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Effectiveness of Thought-Stopping in Treating Obsessive-Compulsive Disorder and Compulsive Hoarding Disorders

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Abstract

The present study aimed to identify the effectiveness of a counseling program based on thought-stopping among female students suffering from obsessive-compulsive disorder (OCD) and compulsive hoarding disorder (CHD). The sample consisted of 40 students distributed equally and randomly to the treatment and control groups. OCD and CHD scales and a program based on cognitive behavioral therapy (CBT) in thought-stopping were applied. The program began with discussion, thought-stopping exercises, homework, and evaluation at the end of the session. The experimental design was employed. Both the treatment group and control group received pretests, posttest, and follow-up of OCD and CHD scales. Analysis of covariance (ANCOVA), one-way analysis of variance (ANOVA), and the paired sample t-test were used to address the study hypotheses. The results showed that there were significant differences between the treatment and control group in OCD and CHD in favor of the treatment group on the posttest, with high effects, respectively, of 30% and 26%. Results also showed the program's effectiveness of thought-stopping on the follow-up test, a month after program termination. Thought-stopping training of cognitive behavioral therapy method contributes effectively to reducing OCD and HCD among female students in the school environment, we recommend applying this technique to improve adjustment and lifestyle. Therefore, CBT is a highly effective treatment in reducing cognitive distortions and irrational thoughts and effectively deals with OCD and HCD caused by negative and maladaptive thoughts.

INTRODUCTION

Some people have a great desire to keep collectibles, tools, clothes etc., which accumulate for many years in their homes, taking up much of their living space; this causes trouble for them and those around them (Yamada et al., 2018). The love for possessions is often linked to emotional aspects and if the possessor is directed to get rid of their collectibles (Himle et al., 2006; Saxena & Maidment, 2004), they are seen as worthless, causing distress and tension for all who refuse to respond to them (David et al., 2007). Such people may not realize that they may be suffering from a disorder, which may even exist among high school students and remains undiagnosed due to a lack of awareness (American Psychiatric Association (APA), 2013; Fusco, 2021).

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OCD is characterized by extremely repetitive ideas and behaviors that interfere with daily life, giving rise to anomalous situations in which the individual focuses on an idea, risk, or impulsive image that is often ridiculous and trivial, but imposes itself on the individual and continues to be reconsidered by the individual (Abramowitz et al., 2003; Faure & Forbes, 2021).

Ownership love appears in individuals in childhood; it is an innate tendency that can be stripped from any benefit or purpose and can be illogical and exaggerated, causing individuals to perform strange behaviors. This stage is called CHD, and it was classified in the diagnostic and statistical manual of mental disorders (DSM-5) among the areas of OCD (Steketee et al., 2003; Gilliam & Tolin, 2010).

CHD is defined as "excessive accumulation, collection of holdings, and the great difficulty in deciding to dispose of unnecessary personal property, due to the ongoing feeling of the need to use these objects later" (Gilliam & Tolin, 2010). CHD is no less important than other mental disorders in terms of its prevalence and the problems it causes. Its prevalence worldwide is approximately 129 million people, and in the United States, it is estimated at 1% to 2% (i.e., ranging between 3 and 6 million American people), affecting the psychological, family, social, and health related lives of individuals (Storch et al., 2007).

The thought-stopping method is considered one of the therapeutic methods for addressing obsessive thoughts (Hollon & DiGiuseppe, 2011). It includes focusing on an unwanted, annoying or painful idea for a short period of time and then suddenly stopping it and emptying the mind of it (Saxena, 2007, 2008). It is used in launching the firm command to stop or snapping a rubber band around the wrist to cause pain, an old technique developed to treat obsessive and fear-provoking ideas, and it has proved effective with a long list of obsessive and fear-provoking ideas (i.e., preoccupations about health, disturbing or painful thoughts or fears) (Aldahadha, 2018; Beck, 2000).

High school students with hoarding disorder do not realize the seriousness of the problems caused by the symptoms of this disorder, and treatment cannot begin to address the symptoms of hoarding until the student has conscious insight (Suñol et al., 2020). Since it is punitive it thus reduces the likelihood of an idea recurring, and the commands to stop distracts attention, which is incompatible with the unwanted idea (Suñol et al., 2020). Following the command stands as an alternative idea to help ensure that unwanted thoughts do not return (Frost et al., 2004; Grisham & Barlow, 2005).

High school students are prone to CHD because this stage is marked with difficulties in decision-making, physical and mental health issues, lack of organization, inability to set goals, low self-confidence, lack of time management, and difficulty in solving problems (Fenske & Schwenk, 2009; Rimawi, 2003).

The main counseling theories differ in explaining the causes of OCD. The psychoanalytic theory believes that obsessions and compulsive behavior are nothing but symptoms of internal psychological conflicts, resulting from the individual's experiences in the anal stage, in which the individual finds a relatively safe way to express his repressed thoughts and feelings (Al-Humairi, 2014; Liberman et al., 2023). Behaviorists explain OCD considering learning theory, as the principles that explain normal behavior are the same principles that explain abnormal behavior, and OCD, like any behavior learned from the environment under conditions of reinforcement (Beck, 2000).

