ( $\text{Chi}^2 = 8.92$ ;  $p = 0.06$ ).

Women more often (41.88%) than men (37.72%) sought professional help in case of noticing in themselves symptoms that might had pointed to depression. The established differences weren't statistically significant ( $\text{Chi}^2 = 2.58$ ;  $p = 0.28$ ). Similarly, a little higher percentage of women (69.02%) than men (55.28%) turned with this problem to a trusted person. The established differences were statistically significant ( $\text{Chi}^2 = 8.08$ ;  $p = 0.004$ ).

The research didn't show a link between noticing symptoms that might had suggested depression during studying medicine and size of hometown. This percentage was similar in all cases and equaled: 51.71% - among respondents who were residents of the countryside, 51.74% - among respondents who lived in small towns (population up to 50 000 inhabitants), 57.29% - among respondents who lived in medium cities (population from 50 000 to 200 000 inhabitants) and 51.99% - among respondents who lived in big cities (population more than 200 000 inhabitants). However, the bigger the hometown, the higher percentage of participants who had noticed symptoms, sought professional help. This percentage equaled: 34.67% among inhabitants of villages, 40.30% - among inhabitants of small towns, 42.73% - among inhabitants of medium cities and 46.90% - among inhabitants of big cities. The established differences weren't statistically significant ( $\text{Chi}^2 = 4.73$ ;  $p = 0.19$ ).

Among respondents who lived in their family homes while studying, 49.67% had noticed symptoms that might had pointed to depression during the course of their medical studies. Whereas among those who lived outside of their family homes when studying this percentage

was slightly higher (53.55%). The established differences weren't statistically significant ( $\text{Chi}^2 = 1.68$ ;  $p = 0.80$ ).

The research shows that the symptoms that might had pointed to depression were most often recognized during medical studies by individuals whose mother had primary, lower secondary or upper secondary education (57.56%). Whereas such symptoms were noticed the least often among those whose mother had basic vocational education (42.53%). Among respondents whose mother had higher education, this percentage had a medium value (52.62%). The established differences were statistically significant ( $\text{Chi}^2 = 23.05$ ;  $p = 0.003$ ). [Table 1.]

Table 1. Link between noticing symptoms that might had pointed to depression during the course of medical studies and mother's level of education.

Statistical analysis: $\text{Chi}^2 = 23.05$ ; $\text{df} = 8$ ; $p = 0.003$		Mother's level of education						
		Primary or lower secondary or upper secondary		Basic vocational		Higher		Total
		n	%	n	%	n	%	n
During the course of your medical studies, have you ever noticed symptoms in yourself that might had pointed to depression?	Definitely yes or Rather yes	99	57.56%	37	42.53%	402	52.62%	538
	Hard to tell	42	24.42%	24	27.59%	134	17.54%	200
	Rather not or Definitely not	31	18.02%	26	29.89%	228	29.84%	285
	Total	172	100.00%	87	100.00%	764	100.00%	1023

Taking into account father's education, the highest percentage of respondents who had noticed symptoms that might had pointed to depression during the course of medical studies, was noticed among those whose father had higher education (54.01%). Whereas such symptoms were the least often recognized among respondents whose father had basic vocational education (49.54%). Among participants whose father had basic, lower secondary or upper secondary education, this percentage had a medium value (52.62%). The established differences weren't statistically significant ( $\text{Chi}^2 = 6.61$ ;  $p = 0.16$ ).

According to obtained results, the highest percentage (55.13%) of respondents who had noticed symptoms that might had pointed to depression during medical studies was noticed among respondents whose mother was a doctor of medicine or dental medicine. Whereas this

percentage equaled 53.14% among participants who didn't have a doctor parent, 51.43% - among those whose both parents were medical doctors and 46.77% - among those, whose father was a medical doctor. The established differences weren't statistically significant ( $\text{Chi}^2 = 2.73$ ;  $p = 0.84$ ).

