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Effectiveness of Group CBT with Memory Specificity Training In Moderately Depressed Adults in Two London Boroughs

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Abstract

Memory specificity training (MEST) alone may improve depressedmood through increased memory specificity as found in previous studies. The purpose of the research was to build and expand on the use of MEST by testing the efficacy and feasibility ofseven treatment sessions with a three month follow up of group CBT with MEST in moderately depressed adults. An initial sample of 60 adult participants had been recruited through advertisements and screening procedures within two London Boroughs. They were block randomised to ensure equal gender and allocated to a within group design with repeated measures using the Autobiographical memory Test to measure changes in memory specificity (AMS) and theBeck depression inventory II (BDI-II) to measure changes in mood. Data from 55 completers was analysed using a one way repeated ANOVA. The results showed the changes in scores from both measures where statistically significant at post treatment and three month follow up compared to the pre-treatment scores with large effect sizes. This outcome rejected thenull hypothesis and showed that MEST was an effective and feasible adjunctwith CBT in improving memory specificity and mood more than was achieved in previous studies using MEST alone. Limitations of the study included, randomisation not fully blind, no independent therapists, low frequency of supervision for checking manual adherence, no SCID, short follow up period and reduced generalisability. Future research could repeat this study use group CBT as a control, participants from out-patient departments, larger sample size, improve blinding before random allocation, using SCID, frequentsupervision and use of independent therapists.

Keywords: *Cognitive Behavioural Therapy (CBT), Memory Specificity Training (MEST)*

Introduction

There is a need to continue the development or refinement of existing evidence based psychological interventions such as CBT for depression due to the relative stagnation in effectiveness of CBT and other psychosocial interventions for depression [1-5].

MEST is a new standalone psychological intervention, developed to target OGM's for moderate depression. The few studies done on MESTreduced OGM's and increased autobiographical memory specificity (AMS) leading to improved mood [10-12]. The first MEST study consisted of four group sessionsdelivered to moderately depressed Belgium in-patients, aged 32-55 that resulted in increased AMS and depressive symptom improvements. There was no-follow up, nocontrol or comparison group, the sample size of 10 had seven dropping out and all participants where female [10]

In the second MEST study, 23 Afghan adolescents based in Iran with moderate depression, were randomly assigned, 12 to the MEST group and 11 to the control group with a two months follow up. The MEST group retrieved a higher proportion of specific memories and lower levels of depression than did the control group [11]. In this study the benefits of MEST could have been confounded by subsequentimprovement in trauma experiences and hence a commensurate reduction in OGM's. The Impacts of events scale was not re-administered at post-treatment and follow up that would have helped to dismiss or confirm trauma

improvements as a possible confounding factor [13]. Trauma factors associated with OGM's will not be a focus of the research here.

The third MEST study recruited and randomly allocated 32 depressed out-patients, aged 27-56from Amsterdam to undergo originally four sessions of group MEST. Statistical analysis was done on 26 participants, the majority were women who attendedbetween four to five sessions. The results showed a decrease in depressive symptoms corresponding with an increase in AMS [12]. This study had no control group anda relatively small sample size. All the participants whose depressive symptoms were measured at a three-month follow-up had started apsychological or pharmacological treatment at the time of the follow-up. This makes it hard todistinguish whether further improvement of symptoms measured at follow-up was caused by MEST only.

A brief outline of the literature will now be given about identifying depression, impact OGM's has on depression, defining OGM's and AMS, the theoretical framework to explain how OGM's and AMS occur, the purpose for the research, significance and hypotheses.

Depression consists of low mood, loss of interest or reduced satisfaction, enjoyment in activities for at least a two week period, along with other symptoms causing distress and diminished functioning (American Psychiatric Association, 2013). Overgeneral autobiographical memories (OGM) [6-8], is strongly associated with making depression more severe, delays recovery and is a vulnerability factor for subsequent episodes of depression [9].