Thus, obsessive thoughts could provoke anxiety (i.e., a new pattern of behavior) has been learned, and compulsive actions occur when a person discovers that a certain action associated with obsessive thoughts may relieve anxiety, and gradually, due to the benefit of relieving anxiety, this action becomes fixed through the learned pattern of behavior (Corey, 2013).

Cognitive theorists point out that cognitive factors are of fundamental importance in OCD, as OCD is nothing but a manifestation of a certain cognitive pattern. Therefore, OCD is diagnosed considering cognitive theory as confused, disturbing, exaggerated, coincidental, and

motivated thoughts that become normal and real (Grisham & Barlow, 2005; Liberman et al., 2023). Compulsive behavior is an overt behavior such as repeated washing or re-examining and takes the form of cognitive behavior. This sequence of thoughts and behavior leads to pain, misery, and disorder, and leads to disturbing behavior, in addition to defeatist thoughts, and to a series of continuous losses (Singh et al., 2023).

Several studies have been conducted related to the subject of the current study. Tolin et al. (2007) found that more than 95% of respondents complained of excessive hoarding. Sadiq and Marwa (2013) found the effect of stopping thoughts in reducing sleep disturbance among a group of students from Diyala University, the results favored the treatment group. Wilson and Chambless (2005) found the effectiveness of the applied program in reducing OCD regarding obsessive thoughts about hygiene, closing doors, and disease.

Some studies have also indicated the existence of this problem (Frost et al., 2009; Keyhani et al., 2023; Storch et al., 2007), aiming to determine the prevalence of CHD and to reveal the relationship between it and OCD in some demographic variables, with one study finding that the prevalence 41.5% among sample members was 15.5% (Ghaemian et al., 2020).

As a result of the repetition of compulsive behaviors and the impact of repeated compulsive thinking, CHD has become part of the lives of many high school students and has an impact on important decision making, goal setting, problem solving, social interaction and academic achievement.

Through follow-up with the counseling records at the schools, the counselor's advice, and the notes of the female students' parents, cases of isolation emerged due to excessive collection and storage of things, including schoolbooks over many years, games since childhood, magazines containing pictures of actors, and school files (Al-Sharman & Jaradat, 2024). The students had difficulty discarding things despite their being useless, leading to the emergence of chaos, disorganization, and feelings of distress and anxiety; and the cases are repeated in different situations that indicate them (Jaisoorya et al., 2017; Stiede et al., 2024). Accordingly, the problem of this study was to build and test the effectiveness of a counseling program in stopping compulsive thoughts among high school students who suffer from CHD Hence, the study sought to answer the following hypotheses: (1) There are statistically significant differences between the means on the post-test for OCD scales and CHD scales among female secondary school students attributable to treatment. (2) There are statistically significant differences between the means on the follow-up test of the OCD scales and the CHD scales attributable to treatment.

This study attempts to add to the studies conducted among Arabs with both OCD and CHD, by testing the impact of a thought-stopping program in reducing OCD and CHD symptoms within a sample of high school students in Southern Mazar Brigade schools. This is the first study to examine these variables at the local level. It could be used as a frame of reference for future research, which the researcher hopes will address other problems faced by mental health professionals. The practical implication of this study is that it provides a counseling program based on thought-stopping for both OCD and CHD among high school students.

Thought-stopping plays a major role in providing adolescents with new practical methods that help them overcome many of the psychological problems they face, through some cognitive-behavioral therapy methods (Talahmeh & Hamdi, 2017). CBT is known for its focus on ideas and the way to interpret social and environmental events (Aldahadha, 2021). Cognitive-behavioral counseling is one of the methods of modern psychological counseling that uses more positive and effective methods and approaches by integrating cognitive counseling techniques and behavioral counseling techniques together, which leads to helping individuals develop their cognitive skills, rebuild their thoughts, and practice and support positive behaviors (Donnell et al., 2001).

CBT aims to deal with irrational, erroneous thinking, and cognitive distortions, and to deal with various problems and seek to reduce them. It relies on several foundations and principles, including participation, consolidating the relationship between the two parties, reducing the problems (Aldahadha, 2024; Aldahadha & Karaki, 2022). It focuses on how the individual perceives various stimuli and his interpretations of them and gives meanings to his various experiences. It is based on the model of cognitive operation of information (mental processes), which believes that during periods of psychological stress the individual's thinking becomes more distorted. Its judgments become absolute and are dominated by over-generalization (Padmanabhanunni & Gerhardt, 2019). The goals of the CBT are determined in teaching the individual how to correct his wrong beliefs and modifying wrong and distorted ideas (Barnes et al., 2014).

