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Prevalence of depression among medical students in Balkh medical college, Afghanistan

Dissertation Submitted in partial fulfillment of the Requirement for

The award of the degree of

Master of Public Health

Submitted By

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Certificate

Certified that the dissertation Prevalence of depression among medical students of Balkh medical college, Afghanistan is a record of the research work undertaken by Bahrouddin, impartial fulfillment of the requirements for the award of the degree of Master of Public Health under my guidance and supervision.

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Date: 31/07/2018

Declaration

I hereby declare that this dissertation Prevalence of depression among medical students of Balkh medical college, Afghanistan is the bonafide record of my original field research. It has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.

Dr. Bahrouddin, MD, MPH

Date: 31/07/2018

Abstract

Background: Depression is an important contributor to the global burden disease that affects people of communities' all over the world. Students are more vulnerable to this condition. High level of study demand, performance pressure makes medical students more vulnerable. However, factors associated with depression of medical students are poorly understood but the prevalence of depression is leading to problems later in professional life and compromising patient care. In Afghanistan, there is lack of data on the prevalence of depression and its impact on medical students. To determine the prevalence and predisposing factors associated with depression among medical students in Afghanistan.

Method: A cross sectional study was carried out in Balkh medical faculty at Mazar-e sharif from February 2018

to June 2018. Diagnosis of depression, major depression and its associated factors were assessed using the

Beck Inventory questionnaire and a structured questionnaire respectively. We included 153 medical students WITH response rate: 100%.

Results The studies review therefore shows a higher trend of prevalence of depression (71%). It is observed that it's quite common among most of the medical students. It involves increased levels of burnout and suicidal ideation which is not inevitable among resident and consultants. Level of psychological distress it quite common among medical students. It has consistently increased higher as compared to the regional general population. In general, the studies show that the psychological suffering is higher for female medical students as compared to males.

Conclusion: Prevalence due to psychological distress among medical student around parts of the world is substantial. Future research should seek to identify and possibly eradicate unnecessary stressors.

Acknowledgements

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Table of Contents

Introduction

Depression is a mental disorder characterized by loss of interest and pleasure (anhedonia), decreased energy (energy), feelings of guilt or low self-worth, disturbed sleep and/or appetite, and poor concentration. It is one of the priority conditions covered by the WHO mental health Gap Action Program. (mhGAP) Prevention of suicide is a global imperative.

Depression affects people of genders, all ages, and any background. People once believed that teens never went through any form of severe depression. Some still believe this to be true, but if it were why are teens homicidal and suicidal? This report should give support for the fact that a teen's depression deserves attention, not the shrug of the shoulders or the turn of a back.

Depression is defined as the point or points are one's lifetime when they are mentally unstable and the emotional state marked by sadness, discouragement, and loss that can occur during the teenage years. Depression causes changes in behavior, thinking and especially changes in one's everyday life. "Depression amongst teens generally starts when a child hits puberty, but could possibly begin the day they were born if chemically imbalanced (heredity)." Dr. David Kalkstein, psychiatrist at Penn Foundation. Depression can affect anyone, anytime, and anywhere. Teens, children, and adults are all effected; some even have the same problems in common, the causes too. Every 40 seconds a person dies in the world. 25–90% of medical students are stressed, that is an important determinant of depression Suicide, the worst complication of depression, is the second most common cause of death among individuals aged 15 years to 29 years. This encourages a thought that the 2nd leading cause of death in medical schools and colleges in general is suicide secondary to depression. Asia and Eastern Europe more. Lithuania and South Korea. 28/100000 and 26/100000 suicide mortality rate respectively. Suicide is preventable.

According to the WHO, Depression occurs across the globe and affects an estimated 350 million people. It may become a serious health issue especially in severe and chronic cases and is responsible for about 800,000 suicides per year.

Suicide, the worst complication of depression, is the second most common cause of death among individuals aged 15 years to 29 years. According to Association of American Medical Colleges (AAMC), it was recorded that the average age suicide is 24 years old applicants in medical school. This encourages a thought that the 2nd leading cause of death in medical schools and colleges in general is suicide secondary to depression. The morbidities pertaining to psychological and physical effects has attributed to depression, stimulating feeling of fear, lack of confidence, ability anger and resentment as seen in many medical students.

A review suggests that the increased levels of apprehension and depression may cause effect medical and nursing schools negatively resulting to deteriorating of clinical practice and patient care services . Symptoms of clinical depression have been found in practicing qualified physicians in view of the gender differences between men and women, reflecting epidemiological studies that show depression to be more in women. Certainty with many review studies carried out among medical students, using various determining instruments, proved a similar result. Significant psychological distress was also attributed to hours and years spent in medical school and other studies shows higher rate of prevalence of depression among medical students compared to other field of study in the general population. Another article suggests that the quality of medical education received is linked to depressive symptoms in physicians. Depression is an important contributor to the global burden disease that affects people of communities all over the world. With high level of demands in academics and psychosocial pressure, medical students during their course of training tend to become depressed, leading to problems later in professional life

and compromising patient care. In Afghanistan, there is lack of data on the prevalence of depression and its impact on medical students. To determine the prevalence and predisposing factors associated with depression among medical students in Cameroon (preclinical and clinical). We also evaluated the impact of depression on self-reported academic performance. Medical students are exposed to many stressful experiences during their training and often they must cope with this situation alone. Studies showed that stress, anxiety, and depression is more common in the medical community than the general population. As future physicians mental well-being of the medical students is an important issue and should be considered seriously. Improvements for a better, humanistic, and student-centered medical education, reorganization of existing mental health services for students according to their needs and follow up those in high risk could be helpful to protect and improve their mental health by increasing the perception of that they are not alone on their challenging way of becoming physicians. It would be a nice feeling to be sure of that none of their patients was shouting after them: (Physician heals yourself)." Mental health problems are as common among students as they are in the general population. But it's not just students who have a diagnosed mental health condition that can benefit from counseling. Depression is a common mental illness especially in countries like Afghanistan because of conflict and social and economic problems.it is more common among medical.

Hypothesis

Is the prevalence rate of depression among medical students of Balkh medical faculty in 2018 is higher than the population?

Primary Objective

1. Estimate the prevalence rate of depression among the medical students of Balkh faculty in 2018

Secondary Objectives

1. Determining the depression rate according to demographic variables (age, sex, marital status etc.)
2. To examine relevant data on depression among medical students and thus improve practices in the field.
3. Is prevalence rate of depression being similar with previous research?

Review of Literature

Mood is a pervasive and sustained feeling tone that is experienced internally and that influences a person's behavior and perception of the world. Affect is the external expression of mood. Mood can be normal, elevated, or depressed. Healthy persons experience a wide range of moods and have an equally large repertoire of affective expressions; they feel in control of their moods and affects.

Mood disorders are a group of clinical conditions characterized by a loss of that sense of control and a subjective experience of great distress. Patients with elevated mood demonstrate expansiveness, flight of ideas, decreased sleep, and grandiose ideas. Patients with depressed mood experience a loss of energy and interest, feelings of guilt, difficulty in concentrating, loss of appetite, and thoughts of death or suicide. Other signs and symptoms of mood disorders include change in activity level, cognitive abilities, speech, and vegetative functions (e.g., sleep, appetite, sexual activity, and other biological rhythms). These disorders virtually always result in impaired interpersonal, social, and occupational functioning.

It is tempting to consider disorders of mood on a continuum with normal variations in mood. Patients with mood disorders, however, often report an ineffable, but distinct, quality to their pathological state. The concept of a continuum, therefore, may represent the clinician's over identification with the pathology, thus possibly distorting his or her approach to patients with mood disorder.

Three additional categories of mood disorders are hypomania, cyclothymic, and dysthymia. Hypomania is an episode of manic symptoms that does not meet the full text revision of the fourth edition of Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) criteria for manic episode. Cyclothymic and dysthymia are defined by DSM-IV-TR as disorders that represent less severe forms of bipolar disorder and major depression, respectively.