Overgeneral autobiographical memories (OGM) are modifiable [36] and can span over the whole day, consisting of a summary of several similar events such as (e.g., "watching my favourite TV show on Saturday evenings"). It may also be a memory of a general time period that spans more than one day and is called an extended memory (e.g., "My holiday in France last year" [8, 18]. Autobiographical specific memories (AMS) is defined as a memory for a specific occasion, event that can be important or trivial and the event that occurred is recent of at least one week or a longer time period, months, years ago but experienced then at a particular place and time that occurred within a 24 hour period [10, 19].

The main theoretical framework to understand OGM is based on the self-memory system [20], were autobiographical knowledge is arranged hierarchically along lifetime periods, from the abstract to concrete, from themes, periods, general events to event specific knowledge, the latter containing more sensory-perceptual affective details. OGM is viewed as a failure to progress to the lower more specific levels of memory during memory retrieval and remains at the more abstract, general level [8, 20] and relates to the lack of spatial-temporal specificity not the content of memory [21]. The most recent model to explain the mechanisms that lead to OGM in depression is from the capture and rumination, functional avoidance, executive control (CARFAX) model [8, 22]. This model postulates that difficulties accessing AMS result from the capture of memory search efforts by the bringing together of OGM's that causes or keeps the depression in place. Such capture operations are made worse by an established, embedded functional avoidance of specific details of distressing autobiographical events, which in turn leads to the processing of life experiences only at the categorical level or OGM's [8].

The research studies above suggested that reducing OGM's and increasing AMS could improve mood and MEST was developed to reduce OGM's and increase AMS with promising results [10-12]. The limitations in MEST studies suggest a larger sample size is required, from a different country, with bock randomisation to better control gender allocation and group balance. In addition two relatively recent studies recommended that future studies could use MEST as an adjunct with CBT [14, p.8; 11, p.7]. Guided by these gaps in research, the purpose of the study was to build upon and expand on the previous findings of MEST research by examining the effectiveness and feasibility of group CBT with MEST with moderately depressed adults from the United Kingdom [11, p.7; 14, p.8]. This study is significant as it would be the first study in the UK to do this as far as I am aware.

Hypothesis 1: There would be a difference in effect between pre-treatment, post-treatment and at three month follow up AMS scores as a result of group CBT with MEST for moderately depressed adults. Hypothesis 2: There would be a difference in effect between

pre-treatment, post-treatment and at three month follow up BDI-II scores as a result of group CBT with MEST for moderately depressed adults.

It is important to seek to improve outcomes [1-5] for moderately depressed adults that could further help to reduce social and economic burdens [15-17]. It could reduce suffering quicker for those who are depressed but also for their families as well and personally reduce health, social and economic care costs. This may be achieved by treating more depressed clients through groups than individual one to one treatment as in group CBT with MEST with specific clinical health benefits of increasing AMS to reduce vulnerability to recurrence of depression [8-9] and improved mood [10-12].

Method

Participants

Participants were 30 male and 30 female adults, aged 21-57 (M= 37.90; SD = 8.79), recruited from two London Boroughs in the United Kingdom whofulfilled the inclusion criteria and consented to treatment. The inclusion criteria stated that participants had to be aged between 20-60, presence of moderate symptoms defined as a Beck depression inventory (BDI-II) score of 20 or more but less than 29 [24] and AMS of less than 0.70 as assessed on the AMT [29]. The exclusion criteria included high levels of suicidality or harm to others as taken from BDI-II scores; secondary diagnosis of another affective disorder or a psychotic disorder; current drug/ alcohol abuse or dependence, personality disorder (assessed via participant report); presence of head trauma or organic brain damage (assessed via participant report); history of childhood abuse; PTSD symptoms, chronic pain, adjustment problem, primary problem is anxiety, poor grasp of the English language, reading and writing.

All were experiencing moderate depression as confirmed by the researcher and other experienced clinician using the DSM-5 major depression criteria [23] and scores based on the BDI-II [24]. The mean score on the BDI-II (M=25.92; SD = 1.07) suggested the group had moderate depression. Data from Raes et al [10] suggested a sample size of 22 (11 per group) would provide 80% power, with a directional alpha of .05, to detect a similar improvement in AMS.