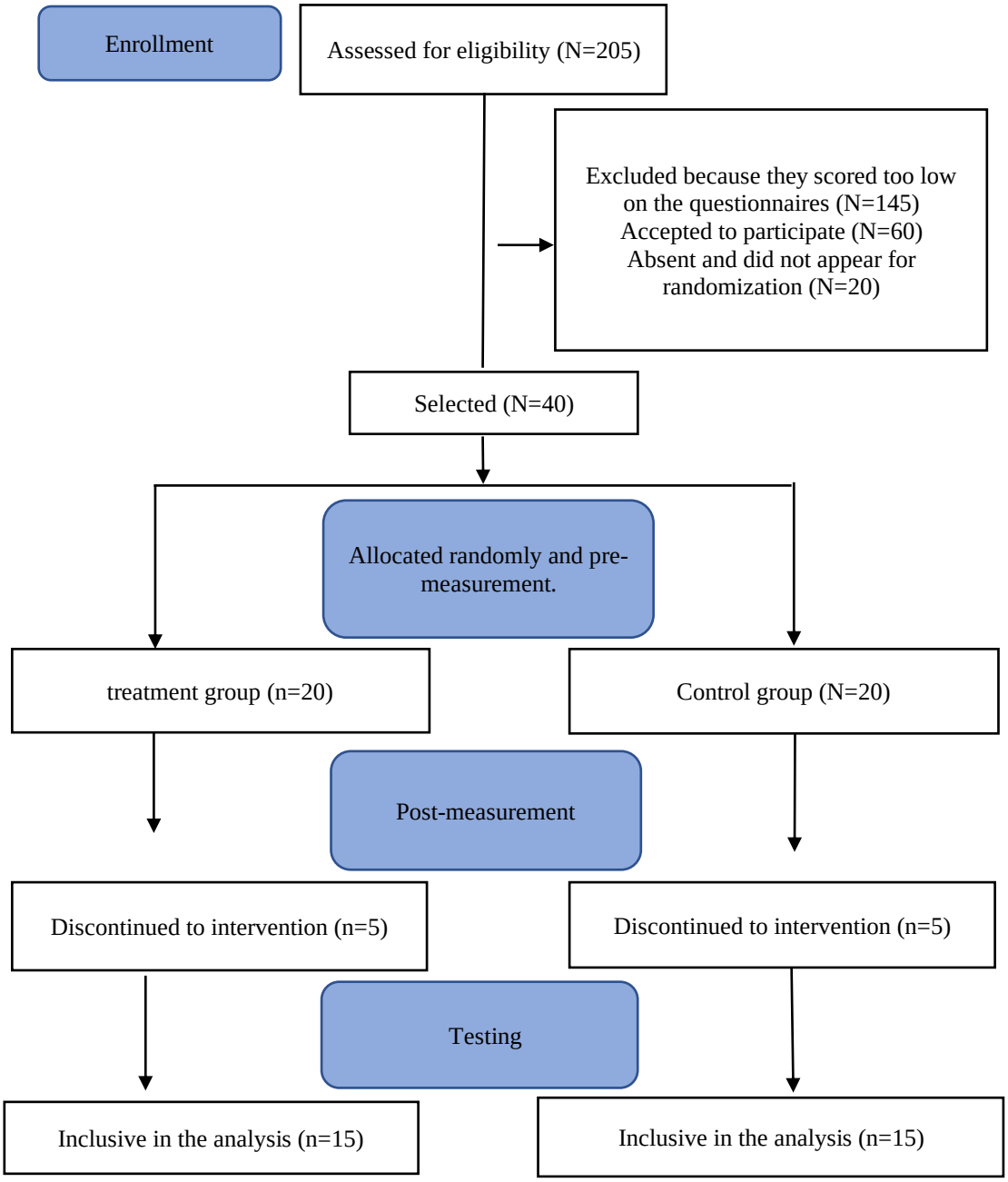

Figure 1. The consort diagram of the study sample

METHODS

Participants

Al-Jaafariya Vocational Secondary School for girls was chosen randomly from all girls' schools in the south of Jordan, Karak Governorate. The participants (N=205) agreed to attend the program (five days per week, one session per day). Their ages ranged between fifteen to seventeen years (M=16.20). The reasons for choosing this school were that its location is suitable, and the number of students in the ninth and tenth grades is large numbers of teenagers. The school is equipped with suitable halls for group counseling sessions. Students' names were monitored in lists according to their vocational and academic branches. Each student was provided with a copy of the two scales for OCD and CHD and was asked to answer the items on the two scales. Subsequently, the questionnaires bearing the female students' answers were examined, and those who obtained the highest scores on the two scales (80 and above on the OCD scale, and 58 and above on the CHD scale) were retained. Thirty students were randomly selected from the 60 who wished to participate in the counseling program. Students who did not benefit from the program were directed to obtain psychological treatment services through the school's counseling center. To control the demographic characteristics of the study, participants were similar in terms of age, class, and place of residence; all participants were female, from an average socioeconomic level, and a government school. Males were excluded because of the difficulty of mixing them with females and because of the social and religious restrictions.

Procedure

Design and allocation procedure

This study relied on the experimental design, as the participants were randomly distributed into the experimental group and the control group. What confirms that this design is an experimental design is that it includes a control group that did not receive any form of treatment or placebo. This experimental design also included the presence of a treatment to control the dependent variables. Finally, this experimental design allows for the conclusion of the causal relationship of the treatment effect attributed to the random distribution and the control group (Miller et al., 2020). Both groups received pretests, posttest, and follow-up of OCD and CHD scales. This comprehensive approach allows for a thorough examination of the impact of thought-stopping in treating OCD and CHD outcomes within the treatment group compared with the control group. Both groups were then compared due to the demographic variables (i.e., grade, achievement, substances abuse, family income, disabilities or chronic diseases, previously got a school punishment).