Table 15.1-31 Major Features of Three Psychotherapeutic Approaches to Depression

Feature	Psychodynamic Approach	Cognitive Approach	Interpersonal Approach
Major theorists	Freud, Abraham, Jacobson,	Plato, Adler, Beck, Rush	Meyer, Sullivan, Klerman, Weissman
Concepts of pathology and cause	Ego regression: damaged self-esteem and unresolved conflict due to childhood object loss and disappointment	Distorted thinking: dysphoria due to learned negative views of self, others, and the world	Impaired interpersonal relations: absent or unsatisfactory significant social bonds
Major goals and mechanisms of change	To promote personality change through understanding of past conflicts; to achieve insight into defenses, ego distortions, and superego defects; to provide a role model; to permit cathartic release of aggression	To provide symptomatic relief through alteration of target thoughts; to identify self-destructive cognitions; to modify specific erroneous assumptions; to promote self-control over thinking patterns	To provide symptomatic relief through solution of current interpersonal problems; to reduce stress involving family or work; to improve interpersonal communication skills
Primary techniques and practices	Expressive-empathic: fully or partially analyzing transference and resistance; confronting defenses; clarifying ego and superego	Behavioral-cognitive: recording and monitoring cognitions; correcting distorted themes with logic and experimental testing;	Communicative-environmental: clarifying and managing maladaptive relationships and learning new ones through communication and social skills

	distortions	providing alternative thought content; homework	training; providing information on illness
Therapist role-therapeutic relationship	Interpreter-reflector: establishment and exploration of transference; therapeutic alliance for benign dependence and empathic understanding	Educator-shaper: positive relationship instead of transference; collaborative empiricism as basis for joint scientific (logical) task	Explorer-prescriber: positive relationship-transference without interpretation; active therapist role for influence and advocacy
Marital-family role	Full individual confidentiality; exclusion of significant others except in life-threatening situations	Use of spouse as objective reporter; couples therapy for disturbed cognitions sustained in marital relationship	Integral role of spouse in treatment; examination of spouse's role in patient's predisposition to depression and effects of illness on marriage
(From Karasu TB. Toward a clinical model of psychotherapy for depression. I. Systematic comparison of three psychotherapies. *Am J Psychiatry*. 1990;147:141, with perm			

Patients with mood disorders are often unwilling to enter a hospital voluntarily, and may have to be involuntarily committed. These patients often cannot make decisions because of their slowed thinking, negative Weltanschauung (world view), and hopelessness. Patients who are manic often have such a complete lack of insight into their disorder that hospitalization seems absolutely absurd to them.

Psychosocial Therapy

Although most studies indicate and most clinicians and researchers believe that a combination of psychotherapy and pharmacotherapy is the most effective treatment for major depressive disorder, some data suggest another view: Either pharmacotherapy or psychotherapy alone is effective, at least in patients with mild major depressive episodes, and the regular use of combined therapy adds to the cost of treatment and exposes patients to unnecessary adverse effects.

Three types of short-term psychotherapies cognitive therapy, interpersonal therapy, and behavior therapy have been studied to determine their efficacy in the treatment of major depressive disorder. Although its efficacy in treating major depressive disorder is not as well researched as these three therapies, psychoanalytically oriented psychotherapy has long been used for depressive disorders, and many clinicians use the technique as their primary method. What differentiates the three short-term psychotherapy methods from the psychoanalytically oriented approach are the active and directive roles of the therapist, the directly recognizable goals, and the end points for short-term therapy.

Accumulating evidence is encouraging about the efficacy of dynamic therapy. In a randomized, controlled trial comparing psychodynamic therapy with cognitive behavior therapy, the outcome of the depressed patients was the same in the two treatments.

Table 15.1-31 summarizes the features of the psychodynamic, cognitive, and interpersonal approaches; Table 15.1-32 summarizes some nonselective and selective patient variables for psychotherapy; Table 15.1-33 summarizes the advantages and limitations of the three approaches; and Tables 15.1-34,15.1-35 summarize features that may affect the choice of pharmacotherapy or psychotherapy or combined therapy. The National Institute of Mental Health (NIMH) Treatment of Depression Collaborative

Research Program found the following predictors of response to various treatments: low social dysfunction suggested a good response to interpersonal therapy; low cognitive dysfunction suggested a good response to cognitive-behavioral therapy and pharmacotherapy; high work dysfunction suggested a good response to pharmacotherapy; and high depression severity suggested a good response to interpersonal therapy and pharmacotherapy.

Table 15.1-32 Nonselective and Selective Patient Variables for Psychotherapy for Depression

Nonselective Patient Variables	Selective Patient Variables		
	Psychodynamic Therapy	**Cognitive Therapy**	**Interpersonal Therapy**
Feelings of hopelessness and helplessness Apathy, decreased enjoyment, diminished desire or gratification Too high ego ideals and expectations Oversleeping, morbid dreams or nightmares Feelings of restlessness or being slowed down Lack of motivation or will Low self-esteem, inappropriate or excessive guilt and self-reproach Distractibility, sluggish thinking or decision making Wish or intention to be dead Social withdrawal, fear of rejection or failure Psychosomatic complaints, hypochondriasis	Long-term sense of emptiness and underestimation of self-worth Loss or long separation in childhood Conflicts in past relationships (e.g., with parent, sexual partner) Capacity for insight Ability to modulate regression Access to dreams and fantasy Little need for direction and guidance Stable environment	Obvious distorted thoughts about self, world, and future Pragmatic (logical) thinking Real inadequacies (including poor response to other psychotherapies) Moderate to high need for direction and guidance Responsiveness to behavioral training and self-help (high degree of self-control)	Recent, focused dispute with spouse or significant other Social or communication problems Recent role transition or life change Abnormal grief reaction Modest to moderate need for direction and guidance Responsiveness to environmental manipulation (available support network)
(From Karasu TB. Toward a clinical model of psychotherapy for depression. II. An integrative and selective ent approach. *Am J Psychiatry*. 1990;147:275, with permission.)			

Some important literature showing prevalence of depression among medical students

S No.	Study	Methodology	Participants	Result/Conclusion
1	Dahlin et al. [7]	Cross-sectional study	Year 1, 3 and 6 medical students, (n=342) 90.40% response rate	From studies, first year medical students indicated the highest levels of pressure. Gender differences were also noted, as to women experiencing higher levels of stress than men. Medical students showed much higher levels of depression than the student women resulted in higher levels.
2	Dyrbye et al. [8]	Cross-sectional 2007 and longitudinal from 2006 to 2007 study	4287 medical students from 7 different medical schools, including students from 5 institutions studied longitudinally.	From studies, approximately 10% of medical student's experience suicidal thoughts, and 50% of medical student's experience burnout. Suicidal thoughts and burnout have been cross linked with in medical students, and have also shown to decrease in levels together.
3	Rosen et al. [9]	Prospective cohort study	47 medical student interns from the University of Pennsylvania resident program	Moderate depression and anxiety showed an increase from 4.3% to 29.8%. Only 4.3% had reported increasing levels of burnout compared to the 55.3% of students at the end of the year that had reported the same experience studies resulted in a large association of sleep deprivation with depression.
4	Goebert et al. [10]	From 2003 to 2004, authors surveyed students from a total of 6 different sites	Around 2,475 surveys with approximately 2,193 (89%) completion. This estimated rate of response was higher with in medical students	Results showed that depression is a significant issue both in medical students and residents. Total response rate was (21.2%), suggesting that the rate of depression is higher than in graduate students and other young adults in the public

			than with residents. (95%) response rate from medical students.	(8%-15%).
5	Chang et al. [11]	Cross sectional study using PRIME-MD depression screening tool, modified Maslach Burnout Inventory Human Services Survey (MBI-HSS)	A survey was administered to 526 students in the first 3 years of medical school (336 responders; response rate: 70%) at one institution	The prevalence of burnout, depression, and stress were higher in this sample of first through third-year medical students when compared with other medical students from previous studies.
6	Sobowale et al. [12]	Cross-sectional study was conducted at a medical school in mainland China in 2012	A total of 348 students responded to the survey, with a response rate of 99%	Rates of depression and suicidal ideation are high in medical students in mainland China. Mental health services are deficient and unlikely to address distress in students.
7	Fahrenkopf et al. [13]	Prospectivec ohort study	Three residents from three different pediatric residency programs	Non depressed residents were found to be less likely to make medical errors compared to the depressed residents. However burnout was not found to be correlated with an increased level of medical errors.
8	Caplan[14]	Postal survey study	It has been selected from a (322) general practitioners total of (524), (121) senior hospital managers (56%) (80%) (81) hospital consultants (80%) replied	The managers and consultants have showed less signs of suicidal thoughts than general practitioners. Levels of stress, depression, and anxiety seemed to be high with in managers and doctors in the NHS. Seniors doctors showed more stress in general than other medical staff members.

