

Coronavirus Pandemic

How dialectical behavioral-based intervention affects nursing college students' hope, somatic symptoms, and negative thoughts during COVID-19

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Abstract

Introduction: During the COVID-19 pandemic, the mental health of college students was typically poor; somatic symptoms, depression, negative thoughts, and hopelessness were widespread issues that should have been addressed through therapy and intervention.

Objective: To examine the effect of dialectical behavioral-based Intervention (DBBI) on female nursing college students' hope, somatic symptoms, and negative thoughts during COVID-19.

Methodology: In the quasi-experimental study, 28 female nursing college students were treated with DBBI (intervention group). This group was compared to 28 students who received no intervention (the control group). The somatic self-rating scale, the adult hope questionnaire, and the automatic thought questionnaire 30 were used to assess changes in students' somatic symptoms, hope, and negative thoughts.

Results: The DBBI group's value-added total score of student's hope and negative thoughts were both considerably higher than the control group ($t = 2.53, p = 0.01$ and $t = 2.36, p = 0.03$, respectively), while the value added of the total score of somatic symptoms was not statistically significant ($t = 0.93, p = 0.36$). The depression subscale's value-added score was significantly higher in the DBBI group than in the control group ($t = 2.23, p = 0.02$).

Conclusions: Dialectical behavioral-based intervention is advised to develop knowledge and empower students against depression and its components because of its effectiveness in lowering negative thoughts and raising the level of hope.

Key words: Somatic symptoms; depression; hope; dialectical behavior therapy; negative thoughts.

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Introduction

Numerous countries are in dire circumstances as a result of the coronavirus disease of 2019 (COVID-19) and its widespread impact. Due to its quick spread from Wuhan, China, the World Health Organization (WHO) declared this infectious illness a pandemic in December 2019 [1]. This pandemic has evolved into a lengthy catastrophe, causing havoc on society, economics, mental health, and governance [1].

Infectious diseases have traditionally had a mental burden on nations, and COVID-19 has now had a comparable effect on the entire world [2,3]. During and after pandemics and other disasters, it has been noticed that the psychological and mental effect on those who are directly and indirectly touched is neglected [4,5]. The mental condition of these individuals cannot necessarily be treated in the same way as their physical injuries. However, disaster and its effect on mental health have a tight relationship that makes this a crucial area of study [4-6]. With COVID-19 being known as "Corona phobia" certain measures must be taken to lessen its psychological effects [3,7].

The nursing profession is improving, with more options to enroll in training programs ranging from certificates for entry-level nurses to postgraduate degrees. As a result of these enhancements, which are accompanied by additional duties, role alterations, and role refinements, it is difficult to give clarity regarding the scope of practice and the long-term viability of the nursing workforce [8]. Course requirements such as an excessive amount of reading material extended theoretical and clinical hours spent practicing under stressful settings, recurring assignments and exams, and the fear of failing or performing below expectations are examples of academic issues that students face [9-11]. The lack of free time that might be brought on by excessive academic pressure is another factor that can exacerbate mental distress [12].

During the COVID-19 pandemic, studies were done to determine the issues and mental distress encountered by college students. College students reported more negative emotions, psychiatric symptoms, and economic considerations than the general population due to academic delays, the economic implications of

the pandemic, and its effects on their daily lives [13]. College students are displaying an alarmingly high rate of depressive symptoms, which is in line with the heightened risk that they face. Longitudinal research has shown that, in comparison to the time before the COVID-19 pandemic, the number of depressive symptoms experienced by college students has been on the rise, even more so than the number of anxiety symptoms [14,15]. During the pandemic, students have reported experiencing higher rates of depression than other adult demographic groups [16].

It is also possible to highlight the somatic issues that college students may experience at any time, not just during the COVID-19 pandemic [17,18]. Research should not ignore somatic concerns because they are serious concurrent signs of poor mental health. It is regarded as a bodily reaction to mental pain or possibly a sign of mental health issues [19]. Additionally, according to the literature, adolescent girls and boys report different somatic concerns [20]. The distinct pattern that exists between males and females can be explained in terms of development. During adolescence, female adolescents go through pubertal maturation, which results in distinct physiological and psychological changes than those that occur in males. These differences in turn influence the prevalence of mental and physical health issues that are reported [21]. All of the aforementioned findings highlight the fact that college students are a group at risk for the pandemic's long-term psychosocial effects [17].