Procedures

A treatment manual was developed for this research that contained the main CBT components, behavioural activation and cognitive reframing adhere to the Beckian cognitive model and Lewholm behavioural model [25-27]. These components have high validity and reliability as shown in numerous studies over the decades in being used to treat depression [5]. The MEST training protocols also has some degree of validity, reliability as demonstrated in theMEST studies that followed them [10-12]. The manual was also check by several highly experienced clinical psychologists who confirmed the manual developed contained the core components of CBT and broadly the MEST protocol.

Ethical approval was obtained then the research was advertised in two London boroughs. Prospective participants responded by e-mail to leaflets posted through the letterbox of people's homes, flyers posted on the advertisement boards in supermarkets, health clubs, local libraries, community centres, religious places of worship, several newsagents and charity shops. For each cohort there was a screening process, participants who scored 070 or less on the Autobiographical Memory Test and 20-28 on the BDI-II got interviewed to ensure they fulfilled the DSM 5 criteria for depression [23], met the inclusion and exclusion criteria, understood the contents of the participants information sheet and freely gave written consent and understood they could withdraw at any time without prejudice. They were then cluster randomised using a stratified randomisation procedure [28].

Sixty participants for each group were initially recruited, 55 for each group started and completed the treatment. The randomised controlled trial (RCT) was a 2 x 3 pre, post and three month-test follow-upwithin-subject design to compare the effectiveness of CBT with MEST. The group was balanced with equalnumbers of male and female participants for each of the six cohorts.

Measures

The Autobiographical Memory Test measures both OGM and AMS [29]. For example, ten cue-words (five positive and five negative), are provided in turn and participants then write down one AMS that the cue-word reminds them of within 30 or 60seconds. Instructions make it clear AMS refers to one particular occasion or event that happened on a particular day, within 24 hour period and at least one week before the test. Each response is coded as an AMS, a memory for an event, occasion that happened within a 24 hour period on a particular day, more than one week ago. OGM includes extended and categoric memory, were a repeated event or occasion is recalled without specifying any particular time or lasted longer than a 24 hour period or more than one day. The other is considered a verbal association to the cue rather than a memory and coded semantic and lastly no memory or response is given and coded an omission.

In this research, two parallel sets of 18 cue-words, nine positive and nine negative, similar to a previous MEST study [11] were matched for familiarity and emotionality using three independent raters [30] for pre-test, post and follow up.

The BDI-II is a 21-item self-report questionnaire used for measuring the severity of depression in adolescents and adults aged 13 and older. Each response relates to the recent two week period and for each question a score of 3, 2, 1, or 0 may be selected with total scores ranging from 0 to 63. The questions had been revised to correspond more with the DSM-IV criteria for depression. Total scores ranging from 0 to 13 represent normal to minimal depression; 14 to 19 is considered mild depression; 20 to 28 is seen as moderate and between 29 to 63 as severe or major. It has high reliability and capacity to discriminate between depressed and non-depressed subjects, concurrent, content, and structural validity and internal consistency gave a cronbach's alpha of 0.92 for outpatients and 0.93 for students [24, 31].

To help guarantee the integrity of each treatment, that the group manual was adhered to, two random audio recordings and two random in observations were made between session two to seven by an independent clinical psychologist. This was to check for manual adherence and bias in non-verbal presentation, none was found.

Statistical Analysis

In order to determine changes in memory specificity and low mood from pre-treatment to post-treatment and three month follow up, a one way repeated ANOVA with a pairwise comparison was run using SPSS 22 software, with the significance level was set at $p < .01$ with a confidence interval of 99%.

