

# Factors associated with depression during lockdown in college students who sought psychological consultation

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## Abstract

**Purpose** – This paper aims to identify the risk factors that affect depression in students who sought psychological consultation during lockdown period in the health department at a university in Colombia.

**Design/methodology/approach** – The sample consisted of 33 students (12 men and 21 women) with a mean age of  $21 \pm 2.5$  years during the COVID-19 lockdown in 2020. Convenience sampling was used. The beck depression inventory-II instrument and a sociodemographic questionnaire were used to determine levels of depression and associated risk factors. A Google Form was designed with the respective instruments and sent along with the informed consent by email.

**Findings** – The results indicated that the population is characterized by presenting a level of mild (24.2%), moderate (15.2%) and severe (21.2%) depression. Concerning the levels of depression and risk factors, a significant difference was found with a history of violence ( $p$ -value = 0.000), mainly during childhood and adolescence, as well as objection to psychological therapy, belonging to a medium-high socioeconomic stratum, lack of family support and recent significant losses coupled with the lockdown because of the pandemic, which increased symptoms of depression and suicidal ideation.

**Research limitations/implications** – This research was conducted using Google Forms, which meant that some questionnaires were incomplete. In addition, this study did not count with the full participation of patients who attended psychological consultation.

**Practical implications** – Universities should generate programs for early detection of risk factors and prevention of depression in students, which could affect academic performance, school dropout, interpersonal relationships and trigger suicidal ideation. These results can also be applied to reducing family violence, which has increased since the pandemic, by improving students' family dynamics.

**Originality/value** – Because of the scarce research on this topic in Latin America, this study contributes to mental health in this population. The university becomes a fundamental scenario in which the ability to help students develop an adequate expression of emotions, positive coping strategies and sense of life as protective factors against depression can be enhanced.

**Keywords** Depression, Suicidal ideation, Risk factors, Undergraduate university students, COVID-19  
**Paper type** Research paper

## Introduction

There are approximately 300 million people affected by depression in the world, around 800,000 of whom commit suicide each year (World Health Organization, 2019). Statistics reveal an exponential increase in depression rates and associated risk factors. Although there has been progress in pharmacological and psychological treatments, which can be effective, suicide remains the worst consequence of depression (World Health Organization, 2020).

The COVID-19 pandemic required the closure of universities to keep social distancing and prevent infections. This has implications on students' mental health, showing an increase in mental disorders and associated symptoms as the pandemic subsides. In turn, there is a significant increase in the levels of depression. In this respect, the mental health

consequences brought on by SARS-CoV-2 may be triggered by the impact of a new life-threatening disease, associated stress or social isolation (Mazza *et al.*, 2020). In the same way, Debowska *et al.* (2020) and Islam *et al.* (2020) demonstrated an increase in depression in university students during the pandemic.

One of the consequences of deteriorating mental health experienced because of the lockdown was an increased rate of suicide, because of risk factors such as: economic crisis, psychological disorders (particularly anxiety and depression), social isolation and intimate partner violence (Banerjee *et al.*, 2021). Violence as an adverse life event has a close relationship with depression. For women who suffer violence from their partners, the levels of this disorder are higher than for those who do not (Llosa and Canetti, 2018). It should be noted that this research by Sediri *et al.* (2020) indicates that violence against women increased significantly during the lockdown period of the pandemic, psychological abuse was the most frequent type of violence and the women most likely to suffer it were those who had been abused before confinement.

It is significant to mention that undergraduate university students are among the most vulnerable age for developing depressive disorders. Globally, those aged between 15 and 29 have a depression prevalence of 5.5% in men and 4% in women (Pan American Health Organization, 2017). Some studies (Patil *et al.*, 2018; Brody *et al.*, 2018) state that from adolescence and even into adulthood, depression prevalence differs depending on gender, and women are at a higher risk than men. In this sense, gender, racial and ethnic discrimination increase the risk of depression, especially among adolescents who belong to social minorities (Patil *et al.*, 2018).