Finally, the sample was randomly divided into two groups using a simple method of randomization (Treatment and Control), with 15 eligible students in each group from those who had the highest levels of OCD, CHD, and continued intervention. This research was approved by the Scientific Research Committee and in accordance with the Declaration of Helsinki for the application of scientific research. All participants agreed to the study procedures and signed a consent form. Figure (1) the Consort flow diagram of the participants throughout the trial.

Counseling program: The counseling program aims to stop the actions and obsessive thoughts of the CHD sample from female high school students, and in this way, the program includes achieving the following goals (Frost et al., 2009; Tolin et al., 2002). The quasi-experimental design was used**:** 1- A cognitive goal by enlightening the students about their problems and identifying the concept of CHD, its causes and its effects, its behavioral and psychological manifestations and its causes. 2- An emotional goal by training the students to treatment group their emotions, training them to confront obsessive symptoms, and training in the technique of stopping thoughts; and 3 -A behavioral goal through a behavioral intervention

and helping the students to replace negative thoughts and beliefs with positive thoughts and beliefs and to modify their behaviors in a positive way.

The procedures used when implementing the program began with discussion and dialog, review of the previous session, learning and training in new skills, a final evaluation at the end of the session, and homework. To ensure that the content of the program fits the study sample, through the validity of the program, it was presented to 9 reviewers from among specialized faculty members.

Thought-stopping exercises: Step (1) Make a list of your stressful thoughts, which include stressful stimuli, irrational thoughts, and silly thoughts, which have become habitual and difficult to stop. Write these thoughts down on a piece of paper. At every thought that raises your anxiety and tension, write it down on the paper, ask yourself the following hypotheses: Is the idea irrational? Is the idea an unexpected or unusual outcome? Is the idea a defensive method? Is it difficult to tune in to the idea? Does the thought affect my ability to focus and what I need to do? Is it causing me a lot of discomfort? Do I want to be happier, calmer, and more relaxed without these thoughts? If you answered yes to those hypotheses related to the idea that causes you stress and pressure, then the thinking stopping tactic will be effective and very appropriate for you.

Step 2: Visualize the thought. Close your eyes, then imagine the stressful situation or thought as it really is. Try to be as natural as if you were thinking about obsessive behavior. In the meantime, you can cut out that obsessive thought that triggers stress and allow normal, healthy thinking to continue.

Step (3) Cut the idea, this step can be applied through the following two methods (1) set the alarm clock or time for three minutes and then it rings, look away, then close your eyes, then prepare yourself as I explained in the previous step. When you hear the alarm shout, saying stop. You can put an elastic band on your wrist so that you tighten that rubber to cause a feeling of pain. Empty your mind of all neutral thoughts that don't cause anxiety. Set a desired goal for your life for (30) seconds after stopping or saying the word stop, and during a period when your mind is free of stimuli. If the obsessive thoughts return during that time, shout again, "Stop!" (2) Record to yourself, out loud, the word “stop” for intermittent periods, such as after every three minutes, after two minutes, after one minute, and so on. You may find it useful to re-listen to the recording so that you hear the word stop again several times and at short intervals ranging from about five seconds less or more, apply the same method to the alarm clock, or to situations that cause anxiety or obsessive-invasive situations or others. Make sure that the recorded audiotape restores the process of forming, emerging, and controlling your thoughts so that it prolongs the period of absence of obsessive thoughts.

Step (4) Cut off the non-purposeful idea. You must set the stopping of the idea without using the voice recorder. During that, if you feel the presence of an unwanted idea, shout, “Stop,” then lift the rubber to cause some kind of tension and pain on the wrist, when you succeed in distinguishing and noticing the idea. In different situations and occasions, you must pronounce the word “stop” normally and naturally to stop and cut off intrusive thoughts. After succeeding in stopping the thought using your normal tone of voice, try to start cutting off the unhealthy extraneous thought through special gestures you make or special movements such as hitting lightly on the table or the floor or any other sign indicating the word stop. When that signal is enough to cut off the bossy thoughts, use the subvocal technique. Imagine hearing the word "stop" and then try to move your tongue as if you were pronouncing that word, but in a subtle, inaudible manner. Being successful in this phase means that you will stop the thoughts when alone or with others, without making sounds, making movements or hitting the floor but only by focusing attention on yourself.

Step (5) Thought substitution. The last step of stopping thoughts involves replacing the obsessive thought with a neutral, natural, non-obsessive thought. Develop some positive, self-

affirming statements or fantasies that may be appropriate for the target situation. For example: If you are afraid of flying, you might say: Do yourself a few sentences such as: Traveling by airline is a safe means of transportation. I could be relaxed, and then develop other sentences that indicate a sense of confidence while you are talking to yourself, because the alternative obsessive response may fade with the repetition of the alternative strong thought, and then imagine yourself having reached the place you are headed towards, and you have obtained positive results and achieved the goal that you traveled for him.

