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Mental Health of Adolescents and Its Association with Their Educational Systems: A Cross-Sectional Study on High School Students

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ABSTRACT

We assessed the Association of Mental Health and different education systems among high school students. A total of 174 students (107 females and 67 males) from age 16-19 years studying in 11th and 12th grades or equivalent to A levels in Karachi, Pakistan were surveyed in this cross-sectional study. Data collection involved using a specially designed structured questionnaire through literature review as well as the patient Health Questionnaire, a validated tool for assessing depression. Our study found that majority of students suffered from mild depression (29.3%). This was followed by 27.5% of students with severe depression, 23.0% with moderate depression and 20.1 with no depression. It was also found that more females suffered from depression as compared to males. However, no significant correlation was found between the association of different education system on the mental health of adolescents.

Keywords:
Adolescents, academic stress, depression, education systems, mental health, parental pressure

1. Introduction

Over the years, the standard of education in Pakistan has gotten so alarmingly high that the mental well-being of students has started to suffer (Shakil, 2019). The National Youth Risk Behaviour Survey reported that around 8.4% of students had at one point tried committing suicide while 43.3% had resorted to alcohol consumption and 20.2% used marijuana (Youth Risk Behavior Surveillance, United States, 2005). Identified sources of academic-related stress include fear of falling behind with the provided coursework, struggling with motivation to study, time pressures, financial worries, and concern about academic ability. Furthermore, a few other factors contributing to high stress levels are unrealistic expectations and pressure from parents, difficulty in completing extensive syllabuses, test anxiety, time management worries, and constant worry over grades (Lal, 2014; Shakil, 2019). The High school years are the gateways for adolescents to experience a full departmentalised curriculum, extensive tracking of academic activities, and graduation requirements that are sometimes way beyond the adequate load (Suldo, Thalji-Raitano, Kiefer, & Ferron, 2016). In a study from Florida, it was seen that the challenging curricula, the extensive research programs and compulsory

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community services were exceeding the state requirements for high school graduation contributing to increased stress levels in students (Suldo, Shaunessy, & Hardesty, 2008). A study from Pakistan stated that adults are failing to provide a positive and safe environment to students, and instead are pushing them towards feeling extremely frustrated and dissatisfied. Additionally, it also reported that parents are blissfully unaware of the fact that their children are undergoing such high levels of stress to the point where they have become suicidal (Shakil, 2019). Along with academic achievement, parental pressure is also thought to have a significant impact on the mental health of adolescents. Park and Jung (2010) reported that students under parental pressure to achieve preferable grades were more likely to feel helpless, and experience higher levels of depression and anxiety (Park & Chung, 2010). Additionally, another study has linked heightened stress and anxiety with suicidal tendencies (Hussain, Kumar, & Husain, 2008). The stats from Pakistan reveal that out of all reported cases of suicide in Pakistan between 2010-2017, 30.9% of cases were found to be of the 11-18 year old age group (Shakil, 2019).

The results from a study from Saudi Arabia of secondary school boys stated that 48.9% had anxiety, 38.2% had depression and 35.5% had stress (Al Gelban, 2009). Another study reported that 53% of students manifested depressive symptoms with 19.2% having moderate and 10.7% having severe depression (Lipps et al., 2010). In data from India, the research result shows that that 22.5% of students were suffering from depression(Trivedi et al., 2016). Another study from India reported a positive correlation between academic stress and parental pressure (Deb, Strodl, & Sun, 2015). Literature from Korea reported stress among adolescents due to high parental expectations for academic achievements (Ahn & Baek, 2012). Depressive symptoms were found in 7.5% of high school students in Brazil where it also reported greater levels of depression among females as compared to males (Zinn-Souza et al., 2008). In a study from India, it was also found that girls were significantly more depressed as compared to boys (Trivedi et al., 2016). Reports from Australia also suggested that the major source of stress in senior high school students was due to their education, including peer and parental pressure, pressure to do well forced upon the individual by himself, test anxiety, stress over what the future holds, choice of profession, immense amount of workload and not enough time (Kouzma & Kennedy, 2004).