9	Dahlin and Runeson [15]	Survey and three year interview based analysis	127 medical students who Were evaluated and later re-evaluated in their third year of medical school [7]	To avoid burnout, it showed that students with better experienced less burnout effects than others. Psychiatric morbidity is known to be common in medical students but many times it is avoided to seek counseling.
10	Frank and Dingle [16]	Cohort study	Women Physicians' Health Study. (n=4,501 respondents, 716 questions)	1.5% (N=61) of women physicians reported having attempted suicide, and 19.5% (N=808) reported having a history of depression.
11	Hsu and Marshall [17]	Cross-sectional study-measuring prevalence of symptoms of depression on the (CESD) depression scale	1,805 fellows, residents, and interns from Ontario, Canada.	Men had lower depression scores than women. Married house staff scored with lower depression than of the single house staff members as seen in community studies. Women had higher depression scores than men. The proportion of unmarried house staff with moderate or severe depression scores than men. The proportion of unmarried house staff with moderate or severe depression scores was higher than that of married house staff. Considerable differences were found by specialty, and depression was most prevalent in the first year of postgraduate training.
12	Shi et al. [18]	Exploratory cross-sectional study Conducted June of 2014	2925 medical students had become the final subjects for testing	Medical students were 66.8%, which resulted being higher than Chinese university students which was 44.2%. 5th year students had the highest prevalence of depression. 44.2% Prevalence of depression among Chinese university students. Older students, male students and students

				in 5-year programs had a higher prevalence of depressive symptoms relative to their counterparts.
13	Sharma et al. [19]	Cross-sectional study conducted in Peoples University (India) using Theoretical Depressive Experiences Questionnaire (TDEQ)	440 students participated in the study; response rate was 90% (396 students). 440 Students participated in the study; response rate was 90%. Average age of participants was 22 years and more than half 62%. 246 students were male. 246 students) were male.	The prevalence of depression among students was 31%. Symptoms of moderate severity were predominant among students with the illnesses. Depression prevalence among students was 31%. Many students were found to have psychiatric problems, associated with multiple social, behavioral and educational factors.
14	Quince et al. [20]	Longitudinal study including questionnaires, surveys, and a depression scale of hospital anxiety and depressions (HADS-D) scale	From 2007 to 2010, 1112 medical Students entering first year and 542 Entering clinical fourth year from the University of Cambridge (UK)	Among groups between male and female students results of depression carried from 2.2% to 14.8%.
15	Ibrahim and Abdelreheem [21]	Cross-sectional study conducted in Faculty of Medicine and pharmacy in the Alexandria University of Egypt	164 medical students and 164 pharmaceutical students.	Studies concluded that significant depression and anxiety was found in both medical and pharmaceutical students Faculty of medicine were concluded to have higher levels of symptoms. Moreover, it was concluded that the prevalence of anxiety and depression in faculty of medicine was found higher than that in faculty of pharmacy. Furthermore, it was noticed

				that the prevalence of symptoms was higher among females.
16	**Depression in medical students: insights from a longitudinal study** by Vanessa Silva,[1,2] Patrício Costa BMC Med Educ. 2017; 17: 184.	A prospective, longitudinal observational study was conducted at the Medical School of the University of Minho, Portugal, between academic years 2009–2010 to 2012–2013.	Two hundred thirty-eight medical students were evaluated longitudinally	For depression the prevalence ranged from 21.5 to 12.7% (academic years 2009/2010 and 2012/2013). BDI scores decreased during medical school. 19.7% of students recorded sustained high BDI over time.
17	Prevalence and factors associated with depression among medical students in Cameroon: a cross-sectional study Stewart Ndutard Ngasa,[1,2] Carlson-Babila Sama, BMC Psychiatry. 2017; 17: 216. Published online 2017 Jun 9. doi: 10.1186/s12888-017-1382-3	A cross sectional study was carried out in all 4 state medical schools in 4 different regions from December 2015 to January 2016. Diagnosis of depression, major depression and its associated factors were assessed using the 9-Item-Patient Health Questionnaire (PHQ-9) and a structured questionnaire	618 medical students (response rate: 90.4	About a third of them (30.6%, 95% CI: 22.8–36.7) were found to have major depressive disorder (PHQ Score ≥ 10). With regards to the severity of depression, 214 (34.6%), 163 (26.4%), 21 (3.4%), and 5 (0.80%) students were classified as having mild, moderate, moderately severe and severe depression respectively. This study concluded that prevalence of major depressive disorders among medical students in Cameroon is high and is associated with the presence chronic disease, major life events, female gender and being a student at the clinical level

		respectively.		
18	Prevalence of mental distress and associated factors among Hawassa University medical students, Southern Ethiopia: a cross-sectional study. MeleseB Bayu B , Wondwossen F1BMC Res Notes. 2016 Nov 8;9(1):48	A cross-sectional study was conducted among medical students attending Hawassa University College of Medicine and Health Sciences in 2013/2014 academic year. Stratified random sampling was implemented with each strata representing the year of study of the students.	240 students	Among 240 students included in the study, 72 (30%) of them were found to have mental distress. There was no significant difference in mental distress between males and females (COR = 1.18, 95% CI = 0.62-2.25). In this study one-third of medical students were found to have mental distress.
19	The MD Blues: Under-Recognized Depression and Anxiety in Medical Trainees. Mousa OY et al PLoS One. 2016 Jun 10;11(6):e0156554. doi: 10.1371/journal.pone.0156554. eCollection 2016	an anonymous online survey at a medical university in 2013-2014. The Patient Health Questionnaire 2 was incorporated (PHQ-2) to screen for MDD and the generalized anxiety disorder scale (GAD-7) to screen for GAD,	26 residents/fellows and 336 medical students participated voluntarily. 15.1% and 15.9% of postgraduates as well as 16.4% and 20.3% of MS screened positive for MDD and GAD, respectively.	When compared to national estimates, the prevalence of a positive screen for MDD was over five-fold higher in medical trainees compared to age-matched controls (16% vs. 2.8%, p<0.0001). Similarly, the prevalence of a positive screen for GAD was over eight-fold higher in medical trainees (19% vs. 2.3%, p<0.0001).The prevalence was consistently higher within age strata. 33.3% of postgraduates and 32% of MS believe there is a significant impact of depression or anxiety on their academic performance. For stress relief, one fifth of