Instruments

Interviewing participants: The interview consists of 13 items, providing descriptive information about OCD and CHD, and basic data about room clutter, hoarding, severity of clutter, crowding, storage areas, and distress caused by stored items. It also includes information about basic obsessive thoughts (i.e., security, safety, and count) (Steketee & Frost, 2007). Later, the members were interviewed to ensure that there were no health problems that might be the cause of OCD or physical diseases, and the symptoms and events that caused these symptoms were discussed. In addition, DSM-5 criteria were used to ensure that most of these symptoms were present in all selected participants. To diagnose OCD and CHD, the criteria which is listed in the DSM-5 has been used.

Obsessive-compulsive disorder: The OCD scale developed by Al-Humairi (2014). The scale consisted of 32 items in its original form and has psychometric properties that qualify it for use in the current study. The validity and reliability of the scale were checked in its original form, and then the internal consistency between the items was calculated by the method of correlation between the degree of the item and the overall degree of the scale. The results showed that the correlation ranged between r=0.57 and r=0.84, and all were significant at the level of 0.01. The validity of the scale (r=92.0), which was significant at the level of 0.01, reached the coefficient of stability of the scale through reapplication (r=90.0), thus enjoying a measure of persistence.

For the purposes of this study, the content validity of the scale was verified in its initial form by presenting it to a number of people experienced in and specializing in the field of psychological and educational guidance at Mutah University and Al-Balqa Applied University, with the aim of acquiring their views about the accuracy of the scale content and its validity in terms of the degree of item measurement, its clarity and linguistic wording, and its appropriateness to measure what it was designed for, as well as to add, amend or delete what they deemed appropriate. Proposed amendments were made to the OCD scale, due to the reviewers' notes, and they related to paraphrasing the items to become clearer. The criterion that was adopted in accepting or excluding items was that the items obtained a consensus of 80% of the reviewers; thus, the number of items after arbitration was 32 items. The number of items and the OCD scale are in accordance with Al-Humairi's (2014).

The scale was also applied to a pilot study sample consisting of 42 students from outside the study sample to verify the validity indicators of the scale, construction validity indicators were calculated using the Pearson's correlation coefficient to determine the values of the item correlation coefficient with the total score for the scale. It was found that the values of the coefficients of correlations of the OCD scales ranged between 0.79 and 0.48, and the criterion for accepting the item was adopted when its correlation coefficient was no less than 0.40, according to Hattie (1985); thus, all of items on the scale were accepted. To estimate the internal consistency of the OCD scale, it was calculated using Cronbach's alpha formula using the data of the first application in the prospective sample of 42 subjects from outside the study sample. For the scale and its dimensions, using the test-retest method with a time difference of two weeks, it was found that the stability of the internal consistency of the total scale was 0.91, and the stability of the test-retest of the total scale was 0.93.

The OCD scale in its final form included 32 items, which were answered with a five-point scale including the following option: always - 5 points; often – 4 points; sometimes - 3 points; rarely - 2 degrees; and never – 1 point. These points apply to all items on the scale because they are formulated in a positive direction; and thus, the score on the scale as a whole ranges from 32 to 160 points.

Compulsive hoarding scale: The CHD scale consisted of 23 items (Frost et al., 2004) and was used to detect the level of CHD. The validity of the test was verified by content validity, concomitant validity, validity of internal consistency, and discriminatory validity. Its preliminary version is characterized by a high degree of stability since Cronbach's alpha stability was .94, showing a high stability. For the purposes of this study, the scale was translated in its original form from the English language to the Arabic language; appropriate adjustments were made to the translation so that the examiners cold avoid any difficulties resulting from a misunderstanding of the meaning, which would hinder responses. Then, the items were translated into English again to ensure that the items retained their meaning. After presenting the translation to four specialists in the English language, the scale was also presented to specialists in the Arabic language to verify the wording of the items, and then it was presented to a group of reviewers from Mutah University, and the necessary adjustments were made based on the opinions of the reviewers.

Additionally, the scale was applied in 42 female students as a pilot study to ensure their understanding of the scale terms, the students were asked to take notes on the scale, especially regarding formulating and understanding the provisions. The content validity of the scale was also verified by presenting it in its initial form to several people experienced in and specializing in the field of psychology and counseling at Mutah University and Al-Balqa Applied University to determine its suitability to measure what it was designed for, and material was added, amended or deleted based on what they deemed appropriate. Considering the reviewers' observations, proposed amendments were made to the CHD scale related to paraphrasing the items to become clearer, and the criterion that was adopted in accepting or excluding the items was that the items obtained a consensus of 80% of the reviewers; thus, the total number of items after arbitration was 23 items.

The scale was also applied to an exploratory sample consisting of 42 female students from outside the study sample as a pilot study, the construction validity indicators were calculated using the Pearson's correlation coefficient to determine the values of the correlation coefficient of the overall degree of the scale; it was found that the values of the correlation coefficients for items on the CHD scale were statistically significant at the level of significance of $\alpha = 0.01$, they ranged between 0.73 and 0.46 with the overall degree of the scale, and the correlation coefficient of all items with the overall degree of the scale was greater than 0.40, so the acceptance criterion for the item was adopted. Its correlation coefficient was less than 0.40, according to Hattie (1985). It is also clear from the foregoing quality of the items on the CHD scale; thus, the scale obtained its final form, consisting of 23 items. The number of items and the CHD scale are in accordance with Frost et al. (2004).