We understand that all-round mental, social and academic development of high school students is a vital ingredient to their short and long-term success. Yet there seems to be a dearth of enough sizeable studies done on the subject, as well as a widespread notion that high levels of academic stress are a necessary pre-requisite for students to succeed. There are multiple education systems currently operating in Pakistan with Intermediate Board being the local, Cambridge Assessment International Examination (CAIE), and Scholastic Aptitude Test (SAT) being the International systems. Students often do a combination of boards (Intermediate Board with SAT/ CAIE with SAT) when applying overseas or for better opportunities. The aim of this study is to assess mental health of high school students in different educational systems as they strive to maintain top grades and prepare to secure their place in reputable institutions of higher studies.

2. Methodology

2.1.Research Model

The questionnaire was designed through literature review and a validated tool for assessing depression through the Patient Health Questionnaire [PHQ-9 (Patient Health Questionnare)]. The survey tool had different sections and was designed such that the first section was corresponding to informed consent and the demographic profile of the individual, the second addressing questions related to the academics, coping mechanisms and everyday activities of the individual and the last section included the PHQ questionnaire.

2.2. Research Sample

It was a cross sectional study conducted on high school adolescents age group 16-19 years studying in different educational systems in Karachi, Pakistan. The study was conducted in 2020. The sample size was calculated at a proportion of 50% at 5% bound of error and 95% confidence level. The calculated sample size is n=384. The sampling technique employed for selection of sample from the target population. Inclusion criteria was both genders, 16-19 years of age studying in 11th and 12th grades or equivalent to A levels. Exclusion criteria was non consent for participating in study.

2.3. Data Collection Tools and Procedure

The data was collected through online google survey form as the period of data collection coincided with the lockdown period during the COVID-19 pandemic. Forms were circulated online via social media, as well as being distributed among the community to friends and family, also through acquaintances from our respective educational institutions. The form collection was allowed for a period of two weeks and at the end of those weeks we received an equal to 174 questionnaires.

2.4. Data Analysis

The data was entered on SPSS version 21. Mean and standard deviation was taken out for the depression score. Frequencies and percentages were taken out for describing the categorical data. The associations between the education system, depression levels, coping strategies and attitude of parents was assessed through CHI square test. p value less than 0.05 was taken as significant.

2.5. Ethical

Ethical approval was taken from the respective ethical review committee. Ziauddin University protocol reference number: # 0090821ASY5

3. Findings

Simple data analysis was conducted to examine the association of mental health amongst adolescents from different education systems which included Cambridge Assessment International Examination (CAIE), Board of Intermediate and Scholastic Aptitude Test (SAT). Our total sample size was n=174 and the mean age of the participants was 17.7 ± 1.

In the demographic data for participants on the basis of gender, females were found to be in majority, that is n=107(62%), and males were n=67 (38%). Upon the categorization of education systems, it was found that nearly half of the students n=98 (56%) were from CAIE, n=55 (32%) belonged to Intermediate board while the remaining students were from a combination of boards(CAIE with SAT/Inter with SAT) n=21 (12%).

Table 1: *Parents Attitude About The Their Children's Education*

		No Depression		Mild Depression		Moderate Depression		Severe Depression		P value
		n	%	n	%	n	%	n	%	
My family gives me emotional support	Agree	24	68.4	38	74.5	27	67.5	23	48	0.017
	Neutral	8	22.9	9	17.6	10	25	9	19	
	Disagree	2	5.7	4	7.8	3	7.5	16	33	
I sought more leisure activities in my time	Agree	17	48.6	32	62.7	31	77.5	32	66.6	0.239
	Neutral	13	37.1	16	31.4	9	22.5	8	16.6	
	Disagree	5	14.3	3	5.9	0	0	8	16.6	
Unrealistic expectations from parents	Agree	19	54.3	31	60.8	26	65	31	64.6	0.443
	Neutral	7	20	6	11.8	6	15	12	25	
	Disagree	9	25.7	14	27.5	8	20	5	10.4	
Overly involved Parent in education	Agree	13	37.2	16	31.4	16	40	18	37.5	0.902
	Neutral	10	28.6	20	39.2	11	27.5	17	35.4	
	Disagree	12	34.3	15	29.4	13	32.5	13	27.1	
My parents are satisfied with my grades	Agree	26	74.3	29	56.9	18	45	16	33.3	0.019
	Neutral	5	14.3	12	23.5	10	25	5	10.4	
	Disagree	4	11.5	10	19.6	12	30	22	45.8	
Parents check my grade or Report card	Agree	23	65.7	35	68.6	29	72.5	26	54.2	0.094
	Neutral	6	17.1	13	25.5	5	12.5	13	27	
	Disagree	6	17.1	3	5.9	6	15	9	18.7	
Parents do not react well to bad grade	Agree	10	28.7	17	33.3	10	25	19	39.6	0.881
	Neutral	11	31.4	16	31.4	11	27.5	13	27	
	Disagree	14	40	18	35.3	19	47.5	16	33.3	