Yu *et al.* (2017) in their study of adolescents and young adults, found a pattern in the increased risk of violent behaviors following depression, namely, the severity of depression can increase the risk of violence toward others. Also, it evidenced that psychoactive substance use and relationships conflicts are significantly associated with depression in college students (Kamimura *et al.*, 2016). In this population, mental and physical illnesses influence the occurrence of suicidal behaviors; there are other factors related to this phenomenon: personality traits, substance abuse, negative life events, poor interpersonal networks and family conflicts (Lew *et al.*, 2019). In this sense, the results obtained by Siabato and Salamanca (2015) in a university population of 120 students 18–24 years of age show a high level of suicidal ideation (31%), affecting 33.3% women and 28% men. The causes are related to greater exposure to stress, being single, separated, living apart from their family, abuse and a history of mental disorders.

On the other hand, Burcusa and Iacono (2007) indicate that sociodemographic factors are related to the initial onset of depression but not to its recurrence. In addition, they highlight that the age of onset, the number of previous episodes, the severity of the first episode, comorbidities and family history of mood disorders are factors that influence the recurrence of depression more than gender, socioeconomic status and marital status.

The National Mental Health Survey (Ministerio de Salud y Protección Social, 2015) conducted in Colombia showed that suicide attempts are 1.9% in men and 3.3% in women. Of all suicides, approximately 80% are attributed to mental illness or the consumption of psychoactive substances and alcohol (Whiteford *et al.*, 2013).

Against this backdrop, universities are places where risk factors that affect students' mental health can be identified and prevented promptly. This fact highlights the relevance of the present study. As Lew *et al.* (2019) mention, some protective factors identified against suicidal behavior are meaning in life, positive coping styles, having a support network that includes friends and a functional family. For these reasons, different universities have taken on the task of developing research that identifies the risk factors that cause depression and thus suicidal behaviors (Debowska *et al.*, 2020; Islam *et al.*, 2020).

Ibrahim *et al.* (2013) compiled studies in 38 countries, published between 1990 and 2010, indicated that the mean prevalence of depression in college students is 30.6%. Subsequent research (Othieno *et al.*, 2014), indicated that depressive illness was significantly more common among first-year students, married students, those with low economic status and those living off-campus. Also, a depression prevalence of 24.4% was found in college students from low- and middle-income countries (Akhtar *et al.*, 2020).

Because of the limited research on this topic in Latin America, the present study contributes to mental health in this population. It is based on the Beck cognitive model. It aims to identify the risk factors that affect depression and suicidal ideation in students who sought psychological consultation during COVID-19 lockdown, in the health area of a university in Colombia.

## Method

### *Design and sample*

The research was quantitative, transversal, descriptive and relational. The sample consisted of 33 students from Universidad Santiago de Cali who sought psychological consultation during lockdown in 2020. Convenience sampling was used among a population of 45 students, of which 12 were rejected because they submitted incomplete forms, did not answer emails or did not want to participate in the study.

The inclusion criteria were being enrolled in the academic period 2020, being between 17 and 30 years of age; students who attended psychological consultation in the health area of the university with symptoms of depression and suicidal ideation, taking into account the International Classification of Diseases (ICD-10), classification used in the area of psychology at the university; and participants who gave the informed consent and/or informed assent to participate.

The exclusion criteria were: not having an intellectual disability and being students who do not receive psychological therapy in the health area of the university.

The study was conducted taking into account the Declaration of Helsinki and the national bioethics regulations. It was endorsed by the Scientific Committee of Ethics and Bioethics of Universidad Santiago de Cali, CEB-USC, Faculty of Health. Session June 26, 2020, Minutes 01.

## Instruments

### *Beck depression inventory II*

Depression was assessed using the Beck depression inventory-II (BDI-II) (Beck, 1996), with internal consistency reliability of 0.87 (alpha coefficient). It is a self-applied instrument that aims to detect and assess the severity of depression. It is made up of 21 items on a Likert scale, which are used to evaluate various associated symptoms. The questionnaire can be applied to adults and adolescents who are 13 years old or older. The results indicate whether the individual has depression and whether its level is mild, moderate or severe (Beck, 2006).

### *Sociodemographic questionnaire*

The sociodemographic questionnaire has 37 questions and was adapted from the sociodemographic record used by the "Instituto Milenio para el Estudio de la Depresión y Personalidad" (MIDAP, 2022) and the research of Blandón *et al.* (2015). The instrument sought to identify the predominant risk factors in students who seek psychological consultation. It takes into account the following elements: sociodemographic characteristics, couple and family relationships, habits and self-care, family history,

psychological and psychiatric characteristics, emotional history and finally, religious beliefs.