Results

Sample

Sixty participants were included in the group CBT with MEST intervention that received pre-treatment measures. Five of the participants did not start the intervention due to work commitment, starting treatment elsewhere, illness and carers responsibilities. Data on the 55 completers were used for data analysis, this equates to 8.3% of missing data in subsequent measures at post-treatment and three month follow up. Missing data was dealt with using the list wise default from the SPSS 22 [32] as the percentage of 8.3% of missing data does not compromise statistical analysis [33-34].

For group CBT with MEST the skewness and kurtosis scores were within plus or minus 2.58 at pre-treatment, post-treatment and three month follow up.; there was no outliers as no residuals $\geq \pm 3$ were obtained at pre-treatment and normal Q-Q plot of residuals, showed they are not too distorted from the diagonal line to suggest that the data did not violate the assumption of normality at pre-treatment.

The mauchley's test of sphericity indicated that the assumption of sphericity had been violated for AMS, (2) = 33.924, p = .001; and BDI-II, (2) = 8.745, p = .013. Epsilon ( ) was 0.679 as calculated according to Greenhouse and Geisser [35], and was used to correct the

one-way repeated measures ANOVA. The group intervention elicited statistically significant changes in AMS scores over time, $F(1.358, 78.332) = 3046.881$, $p < .001$, partial = .983.

Data are mean ± standard deviation, unless otherwise stated. There was an increase in AMS from 56.0 ± 2.6 at pre-intervention to 88 ± 3.3 at post-intervention, a statistically significant increase of 31.3 (99% CL, 29.4 to 33.2), $p < .001$. Data are mean ± standard deviation, unless otherwise stated. There was an increase in AMS from 56.0 ± 2.6 at pre-intervention to and 92 ± 2.6 at three month follow up, a statistically significant increase of 35.4 (99% CL, 33.8 to 36.7), $p < .001$.

Epsilon was 0.868, as calculated according to Greenhouse & Geisser [35] and was used to correct the one-way repeated measures ANOVA. The group intervention elicited statistically significant changes in BDI-II scores over time, $F(1.736, 93.741) = 3407.314$, $p < .001$, partial = .984.

Table 1. Baseline characteristics of group sample (n=60) at pre-treatment

Demographic Variables		Group N = %	Mean and SD
Gender	Male	30 = 50%	
	Female	30 = 50%	
Marital Status	Married	22 = 36.6%	
	Single	19 = 31.7%	
	Separated	13 = 21.7%	
	Divorced	6 = 10%	
Ethnicity	White	28 = 46.7%	
	Asian	13 = 21.7%	
	Caribbean	10 = 16.7%	
	African	7 = 11.7%	
	Other	2 = 3.3%	
Religion	C of E	22 = 36.7%	
	Catholic	21 = 35%	
	Muslim	8 = 13.3%	
	Hindu	5 = 8.3%	
	Other	4 = 6.7%	
Qualification	One or more	51 = 85%	
	None	9 = 15%	
Occupation	Employed	28 = 46.7%	
	Unemployed	32 = 53.3%	
Age		21-57 (M = 37.90, SD 8.79)	
AMS			(M=56.86, SD=2.64)
BDI-II			(M=25.92, SD=1.07)

Data are mean ± standard deviation, unless otherwise stated. There was a decrease in BDI-II scores from 26 ± 1.0 at pre-intervention to 13.3 ± 3.3 at post-intervention, a statistically significant decrease of 11.6(99% CL, 29.4 to 33.2), p <.001. Data are mean ± standard deviation, unless otherwise stated.

There was a decrease in BDI-II scores from 26 ± 1.0 at pre-intervention to 11.0 ± 1.3 at three month follow up a statistically significant decrease of 15.0 (99% CL, 12.2 to 15.7), p <.001.

Discussion

The statistical results support the effectiveness and feasibility of CBT with MEST in treating moderately depressed adults. It also further confirms that OGMs are modifiable [36] and has built on and expanded the research on MEST [10-12, 11, p.7; 14, p.8]. It is also clinically significant as the scores on the BDI-II indicated the participants were in remission at post-treatment and in recovery at three month follow up [24].

