

Prevalence of Maladaptive Daydreaming among medical students at University of Khartoum in 2020-2021.



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Abstract

Maladaptive Daydreaming (MD) is defined as “extensive fantasy activity that replaces human interaction and/or interferes with academic, interpersonal, or vocational functioning”. The aim of this study was to: estimate the full gravity of MD among medical students at the University of Khartoum, Sudan, by administering a self- administered online questionnaire containing the Arabic Version of Maladaptive Daydreaming Scale (MDS-16-AR) to a random sample of 323 students. MD was found to be a widespread condition, affecting more than one third of medical students at University of Khartoum in Sudan with more than half of third-year medical students at University of Khartoum were found to be Maladaptive Daydreamers. More studies should be conducted among medical students at University of Khartoum to explore the actual prevalence of MD using structured interviews and giving special consideration to third year medical students.

Keywords: Maladaptive Daydreaming, psychiatry, medical students.

Introduction

Daydreaming is a normal cognitive phenomenon in which the individual experiences a temporary separation from reality during which contact with reality is compromised and, to some extent, replaced by a visionary fantasy. However, daydreaming can progress to a pathological or maladaptive state, known as

maladaptive daydreaming, which is defined as “extensive fantasy activity that replaces human interaction and/or interferes with academic, interpersonal, or vocational functioning.” Daydreaming for extended periods of time, extremely vivid dreams, difficulty executing and completing daily tasks, displaying some facial expressions, performing repetitive

movements, and whispering or talking while daydreaming are all common manifestations of maladaptive daydreaming. Maladaptive daydreaming has been linked to poor academic performance (GPA), with academic performance significantly lower among maladaptive daydreamers (MDers) compared to non-MDers, highlighting the seriousness of the condition among medical students. The knowledge gap of MD-related statistics among medical students, or rather, in Sudan as a whole, is unmistakably large, which is a very concerning fact given the magnitude of this phenomenon. This study was carried out to narrow the knowledge gap of maladaptive daydreaming-related statistics, specifically on medical students at the University of Khartoum, by: assessing medical students' familiarity with the concept of maladaptive daydreaming, estimating the prevalence of normal daydreaming among medical students, estimating the prevalence of maladaptive daydreaming among medical students at University of Khartoum, estimating and comparing the prevalence of maladaptive daydreaming in each academic class at University of Khartoum, Faculty of Medicine, and last but not least assessing medical students' perception on

the impact of maladaptive daydreaming on their academic performance.

Methods

Study Design

This was an analytical cross-sectional university-based study, and it was carried out during the academic year 2020 - 2021. The study was carried out virtually in the Faculty of Medicine at the University of Khartoum in Khartoum, Sudan.

Study area

The study was conducted virtually in the University of Khartoum, Faculty of Medicine (UofK-MED). UofK-MED is the oldest medical school in Sudan, being founded back in 1924, it's also the first accredited medical school in Sudan by the World Federation of Medical Education. Thousands of students apply for admission at UofK-MED each year, seeking its unique medical education and extracurricular opportunities.

Study population

There are 2,335 students registered at the college during the academic year 2020 - 2021. All participants were undergraduate medical students, and most of them were between the ages of 18 to 23 years. In terms of inclusion criteria, all undergraduate students studying in the first

(Batch 96), second (Batch 95), third (Batch 94), fourth (Batch 93), fifth (Batch 92), and sixth (Batch 91) academic years at the University of Khartoum – Faculty of Medicine in Khartoum were included in the study, and nobody was excluded from the afore-mentioned students.

Sample size and Sampling

The sample size (n) is calculated according to the formula: $n = [z^2 * p * (1 - p) / e^2] / [1 + (z^2 * p * (1 - p) / (e^2 * N))]$ Where: z = 1.96 for a confidence level (α) of 95%, p = proportion (expressed as a decimal), N = population size, e = margin of error.

$$z = 1.96, p = 0.5, N = 1994, e = 0.05$$

$$n = [1.962 * 0.5 * (1 - 0.5) / 0.052] / [1 + (1.962 * 0.5 * (1 - 0.5) / (0.052 * 1994))]$$

$$n \approx 323$$

The sample size (with finite population correction) is equal to 323

$$\text{Sample from batch 91} = (325/1994)(323) = 52 \text{ students.}$$

$$\text{Sample from batch 92} = (313/1994)(323) = 51 \text{ students.}$$

$$\text{Sample from batch 93} = (349/1994)(323) = 56 \text{ students.}$$

$$\text{Sample from batch 94} = (358/1994)(323) = 58 \text{ students.}$$

$$\text{Sample from batch 95} = (333/1994)(323) = 54 \text{ students.}$$

$$\text{Sample from batch 96} = (325/1994)(323) = 52 \text{ students.}$$

Data collection methods and tools

The data was collected using online self-administered closed- ended questionnaires during the academic year of all targeted students. The participants were asked to answer questions regarding demographic and general information; age, gender, before filling out both the Arabic version of Maladaptive Daydreaming Scale (MDS-16-AR). Each individual was approached separately, either directly or via the students' representing bodies within UofK-MED, this process proved to be an effective one yielding a response rate of 100%.