The results showed a highly statistically significant link between relationship with mother or not having a mother and subjective feeling of symptoms that might had pointed to depression during the course of medical studies ( $\text{Chi}^2 = 32.51$ ;  $p = 0.0000015$ ). Among respondents who defined their relationship with mother as very good or good, the percentage of those who had noticed symptoms that might had pointed to depression was the lowest (48.47%). Whereas this percentage equaled 63.75% among those who defined their relationship with mother as average and 80.00% among those who defined this relationship as bad or very bad or those who didn't have a mother. Similarly, a highly statistically significant link was noticed between a relationship with father or not having a father and subjective feeling of symptoms that might had pointed to depression during the course of medical studies ( $\text{Chi}^2 = 43.40$ ;  $p = 8.18 \times 10^{-9}$ ). Among respondents who defined their relationship with father as very good or good, the percentage of those who had noticed symptoms that might had pointed to depression was the lowest (43.97%). Whereas this percentage equaled 63.45% among those who defined this relationship as average and 65.46% among those who defined their relationship with father as bad or very bad or didn't have a father. [Table 2.]

Table 2. Link between noticing symptoms that might had pointed to depression during the course of medical studies and relationship with parents.

<b>Statistical analysis:</b> <b>Chi<sup>2</sup> = 32.51;</b> <b>df = 4;</b> <b>p = 0.000001506</b>		How do you define your relationship with your mother?						
		Very good or good		Average		Bad or Very bad or I don't have a mother		Total
		n	%	n	%	n	%	n
During the course of your medical studies, have you ever noticed symptoms in yourself that might had pointed to depression?	Definitely yes or Rather yes	390	48.57%	102	63.75%	48	80.00%	540
	Hard to tell	163	20.30%	26	16.25%	7	11.67%	226
	Rather not or definitely not	250	31.13%	32	20.00%	5	8.33%	287
	Total	803	100.00%	160	100.00%	60	100.00%	1023
<b>Statistical analysis:</b> <b>Chi<sup>2</sup> = 43.40 ;</b> <b>df = 4;</b> <b>p = 8.18 × 10<sup>-9</sup></b>		How do you define your relationship with your father?						
		Very good or good		Average		Bad or Very bad or I don't have a father		Total
		n	%	n	%	n	%	n
During the course of your medical studies, have you ever noticed symptoms in yourself that might had pointed to depression?	Definitely yes or Rather yes	255	43.97%	158	63.45%	127	65.46%	540
	Hard to tell	127	21.90%	37	14.86%	32	16.49%	196
	Rather not or definitely not	198	34.14%	54	21.69%	35	18.04%	287
	Total	580	100.00%	249	100.00%	194	100.00%	1023

Results of the research concerning a group of participants that had siblings, showed that respondents who defined their relationship with siblings as very good or good, the least often (50.00%) had noticed symptoms that might had pointed to depression during the course of their medical studies. In case of respondents who claimed this relationship as average, this percentage had a medium value (61.90%). The highest value (73.33%) was observed among participants who defined their relationship with siblings as bad or very bad. The established differences were statistically significant (Chi<sup>2</sup> = 17.55; p = 0.0015). [Table 3.]

Table 3. Link between noticing symptoms that might had pointed to depression during the course of medical studies and relationship with siblings.

<b>Statistical analysis:</b> <b>Chi<sup>2</sup> = 17.55;</b> <b>df = 4;</b> <b>p = 0.0015</b>		How do you define your relationship with your siblings?						
		Very good or good		Average		Bad or Very bad or I don't have a father		Total
		n	%	n	%	n	%	n
During the course of your medical studies, have you ever noticed symptoms in yourself that might had pointed to depression?	Definitely yes or Rather yes	316	50.00%	104	61.90%	33	73.33%	453
	Hard to tell	117	18.51%	31	18.45%	5	11.11%	153
	Rather not or definitely not	199	31.49%	33	19.64%	7	15.56%	239
	Total	632	100.00%	168	100.00%	45	100.00%	845

The analysis showed a highly statistically significant link between relationship with friends or not having any friends and noticing symptoms that might had pointed to depression during the course of medical studies. Respondents, who defined their relationship with friends as very good or good, had noticed symptoms that might have pointed to depression during the course of their medical studies the least often (47.71%). Among those, who described this relationship as average, such percentage equaled 64.50%. Whereas the highest value (76.00%) was noticed among those who defined their relationship with friends as bad or very bad or didn't have any friends. The established differences were statistically significant ( $\text{Chi}^2 = 39.25$ ;  $p = 6.2 \times 10^{-8}$ ). [Table 4.]

Table 4. Link between noticing symptoms that might had pointed to depression during the course of medical studies and relationship with friends.