		along with additional questions on life stressors and academic performance		residents/fellows as well as MS reported alcohol use.
20	Prevalence of Depression, Depressive Symptoms, and Suicidal Ideation Among Medical Students: A Systematic Review and Meta-Analysis. Rotenstein LS et al JAMA. 2016 Dec 6;316(21):2214-2236. doi: 10.1001/jama.2016.17324.	Systematic search of EMBASE, ERIC, MEDLINE, psycARTICLES, and psycINFO without language restriction for studies on the prevalence of depression, depressive symptoms, or suicidal ideation in medical students published before September 17, 2016..	Depression or depressive symptom prevalence data were extracted from 167 cross-sectional studies (n = 116 628) and 16 longitudinal studies (n = 5728) from 43 countries. All but 1 study used self-report instruments	The overall pooled crude prevalence of depression or depressive symptoms was **27.2%** (37 933/122 356 individuals; 95% CI, 24.7% to 29.9%, I2 = 98.9%). Summary prevalence estimates ranged across assessment modalities from 9.3% to 55.9%. Depressive symptom prevalence remained relatively constant over the period studied (baseline survey year range of 1982-2015; slope, 0.2% increase per year [95% CI, -0.2% to 0.7%]). In the 9 longitudinal studies that assessed depressive symptoms before and during medical school (n = 2432), the median absolute increase in symptoms was 13.5% (range, 0.6% to 35.3%). Prevalence estimates did not significantly differ between studies of only preclinical students and studies of only clinical students (23.7% [95% CI, 19.5% to 28.5%] vs 22.4% [95% CI, 17.6% to 28.2%]; P = .72). The percentage of medical students screening positive for depression who sought psychiatric treatment was 15.7% (110/954 individuals; 95% CI, 10.2% to 23.4%, I2 = 70.1%). Suicidal ideation prevalence data were extracted from 24 cross-sectional studies (n = 21 002) from 15 countries. All but 1 study used self-report instruments.

				The overall pooled crude prevalence of suicidal ideation was 11.1% (2043/21 002 individuals; 95% CI, 9.0% to 13.7%, I2 = 95.8%). Summary prevalence estimates ranged across assessment modalities from 7.4% to 24.2%.
21	**Prevalence of Depression among University Students: A Systematic Review and Meta-Analysis Study:** **Diana Sarokhani** Depression Research and Treatment Volume 2013, Article ID 373857, 7 pages http://dx.doi.org/10.1155/2013/373857	.	Literature review	In 35 studies conducted in Iran from 1995 to 2012 with sample size of 9743, prevalence of depression in the university students was estimated to be 33% (95% CI: 32–34). The prevalence of depression among boys was estimated to be 28% (95% CI: 26–30), among girls 23% (95% CI: 22–24), single students 39% (95% CI: 37–41), and married students 20% (95% CI: 17–24). Metaregression model showed that the trend of depression among Iranian students was flat On the whole, depression is common in university students with no preponderance between males and females and in single students is higher than married ones. On the whole, depression is common in university students with no preponderance between males and females and in single students is higher than married ones. On the whole, depression is common in university students with no preponderance between males and females and in single students is higher than married ones.

Methodology

This was a cross-sectional study, was performed at a single medical school in Mazar –e -Sharif, Afghanistan and was based on volunteering, anonymity, and self-reporting. This study was conducted in the 2018–2019 academic year and will 4 months.

The methods of data collection were quantitative as well as the techniques for data collection, e.g. questionnaires. Confidentiality of Data was maintained. We did systematic random sampling. Population is 1506 students.

We did systematic random sampling. Sample size is 322. First we took permission from chief of faculty and explained the goal and aim of the projects., answered every question raised by them. Participation was voluntary. According to research principles, we consider confidentiality. We emphasized to fill with responsibility.

Study design

This was a cross-sectional study; was performed at a single medical school in Mazare Sharif. Afghanistan and was based on volunteering, anonymity, and self-reporting. This study was conducted in the February 2018-May 2018 academic year.

Inclusion criteria

Current student of medical university and all those how have interesting to participate voluntarily.

Exclusion criteria

Filling the questionnaire incompletely and having no interest to research participation

Questionnaire has 2 demographic information's and Beck test. This test has 21 multiple questions that are scored 0-3.

DATA quality control

By preparing a standard questionnaire and with a pilot study.

Data analysis

Prevalence rate of depression among student and prevalence rate according to race, age, economical state, urban and rural, marital status was calculated.
First we analyzed with computer program. We used Microsoft software and epi-info

Ethical consideration

Approval for the study granted by Institutional Ethics Committee. Written informed consent forms was taken and approved by the Institutional Ethics Committee during the approval process of the study. All participants gave written informed consent before taking part and the informed consent forms were collected in a separate file. There is no consideration regarding to principle of ethics.

Limitations

Stigma associated with mental disorders and no previous research regarding prevalence of depression and factors.

Results and Discussions

Depression Rate:

According to Beck inventory questionnaire 10 is the borderline between depression and normal. The student who got less than 10 is normal. The person who got more than to described as depression. According to the calculation, depression rate is 71%. this shows make difference between the global rate of depression between medical students of other countries and Balkh medical students. (global depression rate is 37%).

Figure 1. Distribution of depression rate among medical students

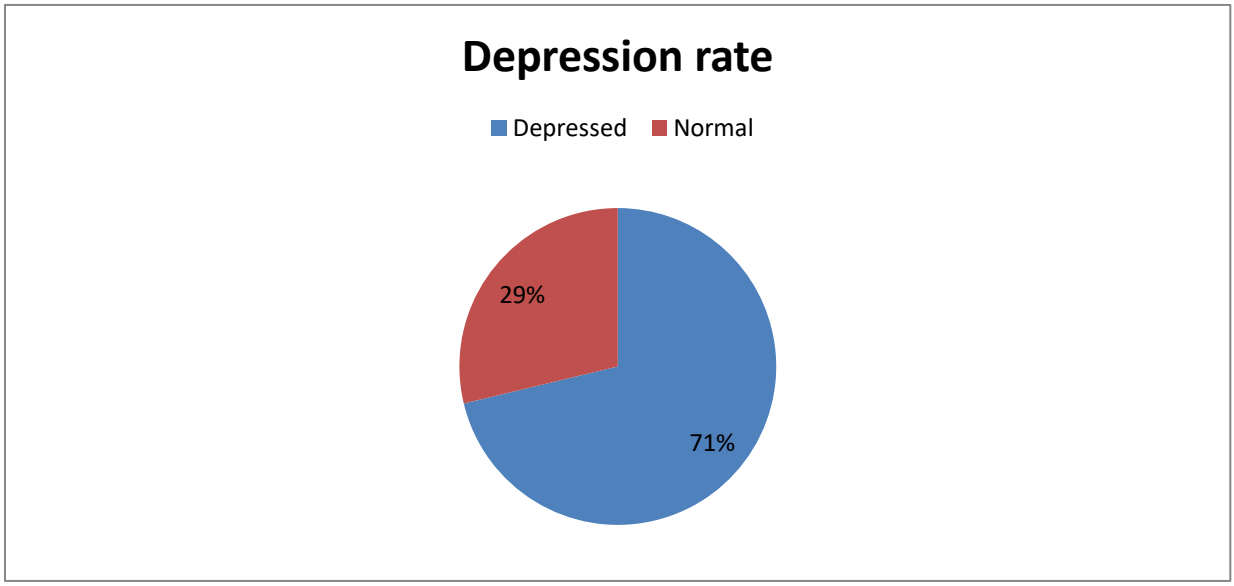
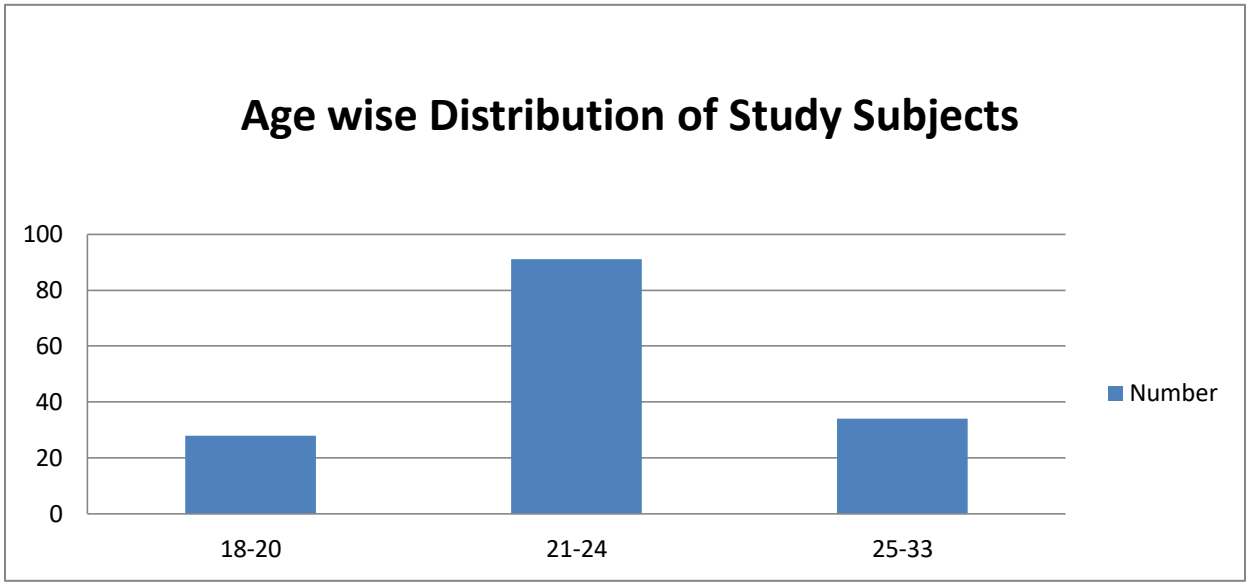