Hypothesis one predicted that there would be a difference in effect between pre-treatment, post-treatment and at three month follow up in AMS scores as a result of group CBT with MEST for moderately depressed adults. The results showed there was statistically significant difference at post-treatment and three month follow up. This result rejected the null hypothesis and supported thealternative hypothesis.

The addition of MEST to CBT appeared to enhance AMS as the scores in this study showed higher rates of improvement compared to previous studies using MEST alone [10-12]. AMS improvement in the first MEST study by Reas et al [10] increased by 0.28 by the end of treatment. In the second MEST study by Neshat et al it was by 0.32 at two months follow up [11] and in the third MEST study there was an improvement in AMS of0.18 in Eigenhuis et al study[12]. The CBT with MEST had by post-treatment showed that AMS had improved by 31.2 and at three month follow by 35.6 compared to pre-treatment.

Hypothesis two predicted that there would be a difference in effect between pre-treatment, post-treatment and at three month follow up BDI-II scores as a result of group CBT with MEST for moderately depressed adults. The results showed there was statistically significant difference at post-treatment and three month follow up. This result rejected the null hypothesis and supported the alternative hypothesis. It also supports previous studies that suggested that reducing OGM's and increasing AMS could improve moodand supports previous research that used MEST alone that improved mood [10-12].

Limitations include the way of presenting cues and/or available amount of time to respond to the AMT cue words are moderators of AMT performance [37]. Study was not fully blind; no independent therapists used to run the group, no SCID used; participants were highly motivated as evidenced by voluntary participation, high attendance rate, high homework compliance between both groups, factors not typical ofclinically depressed adults that attend out-patient clinics for CBT [38]. There is limited generalisability due to participants being solely depressed, not on anti-depressant medication and no co-morbidity. The researcher running the group interventions did not receive training to use the treatment manual for MEST with CBT although it was compiled by the researcher. This researcher also did not receive weekly supervision to check manual adherence [39] when running the groups. This was limited to a few random audio recordings and direct observations by an independent experienced clinician.

Conclusion

The findings of this study expanded the work of previous researchers in the area of MEST for depression [10-12]. These results go some way towards showing that CBT with MEST is not only feasible but is effective, cost effective due to being a group treatment, potentially may reduce one risk factor OGM's that is associated depression relapse and potentially allows others to get back to work quicker, lowering personal and government health costs. Future research could repeat this study by having a larger sample size; blind, using SCID, regular independent supervision for each deliverer of group intervention; using independent and different therapists to run the group intervention. Samples of participants recruited into a

randomised controlled trial that is seen at a typical out-patient clinic in comparing five sessions of MEST with five sessions of MEST with CBT and five sessions of standard group CBT as a control group to see any enhancing effect on the rate and amount of AMS improvement and BDI-II scores in moderately clinical depressed adult participant.

References

[1] J. Barth, T. Munder, H. Gerger, E. Nüesch, S. Trelle, H. Znoj, P. Juni, P. Cuijpers, Comparative Efficacy of Seven Psychotherapeutic Interventions for Patients with Depression: A Network Meta-Analysis. PLoS Medicine (2013), 10(5), e1001454. doi:10.1371/journal.pmed.1001454

[2] P. Cuijpers M. Berking, G. Andersson, L. Quigley, A. Kleiboer, K.S. Dobson, A meta-analysis of cognitive behaviour therapy for adult depression, alone and in comparison to other treatments. Canadian Journal of Psychiatry (2013), 58, 376-385

[3] E. Driessen, H.L. Van, F.J. Don, J. Peen, S. Kool, D. Westra, M. Hendriksen, R.A. Schoevers, P. Cuipers, J.W. Twisk, J.J. Dekker, The efficacy of cognitive behavioral therapy and psychodynamic therapy in the outpatient treatment of major depression: a randomized clinical trial. American Journal of Psychiatry (2013), 170:1041–1050. doi: 10.1176/appi.ajp.2013.12070899.