### Procedure

The students were attending through virtual psychotherapy, by psychology professionals from the health area of the University. The informed consent and the process to complete the questionnaires were explained to them in a virtual interview. Later, the instruments were sent via email. Both instruments (BDI-II and the sociodemographic questionnaire) were created in Google Forms. The email explained the goals involved in this study and how to respond to each of the instruments. It is important to clarify that the students continued in virtual psychological therapy after the application of the instrument.

### Analysis

First, the main descriptive statistics were presented, such as graphs and frequency tables for the qualitative variables. For the quantitative variables, the mean and standard deviation were used.

Next, it was assessed whether there were significant differences between the score levels of depression and sociodemographic factors. To do so, statistical significance tests were presented based on the fulfillment of assumptions for their application. The tests were developed using the R-3.6.1 statistical software, a free statistical analysis tool.

There are several ways to perform this type of comparison:

- The t-student test for two independent means was used as a parametric test.
- The Mann–Whitney *U*-test and the Kruskal–Wallis chi-square test were used as nonparametric tests.
- To test the assumption of normality, the Shapiro–Wilk test is used. This presents a null hypothesis that the observations come from a normal distribution.
- All tests are performed at a significance level of 5% ( $\alpha = 0.05$ ).

### Results

The results described in this study correspond to a sample of 33 students who sought psychological consultation in the health area of Universidad Santiago de Cali. After applying the Beck Depression Inventory II, the scores used to classify the level of depression of the interviewed students were obtained. Most of them were characterized as not being depressed (39.4%) [mean (M) = 8.8; standard deviation (SD) = 5.9], followed by a mild level (24.2%) (M = 16.5; SD = 1.9) and to a lesser extent, a moderate level (15.2%) (M = 21.8; SD = 2.9) and finally, a severe level (21.2%) (M = 38.0; SD = 5.9) (Table 1).

The participants' mean age was  $21 \pm 2.5$ , they were mostly female (63.6%), mestizo ethnicity (57.6%), medium socioeconomic level (57.6%) and mostly from the psychology (36.4%) and medicine (27.3%) courses of studies, and they are in their fifth semester (33.3%) (Table 2).

**Table 1** Distribution of the level of depression and average scores

Depression level	<i>n</i>	(%)	Mean	SD
Minimal	13	39.4	8.8	3.2
Mild	8	24.2	16.5	1.9
Moderate	5	15.2	21.8	2.9
Severe	7	21.2	38.0	5.9

**Table 2** Population general characteristics

<i>Item</i>	<i>n</i>	<i>(%)</i>
Age	M = 21	DE = 2.5
<i>Gender</i>		
Female	21	63.6
Male	12	36.4
<i>Ethnicity</i>		
Mestizo	19	57.6
White	6	18.2
Afro-Colombian	4	12.1
Caucasian	3	9.1
Indigenous	1	3.0
<i>Socioeconomic level</i>		
Low (1,2)	12	36.4
Medium (3,4)	19	57.6
High (5,6)	2	6.1
<i>Bachelor's degree</i>		
Psychology	12	36.4
Medicine	9	27.3
Social work	3	9.1
Finance and international business	2	6.1
Bachelor of early childhood Education	2	6.1
Systems technology	2	6.1
Nursing	1	3.0
Respiratory therapy	1	3.0
Pharmaceutical chemistry	1	3.0
<i>Semester</i>		
1	5	15.2
2	4	12.1
5	11	33.3
8	2	6.1
9	6	18.2
10	5	15.2

The majority of students are not in a romantic relationship (51.5%); however, of those who indicated they are in one (48.5%), 56.3% report being in a relationship for 1–4 years. A high percentage of students (45%) describe their family relationships as average, followed by 24% who say they are good. In addition, students perceive very little support (33%) or full support (39%), respectively (Table 3).

About 45.5% of students stated that their physical health is good or excellent, and only 44.8% do one–four hours of physical activity per week, while 34.5% do up to one hour per week. A large percentage of participants (81.8%) do not work, and most dedicate their free time to leisure (30.9%). The results show that 36.3% of students have had significant changes in their sleep habits (Table 4).

The results show that 33.3% of students have had some type of mental disorder in their family, mainly depression (36.4%), and 33.3% of students suffer from a mental disorder (Table 5).