The Arabic Version of Maladaptive Daydreaming Scale (MDS-16-AR) is a newly developed 16 item scale, first proposed and validated by Hisham Motkal Abu Raya, Professor Eli Somer and Suha Meari-Amir in 2019. It includes 16 items that assess some key characteristics of MD. The scale responses range from 0% to 100%, with 10% intervals (0% = never/none of the time; 100% = all of the time/extreme amounts). The MDS-16-AR was chosen as measurement tool for MD on this research not only because it uses the mother tongue of the research subjects but it also proved high sensitivity (89), specificity (87) and overall validity (85.5)

using a cutoff composite score of 45 (Out of a maximum of 100).

Results

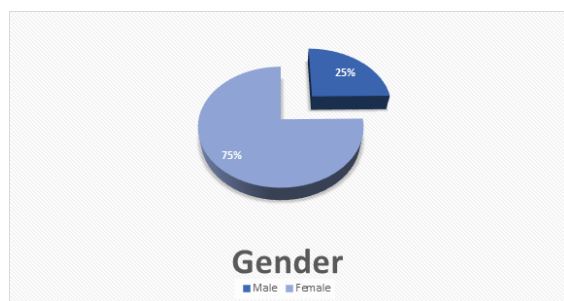


Figure (1) Shows the percentage of males and females who participated in the study at University of Khartoum 2020-2021. The males were 80 (25%) and the females were 243 (75%)

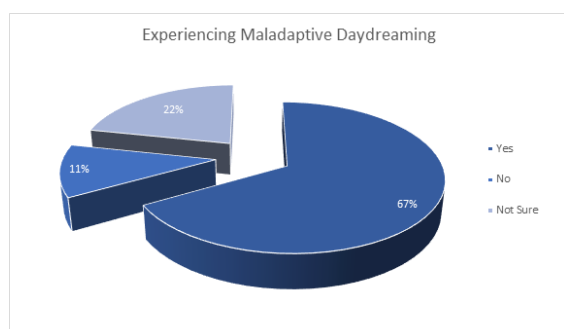


Figure (2) shows the percentage of experiencing daydreaming among the research participants. 67% of the study participants have experienced daydreaming, while 11% did not. 22% Remained unsure whether or not they have experienced daydreaming.

Have you ever experienced daydreaming?	Yes	No	Not Sure	Total

Gender	Male	Nt	50	7	23	80
	Female	N	166	30	47	243
Total		N	216	37	70	323

Table (1) shows the percentage of male and female study participants who experienced normal daydreaming.

Chi-Square Test			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	3.442 ^a	2	.179
Likelihood Ratio	3.337	2	.189
Linear-by-Linear Association	2.041	1	.153
N of Valid Cases	323		

Table (2) shows the Chi-Square Tests for testing correlation between gender and experiencing normal daydreaming among study participants. (P=0.179)

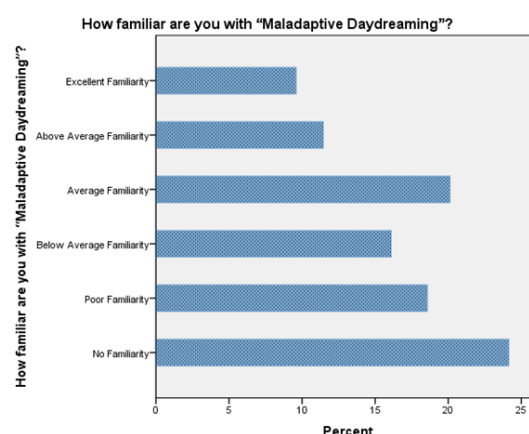


Figure (3) shows the percentage of maladaptive daydreaming familiarity among the study participants. 24.1% Had no familiarity with the concept of maladaptive daydreaming, 18.6% had poor familiarity, 16.1% had below average familiarity, 20.1% had average familiarity, 11.5% had above average familiarity and 9.6% had excellent familiarity.

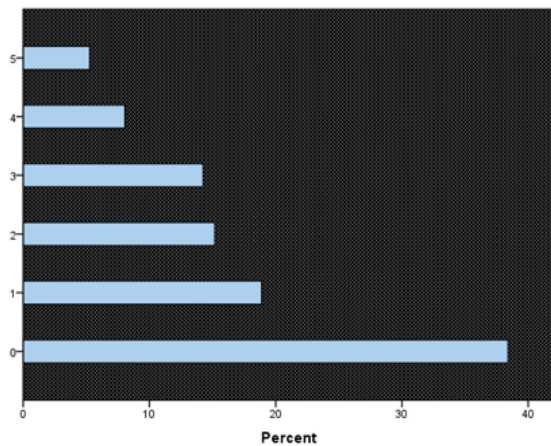


Figure (4) shows how much do students feel that their daydreaming activities interfere with achieving their overall academic performance. 38.8% of students feel that there was 0 interference while 5.3% felt maximum interference.