[4] V. Hunot, T.H.M. Moore, D.M. Caldwell, T.A. Furukawa, P. Davies, H. Jones, M. Honyashiki, P. Chen, G. Lewis, R. Churchill, 'Third wave' cognitive and behavioural therapies versus other psychological therapies for depression. Cochrane Database of Systematic. (2013),10. Art. No.: CD008704. doi:10.1002/14651858.CD008704.pub2.

[5] T.J. Johnsen and O. Friborg, The Effects of Cognitive Behavioral Therapy As an Anti-Depressive Treatment is Falling: A Meta-Analysis. Psychological Bulletin (2015), Advance online publication.http://dx.doi.org/10.1037/bul0000015

[6] D. Hermans, A. de Decker, S. de Peuter, F. Raes, P. Eelen, J.M.G. Williams, Autobiographical memory specificity and affect regulation: Coping with a negative life event. Depression Anxiety (2008),25:787–792. doi:10.1002/da.20326

[7] D. Hermans, A. Defranc, F. Raes, J.M.G. Williams, P. Eelen, Reduced autobiographical memory specificity as an avoidant coping style. British Journal of Clinical Psychology (2005), 44, 583-589. doi:10.1348/014466505X53461

[8] J.M.G. Williams, T. Barnhofer, C. Crane, D. Herman, F. Raes, E. Watkins, T. Dalgleish, Autobiographical memory specificity and emotional disorder. Psychological Bulletin (2007), 133,:122–148. doi: 10.1037/0033-2909.133.1.1

[9] J.A. Sumner, J.W. Griffith, S. Mineka, Overgeneral autobiographical memory as a predictor of the course of depression: A meta-analysis. Behaviour Research Therapy (2010), 48, 614–625. doi: 10.1016/j.brat.2010.03.013

[10] F. Raes, J.M.G. Williams, D. Hermans, Reducing cognitive vulnerability to depression: A preliminary investigation of Memory Specificity Training (MEST) in inpatients with depressive symptomatology. Journal Behavior Therapy Experimental Psychiatry (2009), 40, 24–38. doi:10.1016/j.jbtep.2008.03.001

[11] H.T. Neshat Doost, T. Dalgleish, W. Yule, M. Kalantari, S.J. Ahmadi, A. Dryregrov, L. Jobson, Enhancing autobiographical memory specificity through cognitive training: an intervention for depression translated from basic
science. Clinical Psychological Science (2013), 1:84–92. doi:10.1177/2167702612454613

[12] E. Eigenhuis, A. Seldenrijk, A. van Schaik, F. Raes, P. vanOppen, Feasibility and effectiveness of memory specificity training in depressed outpatients: a pilot study. Clinical Psychology and Psychotherapy (2015), Dec, doi: 10.1002/cpp.1995

[13] S.A. Moore and L.A. Zoellner, Overgeneral Autobiographical Memory and Traumatic Events: An Evaluative Review. Psychological Bulletin (2007), 419–437. doi 10.1037/0033-2909.133.3.419

[14] T. Dalgleish, A. Bevan, A. McKinnon, L. Breakwell, V. Mueller, I. Chadwick, S. Schweizer, C. Hitchcock, P. Watson, F. Raes, L. Jobson., A. Werner-Seidler, comparison of Memory Specificity Training (MEST) to education and support (ES) in the treatment of recurrent depression: study protocol for a cluster randomised controlled trial. Trials (2014), 15. 1-9. doi:10.1186/1745-6215-15-293

[15] P. McCrone, S. Dhanasiri, A. Patel, M. Knapp, S. Lawton-Smith, Paying the price: the cost of mental health care in England to 2026. The King's Fund, London (2008)

[16] A.J. Ferrari, F.J. Charlson, R.E. Norman, S.B. Patten, G. Freedman, J.L. Murray, T. Vos, H.A. Whiteford, Burden of Depressive Disorders by Country, Sex, Age, and Year: Findings from the Global Burden of Disease Study 2010. PLoS Med (2013), 10(11): e10001547.doi:101371

[17] N. Sartorius, The economic and social burden of depression. Journal Clinical Psychiatry (2001), 62(15), 8-11.