Most students (69.7%) had attended psychological therapy in the past, the majority (43.5%) having attended for up to a month. About 15.2% have sought psychiatric consultation, of which 75% have been medicated mainly with antidepressants. It is important to clarify that of the total number of students, two did not respond to the consumption of medication prescription (Table 6).

**Table 3** Family and partner relationship characteristics

Item	n	(%)
<i>Intimate relationship</i>		
Yes	16	48.5
No	17	51.5
<i>Relationship duration</i>		
1 year or less	5	31.3
1–4 years	9	56.3
More than 4 years	2	12.5
<i>Family relationship description</i>		
Excellent	6	18
Good	8	24
Average	15	45
Bad	4	12
<i>When I have problems, I think that my family</i>		
Does not support me at all	2	6
Supports me very little	11	33
Supports me a lot	7	21
Offers me full support	13	39
<i>I live with</i>		
Single parent	12	36.
Alone	2	6.1
Sibling	2	6.1
Others	15	43.3

Some participants (78.8%) had not experienced a significant loss recently. Students sometimes and frequently felt lonely (66.7%), and 42.4% have been victims of some type of violence, with 50% reporting that this had occurred during childhood and adolescence. A percentage (6.1%) of students answered that they were victims of violence but did not indicate when. A large percentage of students have had suicidal thoughts (45.4%), and 15.1% have high levels of suicidal ideation (Table 7).

Table 8 presents the results of the statistical significance tests in the evaluated factors, observing significant differences ( $p$ -value < 0.05) in the following factors:

Differences were observed between students from low and high socioeconomic backgrounds, with the depression score being higher in students belonging to a high socioeconomic level ( $p$ -value = 0.044). Regarding family relationships ( $p$ -value = 0.013), the differences were between bad and excellent relationships. The depression score was the highest for individuals who indicated a bad family relationship ( $M = 27.6$ ). In addition, a high depression score was found for individuals ( $M = 25.9$ ) who perceive their family relationship as neutral ( $p$ -value = 0.011). Regarding the students who had attended psychological therapy ( $p$ -value = 0.031), significant differences are observed in depression scores between those who attended and those who did not, as it was higher for those who attended psychological therapy ( $M = 21.4$ ). Finally, for students who had been victims of violence ( $p$ -value = 0.000), the results indicate a close correlation with high depression scores ( $M = 21.4$ ).

For the other factors, there were no statistically significant differences ( $p$ -value > 0.05) in depression scores.

## Discussion

The purpose of this study was to identify the risk factors that affect depression and suicidal ideation in students from the university who sought psychological consultation in the middle of the lockdown in 2020. The students attended virtual psychotherapy, provided by

**Table 4** Habits and self-care characteristics

<i>Item</i>	<i>n</i>	<i>(%)</i>
<i>Physical health</i>		
Deficient	0	0.0
Poor	4	12.1
Average	14	42.4
Good	12	36.4
Excellent	3	9.1
<i>Physical condition that prevents daily life activities</i>		
Yes	0	0.0
No	33	100
<i>Substance you consume</i>		
Alcohol	5	15.2
None	28	84.8
<i>Hours of weekly physical activity</i>		
0	10	34.5
1–4	13	44.8
5 or more	6	20.7
<i>Work?</i>		
Yes	6	18.2
No	27	81.8
<i>Changes in sleep habits</i>		
I have not experienced any changes in my sleeping habits	6	18.2
I sleep a little more than usual	4	12.1
I sleep a little less than usual	11	33.3
I sleep much more than usual	3	9.1
I sleep much less than usual	7	21.2
I sleep for most of the day	1	3.0
I wake up 1–2 h early and cannot go back to sleep	1	3.0

**Table 5** Family history characteristics

<i>Item</i>	<i>n</i>	<i>(%)</i>
<i>Family history of disorder?</i>		
Yes	11	33.3
No	22	66.7
<i>Family history of</i>		
Depression	4	36.4
Bipolar disorder	3	27.3
Anxiety	1	9.1
Alzheimer's	1	9.1
Schizophrenia	1	9.1
Borderline personality disorder	1	9.1
<i>Mental disorder?</i>		
Yes	11	33.3
No	22	66.7
<i>Mental disorder</i>		
Anxiety	5	45.5
Bipolar disorder	2	18.2
Mixed disorder (depression and anxiety)	2	18.2
Depression	1	9.1
Eating disorders	1	9.1

