BJGH Brazilian Journal of Global Health
Revista Brasileira de Saúde Global

Pilot project - 8 week *Mindfulness* program for university students

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ABSTRACT

OBJECTIVE

To evaluate the effects of *Mindfulness* practice applied in an 8-week program in university students.

METHODS

An intervention study was carried out, with a convenience sample and voluntary participation of students, enrolled for an 8-week program of *Mindfulness* practices. The following questionnaires were used: sociodemographic profile; perception of self-satisfaction; Depression, Anxiety, and Stress Scale (DASS-21); and *Facet Mindfulness Questionnaire* (FFMQ-BR), both in an adapted and validated version for Brazilian Portuguese. The questionnaires were completed anonymously at the beginning and end of the program.

RESULTS

The participants were 58 university students from the psychology course, between the 1st and 10th semesters, aged between 18 and 60 years. To minimally evaluate the pilot project, it was necessary for each participant to attend at least 5 meetings. Those that did not reach this minimum participation were not considered in the final comparative results. Finally, 16 participants were included in the study analyses. The mean was used to compare the initial and final results of the questionnaires. The comparisons showed a reduction in the severity levels of the symptoms of stress, depression, and anxiety, as well as an improvement in the majority of the *Mindfulness* scores obtained in the facets.

CONCLUSIONS

The application of the 8-week *Mindfulness* program to university students led to suggested benefits, such as a probable reduction in scores obtained in the assessment of symptoms of stress, anxiety, and depression, improvement in general mindfulness and self-perception, and greater satisfaction with life itself.

DESCRIPTORS

Mindfulness, Anxiety, Stress, Depression, Students.

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DOI: https://doi.org/10.56242/globalhealth;2022;2;8;1-5

INTRODUCTION

Since the beginning of the COVID-19 pandemic, mental and body relaxation resources and techniques have been increasingly sought and applied as a way to reduce stress and anxiety[1]. In 2020, searches for the terms meditation and *Mindfulness* on Google reached the record for the last 16 years[2].

Mindfulness, within the academic universe and scientific language, refers to the quality or state of being attentive to something, implying a careful attention[3].

A survey carried out by the Federal University of Rio Grande do Sul (UFRGS) with 1,996 people between May and July 2020 revealed that 80% of the analyzed population became more anxious during the COVID-19 pandemic[4]. In the policy brief on COVID-19, the UN (United Nations) recommends, among other actions to minimize the impacts of the pandemic on mental health, applying a total societal approach to promoting, protecting, and caring for mental health[5].

In this sense, the practice of techniques that can reduce stress and anxiety increased during the pandemic, such as *Mindfulness*, meeting the recommendations set out by the UN, as a way of promoting and caring for mental health, and supporting the recovery of those impacted by COVID-19.

WHO data from 2018 on the burden of mental disorders in the Region of the Americas highlighted Brazil as the country with the highest number of anxious individuals, representing 7.5% of the population[6].

Within this scenario is the university student, who had to face the stressful changes imposed by the COVID-19 pandemic, such as isolation and remote teaching, in addition to the economic and social difficulties generated by the pandemic[7]. Added to this fact is a university world that is less structured than school life, demanding greater adaptation from young people entering the university[8], and adaptation to a new reality for veteran university students. Many students are already in some kind of professional activity or looking for a job and facing the challenges of starting a professional career[9]. Added to all this, the majority are within an age group between 20 and 30 years. The initial phase of human development in adult life is marked by important changes, intense activities, new challenges, and greater responsibilities, resulting in the need to make decisions, and become financially independent. The social life is more active, and some students already combine university with marriage and parenting[9].

The current study aimed to evaluate the effects of *Mindfulness* practice applied in an 8-week program, in university students.

METHODS

The study was submitted and approved by the CEP (Ethics and Research Committee) of the Universidade Santo Amaro - UNISA, under opinion No. 4,951,524, of September 3, 2021. A convenience sample was included, composed of college students (n=58), divided into 4 groups, who signed up for the "8 weeks of *Mindfulness*" program. Each group consisted of approximately 14 participants, who chose, among the available options, the day and time to attend the course, according to their interest. The participants were over 18 years of age, students of the psychology course at UNISA, located in the southern part of the city of São Paulo/SP, Brazil; enrolled between the 1st and 10th semesters, in the morning and evening periods. Each group met once a week in the period between 04/04/2022 and 05/25/2022.