As seen in Table 1, in regard to the attitude of parents among the education of their children, majority participants n= 112 (64%) agreed that their parents support them in their academic activities. However, it was also concluded that the more parental pressure children are burdened with, the higher the levels of stress they experience. A total of n=106 (61%) participants agreed that their parents put unrealistic expectations on them and n= 62 (36%) stated their parents are overly involved in their education. When students were enquired about whether their parents were satisfied with their grades, n=88 (51%) agreed that they were. Referring to the reaction of parents in relation to their grades, larger part of the students n=112 (64%) concurred with parents checking on their grades and n=63 (36%) disagreed that their parents do not react well to their bad grades.

Table 2: *Students Attitudes Towards Their Education*

		No Depression		Mild Depression		Moderate Depression		Severe Depression		p
		n	%	N	%	n	%	n	%	
Times when I feel low	Agree	11	31.5	27	52.9	25	62.5	43	89.6	0-00000
	Neutral	9	25.7	10	19.6	8	20	3	6.25	
	Disagree	15	42.8	13	27.4	7	17.5	2	4.1	
Studies affect my day to day life	Agree	11	31.4	27	52.9	25	62.5	44	91.7	1
	Neutral	7	20	13	25.5	8	20	2	4.1	
	Disagree	21	48.6	11	21.5	6	17.5	2	4.1	
I have needed treatment for a mental health condition	Agree	1	2.9	4	7.9	9	22.5	25	52	0
	Neutral	2	5.7	7	13.7	7	17.5	11	23	
	Disagree	32	91.4	40	78.4	24	60	12	25	
Feel restless or agitated during exams	Agree	13	37.2	35	68.6	35	82.5	41	85.4	0
	Neutral	8	22.9	11	21.6	6	15	7	14.5	
	Disagree	14	40	5	9.8	1	2.5	0	0	
Don't feel well rested	Agree	12	34.3	28	54.9	36	90	38	79.2	0
	Neutral	6	17.1	15	29.4	3	7.5	7	14.5	
	Disagree	17	48.5	8	15.7	1	2.5	3	6.3	
Became irritated or enraged	Agree	11	31.5	27	52.9	35	87.5	38	79.2	0
	Neutral	7	20	11	21.6	2	5	8	16.6	
	Disagree	17	48.6	13	25.5	3	7.5	2	4.2	
Unable to feel happiness or trouble connecting with people	Agree	2	5.8	6	11.8	12	30	36	75	0
	Neutral	5	14.3	8	15.7	8	20	7	14.5	
	Disagree	28	80	37	72.5	20	50	5	10.4	

Ascertaining the change in the attitude of students in regard to their education as shown in Table 2, n=105 (60%) said that they felt low or down for 2 weeks or more since joining high school. From the data that was collected it was established that n=107 (61.5%) students appeared to have their day-to-day life affected by academic related stress. Furthermore, n=37 (21.2%) of students claimed that they needed treatment for a mental health condition (e.g. depression, anxiety, bipolar disorder, psychosis). From our investigation we also found that n=121 (69.6%) felt restless, agitated, frantic, or tense during exam season. Moreover, the results indicated that n=113 (64.9%) of students do not feel well-rested when they wake up. Analysis also revealed that most students, n=110 (63.3%) feel that they become irritable or enraged because of minor issues or for no reason at all. When asked about their relationships with people, n=55 (31.6%) pupils agreed that they are unable to feel happiness, contentment, joy, or love, and have had trouble connecting with people.