Maladaptive Daydreaming total cses		
N	Valid caes	111
	Total Sample	323

Maladaptive Daydreaming Cases By Gender			
Male	N	Valid cases	30
		Total sample	80
Female	N	Valid cases	81
		Total samples	243

MD By Academic Class

Sixth	N	Valid cases	7
		Total sample	52
Fifth	N	Valid cases	8
		Total sample	51
Fourth	N	Valid cases	20
		Total sample	56
Third	N	Valid cases	30
		Total sample	58
Second	N	Valid	25

		Total	54
First	N	Valid	21
		Total	52

Table (3) (4) (5) Shows the percentage of MDers among medical students at University of Khartoum. 34.3% of total students were found to be MDers. 37.8% of males were MDers and 33.3% of females were MDers. The percentage of MDers in each academic class was, 13.4% in sixth class, 15.9% in fifth class students, 35.7% in fourth class, 51.7% in thirds class, 46.3% in second class and 40.3% among first year medical students at University of Khartoum.

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	527.963 ^a	448	.005
Likelihood Ratio	474.620	448	.186
Linear-by-Linear Association	28.938	1	.000
N of Valid Cases	323		

Table (6) and shows the correlation between academic class and MDS score. $P=0.005$

Discussion

This study was conducted to estimate the magnitude of maladaptive daydreaming frequency at University of Khartoum, faculty of medicine. The targeted population were medical students at the medical students. After gathering their contact information from the representative student bodies, a random sample of 323 students (confidence level of 95% and a marginal error of 5%) were approached personally and were encouraged to fill out the questionnaire, the response rate of the study was 100%. The study population were subdivided into 6 groups according to their academic classes, and a random sample from each group was selected, 52 student were selected from the sixth class (batch 91), 51 student from the fifth class (batch 92), 56 from the fourth class (batch 93), 58 from the third class (batch 94), 54 from the second class (batch 96) and 52 from the first class (batch 97). Around 75% of the study participants were females and 25% were males due to the fact that most of the students at UofK-MED are females.

In their responses, 67% of the study participants have experienced daydreaming, and 22% were unsure whether or not they have experienced daydreaming. This means that at least 67%-87% of medical students at University of Khartoum have experienced daydreaming, which is less than the percentage of daydreaming among the American population. The difference between the two percentages might be due many factors, a clear explanation is the wide cultural differences between the Sudanese and the American population, another possible explanation is the presumable lack of sufficient knowledge of the concept and the experience of maladaptive daydreaming among the study population, which is a plausible explanation because 24.1% of the study participants had no familiarity with the concept of maladaptive daydreaming, 18.6% had poor familiarity, 16.1% had below average familiarity. Meaning that around 58.8% of the study participants do not have sufficient familiarity with the concept of normal daydreaming. On the other hand, 20.1% had average familiarity, 11.5% had above average familiarity and 9.6% had excellent familiarity, making the total percentage of those who have sufficient familiarity 41.2%, with the males

showing slightly more familiarity than females, males = 2.09 (sd=1.407) and females = 2.04 (sd=1.709). One important finding regarding the experience of normal daydreaming is that there was no significant correlation between normal daydreaming and gender of medical students at the UofK-MED ($P=0.179$).

Regarding the MDS, the mean of MDS among the study population was found to be 33.66 (sd=22.38) which is less than the 45% cutoff point for MD.

34.3% of total students were found to be MDers, hugely less than the 70% that was found in a similar study in Saudi Arabia, again this might be explained by the cultural, socioeconomic and demographic differences between the two countries, also the above mentioned study was conducted on 380 students selected by convenient sampling, while this study population were chosen by random sampling.

Although no significant correlation between gender and MDS score ($P=0.072$), more males were found to be MDers when compared to females (37.8% of males were found to be MDers and 33.3% of females were MDers). This consolidates the same results that were found in multiple similar studies. On the other hand there was a significant correlation between MDS score

and the academic class of the study subjects ($P=0.005$). MD was proved to be having a significant impact on medical students at University of Khartoum, although 38.8% of students feel that there was 0 interference, 61.2% reported that MD has somehow affected their academic performance with 5.3% reporting maximum amount of interference, this highlights the deep and concerning perception towards the impact of medical students at University of Khartoum towards the impact of MD in their academic functioning, and also highlights the massive gravity of the situation, academic-wise, as MD has clearly negatively affects the academic achieving of medical students, in fact, a significant correlation was found between MDS score and the perception of medical students of its negative impact on their academic functioning.

Conclusion

- More than one third of medical students at University of Khartoum were found to be Maladaptive Daydreamers with no significant correlation was found between MDS score and gender.
- More than half of third year medical students at University of Khartoum were found to be Maladaptive Daydreamers.

- A significant correlation between the MDS score and the academic class of medical students at University of Khartoum, and between MDS score and the perception of medical students of its impact on their academic performance.

Recommendations

- To conduct more studies among medical students at University of Khartoum to explore the actual prevalence of MD using structured interviews and giving special consideration to third year medical students.
- To conduct more research regarding MD among other populations in Sudan.
- To advocate for the seriousness of MD within the community of UofK-MED.

Limitations

- The study was localized within the university of Khartoum, Faculty of Medicine.
- The diagnosis was made solely by a self administered questionnaire and lacked an individualized structured interviewing.

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