The following instruments were used for data collection:

1) Sociodemographic questionnaire (developed by the authors themselves), which includes data such as age, sex, marital status, number of children, number of people in the household, professional status, family income, mental health treatments, use of psychoactive substances, educational status, study shift, data on the practice of *Mindfulness*; a subjective assessment regarding the degree of perception of symptoms of anxiety, stress, and depression, in which items are presented and the subject is asked to determine the degree of agreement on a 5-point Likert scale, ranging from 1 (Strongly Agree) to 5 (Totally Disagree); and 15 items for subjective evaluation regarding the degree of satisfaction on a 5-point Likert scale in which the degree of agreement varies from 1 (Totally Satisfied) to 5 (Totally Dissatisfied) regarding calm, anxiety, stress, focus, attention, concentration, self-knowledge, performance in daily activities, school performance, inner peace, self-control, discipline, rumination, and sleep quality.

2) Depression, Anxiety and Stress Scale (DASS-21) – (Original version developed by Lovibond & Lovibond, 2004. Version adapted and validated for Brazilian Portuguese by Ms. Rose Vignola and Prof. Adriana Tucci, 2013)[10]. This is a self-report scale, with three subscales (depression, anxiety, and stress), of Likert type (0,1,2, and 3), where sentences are presented and the subject is asked to determine the degree of agreement from "Not applicable at all" which scores zero (0) to "Applies a lot, or most of the time", which scores three (3). Each subscale is composed of seven items that assess symptoms of depression, anxiety, and stress. The result is obtained by summing the item scores for each of the three subscales to measure the severity of symptoms and response to treatment. The Cronbach's alpha values of the version validated for Brazil are 0.92 for depression, 0.90 for stress, and 0.86 for anxiety.

3) *Facet Mindfulness Questionnaire* (FFMQ-BR) - (Original version Baer, Smith, Hopkins, Krietemeyer & Toney, 2006. Version adapted and validated for Brazilian Portuguese by Barros, Kozasa, Souza & Ronzani, 2014)[11]. The scale assesses the level of mindfulness through 39 items on a 5-point Likert scale ranging from 1 (never or rarely true) to 5 (almost always or always true). On this scale, the concept of mindfulness is divided into five components: a) Observe; b) Describe; c) Act with awareness; d) Non-judgment of inner experience; and e) Non-reactivity to inner experience. The Cronbach's alpha of the version validated for Brazil is 0.81.

Procedures

Participants were invited to sign up for an 8-week *Mindfulness* program, using the form available on *google forms*, released two weeks before the start of the practice. The Informed Consent Form, the sociodemographic questionnaire, the DASS-21, and the FFMQ-BR were completed.

After completing the questionnaire, the participants attended each of the 8 weekly meetings on a specific day and time, lasting approximately 1 hour. Each meeting consisted of psychoeducation, guided *Mindfulness* orientation, and a subsequent survey (Table 1).

Participants were encouraged to develop formal and informal practices, that is, those carried out daily and outside of the face-to-face meetings. These experiences were recorded in the weekly "Logbook" form made available to participants through *google forms*.

After the last meeting, the participants answered the final questionnaire, and the DASS-21 and FFMQ-BR instruments, through *google forms*.

Table 1. Planning of the *Mindfulness* program meetings.

Meeting	Theme	Psychoeducation
01	*Mindfulness:* Abandoning autopilot	Stress
02	*Mindfulness* focused on breathing	Anxiety
03	*Mindfulness* focused on breathing	Depression
04	*Mindfulness* focused on the body	Focus on the body
05	*Mindfulness* focused on sounds and thoughts	Thoughts are not facts
06	*Mindfulness* focused on acceptance, kindness, and compassion	Acceptance, kindness, and compassion
07	*Mindfulness* focused on daily life	Self-care
08	*Mindfulness* practice for life	Practice for life

RESULTS

In total, 58 university students of the psychology course participated in the research between the 1st and 10th semester. The sociodemographic profile data were obtained and showed that participants were mostly women (93%), aged between 18 and 30 years (64%), an average of 28 years of age and a standard deviation of 10.2, single (65%), without children (67%), and living with other people (91%). Regarding the academic stage, it was identified that 59% were studying the first year of psychology, and 53% studied in the morning period. The majority (57%) reported not working, and among those who work (43%), the average income was between 2 and 4 minimum wages (58%). Health information was collected from the participants, most of whom (65%) indicated the use of some type of medication, with 21% using psychiatric medication. Considering the presence of a diagnosis, 85% said they had received some type of diagnosis involving anxiety and/or depression. With respect to any previous practice of *Mindfulness*, the majority (95%) had never practiced it (Table 2).

Table 2. Sociodemographic Data.