Table 1. Distribution of depression rate among medical students

Depression	Numbers	Percent
Yes	109	29%
No	44	71%
Total	153	100%

Figure 2. Age wise depression rate among medical students



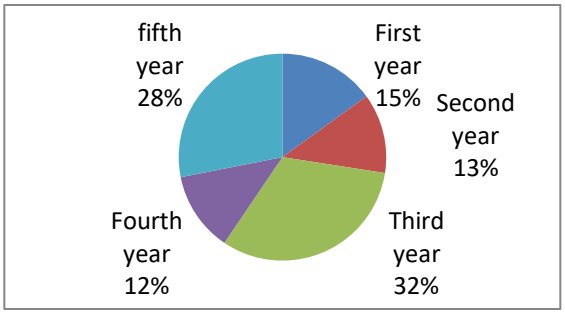
We determined the age also as a demographic variable. The age of the participants varied from 18 years to 33 years. We segregated them into three groups. age group 18-20, 21-24 and 25-55 years

Table 2. Marital status distribution among respondents

Marital status	numbers	Percent
Married	29	19%
Single	124	81%
Total	153	100%

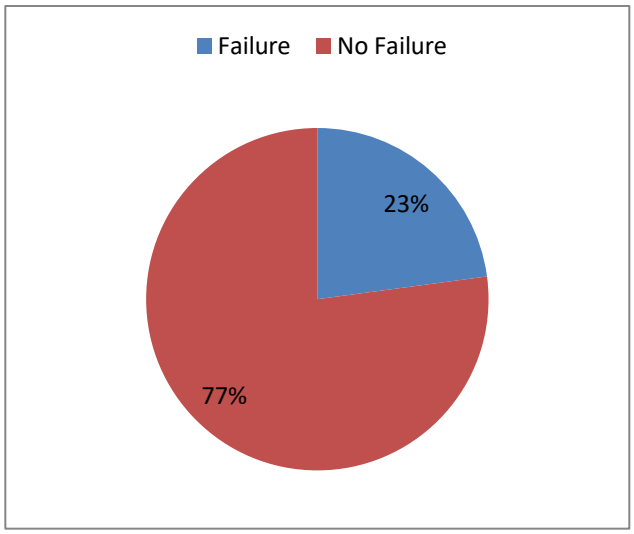
Marital status divided in 2 categories. Majority of the study subjects were unmarried (81%)

Figure 3. Distribution of respondent's rate based on how long they passed in the faculty



We found that in figure 3; majority of medical faulty student's (32%), realized mental depression on third years of studies and only (12%), faced with mental disorder on fourth years.

Figure 4 and Table 3. Distribution failure rate among respondent's



Failure	numbers	Percent
Yes	35	23%
No	118	77%
Total	153	100%

We determined the failure rate also.in this research more participants did not fail in their period of study at Balkh medical faculty.

Table 4. Distribution of financial status rate among respondent's

Financial status	Numbers	Percent
Enough	100	65%
Not enough	53	35%
Total	153	100%

In this research, financial status investigated as a dependent variable. Subjects classified their financial as enough and not enough. Majority participants are (100 person) are written financial status enough.

Table 5. Distribution of sport rate among respondent's

Sport	numbers	Percent
Yes	68	44%
No	85	56%
Total	153	100%

Participants are categorized in 2 categories who sport and who do not sport. Most participant (56%) did not sport.

Table 6. Distribution of close friendship among respondent's

Distribution of Participants on the Basis of Having Close Companion	**numbers**	**Percent**
Yes	136	89%
No	17	11%
Total	153	100%

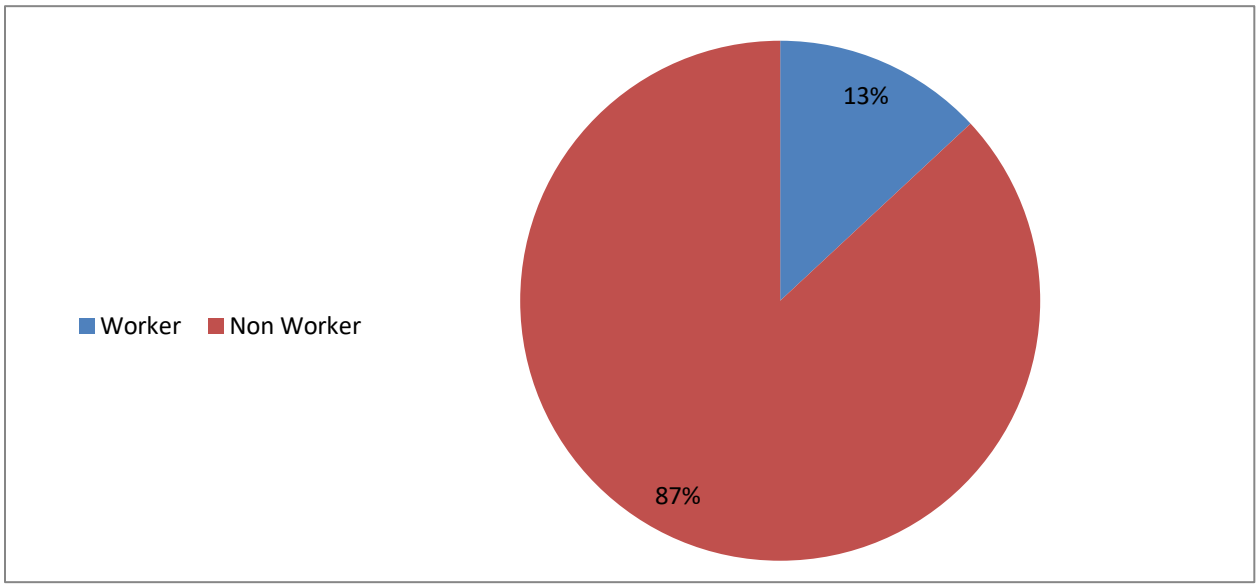
On the basis of their socialization quotient. For this we asked them whether they have a companion with whom they can share their emotions and the majority of them (80%) reported to have their close companion.

Table 7. Distribution of residence among respondent's

Distribution of Students on the Basis of their Residence	**numbers**	**Percent**
Rural	35	23%
Urban	118	77%
Total	153	100%

Our study found that most of the participants were residing in urban setup and most participants are from (77%) are from urban areas.

Firgure 5. Distribution of part time job worker among respondent's



Participant are categorized in not working and part time job and most of participants (87%) are not working.

Table 8. Distribution of depression severity among respondent's

Depression severity rate	**numbers**	**Percent**
Normal	44	29%
Mild	53	35%
Moderate	38	25%
Severe	17	11%
Total	153	29%

Participants are categorized in normal, mild, moderate and severe depression. It shows that; 29% of participant are normal, 71% of participants are having depression, 35% have mild depression, 25% percent's have moderate depression, 11 percent have severe depression.