Negative automatic thoughts are illogical, gloomy, and unfavorable self-perceptions that surface unintentionally and against the person's volition. Sentences and phrases that come to mind while you are conscious are part of these fleeting phenomena. Only as long as one is aware of them do these thoughts persist. Automatic thoughts are brief, focused, and may only be a few words or a sentence. They often happen shortly after an experience. They provide brief analyses of an incident [22,23].

Hope is one of the qualities of life that can give an individual a positive outlook on the future and drive them to work hard toward achieving their goals. If an individual has hope for the future, they will have a happy existence [24]. Although there has been a discernible increase in adolescent mental health problems, very little is known about how adolescent perceptions of COVID-19 have affected their lives, how protective characteristics like hope may support resilience, and whether the pandemic has resulted in any positive experiences. This is even though there has

been a noticeable rise in the number of adolescent mental health problems [25,26].

The cognitive-behavioral therapy known as dialectical behavior therapy (DBT), created by Marsha Linehan, has proven to be particularly successful in treating borderline personality disorders and suicidal thoughts in recent years [27]. Two techniques are included in this psychotherapy, along with commitment. This therapy promotes psychological stress reduction, balanced and non-judgmental feelings, acceptance of life's emotions and circumstances, and increased physical, mental, and emotional well-being [28].

Empirical data supported these DBT techniques' effectiveness. For example, survey participants who engaged in mindfulness activities reported much fewer negative feelings such as hopelessness, worry, and depression than those who did not engage in mindfulness practices [29]. A similar DBT-based psychological therapy significantly decreased emotions of hopelessness, depression, anxiety, and perceived levels of suffering in a sample of hospitalized patients [30].

The negative feelings and discomfort brought on by negative thoughts can be significantly reduced by dialectical behavioral therapy modules, according to research. DBT is more beneficial for people who are experiencing acutely negative feelings and thoughts because it places a greater emphasis on the present than other psychiatric therapies [31].

Although a substantial corpus of research has been done on the role that DBT plays in treating chronic mental illnesses, its effectiveness in dealing with crises among college students needs to be examined. To the best of our knowledge, no research has been conducted in Saudi Arabia regarding the effects of DBT on nursing college students. Given the significance of preserving the mental health of students, reducing the number of negative ideas they have, and increasing the number of hopeful thoughts they have. Therefore, the current study was conducted to examine the effect of dialectical behavioral-based Intervention (DBBI) on female nursing college students' hope, somatic symptoms, and negative thoughts during COVID-19.

Methodology

Design

This study was based on a quasi-experimental design; the pretest/posttest control group methodology was applied. A pre-intervention test and a post-intervention test were developed to assess students' levels of hope, somatic symptoms, and negative

thoughts before and after participation in the intervention.

Sample and Study Population

Using the G*Power 3.1.9.4, the sample size for the participants was determined., the smallest sample size needed for a repeated measures analysis of variance with the parameters 0.05, 95 % power, and 0.25 effect size. The total sample needed was 54 participants. The researchers intended to enroll 60 participants, considering the dropouts. A convenient sampling technique was used to choose 60 Saudi Arabian female nursing college students who satisfied the inclusion requirements, and they were then randomly allocated to one of the dialectical behavioral-based intervention and control groups. Two participants in the intervention group dropped out, and two participants in the control group did the same. The study sample consisted of a total of 56 participants, with 28 participants assigned to the intervention group and 28 participants assigned to the control group.

To be eligible, (1) participants had to be female undergraduate nursing students who could read, understand, communicate, and have adequate time, as well as give their informed consent to participate willingly in the study. (2) Students did not take part in any relevant therapeutic sessions. Students who had serious medical or psychiatric issues or who were receiving pertinent psychotherapy were excluded from the study.

Research tools

The participants were given a thorough explanation of the study's objectives before the data were gathered with their written consent. After replacing participants in the control and intervention groups at random, the following questionnaires were provided to participants in both groups.

The socio-demographic questionnaire: Age, marital status, monthly family income, education level, chronic disease diagnosis, and family mental health history. These variables were chosen because the findings of earlier research that were relevant to the objectives of the current research were taken into consideration.