Variables	n	%
Sex		
Female	54	93
Male	3	5
Other	1	2
Age range		
18 to 20 years	18	31
21 to 30 years	19	33
31 to 40 years	10	17
41 to 50 years	10	17
Over 50 years	1	2
Mean	28	
Standard deviation	10.2	
Marital status		
Single	38	65
Married / Stable Union	17	29
Divorced / Separated	3	5
Children		
Yes	19	33
No	39	67
Housing		
Lives alone	5	9
Lives with other people	53	91
Semester		
1st year	34	59
2nd year	6	11
3rd year	3	5
4th year	6	10
5th year	9	15
Study period		
Morning	31	53
Evening	27	47
Employed		
Yes (works)	25	43
No (does not work)	33	57
Family income		
Up to 1 minimum wage	12	21
Between 2 and 4 minimum wages	34	58
Between 5 and 10 minimum wages	11	19
Between 11 and 20 minimum wages	1	2
Use of medication		
Yes	38	65
No	20	34
Use of psychiatric medication		
Yes	12	21
No	46	79
Diagnosis		
Anxiety	4	28
Depression	3	21
Anxiety and Depression	5	36
Panic Disorder	1	7
Bipolar Affective Disorder	1	7
***Mindfulness* practitioner**		
Yes	3	5
No	55	95

Substance use (coffee, cigarettes, marijuana, ecstasy) was investigated and it was found that 45% said they consumed coffee often or always and 10% consumed alcohol often (Table 3).

Table 3. Use of substances.

Variables Substance	Never n (%)	Rarely n (%)	Sometimes n (%)	Often n (%)	Always n (%)
Coffee	15 (26)	7 (12)	10 (17)	11 (19)	15 (26)
Alcohol	18 (31)	18 (31)	16 (28)	6 (10)	0 (0)
Cigarettes	51 (88)	5 (9)	0 (0)	2 (3)	0 (0)
Marijuana	50 (86)	5 (9)	2 (3)	1 (2)	0 (0)
Ecstasy	55 (95)	3 (5)	0 (0)	0 (0)	0 (0)

Comparative analyses

To minimally evaluate the pilot project, it was necessary for each participant to attend and participate in at least 5 meetings. Thus, those who did not reach this minimum participation were not considered in the final comparative results. The final number of participants included in the study analyses was 16 participants, the majority of whom were over 30 years of age (63%).

The participants answered the questionnaires anonymously and, therefore, the mean was used to compare the initial and final results.

To assess the effects of *Mindfulness* practices on symptoms of stress, anxiety and depression, participants answered questions on the DASS-21 scale both at the beginning and at the end of the program. At the end of the questionnaire, the respondent obtains a score that indicates the severity of symptoms of stress, anxiety, and depression. When comparing the results by the mean obtained in the groups at baseline and after the application of the 8-week program, a reduction in the levels of severity of symptoms of stress and depression was noticed, which went from a mean of “moderate” in the initial group (58 participants) to “normal” in the final group (16 participants). Anxiety symptoms went from a mean of “moderate” to “mild”. It is important to highlight that the percentage rates obtained in the final group were above 50% for the “normal” classification (Table 4).

Table 4. Depression, Anxiety, and Stress Scale (DASS-21).

Variables	Initial (n=58)					Final (n=16)					Initial	Final
	Normal n (%)	Mild n (%)	Moderate n (%)	Severe n (%)	Extremely Severe n (%)	Normal n (%)	Mild n (%)	Moderate n (%)	Severe n (%)	Extremely Severe n (%)	Mean	Mean
Stress	17 (29)	7 (12)	11 (19)	15 (26)	8 (14)	9 (56)	5 (31)	2 (13)	0 (0)	0 (0)	10.6 - Moderate	5.7 - Normal
Anxiety	15 (26)	8 (14)	9 (16)	6 (10)	20 (34)	8 (50)	2 (13)	2 (13)	3 (19)	1 (6)	7.7 - Moderate	4.2 - Mild
Depression	19 (33)	7 (12)	13 (22)	8 (14)	11 (19)	13 (81)	1 (6)	2 (13)	0 (0)	0 (0)	8.1 - Moderate	2.4 - Normal

Note: **Stress:** Normal (0-7); Mild (8-9); Moderate (10-12); Severe (13-16); Extremely Severe (>17). **Anxiety:** Normal (0-3); Mild (4-5); Moderate (6-7); Severe (8-9); Extremely Severe (>10). **Depression:** Normal (0-4); Mild (5-6); Moderate (7-10); Severe (11-13); Extremely Severe (>14).

The FFMQ-BR scale was applied to assess the effects of *Mindfulness* practices regarding the level of mindfulness. This scale is subdivided into facets that assess the participant's ability to observe, describe, act attentively, not judge, and not react. The means obtained in each facet are shown in Table 5, where an improvement in the majority of the scores obtained can be observed. There was an increase in the score of the "act with awareness" facet, which went from a mean of "low capacity" (28.4%) in the initial group to "high capacity" (32%) in the final group and in the score of the facet "describe", which went from "low capacity" (23.6%) to "medium capacity" (28.1%).

Table 5. Facet *Mindfulness* Questionnaire (FFMQ-BR).