**Table 6** Attending psychology or psychiatry characteristics

Item	n	(%)
<i>Have you attended psychological therapy?</i>		
Yes	23	69.7
No	10	30.3
<i>Duration</i>		
A month or less	10	43.5
1–6 months	7	30.4
6 months–2 years	4	17.4
More than two years	2	8.7
<i>Psychiatric consultation?</i>		
Yes	5	15.2
No	28	84.8
<i>Medication prescription?</i>		
Yes	5	15.2
No	26	78.8
<i>Type of medications</i>		
Antidepressants	3	75
Benzodiazepine and antipsychotics	1	25

**Table 7** Emotional background characteristics

Item	n	(%)
<i>Have you experienced significant loss recently?</i>		
Yes	5	15.2
No	26	78.8
<i>Do you usually feel lonely?</i>		
Occasionally	10	30.3
Sometimes	12	36.4
Frequently	10	30.3
Always	1	3.0
<i>Suicidal ideation</i>		
I have no thoughts of killing myself	18	54.6
I have thought of killing myself, but I would not	10	30.3
I would like to kill myself	4	12.1
I would kill myself if I had the chance	1	3.0

psychology professionals from the health area of the University. The results indicated that, of the total students interviewed, 60.6% had mild–severe depression scores (24.2% mild, 15.2% moderate and 21.2% severe).

Among the significant factors that affected these levels of depression, the following were found: negative family relationships, perception of little or no support, low family cohesion, history of violence, lockdown because of the pandemic, objecting to psychological therapy, significant losses and belonging to middle and high socioeconomic levels. First, the perception of little or no family support has an inversely proportional correlation with depression, which is consistent with some authors (Buitrago *et al.*, 2017; Páez Cala and Peña Agudelo, 2018; García Mendoza *et al.*, 2017) that mention how poor family cohesion affects depressive symptoms in adolescents and young adults. In addition, Boulard (2015) highlights how the family plays a crucial role in adolescent life for the development of later depression; for depressed young people, the family is a synonym of conflict and is mentioned repeatedly in discourse, unlike the non-depressed, where their account focuses on



**Table 8** Significance test and comparison of mean scores

<i>Item</i>	<i>Mean</i>	<i>SD</i>	<i>Statistical</i>	<i>p-value</i>
<i>Gender</i>				
Female	19.8	12.0	W = 139.5	0.626
Male	17.2	11.5		
<i>Socioeconomic level</i>				
Low (1,2)	15.6	9.7	Chi-square = 6.23	0.044*
Medium (3,4)	18.2	10.2		
High (5,6)	44.5	3.5		
<i>Intimate relationship</i>				
Yes	18.1	12.0	W = 120	0.576
No	19.5	11.7		
<i>Physical Health</i>				
Deficient	26.3	15.9	F = 0.868	0.469
Poor	19.6	12.4		
Average	16.6	10.1		
Good	14.0	7.9		
Excellent	18.8	11.7		
<i>Hours of weekly physical activity</i>				
0	21.3	15.6	Chi-square = 0.617	0.735
1–4	20.2	9.9		
5 or more	16.3	10.6		
<i>Family history of disorder?</i>				
Yes	21.2	15.0	W = 127	0.833
No	17.6	9.8		
<i>Mental disorder?</i>				
Yes	22.3	14.0	W = 145	0.368
No	17.1	10.3		
<i>Have you attended therapy?</i>				
Yes	21.4	12.2	W = 170.5	0.031*
No	12.9	8.0		
<i>Psychiatric consultation?</i>				
Yes	30.8	15.1	<i>t</i> = 2.02	0.104
No	16.7	9.8		
<i>Significant loss?</i>				
Yes	29.4	17.5	W = 151	0.358
No	16.0	8.8		
<i>Victim of violence?</i>				
Yes	26.9	11.5	W = 235	0.000*
No	12.8	7.7		
<i>Do you believe in a higher being?</i>				
Yes	19.5	13.0	W = 98.5	0.966
No	16.6	6.3		
<i>Follower of any religion?</i>				
Yes	21.6	13.1	W = 107.5	0.312
No	17.2	10.8		

Note: \*p-value < 0.05

the group of friends or peers. Similarly, Bouma *et al.* (2008) emphasize how lack of family closeness, the absence of family relationships or the illness of a close relative inclines people toward depression, thus influencing emotional factors such as the feeling of loneliness. As reflected in different studies (Ren *et al.*, 2020; Lee *et al.*, 2021) and the present study, there was a close relationship between depression and perception of loneliness.