<b>Statistical analysis:</b> <b>Chi<sup>2</sup> = 39.25;</b> <b>df = 4;</b> <b>p = 6.20 × 10<sup>-8</sup></b>		How do you define your relationship with your friends?						
		Very good or good		Average		Bad or Very bad or I don't have any friends		Total
		n	%	n	%	n	%	n
During the course of your medical studies, have you ever noticed symptoms in yourself that might had pointed to depression?	Definitely yes or Rather yes	365	47.71%	129	64.50%	38	76.00%	532
	Hard to tell	148	19.35%	41	20.50%	7	14.00%	196
	Rather not or definitely not	252	32.94%	30	15.00%	5	10.00%	287
	Total	765	100.00%	200	100.00%	50	100.00%	1023

The research shows that the lowest percentage (48.85%) of those who had noticed symptoms that might had pointed to depression during the course of medical studies was found among respondents who knew a person they could count on in a difficult situation. Among respondents who declared their answer as hard to tell whether they knew such person, the percentage had a medium value (74.26%). Whereas among those who claimed that they didn't have such person in their environment, this percentage had the highest value (76.92%). The established differences were statistically significant ( $\text{Chi}^2 = 42.03$ ;  $p = 1.569 \times 10^{-8}$ ). Similarly, the analysis showed that respondents who knew a person in whom they could trust with all their problems, the least often had noticed signs that might had pointed to depression during the course of their medical studies (49.43%). Among those who claimed their answer as hard to tell whether they knew such person, this percentage had a medium value (60.18%). Whereas among respondents who didn't know such person, this percentage had the highest value (67.20%). The established differences were statistically significant ( $\text{Chi}^2 = 19.39$ ;  $p = 0.0007$ ). [Table 5.]



Table 5. Link between noticing symptoms that might had pointed to depression during the course of medical studies and knowing a person that one could count on in a difficult situation and knowing a person that one can trust with all their problems.

<b>Statistical analysis:</b> <b>Chi<sup>2</sup> = 42.03;</b> <b>df = 4;</b> <b>p = 1.57 × 10<sup>-8</sup></b>		Do you know a person that you can count on in a difficult situation?						
		Definitely yes or Rather yes		Hard to tell		Rather not or definitely not		Total
		n	%	n	%	n	%	n
During the course of your medical studies, have you ever noticed symptoms in yourself that might had pointed to depression?	Definitely yes or Rather yes	425	48.85%	75	74.26%	40	76.92%	540
	Hard to tell	172	19.77%	18	17.82%	6	11.54%	196
	Rather not or definitely not	273	31.38%	8	7.92%	6	11.54%	287
	Total	870	100.00%	101	100.00%	52	100.00%	1023
<b>Statistical analysis:</b> <b>Chi<sup>2</sup> = 19.39;</b> <b>df = 4;</b> <b>p = 0.0007</b>		Do you know a person that you can trust with all your problems?						
		Definitely yes or Rather yes		Hard to tell		Rather not or definitely not		Total
		n	%	n	%	n	%	n
During the course of your medical studies, have you ever noticed symptoms in yourself that might had pointed to depression?	Definitely yes or Rather yes	388	49.43%	68	60.18%	84	67.20%	540
	Hard to tell	157	20.00%	24	21.24%	15	12.00%	196
	Rather not or definitely not	240	30.57%	21	18.58%	26	20.80%	287
	Total	785	100.00%	113	100.00%	125	100.00%	1023

Research shows that respondents who claimed that they often felt lonely, the most frequently (69.08%) had noticed symptoms that might have pointed to depression during the course of their medical studies. Whereas this percentage equaled 47.77% in case of those who defined as hard to tell whether they often felt lonely. The lowest percentage (33.44%) was noticed among respondents who didn't often feel lonely. The established differences were very highly statistically significant ( $\text{Chi}^2 = 133.63$   $p = 0$ ). According to analysis, those who participated in social gatherings often enough, the least often (45.82%) had noticed symptoms that might have pointed to depression during the course of medical studies. Among respondents for whom it was hard to tell, this percentage had a medium value (55.39%). Whereas among those who didn't participate in social gatherings often enough this percentage was the highest (59.57%). The established differences were statistically significant ( $\text{Chi}^2 = 30.25$ ;  $p = 0.0002$ ). [Table 6.]