[18] M.A. Conway and D.C. Rubin, The structure of autobiographical memory. In A. E. Collins, S. E. Gathercole, M. A. Conway, & P. E. M. Morris (Eds.), Theories of memory (pp. 103-137). Hove, Sussex, England:Erlbaum (1993)

[19] F. Raes, D. Hermans, J.M.G. Williams, W. Beyers, E. Brunfaut, P. Eelen, Reduced autobiographical memory specificity and rumination in predicting the course of depression. Journal Abnormal Psychology (2006),115, 699–704. http://dx.doi.org/10.1037/0021-843X.115.4.699

[20] M.A. Conway and C.W. Pleydell-Pearce, The construction of autobiographical memories in the self-memory system. Psychological Review (2000),107, 261–88. doi: 10.1037//0033-295X. 107.2.261

[21] F. Peeters, I. Wessel, H. Merckelbach, M. Boon-Vermeeren, Autobiographical memory specificity and the course of major depressive disorder. Comprehensive Psychiatry (2002), 43, 344-350. doi:10.1053/comp.2002.34635
[22] J.M.G. Williams, Capture, rumination, functional avoidance and executive control (carfax). Three processes that underlie over-general memory. Cognition and Emotion (2006), 3/4, 548-568. doi:10.1080/02699930500450465
[23] American Psychiatric Association. Diagnostic and statistical manual of mental disorders (5th ed.). Arlington, VA: American Psychiatric Publishing (2013)
[24] A.T. Beck, R.A. Steer, G.K. Brown, Manual for the Beck Depression Inventory-II. San Antonio, TX: Psychological Corporation (1996)
[25] D. Barlow, Clinical Handbook of Psychological Disorders, Fifth Edition: A Step-by-Step Treatment Manual. The Guildford Press, London (2008)
[26] A.T. Beck, J.A. Rush, B.F. Shaw, G. Emery, Cognitive therapy for depression. New York: Guilford Press (1979)
[27] K. Efthimiou and M. Psoma, Lewinsohn's cognitive behavioral group Therapy course for depression: structure, application and efficacy. Encephalos (2012), 49, 60-66
[28] K.P. Suresh, An overview of randomization techniques: An unbiased assessment of outcome in clinical research. Human Reproductive Science (2011), 4, 8–11.doi: 10.4103/0974-1208.82352
[29] J.M.G. Williams and K. Broadbent, Autobiographical memory in suicide attempters. Journal of Abnormal Psychology (1986), 95, 144-149.doi:10.1037/0021- 843X.95.2.144
[30] J.W. Griffith, J.A. Sumner, E. Debeer, F. Raes, D. Hermans, S. Mineka, R.E. Zinbarg., M.G. Craske, An item response theory/confirmatory factor analysis of the Autobiographical Memory Test. Memory (2009), 17, 609–623.doi: 10.1080/09658210902939348
[31] Y.P. Wang and C. Gorenstein, Psychometric properties of the Beck Depression Inventory-II: a comprehensive review. RevistaBrasileira de Psiquiatria (2013),.35:416–431. doi:10.1590/1516-4446-2012-1048
[32] G.L. Schlomer, S. Bauman, S. N.A. Card, Best Practices for Missing Data Management in Counselling Psychology (2010), Vol. 57, No. 1, 1–10. doi: 10.1037/a0018082
[33] D.A. Bennett, How can I deal with missing data in my study? Australian and New Zealand Journal of Public Health (2001), 25, 464 – 469
[34] C.Y.J. Peng, M. Harwell, S.M. Liou, L.H. Ehman, Advances in missing data methods and implications for educational research. In S. Sawilowsky (Ed.), Real data analysis (pp. 31–78). Greenwich, CT: Information Age (2006)
[35] S.W. Greenhouse and S. Geisser, On methods in the analysis of profile data. