

# Are students prone to depression and suicidal thoughts? Assessment of the risk of depression in university students from rural and urban areas

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## Abstract

**Introduction and objective:** Depressive disorders in adolescents and young adults may have serious developmental and functional consequences, such as academic failure or persistent psychosocial problems. University students are affected by specific agents which may play a role in the onset of depression. The problem of student depression is particularly important in Poland because of a recent increase in student numbers, therefore, the aim of the presented study was to evaluate the prevalence of the risk of depression and suicidal thoughts among university students in Poznan, Poland, and to analyze the role of gender, current living arrangements, background (rural/small town or urban permanent place of residence), and reported financial status.

**Materials and methods:** 1,065 respondent students, mean age 21.1 years, 72% of whom were females, anonymously answered a questionnaire on the risk of depression (Kutcher's KADS) and a demographics survey. The obtained data were then analyzed statistically with the SPSS programme.

**Results:** 6.1 subjects were at risk of depression while 1.6 % of them had suicidal thoughts. Among analyzed determinants, perceived financial status and student's background (permanent place of residence) were found to have a statistically significant influence on the risk of depression.

**Conclusion:** Students with rural/small town background and/or lower rather than good reported financial status are more likely to become depressed.

## Key words

depression, prevalence, psychology, suicide, suicidal thoughts, student, transition

## INTRODUCTION AND OBJECTIVES

Depression is one of the most common and recurrent mood disorders, which presently affects 340 million individuals worldwide [1, 2, 3]. The main signs include: low mood, feelings of worthlessness, guilt or inability to think or work productively. However, symptoms change with time and their intensity depends on patient's developmental stage. The etiopathogenesis of depression is not yet fully understood, but its onset is believed to depend on the influence of numerous risk factors, such as socio-economic, environmental, cultural, ethnic or genetic determinants. Depressive disorders are considered to be one of the most disabling conditions, which not only impair daily functioning of affected individuals and their families, but also create an enormous burden for society [2, 3, 4, 5]. So far, there have been attempts to estimate the prevalence of depressive symptoms and to describe specific factors associated with depression [6, 7, 8, 9, 10, 11] which showed that the prevalence of this condition depended on

ethnicity, profession or age group. Also, one of the main consequences of depression was related to a strong association between depression, suicidal thoughts and suicide [12, 13, 14, 15, 16]. It is worthwhile mentioning that Cash et al. found that up to 60% of adolescent suicide victims suffered from depression at the time of death [16]. Furthermore, studies have demonstrated that between 40- 80% of adolescents were clinically depressed at the time of their suicide attempts [12, 13, 14, 15]. Also, depression, especially in young people, was often connected with susceptibility to alcohol addiction, drug abuse, crime, and a range of other adverse phenomena [16, 17, 18, 19, 20, 21, 22, 23]. Studies indicate that although depression beginning at an early age could have serious developmental and functional consequences, such as academic failure or persistent psychosocial problems, it often remained misdiagnosed, undertreated, or even ignored [24, 25]. Subsequently, examination of this phenomenon has its theoretical and practical implications because assessment of the risk of depression and its determinants is crucial for the preparation of accurate prevention and treatment programmes. Important life events or major changes are believed to make individuals particularly susceptible to depression or depressive symptoms. Here, some authors

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propose that students should be analyzed separately because of distress connected with college years. They also indicate that time spent in college marks a transition from adolescence to young adulthood, when individuals go through psychophysical processes typical for this stage of life. Additionally, they pass through psychosocial changes, such as leaving home or separation from one's family and friends and adjustment to a new system of learning [24, 25, 26]. Here, one may observe that students do not constitute a homogenous group, e.g. they differ in their backgrounds and financial status. Also, students in Polish public universities differ from students in private colleges because public (State-owned) universities accept high school graduates with considerably better results of baccalaureate exams than private colleges. Considering the significance of the problem of student depression, the presented study was devoted to evaluation of the prevalence of the risk of depression and suicidal thoughts among students, with particular focus on the role of their background (permanent place of residence), current living arrangements, and reported financial status.

## MATERIALS AND METHODS

1,065 college students anonymously answered a questionnaire on the risk of depression the Kutcher Adolescent Depression Scale (KADS) and followed instruction to select the best answer on a 0-3 scale [0 – hardly ever, 1 – much of the time, 2 – most of the time, 3 – all the time]. KADS, which is a self-report scale and a screening tool designed to evaluate the risk of depression in young people, consists of six statements on sadness, hopelessness, tiredness, difficulties with life, worry and suicidal thoughts. This test assumes anyone who scores six points and above is at risk for depression [27]. The internal consistency of KADS as measured by Cronbach's  $\alpha$  was = .84. Correlations between test items as measured by Pearson -  $r$  ranged from =0.35 to =0.66 [28]. Additionally, all subjects filled-in a demographics survey which comprised questions on their age, gender, background (rural/small town or urban permanent place of residence), perceived financial status, current living arrangements, their major area and mode of study. They were examined individually in conditions ensuring that their privacy and confidentiality were duly protected. The study was carried out in the academic year 2011-2012. The results were collected using Excel spreadsheets so that evaluations of distributions of assessed variables and analysis of its parameters could be conducted. Respondents could also be grouped with respect to analyzed characteristics. Subsequently, these groups were compared with the use of chi-square test. Statistical analysis was carried out using PASW Statistics 18.0.

**Characteristics of participants of the study.** A total of 1,065 participants for the study were recruited from among students enrolled at the Adam Mickiewicz University (AMU) or Poznan University of Medical Sciences (PUMS). Every student of the first and second year of studies at PUMS participated in the study. The students of AMU were chosen by mode of aleatory selection from a group of students of the Social Sciences Faculty. All subjects were recruited during a control medical examination. Participants were in the 18-26 years age range (mean age=21.1; SD=1.98). Analysis showed that most subjects (72%) were females while 28%

of them were males. The subjects studied were medicine (26.8%), pharmacy (16%), psychology (9%), dentistry (8%), midwifery (7.4%), physiotherapy (7%), or humanities (26%). 74% of the subjects were first year and second year students while the remainder were in their last years of study. 13.6% of respondents were the only children, 53.6% of them had either one sister or one brother, 26.1% of them had two siblings, while 6.7% had three or more siblings. Respondents also provided information on their current living arrangements

**Table 1.** Participant's living arrangements

	Percentage	Percentage of participants who met Kutcher's criteria for depression (test score $\geq 6$ )
At parent's home	21.4	6.9
With sister/brother	3.8	3.7
dormitory	16.3	6.5
Share a flat with a roommate	45.3	6.7
Independent rent	5.8	7.3
With family	3.0	2.3
Rented room at somebody's flat	0.2	33.3
Own flat	4.2	8.5

(Tab. 1). Note that they most often shared a flat with a roommate (45.3%), lived at parent's home (21.4%) or in a dormitory (16.3%). Data on participants' perceived financial status are presented in Table 2. 18.3 % of them believed their

**Table 2.** Data on respondents' perceived financial status

	Percentage	Accumulated percentage	Percentage of participants who met Kutcher's criteria for depression (test score $\geq 6$ )
Very poor	0.4	.4	0
Poor	1.3	1.7	27.8
Average	27.0	28.7	8.4
Good	53.0	81.7	5.5
Very good	18.3	100.0	5.4

status was very good while 53% of them indicated it was good, 27% reported it was average, whereas 1.6 % declared it was poor. Analysis of respondents' permanent place of residence indicated that 71.5% of them came from rural areas or small towns, while 28.5% came from urban area.

## RESULTS

The results were collected using Excel spreadsheets so that distributions of analyzed variables could be obtained. Analysis of KADS test results showed that the average test score equaled 1.0614 (Me =1; min=0.00; max= 18.00). As many as 6.1% of the respondents obtained a KADS score of  $\geq 6$ , i.e. they met Kutcher's criteria for depression [27] (Tab. 3). The most frequent depressive symptoms in the investigated sample included worry (37.8%) and tiredness (35.3%), whereas suicidal thoughts remained the least frequent symptom (1.5%).