To estimate the internal consistency of the CHD scale, it was calculated using Cronbach's alpha formula using the data of the first application in the 42 exploratory sample students from outside the study sample. To verify the stability of the test-retest method, with a time difference of two weeks, the Pearson's correlation coefficient was calculated between the first and second applications in the sample, and it was found that the stability of the internal consistency of the total scale was 0.89, and the test-retest constant for the total scale was 0.92.

The CHD scale in its final form included 23 items. These items apply to all the positive scale items, while the grades are reflected in Items 10, 12, 14, 21, and 4 since they are formulated in negative form. Thus, the scale ranged from 23 to 115 degrees. The higher that the degree is, the more indicative that it is of a high level of CHD.

Data analysis

The data analysis utilized the SPSS statistical package version 23.0. Levine's test and Shapiro-Wilk test were used to determine the differences in the pre-test of OCD and CHD. Pearson's correlation coefficient, means, standard deviations, Descriptive statistics are used to analyze data or describe without making conclusions. Analysis of covariance (ANCOVA), one-way analysis of variance (ANOVA), and the paired sample t-test were used to address the study hypotheses ($\rho > 0.50$). After checking the assumption, all instruments were fit, and normality and homogeneity tests were made as a requirement for using parametric tests. As a result of the analysis independent sample t-tests, it was understood that the groups showed homogeneous and normality distribution since *p* value was greater than the Alpha value. See Table 1.

Table 1. Homogeneity and normality results of OCD and CHD among the two groups

Test	Variables	N	Statistic	p
Levene's test	Pre-Test-OCD	15	0.651	0.117
Levene's test	Pre-Test-CHD	15	0.117	0.411
Shapiro-Wilk	Pre-Test-OCD	15	0.724	0.201
Shapiro-Wilk	Pre-Test-CHD	15	0.250	0.169

Note: OCD=obsessive compulsive disorder; CHD= compulsive hoarding disorder; N=15; df=28

Independent sample t-tests and one-way-ANOVA were carried out to test the differences between allocated demographic variables conditions at the baseline of the OCD. Results found no significant differences at the baseline scores due to grade [t(40) = .631; p=.647], achievement [f(40) = .462; p=.630], substances abuse [t(40) = -1.558; p=.112], family income [f(40) = .377; p= .574], disabilities or chronic diseases [t(40) = .65; p= 1.252], previously got a school punishment [t(40) = 1.464; p=.232]. Additionally, independent sample t-tests and one-way-ANOVA were carried out to test the differences between allocated demographic variables conditions at the baseline of the HCD. Results found no significant differences at the baseline scores due to grade [t(40) = .261; p=.540], achievement [f(40) = .517; p=.32], substances abuse [t(40) = 671; p=.132], family income [f(40) = .629; p= .580], disabilities or chronic diseases [t(40) = .610; p= 1.446], previously got a school punishment [t(40) = .610; p=.274].

RESULTS AND DISCUSSION

To test for equality of variances Levene's test was used to verify the homogeneity of the regression slope scores of the control group and treatment group on the OCD scale and the OHD pretest scale. The p values of homogeneity for the OCD and HCD scales were nonsignificant values (p=0.05). Table 2 indicates the availability of applying the analysis of covariance (ANCOVA). Initially, the analysis of variance assumptions was investigated: random and independent sample selection of the population, normal sample distribution, independence of the groups to be compared, and homogeneity of variance between groups. As a result of the analysis independent sample t-tests, it was understood that the groups showed homogeneous and normality distribution, which means that we can continue to test the two hypotheses.

Results and Discussion of Hypothesis 1

To test the first hypothesis "There are statistically significant differences between the means on the post-test for OCD scales and CHD scales among female secondary school students attributable to treatment." The means and the standard deviations were calculated on the two scales, OCD and CHD, on the posttest: Table 2. shows these values.

Table 2. Means and standard deviations of the OCD and CHD on the posttest

Variable	Group	Pretest		Post test		Sig.	T	df
		M	SD	M	SD			
OCD	Control	3.25	0.92	3.27	0.78	0.94	.066	28
	Treatment	3.22	0.90	2.42	0.58			
CHD	Control	3.61	0.88	3.27	1.09	0.59	.539	28
	Treatment	3.40	1.22	2.28	0.75			

Note: OCD=obsessive compulsive disorder; CHD= compulsive hoarding disorder; N=15

To ensure the equivalence of the different study groups regarding the pretest for the OCD scale, the means and standard deviations were calculated, and the t test for the sample using the OCD scale was calculated on the pretest; Table 2. shows these values. It is noted that there were no differences between the treatment group and control group on the pretest measurement, indicating equivalence of the two groups in the means of OCD [t(.066) = 28; p=0.94], and HCD [t(.539) = 28; p=0.59]. To verify the significance of the differences, analysis of covariance ANCOVA was performed for the posttest of the OCD and HCD scales according to group after neutralizing the effect of the pretest, as shown in Table 3.