Table 6. Link between noticing symptoms that might have pointed to depression during the course of medical studies and frequent feelings of loneliness and feeling that one doesn't participate in social gatherings often enough.

<b>Statistical analysis:</b> <b><math>\text{Chi}^2 = 133.63</math>;</b> <b><math>\text{df} = 4</math>;</b> <b><math>p = 0</math></b>		Do you often feel lonely?						
		Definitely yes or Rather yes		Hard to tell		Rather not or definitely not		Total
		n	%	n	%	n	%	n
During the course of your medical studies, have you ever noticed symptoms in yourself that might have pointed to depression?	Definitely yes or Rather yes	315	69.08%	118	47.773%	107	33.44%	540
	Hard to tell	82	17.98%	56	22.672%	58	18.13%	196
	Rather not or definitely not	59	12.94%	73	29.555%	155	48.44%	287
	Total	456	100.00%	247	100.00%	320	100.00%	1023
<b>Statistical analysis:</b> <b><math>\text{Chi}^2 = 23.82</math>;</b> <b><math>\text{df} = 4</math>;</b> <b><math>p = 0.00009</math></b>		Do you participate in social gatherings often enough?						
		Definitely yes or Rather yes		Hard to tell		Rather not or definitely not		Total
		n	%	n	%	n	%	n
During the course of your medical studies,	Definitely yes or Rather yes	203	45.82%	113	55.39%	224	59.57%	540

have you ever noticed symptoms in yourself that might had pointed to depression?	Hard to tell	84	18.96%	37	18.14%	75	19.95%	196
	Rather not or definitely not	156	35.21%	54	26.47%	77	20.48%	287
	Total	443	100.00%	204	100.00%	376	100.00%	1023

## Discussion

The research aimed to investigate the occurrence of subjective feeling of depressive symptoms among Polish medical students and to determine predictors of this phenomenon that are related to student's environment. Results of the analysis derived from collected data suggests that as many as 52.79% of medical students had noticed symptoms that might had pointed to depression during the course of their medical studies.

The research showed a link between noticing symptoms that might had pointed to depression during medical studies and gender. As early as in the 1970s, the difference between two genders in terms of depression was emphasized, pointing that among adults, approximately two times more women than men experience depression in clinical and environmental trials (Weissman i Klerman, 1977) [14].

In a meta-analysis carried out by Puthran et al. the prevalence of depression among female medical students (31.50%) was higher than among male medical students (24.20%) [15]. In our research women more often (54.98%) than men (46.00%) had noticed signs that might had pointed to depression during the course of their medical studies and the difference was close to statistical significance.

The place of residence turned out not to be linked with subjective feeling of depression during the course of medical studies. This result was opposite to the one presented by the Polish Ministry of Health in the "Program of preventing depression in Poland during the years 2016 – 2020", according to which the occurrence of depression among inhabitants of cities is more than two times higher compared to inhabitants of the countryside [16]. Mao Y et al. wrote in their publication that medical students who come from the countryside are more susceptible to depression [17]. Nevertheless it is worth attention that the bigger the hometown, the higher percentage of respondents who had noticed symptoms that might had pointed to depression, sought professional help. This percentage was the lowest among residents of the countryside, higher among residents of small towns, then among residents of medium cities and the highest among residents of big cities. Whereas the link between living in a family home or outside of family home while studying and subjective feeling of signs that might had suggested depression wasn't noticed. Džubur A et al. obtained different results, according to which medical students who lived with their parents while studying had lower scores of Beck Depression Inventory than those who lived in the dormitories [18]. The research shows a link between noticing signs that might had pointed to depression during the course of medical

studies and mother's level of education. However, such link wasn't noticed in case of father's level of education. Thao Thi Thu Nguyen et al. whose research also concerned medical students, obtained similar results [9]. However, Surbhi Sidana et al. obtained different results and didn't find a link between symptoms of depression and parent's education [19]. Whereas research carried out by Hui Zhai et al. points that there exists a link between symptoms of depression and level of education of both parents [20]. According to our research, subjective feeling of symptoms that might had pointed to depression was noticed the most frequently among individuals whose mother had basic, lower secondary or upper secondary education, least frequently – among those whose mother had higher education and the least frequently among those whose mother had basic vocational education. Whereas a link between father's level of education and noticing subjective depressive symptoms during the course of medical studies wasn't found.