Conclusion and Recommendation

In this research,153 subjects filled the questionnaire and demographic characteristics. response rate was 100%.52 % subjects were female.49 % were male.18 was the smallest and 33 was the biggest age.81 % were single and 19% were married.

The average score of depression is 17, 2.the average score between girls and boys are 17,9 and 16,58 respectively.36% were born in Balkh province and 64% were born outside of Balkh province.77% were born in urban areas and 23% were born in rural areas.77% have not experienced the failure and 33% experienced the failure.65% money is enough to expending and basic life expenditure.35% did not have enough money.

44% did any kind of sport daily and 56% did not.89% have close friend and 11 friend did not have.87% did not have part time job and 13% have.

Prevalence of depression among these subjects are 71%.the rate of mild, moderate and severe depression are 35%,25% ,11 respectively. This is rate is very high (3,5 folds) than worldwide prevalence of depression among medical students.

This finding are also higher than Pakistan (35%), Greece (43,9%) and Iran (43%), India (67,08), Herat (67,2%) and Kabul (65,7%).

According to sex, prevalence of depression is higher between females than males that is similar with the medical literature.94% who are experienced the failure in exams are depressed and 64% did not experience the failure are depressed.

72 % students who are married are depressed and 70% who are single are depressed.

75% students whose economy is not enough are depressed and 67% students whose economy is enough are depressed.62% students who sport are depressed and 79% who do not sport are depressed.94% students who do not have close friend are depressed and 66% students who have close friend are depressed. According to age the prevalence rate of depression is lowest at age 18-20 years old (64%). The rate of depression is highest among the 3 rd. classes' students (80%).

Recommendations

- Increasing the education of depression among parents and students before entering university.
- Providing the modern programmers at universities for decreasing the cause and factors that has direct relation with educational issues.
- Making the counseling unit at higher education ministry.
- Investigating the psychiatric health of students regularly and helping the patients who have psychiatric disorders.
- Encouraging the students to refer psychiatric specialist, when they have depression symptoms.

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Title: Kaplan &Sadock's Synopsis of Psychiatry: Behavioral Sciences/Clinical Psychiatry, 10th Edition, copyright Â©2007 Lippincott Williams & Wilkins

Tables

Table 1. Distribution of depression rate among medical students

Depression	**Numbers**	**Percent**
Yes	109	29%
No	44	71%
Total	153	100%

Table 2. Marital status distribution among respondents

Marital status	numbers	Percent
Married	29	19%
Single	124	81%

Table 4. Distribution of financial status rate among respondent's

Financial status	Numbers	Percent
Enough	100	65%
Not enough	53	35%
Total	153	100%

Table 5. Distribution of sport rate among respondent's

Sport	numbers	Percent
Yes	68	44%
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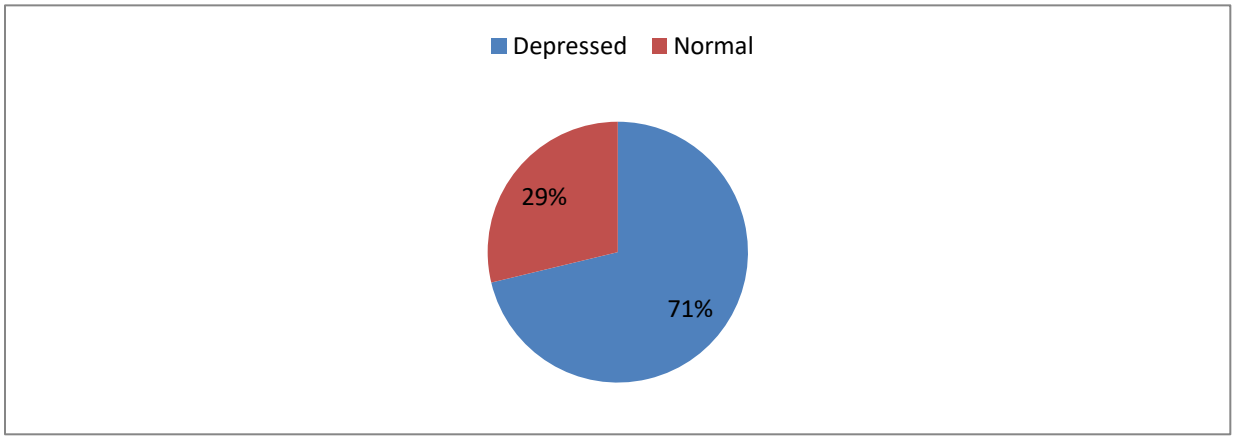
Chart's and graph's

Figure 1. Distribution of depression rate among medical students



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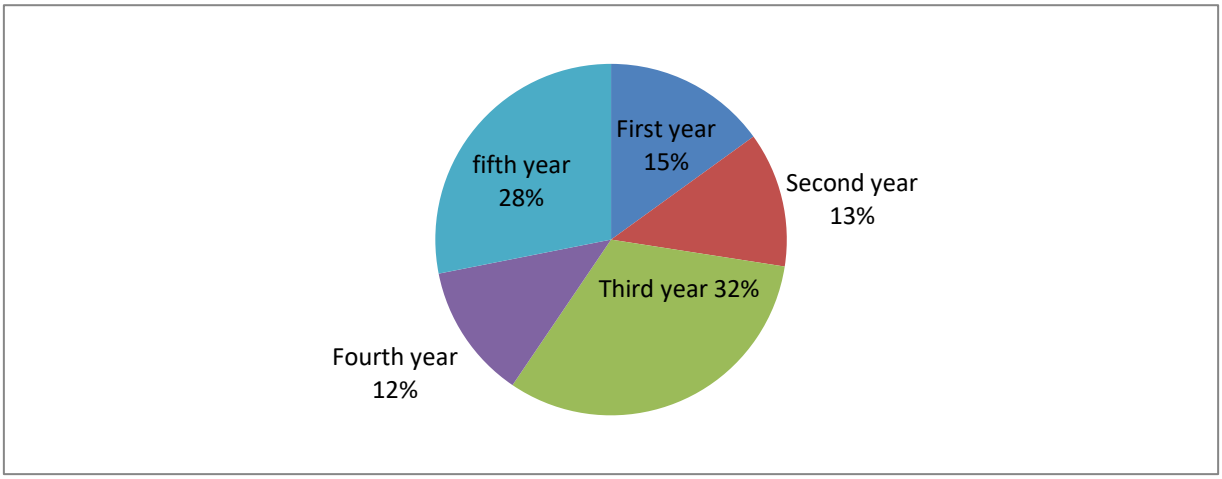
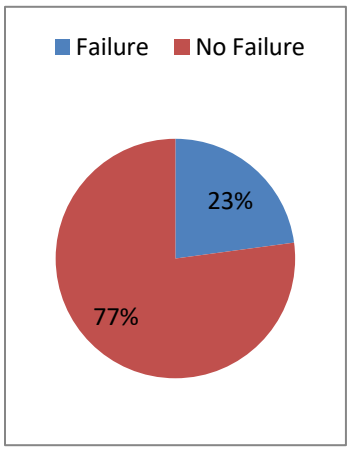
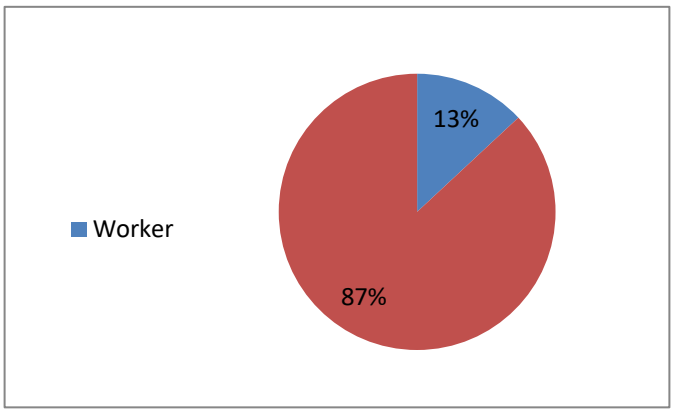


Figure 4 and Table 3. Distribution failure rate among respondent's

Figure 5. Distribution of part time job worker among respondent's





Paper

Annexes

Annex 01. Consent letter from students and colleges

Researcher: Dr. Bahrouddin Soroosh

Part I: Information Sheet

Introduction

I am Dr. Bahrouddin. working for the Maulana Azad university, jodhpur. I am doing research on the disorder depression which is very common in this country and in this region. I am going to give you information and invite you to be part of this research. You do not have to decide today whether or not you will participate in the research. Before you decide, you can talk to anyone you feel comfortable with about the research.