Adult Hope questionnaire: an evaluation of the level of hope the participants have using 12 different items. In particular, Snyder's cognitive model of hope is comprised of the following two subscales, which are separated into the scale: (1) Agency (that is, energy focused on a goal); and (2) Pathways (i.e., planning to accomplish goals). The Agency subscale is composed of four of the twelve items, while the Pathways subscale

also consists of four of the items. The last four items are merely filler. To react to each issue, we utilize a scale that is based on the Likert concept and has eight points, ranging from Definitely False to Definitely True. The agency subscale score is determined by the following items: 2, 9, 10, and 12, while the pathway subscale score is determined by the following items: 1, 4, 6, and 8. The ultimate score on the Hope Scale is determined by adding up all eight items—four from the agency category and eight from the pathway category [32].

The Automatic Thought Questionnaire 30 (ATQ 30): It is a research tool developed Hollon and Kendall [33] to assess automatic negative thinking. The ATQ 30 contains 30 negative sentences, measuring four characteristics of an individual maladaptation, a poor self-concept, low self-esteem, and helplessness. On a scale from one to five, with one representing low frequency and five representing high frequency, the participants are asked to rate how frequently they had such negative thoughts during the preceding week. This assessment was developed as a result of Aaron T. Beck's theory that depressed people tend to tend toward negative thinking[34]. In addition, the range of possible scores is from 30 to 150. Spanish samples were used in an internal consistency analysis, and an alpha coefficient of 0.89 was found [35].

The Somatic Self-Rating Scale (SSS): enables the rapid identification of individuals with mental disorders, and prior research has proven its exceptional reliability and validity. There are a total of 20 items, including two each for anxiety and depression, nine somatization symptom components, five anxiety symptom factors, four depressed symptom factors, and five anxiety symptom factors. There is no reverse scoring; instead, each item is graded from 1 (no symptoms) to 4 (degree of severity). And the overall score might be anywhere between 20 and 80.

Ethical considerations

The Institutional Review Board granted its ethical approval (IRB). Female students enrolled in nursing college were informed that their participation in the study was fully voluntary and that they were free to withdraw from the study at any moment by omitting any responses to the questions. Only the aggregate findings were discussed, therefore their privacy was not compromised in any way.

Study Intervention

The current study intervention was carried out based on the theoretical foundations of dialectical behavioral therapy. Based on Linehan [37] and Marra

Table 1. Structured activities for DBBI.

Week No.	Type of activity	Description of DBBI sessions
1 to 3	There are three sessions of mindfulness skills.	(1) Establishing relationships, engaging in psychological education, and establishing attainable objectives; gaining an understanding of cognitive triangle patterns; practicing mindful breathing. (2) Breath awareness exercises are used to teach mindfulness, practice mindfulness techniques related to the "wisdom mind," analyze the experience of engaging in the activity, and gain a better knowledge of dialectical behavior therapy (DBT). (3) Concentrate on one thing, which is the practice of having both internal and exterior experiences; acknowledge the practice in its whole; evaluate, and then stop evaluating.
4 to 6	Emotional control skills	(1) A three-minute practice in mindfulness and awareness that focuses on introducing, recognizing, and describing emotions. (2) Describe your feelings and the exercises you do to cultivate mindfulness; the process of letting go of ideas and feelings. (3) Exercises in emotional awareness through mindfulness; models for regulating emotions; strategies for problem-solving; ABC skills (accumulate pleasant feelings, build control, and cope in advance for emotional situations) and PLEASE skills (address physical illnesses, eating a balanced diet, avoid mood-altering substances, get enough sleep, and exercise).
7	Methods of increasing one's tolerance for pain	A mindfulness warm-up; tactics for learning relaxation; ways for learning to shift your focus.
8	Summary session	To appreciate your value; to discuss the group's initial minor objectives; farewell and mutual blessings.

[38] dialectical behavior therapy manuals, this study recreated the Dialectical Behavioral Based Interventions (DBBI) training program. The DBBI training method for this study as seen in Table 1 was carried out throughout 8 sessions, once a week for 120 minutes each, and a post-examination was done 4 weeks following the program's summary.