Firstly, to estimate the effect of gender on respondents' depressive symptoms, the investigated students were divided

**Table 3.** Frequency of answers to individual KADS items

	Hardly ever	Much of the time	Most of the time	All the time
1. sadness	76.8%	18.7%	3.9%	0.7%
2. hopelessness	83.2%	14.1%	2.1%	0.6%
3. tiredness	64.7%	29.1%	5.4%	0.9%
4. difficulties in life	85.7%	11.7%	2.1%	0.4%
5. worry	62.2%	32.2%	4.7%	0.9%
6. suicidal thoughts	98.4%	1.1%	0.2%	0.2%

with respect to their gender: 72% of respondents were females while 28% of them were males. In the presented sample, 5.1% of female respondents and 2.8% of male respondents were found to be susceptible to depression. Statistical analysis of the prevalence of depressive symptoms in the groups did not indicate the effect of gender on depression (chi-square test; at  $p$  - value = 0.067).

Secondly, to discover the role of respondents' backgrounds (rural/small town vs. urban permanent place of residence) on the risk of depression in the investigated sample, the respondents were divided with respect to their background. Assessment of depressive symptoms in the presented sample indicated that as many as 8.1% of respondents from small town/rural areas and 4.6% of their urban counterparts were susceptible to depression. Differences between these two groups were statistically significant (at  $p$  - value = 0.043).

Thirdly, to assess whether respondents' living arrangements had influence of on their depressive symptoms, the investigated sample of students was divided with respect to their current accommodation. The risk of depression was most prevalent in students who rented a room in someone's flat (33.3%) (Tab. 1). Analysis of the KADS results in the selected groups did not indicate any statistical differences between them.

Finally, in order to evaluate the effect of respondents' reported financial status on their depressive symptoms, the investigated sample of students was divided with respect to their reported financial situation. Susceptibility to depression was most frequent in respondents with poor (27.8%) or with average reported financial status (8.4%) (Tab. 2). Statistically relevant differences in the prevalence of the risk of depression were indicated between respondents who reported that their financial status was poor and subjects who thought it was average (at  $p$  - value = 0.0057); good (at  $p$  - value = 0.0001); or very good (at  $p$  - value = 0.0003), respectively. Significant differences were also found between participants with average and good financial status (at  $p$  - value = 0.0347). However, statistical differences could not be found between subjects with average and very good financial status (at  $p$  - value > 0.05) and participants with good and very good financial status (at  $p$  - value > 0.05) respectively.

## DISCUSSION

In 1975, the participants of a NIMH conference on depression finally accepted the idea of adolescent and early onset depression, and described its main diagnostic criteria while rejecting the officially recognized conviction that depression was characteristic only for adults [29].