Variables	Initial (n=58) Capacity			Final (n=16) Capacity		
	Low n (%)	Medium n (%)	High n (%)	Low n (%)	Medium n (%)	High n (%)
Observe	37 (64)	14 (24)	7 (12)	7 (44)	9 (56)	0 (0)
Describe	39 (67)	6 (10)	13 (22)	6 (38)	3 (19)	7 (44)
Act with awareness	29 (50)	5 (9)	24 (41)	4 (25)	3 (19)	9 (56)
Not judge	40 (69)	5 (9)	13 (22)	8 (50)	2 (13)	6 (38)
Not react	45 (78)	7 (12)	6 (10)	12 (75)	3 (19)	1 (6)

Variables	Initial (n=58) Mean	Final (n=16) Mean
Observe	22.9 - Low Capacity	26.2 - Low Capacity
Describe	23.6 - Low Capacity	28.1 - Medium Capacity
Act with awareness	24.8 - Low Capacity	29.3 - High Capacity
Not judge	23.6 - Low Capacity	28.1 - Low Capacity
Not react	17.2 - Low Capacity	18.8 - Low Capacity

Note: **Observe:** Low Capacity (<27); Medium Capacity (27-32); High Capacity (>32). **Describe** Low Capacity (<30); Medium Capacity (30-32); High Capacity (>33). **Act with awareness:** Low Capacity (<26); Medium Capacity (26-28); High Capacity (>29). **Not judge:** Low Capacity (<29); Medium Capacity (29-32); High Capacity (>33). **Not react:** Low Capacity (<22); Medium Capacity (22-25); High Capacity (>26).

DISCUSSION

The current study aimed to evaluate the effects of *Mindfulness* practice applied in an 8-week program, in university students, with a specific interest in knowing its effects on symptoms of stress, anxiety, and depression, as well as with regard to mindfulness and students perception of self-satisfaction. The reduction in assessment scores for symptoms of stress, anxiety, and depression, the improvement in the indices of capacity for mindfulness, and the improvement in the perception of self-satisfaction may indicate that the program brings benefits to the participants, when they are able to commit to at least 75% participation.

The results of a similar study that verified the effects of participation in the 8-week program on stress, self-efficacy, and dispositional *Mindfulness* in 13 undergraduate students from a Public University of Santa Catarina, showed that perceived stress reduced and there was an increase in overall perceived self-efficacy and *Mindfulness*. Correlations indicated that older age is related to greater general self-efficacy and *Mindfulness*; stress reduction is related to increased general self-efficacy and *Mindfulness*; and increased self-efficacy is related to increased *Mindfulness*[12]. In the present pilot study, it was possible to observe that of the 16 participants in the final group, 11 (63%) were over 30 years of age, suggesting that older age may be related to a greater commitment and use of the benefits that *Mindfulness* practices provide.

Specific studies on the application of an 8-week program based on *Mindfulness*-Based Cognitive Therapy (MBTC) to university students in Brazil are scarce, although the benefits obtained with this program in other populations may also apply to undergraduate students.

One of the biggest difficulties in *Mindfulness* practice is incorporating the practice into everyday life throughout life. It is often possible to identify reasons to justify abandoning the practice. This process is understandable, because in life there are multiple activities that can be satisfying, and it is difficult to choose between them, since vital time is limited[13]. The stressful challenges related to the high demand for daily activities, the exhausting load of study, the intense professional life, and the age group at the beginning of adult life, which is predominant among university students, seem to be factors that make it difficult to remain in the program and carry out formal and informal practices.

For the current study, characterized as a pilot, it is believed that the proposed objectives were achieved, and it is relevant to expand the sample through new research in this context, to other audiences.

The pilot study has limitations, one of which is the small sample, restricted to a single undergraduate course at the university. In order to maintain anonymity, the participants were not identified, but this behavior influences the pre and post-program comparisons. In the case of *dropout* (42 participants), 68% of respondents mentioned day-to-day task overload as the main reason for not continuing in the program. Another aspect that may have influenced the dropout rate was that during the program, a report on the practice of *Mindfulness* was circulated at the university, pointing out the risks involved in the practice, which is believed to have negatively influenced the practice and permanence of some students in the program.

CONCLUSION

The application of the 8-week *Mindfulness* program to university students suggested benefits gained, such as a likely reduction in scores obtained in the assessment of symptoms of stress, anxiety, and depression, improvement in general mindfulness and self-perception, and greater satisfaction with life itself.

The stress related to the high demand for daily activities, the exhaustive study load, the intense professional life, and the age group at the beginning of adult life, which is predominant among university students, seem to be factors that make it difficult to remain in the program and carry out formal and informal practices.

For better results and greater scope of the research, it is suggested that this pilot study be expanded in studies with identified, more representative, and comprehensive samples, which may involve a control group and considering other undergraduate courses.

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