Data Analysis

For both the analysis and the management of the data, SPSS 23.0 was utilized. The homogeneity test between the intervention group and the control group and the difference in scores between the two groups were evaluated. The homogeneity test compared the intervention group to the control group as well and the difference in scores between the two groups was analyzed. After the intervention, a *t*-test with a significance level of 0.05 was used to compare the intervention group and the control group to one another. Before and after the intervention, scale scores were compared using a repeated measures analysis of variance with two groups (the DBBI group and the

control group) and two-time points (before and after the DBBI). A post hoc test was used to extend the data analysis (paired sample *t*-test). All tests were two-sided, and a statistically significant difference was denoted by a *p*-value of 0.05.

Results

Participants' demographic information

The average age of participants in the intervention group was 20.62 ± 1.78 years, whereas the average age in the control group was 20.42 ± 1.69 years. Twenty-eight participants were randomly assigned to the intervention group, and twenty-eight participants were randomly assigned to the control group.

Before the intervention, the DBBI group and the control group's scale scores (total and subscales) were compared.

As can be seen in Table 2, before the implementation of the DBBI program, the differences in total scores and subscales scores between the DBBPI group and the control group were not statistically

Table 2. Comparison of the DBBI group's pre-test data results with those of the control group.

Study Variables	Subscale	Intervention group	Control group	<i>t</i>	<i>p</i>
		Mean ± SD	Mean ± SD		
Somatic symptoms	Total score	37.26 ± 5.60	36.32 ± 4.70	0.65	0.85
	Somatization	13.45 ± 3.79	13.10 ± 3.29	0.31	0.75
	Anxiety	10.05 ± 2.50	9.37 ± 1.95	0.67	0.51
	Depression	9.24 ± 1.50	8.89 ± 1.76	0.54	0.59
	Anxiety and depression	4.18 ± 1.22	5.68 ± 1.26	- 0.79	0.68
Student's hope	Total score	18.97 ± 1.87	17.76 ± 1.56	0.84	0.26
	Pathways	10.21 ± 1.15	9.02 ± 0.91	1.79	0.43
	Agency	8.77 ± 0.97	8.17 ± 1.03	0.52	0.07
	Total score	92.82 ± 5.56	91.56 ± 5.88	1.61	0.40
Student's Negative thoughts	Maladaptation	15.61 ± 1.32	15.56 ± 1.18	0.32	0.08
	Poor self-concept	21.96 ± 2.14	21.81 ± 2.32	1.51	0.47
	Low self-esteem	5.93 ± 0.67	5.86 ± 0.37	0.36	0.23
	Helplessness	6.86 ± 0.92	6.31 ± 0.93	0.42	0.20

significant ($p > 0.05$), indicating that the DBBI program had no effect.

After an intervention, a comparison of the DBBI group's results with those of the control group.

The findings of the repeated measures for the total somatic symptoms score revealed that the main DBBI effect of time was significant [$F(1,54) = 15.55, p = 0.001$], the main DBBI effect of group was significant [$F(1,27) = 0.002, p = 0.96$], and the interaction of the two factors was significant [$F(1,54) = 0.89, p < 0.0001$]. The DBBI effect of time was not significant [$F(1,54) = 1.21, p = 0.28$], the DBBI effect of the group was not significant in the subscale of somatization [$F(1,27) = 0.30, p = 0.59$]. The two factors' interaction had a significant effect ($F(1,54) = 0.04, p = 0.85$).

The main DBBI effect of time was significant [$F(1,54) = 9.49, p = 0.003$] in the subscale of anxiety, however, the main DBBI effect of the group was not [$F(1,27) = 0.007, p = 0.94$], and the interaction of the two factors was also not significant [$F(1,54) = 0.30, p = 0.59$]. While the main DBBI impact of the group was not significant in the subscale of depression ($F(1,27) = 0.13, p = 0.72$), the main DBBI effect of time was significant [$F(1,54) = 21.08, p < 0.001$], and the interaction of the two factors was significant [$F(1,54) = 4.98, p = 0.03$]. The main DBBI effect of time was significant in the subscale of anxiety and depression ($F(1,54) = 10.19, p = 0.002$), whereas the main DBBI effect of the group was not significant ($F(1,27) = 1.71, p = 0.14$), and the interaction of the two factors was also not significant [$F(1,54) = 0.07, p = 0.81$].