With reference to coping strategies, n=34 (19.8%) and n=15 (8.7%) students resorted to cigarette and sheesha smoking respectively. The frequency of students taking sleeping pills was 2.3%. The sum of students consuming sleeping pills and other medical drugs were n=17 (9.9%). In addition to this, n=10 (5.8%) used weed as a stress reliever while n=3(1.7%) used alcohol. Certain components of leisure for example, sports and exercise, music and movies, playing video games, writing and drawing were cumulative choice of majority students n=34 (20.3%). Other than that, students n=30 (17.9%) stated that effective communication with friends or family helps bring a significant change in their mood. While n=20 (11.7%) students prefer sleeping when they feel upset, n=8 (4.7%) wish to spend their time alone. Likewise, some of them n=10 (5.9%) indulge in conventional ways of meditation and praying as a means of escape.

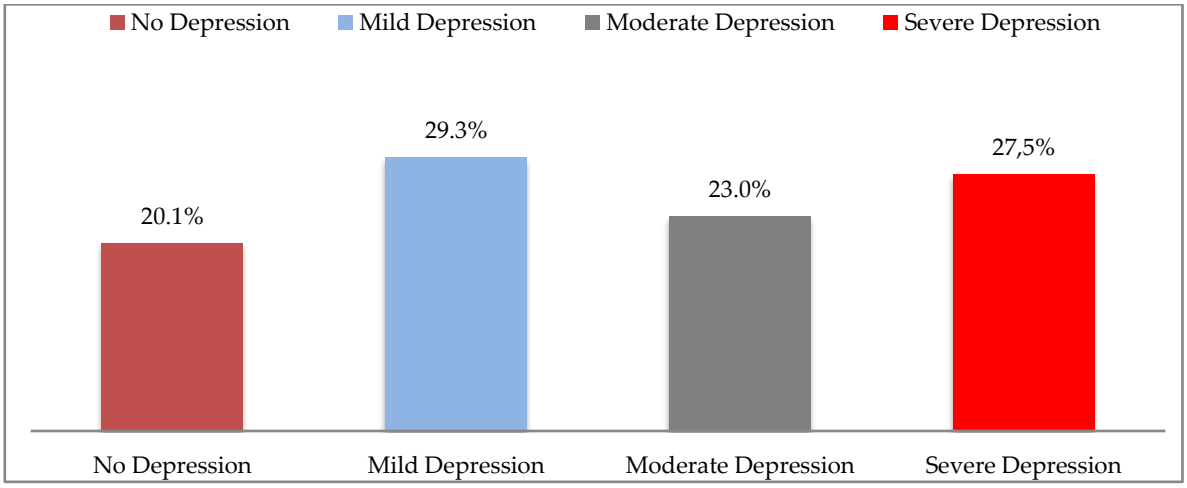

Figure 1: *Percentage of Depression in High School Students*

In reference to the number of students suffering from depression as shown in Figure 1, maximum number of participants were n=174(100%), out of which n=35(20.1%) had no depression, n=51(29.3%) had mild depression, n=40(23.0%) had moderate depression and n=48(27.5%) had severe depression. In regard to students with no depression among different education systems, it was observed that n=17(48.6%) were from the CAIE system, n=11(31.4%) were from the Intermediate Board and n=7(20%) were studying from a combination of boards. The number of students classified as having mild depression, number of students in CAIE were n=32(62.7%), in Intermediate Board there were n=12(23.5%) and in mixed systems there were n=7(13.7%). In terms of moderate depression, in CAIE the number of students were n=23(57.5%), in Intermediate Board there were n=13(32.5%) and in the combination of boards there were n=4(10%). In terms of severe depression, CAIE students were n=26(54.2%), in Intermediate Board there were n=19(39.6%) students and in the combination of systems there were n=3(6.3%). There were greater number of depressives seen in Intermediate Board students as compared to the CAIE system. However, no significant difference was observed between depressives and education systems. When gender was associated with depression, it was found that more females suffered from depression as compared to males. It was observed that n=19(54.3%) females had no depression, in comparison to n=16(45.7%) males. In reference to students with mild depression, n=27(52.9%) were females and n=24(47.1%) were males. Similarly, when moderate depression was observed, n=28(70%) were females and n=12(30%) were males. In terms of severe depression it was seen that n=33(68.7%) were females and n=15(31.3%) were males.