Our research didn't find a link between having a parent who is a doctor of medicine or a doctor of dental medicine and subjective feeling of signs of depression during the course of medical studies. Whereas in a research carried out by S Baldassin et al. on a group of 481 medical students it was noticed that not having a doctor parent is a factor which promotes the development of depressive symptoms [21].

Our research shows that relationship with mother is significantly linked to subjective feeling of depression during the course of medical studies among medical students. Similar link was found in case of relationship with father. Research by Kerstis B et al. shows that there exists a link between more secure attachment towards mother or father and lower level of depressive symptoms among youth [22]. According to Thao Thi Thu Nguyen et al. there is a link between occurrence of conflict with parents and feeling of depressive symptoms among medical students [9]. Similar results were obtained by Huang-Chi Lin et al. who investigated the occurrence of depression among youth [23].

Our research shows that good relationship with mother is linked to less frequent feeling of depressive symptoms among medical students. Similarly, smaller risk of feeling of depressive symptoms was associated with good relationship with father. Our research also showed a highly statistically significant link between positive relationship with siblings and less frequent feeling of symptoms that might had pointed to depression during the course of medical studies. Similar results were obtained in a research by L Sun et al., where it was established that there exists a negative correlation between the experience of a family support and occurrence of depressive symptoms among 10 140 medical students in a Chinese province Anhui [24].

According to our research, there exists a link between positive relationships with friends and less frequent subjective feeling of depressive symptoms during the course of medical studies. Research by O Coskun et al. showed that respondents who chose social relationships as a source of the biggest happiness during the course of their education, obtained lower results in Beck Depression Scale [25]. Research by R Erschens et al. shows that conflicts with friends are an important source of stress among medical students [26].

Our research shows a link between having a person in whom one can trust in difficult situations and lower prevalence of symptoms that might point to depression. Research by L Sun et al. shows that support from people from environment is an important component of mental health and subjective feeling of support is significantly linked to less frequent

occurrence of depressive symptoms [24]. Similar conclusions were made by Y Jeong et al., where it was stated that respondents who perceived their level of interpersonal support as low were at a more than 10 times higher risk of occurrence of depression [27]. In a research concerning Danish medical students by Haldorsen H et al. showed a link between perception of lack of support from family and friends and more frequent incidence of depressive symptoms [28].

The research also shows that an absence of a person in whom one can trust with all their problems is linked to subjective feeling of depressive symptoms. Similar conclusions were made by Michalska-Leśniewicz according to whom a lack of social support, of for example a close person, might intensify negative self-assessment and thus predestine depression in general population [29].

Our research indicates a link between occurrence of symptoms that might point to depression among medical students during their medical education and often feelings of loneliness.

Students who often felt lonely also more frequently noticed symptoms that might had pointed to depression during the course of medical studies. Research by Matthew T et al. shows a significant correlation between the presence of depressive symptoms and feelings of loneliness in the population of young adults [30]. Lixia Ge et al. whose research concerned adults at the age of 21 and older, obtained similar results [31]. Similar link was presented in a research by Swami V et al. carried out among medical students. According to their research, there exists a significant link between feelings of loneliness and occurrence of depressive symptoms among students [32].

According to our research, there exists a statistically significant link between participating often enough in social gatherings and lower prevalence of noticing symptoms that might point to depression during the course of medical studies. According to a research by Ball S and Bax A, lower frequency of participation in social meetings was correlated with higher prevalence of experiencing depressive symptoms among first year medical students in South Korea [33].

## **Conclusion**

1. The research suggests that predictors of subjective feeling of depression among medical students are: basic, lower secondary or upper secondary mother's level of education, bad or very bad relationship with a parent or not having a parent, bad or very bad relationship with friends or not having any friends, lack of someone that one can count on in a difficult situation, lack of someone in whom one can trust with all their problems, frequent feelings of loneliness, not participating in social gatherings often enough.

2. Depression is a problem that requires more attention from clinical and academic environment. It is important for people from close surroundings of a student to pay attention for symptoms of depression and react in case of noticing such signs by encouraging to have a conversation and to seek professional help. Whereas students should take care of mental hygiene and maintaining contact and improving their relationships with family and friends.

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