The repeated measures analysis of variance revealed that, for the student's hope total score, the main DBBI effect of time was significant [$F(1,54) = 23.46, p < 0.001$], the main DBBI effect of the group was significant [$F(1,27) = 4.65, p = 0.047$]. It was determined that there was a significant interaction between the two factors [$F(1,54) = 5.92, p = 0.02$]. Within the pathway subscale, the main DBBI effect of time was significant [$F(1,54) = 15.74, p < 0.001$], whereas the main DBBI effect of the group was not significant [$F(1,27) = 0.22, p = 0.62$]. Additionally, the significance of the two factors was not found [$F(1,54)$

$= 0.41, p = 0.53$]. The primary DBBI effect of time in the agency subscale was notable [$F(1,54) = 15.74, p < 0.001$], whereas the group's DBBI impact was insignificant [$F(1,27) = 1.56, p = 0.22$], and the two factors did not interact [$F(1,54) = 0.49; p = 0.62$].

The findings of the repeated measures, regarding the student's negative thoughts total score revealed that the main DBBI effect of time was significant [$F(1,54) = 23.58, p < 0.001$], the main DBBI effect of the group was significant [$F(1,27) = 4.42, p = 0.05$], and that the interaction of the two factors was significant [$F(1,54) = 6.45, p = 0.02$]. The findings of the repeated measures analysis for the maladaptation subscale revealed that the primary DBBI impact of time was statistically significant [$F(1,54) = 34.13, p < 0.001$], whereas the DBBI impact of the group was insignificant [$F(1,27) = 1.65, p = 0.20$], and the interaction of the two factors was likewise not significant [$F(1,54) = 0.42, p = 0.59$]. While the main DBBI effect of time was significant [$F(1,54) = 8.49, p = 0.003$] in the subscale of poor self-concept, however, the main DBBI effect of the group was not [$F(1,27) = 0.008, p = 0.94$], and the interaction of the two factors was also not significant [$F(1,54) = 0.39, p = 0.52$].

On the subscale of low self-esteem, the main DBBI effect of time was significant [$F(1,54) = 8.46, p = 0.005$], although the main DBPPI effect of the group was not significant [$F(1,27) = 0.008, p = 0.95$], and the interaction of the two factors was likewise not significant [$F(1,54) = 0.36, p = 0.69$].

However, the main DBBI effect of time was significant [$F(1,54) = 28.08, p < 0.001$], and the interaction of the two factors was significant [$F(1,54) = 6.92, p = 0.02$], however the main DBBI effect of group was not significant [$F(1,27) = 0.006, p = 0.92$], and the interaction of the two factors was also not significant [$F(1,54) = 0.48, p = 0.62$].

According to Table 3. There were significant differences in student's somatic symptoms total score ($t = 4.76, p < 0.001$), depression subscale ($t = 6.81, p < 0.001$), students hope total score ($t = -5.65, p < 0.001$), and total score of student's negative thoughts ($t = 5.02, p < 0.001$). However, the somatization subscale was not significant ($t = 0.98, p = 0.33$) between the pre-test and

Table 3. Comparison of the intervention group's pre- and post-DBBI scores.

Study Variables	Subscale	Pre-DBBI	Post-DBBI	t	p
		Mean ± SD	Mean ± SD		
Somatic symptoms	Total score	37.26 ± 5.60	32.41 ± 6.73	4.76	0.001
	Somatization	13.45 ± 3.79	11.55 ± 1.79	0.98	0.33
	Depression	9.24 ± 1.50	8.78 ± 1.75	6.81	0.001
Student's hope	Total score	18.97 ± 1.87	23.38 ± 1.37	-5.65	0.001
Student's Negative thoughts	Total score	92.82 ± 5.56	88.51 ± 6.98	5.02	0.001

post-test scores in the DBBI group, according to the results of a paired sample *t*-test.

The total scores of somatic symptoms ($t = 1.68, p = 0.12$), the somatization subscale ($t = -1.89, p = 0.07$), the depression subscale ($t = -0.58, p = 0.08$), the students hope total score ($t = -1.74, p = 0.19$) were all not statistically significant. In addition, the total score of students' negative thoughts ($t = 0.59, p = 0.09$) was not significantly different in the control group pre- and post-DBBI according to Table 4.