In reference to the attitude of parents towards their child's education, when the students were asked if they had emotional support from someone in their family, n=24(68.5%) agreed, while n=8(22.9%) were neutral, the remaining students n=2(5.7%) disagreed. These students according to the PHQ questionnaire had no depression. In students classified with mild depression, n=38(74.5%) agreed, n=9(17.6%) were neutral, and the remaining 4(7.8%) disagreed. In reference to moderate depression, n=27(67.5%) agreed, n=10(25%) were neutral and n=3(7.5%) disagreed. In students suffering from severe depression n=23(48%) agreed, n=16(33%) disagreed and n=9(19%) were neutral. In terms of students feeling that their parents put unrealistic expectations on them, n=19(54.3%) agreed, while n=9(25.7%) disagreed and the remaining n=7(20%) were neutral. These students had no depression. In students classified with mild depression, n=31(60.8%) agreed, n=14(27.5%) disagreed and n=6(11.8%) were neutral. In reference to students with moderate depression, n=26(65%) agreed, n=8(20%) disagreed and n=6(15%) were neutral. In students suffering from severe depression, n=31(64.6%) agreed, n=12(25%) were neutral and n=5(10.4%) disagreed. When asked if they felt their parents were overly involved in their education, n=13(37.2%) agreed, n=12(34.3%) disagreed while the remaining n=10(28.6%) were neutral. These students had no depression. In terms of mild depression, n=20(39.2%) were neutral, n= 16(31.4%) agreed, while and the remaining n=15(29.4%) disagreed. In students classified with moderate depression n=16(40%) agreed, n=13(32.5%) disagreed, and n=11(27.5%) were neutral. In students that suffered from severe depression, n=18(37.5%) agreed, n=17(35.4%) were neutral and n=13(27.1%) disagreed. When questioned whether their parents were satisfied with their grades, n=26(74.3%) agreed, while n=5(14.3%) were neutral, and n=4(11.5%) disagreed. These students had no depression. In

students classified with mild depression, n=29(56.9%) agreed, n=12(23.5%) were neutral and the remaining n=10(19.6%) disagreed. In terms of moderate depression n=18(45%) agreed, n=12(30%) disagreed and the remaining n=10(25%) were neutral. In students with severe depression, majority of them n=22(45.8%) disagreed, n=16(33.3%) agreed, and n=5(10.4%) were neutral. When asked if their parents checked up on their grades or report cards, n=23(65.7%) agreed, and both number of responses for students that were neutral and disagreed were n=6(17.1%). These students had no depression. In students classified with mild depression, n=35(68.6%) agreed, while n=13(25.5.%) were neutral and the remaining n=3(5.9%) disagreed. In terms of moderate depression, n=29(72.5%) agreed, n=6(15%) disagreed and the remaining n=5(12.5%) were neutral. In students suffering from severe depression, n=26(54.2%) agreed, n=13(27%) were neutral and n=9(18.7%) disagreed. Data analysis also revealed that when students were asked if their parents do not react well to bad grades, n=14(40%) disagreed, while n=11(31.4%) were neutral and n=10(28.7%) agreed. These students had no depression. In terms of mild depression, n=18(35.3%) disagreed, n=17(33.3.%) agreed and n=16(31.4%) were neutral. In students with moderate depression, and n=19(47.5%) disagreed, n=11(27.5%) were neutral and n=10(25%) agreed. In reference to severe depression, n=19(39.6%) agreed, n=16(33.3%) disagreed and the rest of them n=13(27%) were neutral.