Research on depression has gained importance for many reasons, including the fact that depression was prevalent not only in suicide victims, but also in alcoholics, drug addicts or young criminals [30], and the conviction that prevention and treatment would have positive social effects [18, 21, 31]. There have been a number of research studies concerning the etiology, symptomatology and the course of depression with reference to individual development across the life span. Investigators highlighted certain aspects which were characteristic for early onset of depression and depressive symptoms. To date, determinants such as gender, socioeconomic status [32], genetic background [11], cultural and environmental agents (family relations) [4, 9] or personality characteristics (emotion regulation) [33] have been pinpointed as factors triggering depression in young people. University students are also affected by specific agents, which may play a role in the onset of depression because time spent in a university marks a transition when adolescents become young adults and go through many psychosocial changes, such as leaving home or separation from one's family and friends [24]. The problem of student depression is particularly important in Poland because of a marked rise in student numbers over the last couple of years. The presented study evaluates the risk of depression and prevalence of suicidal thoughts in a population of public university students from Poznań. These students graduated from the best secondary schools in Poland and the results of their baccalaureate exams were outstanding. It was also assessed whether demographic factors such as respondent's background (rural/urban permanent place of residence), living arrangements, gender or financial status could influence the risk of depression. In the obtained results, particular attention should be paid to significant differences in risk of depression between respondents from rural/small town areas and their urban counterparts. It was found that the rural/small town students were almost twice as likely to become depressed as their urban colleagues (8.1% vs. 4.6% respectively). The obtained results cannot be related to results obtained by other authors because this problem has not yet been analyzed. One can only point to data concerning the prevalence of depression and other mental disorders in rural and metropolitan areas. A study by Weich et al indicated that in the UK individuals living in rural areas were significantly less susceptible to mental disorders, such as depression, than their counterparts living in metropolitan areas [34]. Similar results were also obtained in a Swedish study [35]. The aforementioned authors linked the differences to the well-known effect of beautiful landscapes, peace and tranquility on the human psyche. However, an Australian study showed that adolescents living in rural areas in the south may have a greater risk for developing a mental disorder, such as depression, than their counterparts living in urban areas of Australia [36]. The authors of the study point their results to the effect of self-esteem, parental acceptance and hard living conditions (adverse climate conditions). The findings presented above refer to permanent residents of small towns or rural areas, whereas the student respondents students in the presented study had already been living for some time in an academic centre so they were in touch with both urban and rural/small town lifestyles and environments. It seems, however, that small town students may have to work harder to complete tertiary education. As a result, they may have less time for their network of friends and social interactions,

resulting in a feeling of isolation [25, 37]. Furthermore, one may hypothesize about the causes of the phenomenon by pointing to the link between feelings of isolation and separation from one's family of origin. On the one hand, living away from one's parents is often connected with more personal freedom and less parental guidance. On the other hand, separation from one's parents is often mentioned as a source of distress which may trigger depressive symptoms in young people [26].

In contrast to the above-mentioned factors which could influence the risk of depression in students, statistical analysis did not indicate any influence of the respondents' gender and living arrangements on their depression risk status. It was particularly difficult to explain the results for gender because, based on reports so far, one could expect females to have a significantly greater susceptibility to depressive disorders [1, 2, 3, 4, 17, 26]. In the presented study it was observed that female participants did indeed have a greater risk of depression (5.1% females compared to 2.8% males at risk), but perhaps because of insufficient power of the test, statistical differences could not be indicated. To analyze the role of respondents' self-reported financial situation on their risk of depression, they were divided into five groups: very poor, poor, average, good and very good financial situation, respectively. From this, a significantly greater susceptibility to depression was observed not only in students who thought they were poor, but also in those who believed their financial situation was average. The relationship between financial status and depression has already been described in literature [17, 26, 32]. However, other authors have used different criteria to evaluate respondent's financial status and did not find that average financial status influenced susceptibility to depression. Perhaps the self-esteem in the respondents in the presented study was influenced by their 'average' financial situation – they compared themselves with others and if their status was less than good they felt 'worse'.

Furthermore, one may also hypothesize that nowadays in Poland, or at least in the presented sample of students, the financial status determined social status more than the educational status. In addition, since there were only five students whose status was very poor (0.4%), no statistical differences could be found between these respondents and other groups of students.

The presented analysis shows that students are at high risk of depression. Presently, based on the observations, it can be stated that students from at-risk groups for depression, especially rural or small town students, should be supported not only by student government or student organizations, but also by university psychological and medical services. Psychological counseling services for students can be promoted via the Internet (i.e. social networking sites, such as Facebook). Additionally, students may benefit from online support groups. In order to be able to prepare prevention plans or support, further investigations based on advanced analysis of additional factors have to be carried out.

## CONCLUSIONS

1. Because of distress connected with transition students are at a high risk for depression.
2. Rural/small town background may affect student's risk of depression.

3. Students with poor and average self – reported financial statuses are more likely to be at risk for depression than students with better self – reported statuses.
4. University psychological and medical services should focus their attention and provide support and counseling to students from at – risk groups. University – based psychological consultation for students should be popularized via internet social networking sites such as Facebook.

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