Table 3. ANCOVA of the OCD and CHD scales by group at the post-test

Source	Variables	Sum of square	df	Means of square	f	Sig.	Eta square
Pretest	OCD	0.160	1	0.160	0.326	0.57	.012
	CHD	1.835	1	1.835	2.159	0.15	.075
Group	OCD	5.615	1	5.615	11.441	0.00*	.298
	CHD	7.935	1	7.935	9.337	0.00*	.257
Total	OCD	19.049	29				
	CHD	32.037	29				

*Note: OCD=obsessive compulsive disorder; CHD= compulsive hoarding disorder; * P < 0.01*

Table 3. shows that there were statistically significant differences between the means of the total scores for OCD $F\ (11.441) = P < 0.01$ and CHD $F\ (9.337) = P < 0.01$ and the control group in favor of the OCD and CHD scales with high effects, respectively, of 30% and 26% (Cohen, 1988).

The effectiveness of the indicated program was demonstrated by the presence of a statistically significant difference between the mean scores of the pre- and post-test scales of the treatment group and control group on the OCD and CHD scales in favor of post application. The results of this study were consistent with the results of many studies that have been conducted in this field, so a remarkable improvement emerged in the performance of female students and their ability to address compulsive ideas and actions by learning new skills, such as stopping ideas, relaxation, and problem-solving methods. The results of the current study are consistent with the study of Al-Douri (2003). The results of this study showed positive changes due to the method of thought stopping, including the technique of stopping ideas, which rendered the program effective (Wilson & Chambless, 2005). The study used a set of techniques that made the program effective, including cognitive reconstruction, relaxation, exposure, response prevention, and stopping thoughts. Al-Bajari (2007) used stopping ideas to modify the future trends of university students; the cognitive behavioral program was effective for the treatment group. Sadiq and Marwa (2013) and Willner and Goody (2006) used a method of relaxation, exposure, response prevention, and self-dialog, which played a role in treating the cognitive distortions causing OCD.

The explanation for the effectiveness of cognitive therapy based on stopping thoughts related to obsessions and compulsions is that it is an effective type of psychotherapy for many people with OCD ang CHD. Response to stop thoughts is a part of cognitive behavioral therapy

and involves gradually stopping a feared or obsessive item, such as dirt. Then you learn ways to not perform your compulsive rituals. Thought and response prevention takes effort and practice, but you will be able to enjoy a better quality of life once you learn how to control your obsessions and compulsions.

The effectiveness of the indicated program as applied to the treatment group was also attributed to the fact that it helped to modify the behavior of female students, such as setting lists of tasks, homework and life activities, attention to healthy food, and setting priorities when setting goals related to public life situations. The results clearly revealed the positive impact of the indicative practice in which they participated and from which they learned and trained in the instructional sessions, and they generalized it in similar situations at the level of social and study life.

Based on the above, the results of the current study confirmed the effectiveness of the CBT program in stopping compulsive thoughts and actions. Thus, the results of the current study are consistent with many studies (Abdel-Khaleq, 1990; Al-Douri, 2003; Al-Miqdadi, 2008; McLean et al., 2001; Tolin et al., 2007; Willner & Goody, 2006; Wilson & Chambless, 2005). These studies focused on the use of CBT programs in treating OCD. The training program had a clear impact on stopping compulsive thoughts and actions in people with CHD. The cognitive behavioral approach links the methods and techniques of these two approaches and focuses on how the individual learns about behavior and emotions and cognitive communication through different patterns. The general feature of this theory is its direct intervention through rules and directed goals, its reliance on homework and application skills and its focus on problems by learning a set of skills that include looking at problem solving objectively as a fact of life.

Regarding the changes that were observed in female students after applying the therapeutic program, within the framework of the current study, the members of the treatment group received intensive psychological treatment combined with relaxation and repeated and multiple attempts to train in the techniques of cognitive behavioral therapy to stop the thoughts and compulsions and to alleviate the students' pain and distress due to OCD and CHD through several group sessions. Where the student was participating in all the activities of the session from the beginning to the end, the agreement was activated between the researcher and the student on the importance of active participation in all of the various tasks during the program, with an emphasis also on them when at home.

Among these techniques are reinforcement (so that members of the group are encouraged to exercise these roles) and homework (so that they are trained to practice these roles in life through the family at home and through their colleagues and peers in society). Obsessive thoughts and compulsive acts are suddenly characterized by the insistence with which they invade the person when alone since they are invasive during school and among people. The patient could be able to stop them and return to normal life; they are trained on this skill in various ways, sometimes using stopping thoughts and sometimes using dialog and debate (Corey, 2013).

The sessions took place with all the procedures in an atmosphere of familiarity, with calm discussions conducted. The students recorded this activity in their reports, in which they recorded what happened to them after the end of the session and until the next session, and these reports were used for the topics of the new sessions. It was important to review them to achieve the goals, principles, foundations and steps of CBT and to ensure the continuity and extent of the students' ability to understand what happened in the sessions and how to implement the skills outside of the sessions.

The students benefited from the program by considering individual differences, by helping the students to improve in a specific framework for each individual case, and according

to the individual case of each student separately. Thus, each member of the sample participated in carrying out the training assigned to her and according to the technique that suited her alone.

The program relied on specific points, which are the procedural goals that researchers have previously focused on, such as overcoming obsessive thoughts and compulsive actions related to CHD. The program considers the principles of cognitive behavioral therapy in stopping compulsive thoughts and actions, especially the stage of building the therapeutic relationship, stimulating active participation, understanding students from the beginning of the session with an agenda, clarifying specific points that will be accomplished, training with them and repeating training, and continuing throughout the session.