In reference to the mental well-being of students and their attitude towards their education, when they were asked if there were times when they felt low or depressed, n=15(42.8%) disagreed, while n=11(31.5%) agreed and n=9(25.7%) were neutral. These students had no depression. In students with mild depression, n=27(52.9%) agreed, n=13(27.4%) disagreed and n=10(19.6%) were neutral. In terms of moderate depression, n=25(62.5%) agreed, while n=8(20%) were neutral and remaining n=7(17.5%) disagreed. In students suffering from severe depression, n=43(89.6%) agreed, n=3(6.25%) were neutral and n=2(4.1%) disagreed. They were also asked if studies affect their day to day life to which n=21(48.6%) disagreed n=11(31.4%) agreed and n=7(20%) were neutral. These students had no depression. In terms of mild depression, n=27(52.9%) agreed, while n=13(25.5%) were neutral and the remaining n=11(21.5%) disagreed. In students with moderate depression, n=25(62.5%) agreed, n=8(20%) were neutral and n=7(17.5%) disagreed. In terms of severe depression, n=44(91.7%) agreed, both number of students that responded with neutral or disagree were n=2(4.1%). When asked if they had ever needed to be treated for a mental health condition, majority n=32(91.4%) disagreed, however n=2(5.7%) were neutral and n=1(2.9%) agreed. These students had no depression. Similarly, in reference to mild depression, n=40(78.4%) disagreed, n=7(13.7%) were neutral and n=4(7.9%) agreed. In students classified with moderate depression, n=24(60%) disagreed, while n=9(22.5%) agreed and n=7(17.5%) were neutral. In students suffering from severe depression n=25(52%) agreed, n=12(25%) disagreed and n=11(23%) were neutral. Furthermore, when questioned on if they feel restless or agitated during exams, n=14(40%) disagreed, n=13(37.2%) agreed and the rest n=8(22.9%) were neutral. These students had no depression. In students with mild depression, n=35(68.6%) agreed, n=11(21.6%) were neutral and n=5(9.8%) disagreed. In terms of moderate depression, n=35(82.5%) agreed, n=6(15%) were neutral and n=1(2.5%) disagreed. In reference to severe depression, n=41(85.4%) agreed and the remainder n=7(14.5%) were neutral. They were also asked if they don't feel well rested and n=17(48.5%) disagreed, n=12(34.3%) agreed, while n=6(17.1%) were neutral. These students had no depression. In students classified with mild depression, n=28(54.9%) agreed, n=15(29.4%) were neutral, n=8(15.7%) disagreed. In terms of moderate depression, n=36(90%) agreed, n=3(7.5%) were neutral, and n=1(2.5%) disagreed. In students with severe depression, n=38(72.9%) agreed, n=7(14.5%) were neutral and n=3(6.3%) disagreed. Moreover, when asked if they often became irritated or enraged, n=17(48.6%) disagreed, n=11(31.5%) agreed and n=7(20%) were neutral. These students had no depression. In reference to mild depression, n=27(52.9%) agreed, n=13(25.5%) disagreed and n=11(21.6%) were neutral. In terms of moderate depression, n=35(87.5%) agreed, n=3(7.5%) disagreed and the remaining n=2(5%) were neutral. In students suffering from severe depression, n=38(79.2%) agreed, n=8(16.6%) were neutral and n=2(4.2%) disagreed. In their responses on if they were unable to feel happiness or had trouble connecting with people, majority n=28(80%) disagreed, while n=5(14.3%) were neutral and n=2(5.8%) agreed. These students had no depression. In students with mild depression, n=37(72.5%) disagreed, n=8(15.7%) were neutral n=6(11.8%) agreed. In terms of moderate depression, n=20(50%) disagreed, n=12(30%) agreed and the remaining students n=8(20%) were neutral. In reference to severe depression, n=36(75%) agreed, while n=7(14.5%) were neutral and the remaining n=5(10.4%) disagreed.

4. Conclusion and Discussion

Research was conducted on young adults studying in different types of education systems to assess different levels of depression and their association factors. Our results showed that moderate to severe depression was present in 50% of the population. A study from the Caribbean reported a lower frequency of moderate to severe symptoms of depression, that is 29.9% (Lipps et al., 2010). Our data also showed that mild depression was present in 29.3% of the total students. This is slightly greater than reported literature which showed symptoms of mild depression seen in 23.1% of students from the Caribbean (Lipps et al., 2010). Research from Iran also showed 28% of students suffering from mild depression (Modabernia, Shodjai, Moosavi, Jahanbakhsh, & Falahi, 2007). Another study from Saudi Arabia reported mild depression in 34% of students, which is greater than the frequency of mild symptoms of depression seen in our results (Alharbi, Alsuhaibani, Almarshad, & Alyahya, 2019). Similarly, the data collected regarding moderately depressed adolescents marked 23% of the population being engaged in moderate depression. In literature from the Caribbean region and Iran, 19.2% and 5.7% had moderate symptoms of depression respectively. Whereas a city in Saudi Arabia had fewer cases in this regard, the percentage of adolescents suffering from moderate depression was 10.4% (Alharbi et al., 2019; Lipps et al., 2010; Modabernia et al., 2007). Moreover, our analysis showed 27.5% of students were suffering from severe depression. This is greater than the frequency of depression found in previous literature (Alharbi et al., 2019; Lipps et al., 2010; Zinn-Souza et al., 2008). Reports from Iran suggested severe depression was present in only 0.3% of the population, whereas the Caribbean region reported 10.7% and a city in Saudi Arabia reported 5% of students with symptoms of severe depression.