Adding up the value-added scores from the pre and the post-DBBI in the intervention and the control group

To calculate the value-added scores, the post-test scores were deducted from the pre-test scores to see whether or not there was a significant difference between the pre-and post-DBBI scores. An independent sample *t*-test was then carried out (refer to Table 5). On the student's total hope and negative thoughts, value-added scores, there is an increase of the DBBI group's scores were substantially higher than that of the control group ($p < 0.05$). In addition, there was no significant difference between the value-added scores for the two groups in terms of students' hope and negative thoughts subscales.

On the depression subscale, the value-added score increase of the DBBI group was significantly higher than that of the control group ($p < 0.05$). On the other

hand, there was no significant difference in value-added scores between the two groups in terms of the somatic symptom total score, somatization, anxiety subscale, or anxiety and depression subscale ($p < 0.05$).

Discussion

The purpose of the current research was to determine how dialectical behavioral-based intervention (DBBI) affected female nursing university students' hopes, physical symptoms, and negative thoughts during COVID-19. There is a dearth of localized programs and empirical analysis, and there is little research on the application of such interventions in college psychological consulting and counseling (emotion management). As far as we are aware, there doesn't seem to have been a comparable study done in Saudi Arabia. The results showed that the total score of negative thoughts was dramatically decreased by the DBBI approach, with the mean in the control group being higher than that of the DBBI group. The results of the current study are in agreement with those of the earlier research done by Rahimi and Maredpour [39]. The findings of this study also complement those of studies conducted by Zargar *et al.* [40], Van Dijk *et al.* [41], and Habibi *et al.* [42].

When analyzing the findings, it is crucial to keep in mind that one of the characteristics of depressive individuals is that they find it difficult to dissociate

Table 4. Comparison of the control group's pre- and post-DBBI scores.

Study Variables	Subscale	Pre-DBBI	Post-DBBI	<i>t</i>	<i>p</i>
		Mean ± SD	Mean ± SD		
Somatic symptoms	Total score	36.32 ± 4.70	33.34 ± 6.91	1.68	0.12
	Somatization	13.10 ± 3.29	12.45 ± 3.32	1.89	0.07
	Depression	8.89 ± 1.76	8.93 ± 1.86	-0.58	0.08
Student's hope	Total score	17.76 ± 1.56	18.44 ± 1.32	-1.74	0.19
Student's Negative thoughts	Total score	91.56 ± 5.88	89.44 ± 5.68	0.59	0.09

Table 5. Adding up the value-added scores from the pre and the post-DBBI for intervention and control group.

Study Variables	Subscale	DBBI group	Control group	<i>t</i>	<i>p</i>
Somatic symptoms	Total score	4.85 ± 6.34	3.02 ± 8.32	0.93	0.36
	Somatization	1.9 ± 3.63	0.65 ± 3.94	0.18	0.85
	Anxiety	1.16 ± 2.17	0.89 ± 2.23	0.56	0.59
	Depression	0.46 ± 1.58	-0.04 ± 2.47	2.23	0.02
	Anxiety and depression	0.83 ± 1.62	0.66 ± 1.67	0.25	0.81
Student's hope	Total score	-4.41 ± 6.31	-0.68 ± 6.92	2.53	0.01
	Pathways	-2.41 ± 4.85	0.04 ± 6.92	0.62	0.52
	Agency	-2.31 ± 3.66	-1.39 ± 4.73	0.47	0.32
	Total score	4.31 ± 4.53	2.12 ± 4.03	2.36	0.03
Student's Negative thoughts	Maladaptation	2.65 ± 4.10	1.27 ± 2.12	0.94	0.35
	Poor self-concept	1.04 ± 3.43	0.19 ± 3.85	0.26	0.78
	Low self-esteem	1.61 ± 4.32	0.03 ± 5.23	0.85	0.63
	Helplessness	1.97 ± 3.77	0.10 ± 4.35	0.57	0.55

themselves from their feelings and mood. While receiving dialectical treatment, depressed patients notice their depressed mood and its physiological, mental, behavioral, and emotional effects without passing judgment. Along with accepting and tolerating the condition, they also learn how to move on from it. By becoming adept at these exercises, individuals train their minds to use them automatically. Last but not least, partaking in these activities allows one to overcome unpleasant feelings and produce pleasant ones [43].