Most of the students who are members of the CBC believe in irrational ideas and even propose irrational solutions and ideas to an already irrational problem. There were some students with an excellent academic achievement level within the counseling group, and this leads us to the conclusion that the obsessive student doesn't need to be a failure or even weak in his studies, and this is what has been proven by reality and practical experience. During the first sessions, several students did not care much about the topics and did not interact with the conversations raised for discussion. For this reason, expressive images were introduced that attract attention, such as displaying pictures of the passive consequences of OCD and CHD behaviors. Use of reinforcement a lot. Verbal reinforcement and phrases that increase self-confidence were used (e.g., you are excellent, wonderful, perfect, I expect you to have a brilliant future). Also, written reinforcement was used. Wonderful phrases of encouragement were written for the students in their activities.

Results and Discussion of Hypothesis 2

To test the hypothesis of the second study "There are statistically significant differences between the means on the follow-up test of the OCD scales and the CHD scales attributable to treatment." Results of analysis of covariance show that there are statistically significant differences between the two measures of pretest and follow-up among members of the treatment group on the OCD t (3.22) = 2.575, p = 0.02 and CHD t (3.40) = 2.539, p = 0.02, indicating the continuity of the impact of the program beyond the follow-up period.

The results showed that the thought-stopping program had an impact and effectiveness in reducing the averages of OCD and CHD disorders during the follow-up period. The explanation for this result is that the treatment was effective because it emphasized the importance of practicing counseling techniques and homework after the end of the psychotherapy session, which helped them transfer the effect of the training throughout the follow-up days and led to the stabilization of the treatment. On the other hand, the students' desire to get rid of this disorder was an incentive not to return or relapse and suffer again. The support and reinforcement that the students received from their families, parents and those close to them, and their relief from feelings of anxiety and tension, and that they became more open, social and sharing with others because they no longer suffer from those negative feelings, obsessive thoughts or compulsive actions, and this also helped them get rid of many hoards that are unrelated and unimportant in their lives and also helped them form new relationships. This is confirmed by the various theories of psychological counseling, especially cognitive behavioral, which emphasizes the importance of reinforcement and support as a therapeutic method in the continuity of newly formed positive behaviors and extinguishing unwanted behaviors.

Obsessions and compulsions are closely related, as obsessions generate compulsions. If obsessive thoughts dominate an individual, he resorts to certain behavioral methods to overcome the anxiety associated with the dominance of these thoughts. As for the methods that are relatively successful in reducing anxiety, they tend to become fixed and take a compulsive form. The individual resorts to them whenever obsessive thoughts insist on him. Compulsive behavior also includes a degree of obsession, because this behavior is met with resistance from

the individual and a strong desire to get rid of it, which prompts the individual to think and try to explain this behavior, which is ruminative self-thinking between the patient and himself.

Consequently, the program used has achieved one of the main goals of programs to modify obsessive thoughts in general. The goal of conducting behavior modification programs is not to bring about temporary changes in the various aspects of the personality and then to soon extinguish them as if they were nothing. Rather, what is required in these programs is that their effect remains even after the training that individuals received during the sessions of those programs has stopped and even after their training links have been discontinued. It is essential to conduct these programs to ensure their continuity and effectiveness with the members of the treatment group after the sessions of the application have stopped, instilling confidence that the sample members have used in their life situations the different strategies that they learned and giving a justification for trying to implement these programs on large groups of female students, particularly those who suffer from anxiety disorders in general and from OCD and CHD specifically, because of the distress, distress and hardship that they cause and the social misalignment and psychological and academic problems they cause

CONCLUSION

This study is one of the first studies conducted in an Arab population to address an indicative program addressing CHD through a cognitive behavioral program using the technique of stopping thoughts. In addition, the work of a practitioner as a principal at the same school and the students' knowledge of and confidence in the research helped in the success of the counseling program. Considering the effectiveness results of this study, the following recommendations can be made. More studies should be conducted on the topic of stopping thought and CHD in different ages, groups, males' students, and discovering the differences between them. In addition, the program was implemented to stop compulsive thoughts and actions in school students. There is the need to link CHD with other variables, such as social isolation and academic achievement. Finally, attention should be given to early intervention to reduce CHD by raising awareness of the roles of nurturing and the environment in which this disorder grows and how to prevent it. The results of the study were limited by selecting a sample of female adolescents. The results of the study are determined by the OCD, CHD, and the intervention program. These instruments were applied to the members of the two groups. The control group members were given a treatment program after the study process termination by the school counselor. CBT based on thought-stopping is an effective treatment in reducing OCD and HCD caused by negative and maladaptive thoughts.

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AUTHORS CONTRIBUTION STATEMENT

BA Responsible for conceptualization, data duration, methodology design, writing the original draft, statical analysis, theoretical background, previous literature, results, and discussion. MA responsible for editing the first and final versions, supported the research cost of publishing and results, discussion, visualization, and reviewing. MA responsible for investigation, supervising the process of applying the treatment, controlling the groups, and project administration.

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