When gender was associated with depression, it was found that more females suffered from depression as compared to males. This is consistent with reported literature. In reference to students with mild depression, 52.9% were females and 47.1% were males. This is greater than reported literature of Norway which stated that 38.8% of girls and 32.8% of boys were suffering from mild depression(Burdzovic Andreas & Brunborg, 2017). Another study of 2019 conducted in Saudi Arabia stated that mild depression was prevalent in 54.4% and 45.6% of females and males respectively(Alharbi et al., 2019). Similarly, 70% of females and 30% of males were found to be suffering from moderate depression in our study. This is much greater than the research from Norway, which reported 15.3% of girls and 6.7% of boys suffering from moderate depression (Burdzovic Andreas & Brunborg, 2017). However, data from Saudi Arabia showed results that were closer to our findings where 59.2% of females and 40.8% of males had moderate depression (Alharbi et al., 2019). In terms of severe depression it was seen that 68.7% were females and 31.3% were males. Norway reported 8.5% of girls and 2.6% boys, while data from Saudi Arabia reported 75.4% of females and 24.6% of males suffering from severe depression (Alharbi et al., 2019; Burdzovic Andreas & Brunborg, 2017).

We first assessed the impact of parental mindset and moral support on the mental wellbeing of high school students. In regard to their emotional management, 68.5% students agreed on having a family member they can rely on. The results are sharply similar to a study conducted on Chinese students according to which 64% confided in their parents for emotional support (Wu et al., 2012). Sartor and Younis further elaborated that there is a positive correlation between emotional support from parents and the development of self-esteem and emotional intelligence (Lim, You, & Ha, 2015). This, however often includes parents imposing unrealistic expectations and being overly involved regarding their children's academic performance to which 54.3% and 37.2% students agreed respectively. A survey on Indian students elaborates our point as about two-thirds (66.0%), reported that their parents pressurize them for better educational performance (Deb et al., 2015). This criticism and comparison by parents often leads to unnecessary competition amongst classmates further affecting the mental health of students (Deb et al., 2015). Another literature done on African-American students reported a slightly lower number, that is 53.2% of the participants experiencing moderate to high involvement of parents in their curricular activities (Trask-Tate & Cunningham, 2010).

Parent's perception on the child's competence in academic achievement helps shape the educational psychology of the child. Hence, when questioned whether their parents were satisfied and checked up on their grades, 74.3% and 65.7% agreed doing so respectively. A study from USA also stated that according to 61% students, their parents expressed pride and satisfaction on their grades (Pollio, Humphreys, & Eison, 1991). Such parents are unconcerned with a specific result and are more focused on the happiness and mental peace

of their child (Frijns, Keijsers, Branje, & Meeus, 2010). Similarly a study from Finland showed that parents were content with their child's school satisfaction and learning (Tikkanen, 2019). Whereas, literature from Abu Dhabi showed a lower percentage; 35% in regard to parents satisfaction with their children's grades (Guang, Badri, Al Rashedi, & Almazroui). Data analysis also revealed that when students were asked if their parents do not react well to bad grades, 40% disagreed. The study from US further validated our results as 42% of parents supported their children and wanted them to perform and be the "best" regardless of their grade (Pollio et al., 1991). Our findings also indicated that they were some contradicting exceptions to this as, 28.7% of candidates said yes to parent's disproval to bad grade. The same study from US also concurs with 13% parents nagging and showing anger to low grades (Pollio et al., 1991). Taken together, we can conclude that this mindset of parents focuses more on the child's ability to perform rather than learning itself (Haimovitz & Dweck, 2016). These children, in the long term, find themselves lacking the intellect required in solving such issues thus leading to negative psychological and behavioral consequences (Putwain, 2008).