Since the mean total score of hope in the control group is lower than that in the DBBI group, the results demonstrate that the DBBI greatly raises this score. The results of this study are consistent with earlier research conducted by Farnam [44] who identified the experimental group that completed a total of eight 90-minute sessions of positive thinking instruction over two months. After training sessions and two months later, a post-test follow-up was conducted. The results suggested that there was more hope for life.

Furthermore, those outcomes are consistent with prior research [45,46]. When fears about the future, anxieties about unpleasant emotional and cognitive content, and distress about life overwhelm individuals, it is possible to say that they become hopeless and lead dysfunctional lifestyles. The fundamental goal of dialectical therapy intervention in the treatment of hopelessness is to transfer clients' attention and effort from meaningless goals to behaviors inspired by their hopes for a desirable existence.[39].

In the present study, DBBI similarly helps students identify their emotions in the right way, which encourages them to live in the present rather than ruminating on unpleasant memories from the past or terrifying prospects from the future. It is possible to strengthen emotional fortitude while reducing sensitivity to intense or painful feelings. Between the DBBI group and the control group, there was no discernible difference in the overall score of somatic symptoms, which is similar to the results of a comparable study conducted among medical college students[47]. Because neither the DBBI group nor the control group showed elevated levels of somatization symptoms before the DBBI, which did not significantly affect the results of the posthoc test. Given that nursing students have a better understanding of their body discomfort than students in other areas, they may be less susceptible to the outbreak due to a smaller gap in their professional knowledge reserves and awareness.

On the other hand, the depression subscale was considerably lower in the DBBI group compared to the

control group. According to studies, dialectical behavior therapy can help individuals suffer less depression [48-51]. The following factors may affect why an intervention based on dialectical behavior therapy had a successful outcome: an adequate program design, a treatment framework backed by reliable theory, and both the intervention's goals and those of the framework were achieved. The intervention plan was developed based on adjustment and modification that meets the current actual demands in light of both local and worldwide intervention plans, while also taking into account the significant academic strain and stress that college students experience [52,53].

The development of DBBI was based on traditional cognitive behavior therapy. Among the group skills, it teaches are mindfulness, emotional regulation, pain tolerance, and interpersonal effectiveness. It strongly emphasizes the use of cognitive adjustments, several behavioral therapy approaches, and mindfulness skills to teach people how to maintain a balance between acceptance and change [54,55]. Compared to other therapies, DBBI has certain benefits. The integrity of the therapist-participant relationship is prioritized in dialectical behavior therapy-based interventions [52]. Conversely, interventions based on dialectical behavior therapy had a reduced dropout rate [56], showing that more of its participants accept it.

Limitations

The high rate of retention and participation in this study is a significant plus. However, this study contained considerable bias hazards. The data's self-reporting form makes it potentially subject to recollection and social desirability bias. The young average age of the participants also limits the generalizability of the study's findings. The present study also lacks a follow-up to assess the long-term effects of DBBI.

Implications

It is advised that the dialectical behavioral-based intervention be taught to vulnerable and depressed groups, including students because it has been demonstrated to have positive impacts on lowering students' future hopelessness, negativity, and depression. To more effectively identify and assist those students who are having difficulties in this area, it is also suggested that students from different universities be compared. Future research can examine the correlation between the study's characteristics and variables from other studies, such as socioeconomic status, levels of life satisfaction, lifestyle preferences,

etc. Policymakers can learn more about the importance of DBBI from this research. To get a more accurate picture of the issue, it is advised that DBBI be conducted among adolescents and residents and that the results be compared.

Conclusions

During COVID-19, a dialectical behavioral-based intervention may help treat female nursing college students who are experiencing depression, hopelessness, and negative thinking. DBBI will be able to alleviate the unpleasant emotions that nursing college students go through and will be used in institutions to provide psychological consulting and counseling. In addition, it can aid in the regulation of emotions, making it easier to meet the psychological demands of nursing students and college students who require psychological counseling.

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Author contributions

The study's conceptualization and design, data collection, analysis, and interpretation, as well as the writing of the article and its critical revision for major intellectual content and final acceptance of the version to be submitted, have all been significantly influenced by the authors equally.

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