This consent form may contain words that you do not understand. Please ask me to stop as we go through the information and I will take time to explain. If you have questions later, you can ask them of me or of another researcher.)

Purpose of the research

Depression is much higher than population in the society among medical students. We want to find ways to stop this from happening. We believe that you can help us by telling us what you know both about depression and about local health practices in general. We want to learn what people who live or work here know about the causes of malaria and why some people get it. We want to learn about the different ways that people try to stop malaria before someone gets it or before it comes to the community, and how people know when someone has it. We also want to know more about local health practices because this knowledge might help us to learn how to better control malaria in this community.)

Type of Research Intervention

This research will involve your participation in a group answering the questionnaire. that will take about half hour.

Participant Selection

You are being invited to take part in this research because we feel that your experience as a responsible citizen) can contribute much to our understanding and knowledge of local health practices.)

Voluntary Participation

Your participation in this research is entirely voluntary. It is your choice whether to participate or not. If you choose not to participate all the services, you receive at this Centre will continue and nothing will change. OR; the choice that you make will have no bearing on your education or on any work-related evaluations or reports. You may change your mind later and stop participating even if you agreed earlier.)

Procedures

A. Provide a brief introduction to the format of the research study.

We are asking you to help us learn **Epidemiology of Depression among Medical undergraduate students of Balkh medical College in 2018]** *We are inviting you to take part in this research project. If you accept, you were asked to…. :)*

B. *fill out a survey which was provided by [Dr. Bahrouddin] OR You may answer the questionnaire yourself, or it can be read to you and you can say out loud the answer you want me to write down.*

If you do not wish to answer any of the questions included in the survey, you may skip them and move on to the next question. The information recorded is confidential, your name is not being included on the forms, only a number will identify you, and no one else except [name of person(s) with access to the information] will have access to your survey.)

Duration

The research takes place over _half hour.

Risks

If the discussion is on sensitive and personal issues e.g. reproductive and sexual health, personal habits etc. then an example of text could be something like "We are asking you to share with us some very personal and confidential information, and you may feel uncomfortable talking about some of the topics. You do not have to answer any question or take part in the discussion/interview/survey if you don't wish to do so, and that is also fine. You do not have to give us any reason for not responding to any question, or for refusing to take part in the interview"

Benefits

There was no direct benefit to you, but your participation is likely to help us find out more about the depression risk factors and variables between medical students).

Reimbursements

You will not be provided any incentive to take part in the research. However, we will give you [provide a figure, if money is involved] for your time, and travel expense (if applicable).

Confidentiality

The research being done in the community may draw attention and if you participate you may be asked questions by other people in the community. We will not be sharing information about you to anyone outside of the research team. The information that we collect from this research project waskept private. Any information about you will have a number on it instead of your name. Only the researchers will know what your number is and we will lock that information up with a lock and key. It will not be shared with or given to anyone except [name who will have access to the information, such as research sponsors, DSMB board, your clinician,

The following applies to focus groups:

Focus groups provide a particular challenge to confidentiality because once something is said in the group it becomes common knowledge. Explain to the participant that you will encourage group participants to respect confidentiality, but that you cannot guarantee it.

(Example: We will ask you and others in the group not to talk to people outside the group about what was said in the group. We will, in other words, ask each of you to keep what was said in the group confidential. You should know, however, that we cannot stop or prevent participants who were in the group from sharing things that should be confidential.)

Sharing the Results

Nothing that you tell us today was shared with anybody outside the research team, and nothing was attributed to you by name. The knowledge that we get from this research was shared with you and your community before it is made widely available to the public. Each participant will receive a summary of the results. There will also be small meetings in the community and these was announced. Following the meetings, we will publish the results so that other interested people may learn from the research.)

Right to Refuse or Withdraw

You do not have to take part in this research if you do not wish to do so, and choosing to participate will not affect your job or job-related evaluations in any way. You may stop participating in the [discussion/interview] at any time that you wish without your job being affected. I will give you an opportunity at the end of the interview/discussion to review your remarks, and you can ask to modify or remove portions of those, if you do not agree with my notes or if I did not understand you correctly.)

Who to Contact

If you have any questions, you can ask them now or later. If you wish to ask questions later, you may contact any of the following: [name, address/telephone number/e-mail]

This proposal has been reviewed and approved by [Maulana Azad university, jodhpur], which is a committee whose task it is to make sure that research participants are protected from harm. If you wish to find about more about the IRB, contact ___ 096941 82184*.)*

This proposal has been reviewed and approved by [*Maulana Azad university, jodhpur*], which is a committee whose task it is to make sure that research participants are protected from harm. If you wish to find about more about the IRB, contact [096941 82184

Part II: Certificate of Consent

I have been invited to participate in research about Epidemiology of Depression among Medical undergraduate students of Balkh medical College in 2018, I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study.

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands that the following was done:

1.
2.
3.

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

Beck's Depression Inventory

This depression inventory can be self-scored. The scoring scale is at the end of the questionnaire.

1.

0 I do not feel sad.
1 I feel sad
2 I am sad all the time and I can't snap out of it.
3 I am so sad and unhappy that I can't stand it.

2.

0 I am not particularly discouraged about the future.
1 I feel discouraged about the future.
2 I feel I have nothing to look forward to.
3 I feel the future is hopeless and that things cannot improve.

3.

0 I do not feel like a failure.
1 I feel I have failed more than the average person.
2 As I look back on my life, all I can see is a lot of failures.
3 I feel I am a complete failure as a person.

4.

0 I get as much satisfaction out of things as I used to.
1 I don't enjoy things the way I used to.
2 I don't get real satisfaction out of anything anymore.
3 I am dissatisfied or bored with everything.

5.

0 I don't feel particularly guilty
1 I feel guilty a good part of the time.
2 I feel quite guilty most of the time.
3 I feel guilty all of the time.

6.

0 I don't feel I am being punished.
1 I feel I may be punished.
2 I expect to be punished.
3 I feel I am being punished.

7.

0 I don't feel disappointed in myself.
1 I am disappointed in myself.
2 I am disgusted with myself.
3 I hate myself.

8.

0 I don't feel I am any worse than anybody else.
1 I am critical of myself for my weaknesses or mistakes.
2 I blame myself all the time for my faults.
3 I blame myself for everything bad that happens.

9.

0 I don't have any thoughts of killing myself.
1 I have thoughts of killing myself, but I would not carry them out.
2 I would like to kill myself.
3 I would kill myself if I had the chance.

10.

0 I don't cry any more than usual.
1 I cry more now than I used to.
2 I cry all the time now.
3 I used to be able to cry, but now I can't cry even though I want to.

11.

I am no more irritated by things than I ever was.
I am slightly more irritated now than usual.
I am quite annoyed or irritated a good deal of the time.
I feel irritated all the time.
I have not lost interest in other people.
I am less interested in other people than I used to be.
I have lost most of my interest in other people.
I have lost all of my interest in other people.
I make decisions about as well as I ever could.
I put off making decisions more than I used to.
I have greater difficulty in making decisions more than I used to.
I can't make decisions at all anymore.
I don't feel that I look any worse than I used to.
I am worried that I am looking old or unattractive.
I feel there are permanent changes in my appearance that make me
Unattractive
I believe that I look ugly.