In the results, a close correlation ( $p$ -value = 0.000) between experiences of violence because childhood and moderate and high depression scores stands out, which is in agreement with some authors (Arroyo Perea *et al.*, 2017; Páez Cala and Peña Agudelo, 2018; Zuñiga *et al.*, 2009) who point out that a history of violence in childhood or adolescence is closely linked to negative psychological and behavioral effects that can affect later stages of development. In addition, because of lockdown, domestic violence has increased, as suggested by Montero-Medina (2020), thereby increasing the likelihood of suffering from depression.

Another relevant factor is the significant relationship between attending psychological therapy and the high levels of depression that could be explained by poor adherence to treatment, which in turn generates decreased efficacy in reducing associated symptoms. As Yang *et al.* (2016) indicate, attending psychological therapy is a protective factor to reduce depression. The efficacy and satisfaction of people who received professional psychological care have been demonstrated. Feixas i Viaplana *et al.* (2012) resumed the Consumer Reports study in the United States with 3,079 people and showed that 80% of the population that received treatment thought that it had helped them. It also found that psychological therapy along with pharmacological therapy was more effective. Despite this, there is evidence of a high number of people with depressive disorders who do not think that they need treatment, as mentioned by Mojtabei (2009). Approximately, 1–4 people with episodes of major depression do not seek professional help, thus worsening their symptoms and deteriorating their quality of life.

The results of this study present a considerable proportion of students with suicidal ideation compared to the total participants, of which 45.4% have had suicidal thoughts and 15.1% had a high level of ideation, which is consistent with other studies (Sánchez, 2018; Gómez *et al.*, 2019; Mamun *et al.*, 2020), indicating a high prevalence of suicidal ideation in university students. It is important to note that there are risk factors that directly contribute to suicidal tendencies, such as having a mental disorder or having a psychiatric family history (Mamun *et al.*, 2020).

In addition, the results show that 15.2% of the participants who experienced a recent significant loss have severe depression, showing a direct relationship between these variables. In this sense, Chaurand Morales *et al.* (2015) had similar findings in their research with 321 participants. They found that 113 participants had at least one unresolved loss of a loved one; the results indicated higher depression scores among participants who had unresolved bereavement than those who considered themselves to have resolved it.

In addition, compared to the study by Rehman *et al.* (2020), our results show how middle and high socioeconomic levels are correlated with depression. In contrast, his study shows that people without sufficient financial resources during lockdown were the most affected as they could not obtain the necessary supplies, which increased their psychological anguish. The difference between the two studies could be explained by the fact that ours maintains that participants' perceived support of their environment is prioritized over the economic contribution.

It is important to mention that the coping styles that the individual has developed in stages prior to college have a positive or negative impact on their adaptation because they are closely related to the regulation of emotions. In this sense, Lew *et al.* (2019) points out that students at high risk of suicide tend to adopt passive coping skills because of the lack of adequate mechanisms to express their emotions. Then, college becomes a fundamental stage where the ability to help the student to develop an adequate expression of emotions, positive coping strategies and sense of life as protective factors for depression can be enhanced.

In conclusion, students are among the population's most affected in terms of mental health during lockdown (Sahu, 2020), with depression being one of the main consequences faced.

Family plays a significant role in depression. The support toward the subject can become a risk or protective factor to the extent that it is perceived. The experiences of violence because childhood is related to the onset of depression and attending psychological therapy can help reduce it if it is constant and effective enough. This study showed that the lockdown increased the risk factors for developing depression in students. Thus, educational institutions have an opportunity of developing mental health and prevention programs that emphasize the detection of risk factors, generate strategies to improve family relationships and refer at-risk students to specialized mental health services.

### Limitations

Because of the lockdown, we were unable to identify a larger number of participants. In addition, our research was conducted using an online form which resulted in some participants not completing the questionnaire.

We suggest conducting this study with a larger sample with longitudinal follow up to identify new risk factors

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## Further reading

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