This is further proven in our results that the prevalence of feeling low or down amongst high school students since, more than two weeks, is 31.5%. In a study conducted by Franciscan University in Ohio, 11% of participants suffered from severe depression (Beiter et al., 2015). Another article reports 57% of students to experience mild to moderate levels of emotional reactivity to daily life stress (Myin-Germeys, Krabbendam, Delespaul, & Van Os, 2003). In our study, 21.2% of students claimed that they needed treatment for a mental health condition. A study conducted in the United States found that 31% of students sought help for mental health problems at school based counselling services (Haimovitz & Dweck, 2016). We also found that 69.6% felt restless, agitated, frantic, or tense during exam season. This is much greater than results found in previous literature. In 2014 a study from the United States reported 30.4% of students suffering from anxiety during exam season (Putwain, 2008). The National Society for Prevention of Cruelty to Children (2015) reported that pressure of exams affected students sleep patterns, and triggered a number of disorders, ranging from anxiety attacks to depression and eating disorders (Putwain, 2008). Moreover, our results indicated that 64.9% of students do not feel well-rested when they wake up. A paper from the United States also stated that 60% of students experience non restorative sleep, that is they do not feel well rested or refreshed when they wake up (Roberts, Roberts, & Chen, 2002). Another study from Europe reported almost 17.7% of students experiencing non restorative sleep (Ohayon, Roberts, Zulley, Smirne, & Priest, 2000). Analysis also revealed that 63.3% of students felt that they get irritated and enraged very easily for no reason at all. This is slightly less than literature from Norway which reports irritability in 70% of students (Natvig, Albrektsen, & Qvarnstrøm, 2003).

In terms of coping strategies, 19.8% of students resorted to cigarette smoking, In 2000, a study conducted in the US on the mental health of adolescents asked current smokers their reasons for smoking and 72% stated they did it during stressful times, while 33% used it as a coping mechanism to deal with their problems (Siqueira, Diab, Bodian, & Rolnitzky, 2000). A study from Iran reported that the prevalence of cigarette smoking(12.8%) was greater than that of sheesha smoking (7.4%). This is consistent with our results which also showed greater frequency of cigarette smoking as compared to sheesha(Saeed Momtazi & Rawson, 2010). 8.7% of students resorted to sheesha smoking to cope with stress according to our research. A study from Lebanon reported that 23.3% of adolescents in high school use sheesha(El-Roueiheb et al., 2008). Our data showed that 1.7% of students used alcohol as a coping mechanism. This is significantly lower than the prevalence of alcohol use in Iranian high school students which is 9.9%(S Momtazi, Nouhravesh, & Taremian, 2009). The frequency of students consuming sleeping pills in our data was 2.3%. In data from Iran, the rates of lifetime use of sedatives was 2.7% and 4.4% in girls and boys respectively (Zia, Zarezadeh, & Heshmati, 2006). The number of students consuming sleeping pills and other medical drugs were 9.9%. This is less than frequency of drug abuse in high school students from previous literature from Iran in 2009 which stated that the prevalence of lifetime use of drugs was 11.2% (Momtazi et al., 2009). In addition to this, 5.8% were found to use weed. Similarly, data from Iran showed that the lifetime use of cannabis (marijuana and hash) was 2.8% in high school students (Momtazi et al., 2009).

The findings of our study presented with certain limitations being that it was an online survey and was conducted during the Covid-19 pandemic. Self-administration was not possible yet all necessary measures were taken to ensure the validity of the questionnaires filled. Another limitation was the small sample size which was most likely because of the online survey as we were unable to approach these students physically.

The strength of our study lies in the area of research, mental health of adolescents in different education systems is less researched in our part of the world. It is a very relevant issue which is so far being neglected and the impact of this neglect is observable in students studying in their undergrad years as it leads to undiagnosed psychological conditions and pent up frustrations that manifest later on in their lives. It affects their self-esteem and confidence and has a negative effect on their interactions with the community and problem-solving skills. These psychological problems further impair their ability to perform well in their exams, leading to average or below than average grades for some. Parental pressure often leads to children being too scared to communicate with their parents regarding life and career choices which often leads to them being unsatisfied with their jobs.

The main objective of our study was to compare the association of mental health among different education systems, however no significant difference was observed. Some symptoms of depression were observed in almost all the students in our study. There were no conflicts of interest during the course of this study.

We recommend that mixed methods study be conducted on a larger population and issues that were not approached in this questionnaire can be approached through focus group or personal interview.

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