I can work about as well as before.
It takes an extra effort to get started at doing something.
I have to push myself very hard to do anything.
I can't do any work at all.
I can sleep as well as usual.
I don't sleep as well as I used to.
I wake up 1-2 hours earlier than usual and find it hard to get back to I wake up several hours earlier than I used to and cannot get back to sleep.
I don't get more tired than usual.
I get tired more easily than I used to.
I get tired from doing almost anything.
I am too tired to do anything.
My appetite is no worse than usual.
My appetite is not as good as it used to be.
My appetite is much worse now.
I have no appetite at all anymore.
I haven't lost much weight, if any, lately.
I have lost more than five pounds.
I have lost more than ten pounds.
I have lost more than fifteen pounds.
0 I am no more worried about my health than usual.
1 I am worried about physical problems like aches, pains, upset stomach, or constipation.
2 I am very worried about physical problems and it's hard to think of much else.
2 I am so worried about my physical problems that I cannot think of
1 anything else.
0 I have not noticed any recent change in my interest in sex.
1 I am less interested in sex than I used to be.
2 I have almost no interest in sex.
3 I have lost interest in sex completely.

INTERPRETING THE BECK DEPRESSION INVENTORY

Now that you have completed the questionnaire, add up the score for each of the twenty-one questions by counting the number to the right of each question you marked. The highest possible total for the whole test would be sixty-three. This would mean you circled number three on all twenty-one questions. Since the lowest possible score for each question is zero, the lowest possible score for the test would be zero. This would mean you circles zero on each question. You can evaluate your depression according to the Table below.

Total Score	Levels of Depression
1-10	these ups and downs are considered normal
11-16	Mild mood disturbances
17-20	Borderline clinical depression
21-30	Moderate depression
31-40	

severe depression over 40, extreme depression

Annex 02. Local language interview questions

پرسشنامه اختراعی بیک

-1

الف: غمگین نیستم

ب: غمگین هستم

ج: غم از سرم دست‌بردار نیست (مرا رها نمی‌کند)

د: حوصله‌ام را از دست داده‌ام

-۲

الف: به آینده امیدوارم

ب: به آینده امیدی ندارم

ج: احساس می‌کنم آینده امیدبخشی در انتظارم نیست

د: کم‌ترین روزنه‌ی امیدی ندارم.

-۳

الف: ناکام نیستم

ب: ناکام‌تر از دیگران استم

ج: به زندگی گذشته‌ام هرچه که نگاه می‌کنم ترس و بیم شکست و ناکامی است

د: آدم کاملاً شکست‌خورده‌ی استم

-۴

الف: مثل گذشته از زندگی‌ام راضی هستم

ب: مثل سابق از زندگی لذت نمی‌برم

ج: از زندگی رضایت واقعی ندارم

د: از هرکس و هرچیز ناراضی هستم

-۵

الف: احساس تقصیر (و گناه) نمی‌کنم

ب: گاهی اوقات احساس تقصیر می‌کنم

ج: اکثر اوقات احساس تقصیر می‌کنم

د: همیشه احساس تقصیر می‌کنم

-۶

الف: انتظار مجازات ندارم

ب: انتظار مجازات دارم

ج: احساس می‌کنم ممکن است مجازات شوم

د:احساس می‌کنم مجازات می‌شوم

-۷

الف: از خود، راضی هستم

ب: از خود، ناراضی هستم

ج: از خودم بدم می‌آید

د: از خودم بیزارم

-۸

الف: بدتر از دیگران نیستم

ب: از خودم به خاطر اشتباهاتم انتقاد می‌کنم

ج: همیشه خودم را به خاطر اشتباهاتم سرزنش می‌کنم

د: برای هر اتفاق بدی خود را سرزنش می‌کنم

-۹

الف: هرگز به فکر خودکشی نمی‌افتم

ب: به فکر خودکشی بوده ام ولی اقدامی نکرده ام

ج: به فکر خودکشی هستم

د: اگر بتوانم خودکشی می‌کنم

-۱۰

الف: بیش از حد معمول گریه نمی‌کنم

ب: بیش از گذشته گریه می‌کنم

ج: همیشه گریه می‌کنم

د:قبلاً گریه می‌کردم، ولی حالا با آن‌که دلم می‌خواهد، نمی‌توانم گریه کنم
۱۱-
الف: کم‌حوصله‌تر از گذشته نیستم
ب:کم‌حوصله‌تر از گذشته استم
ج: اکثراً کم‌حوصله استم
د: همیشه کم‌حوصله استم
۱۲-
الف: مثل همیشه مردم را دوست دارم
ب: نسبت به گذشته کم‌تر از مردم خوشم می‌آید
ج: تا حد زیادی علاقه‌ام را نسبت به‌مردم از دست داده ام
د: به‌مردم علاقه‌ی ندارم
۱۳-
الف: مانند گذشته تصمیم می‌گیرم
ب:کم‌تر از گذشته تصمیم می‌گیرم
ج: نسبت به گذشته تصمیم‌گیری برایم مشکل شده است
د: قدرت تصمیم‌گیری‌ام را از دست داده ام
۱۴-
الف: آن جذابیت گذشته را ندارم
ب: می‌ترسم که جذابیت‌ام را از دست بدهم
ج:احساس می‌کنم هر روز که می‌گذرد جذابیت ام را بیشتر از دست می‌دهم
د: زشت هستم
۱۵-
الف: مانند گذشته کار می‌کنم
ب: مانند گذشته کار نمی‌کنم
ج: برای اجرای کاری به خود فشار زیادی می‌آورم
د: هیچ کاری از دستم نمی‌شود
۱۶-
الف: مثل همیشه خوب می‌خوابم
ب: مثل گذشته خوابم نمی‌برد
ج: یکی دو ساعت زودتر نسبت به گذشته از خواب بیدار می‌شوم و دوباره خوابیدن برایم مشکل است
د: چند ساعت وقت‌تر نسبت به گذشته بیدار می‌شوم و دو باره نمی‌توانم بخوابم
۱۷-
الف: بیشتر از گذشته خسته نمی‌شوم
ب: بیشتر از گذشته خس‌ته می‌شوم
ج: اجرای هر کاری مرا خسته می‌کند
د: بخاطر خستگی شدید هیچ‌کاری را نمی‌توانم انجام بدهم
۱۸-
الف: اشتهایم تغییر نکرده است
ب: اشتهایم مانند گذشته خوب نیست
ج: اشتهایم زیاد کم شده است
د: به هیچ‌چیزی اشتها ندارم
۱۹-
الف: وزنم کم نشده است
ب: در حدود دونیم کیلو وزن باخته ام
ج: بیش از پنج کیلو وزن باخته ام
د: بیش از هفت کیلو وزن باخته ام
۲۰-
الف: زیادتر از گذشته مریض نمی‌شوم
ب: از سردردی، دل‌دردی و قبضیت کمی ناراحت استم
ج: به‌شدت از سلامتی خود نگران استم
د: آن‌چنان نگران سلامتی خود استم که خود را بیچاره احساس می‌کنم

۲۱-
الف:میلِ جنسی‌ام کدام تغییری نکرده است
ب: میلِ جنسی‌ام کم‌تر شده است
ج:میل جنسی‌ام زیاد کاهش یافته است
د: هیچ میل جنسی ندارم

کلید:
الف=صفر
ب= یک امتیاز
ج= دو امتیاز
د= سه امتیاز

تفسیر	
عادی یا نورمال	۱۰-1 امتیاز
کمی افسرده	۱۶-11 امتیاز
نیازمند مشوره با داکتر	۲۰-17 امتیاز
به طور متوسط افسرده	۳۰-21 امتیاز
شدیداً افسرده	۴۰-31 امتیاز
بیش از حد افسرده	بیشتر از ۴۰ امتیاز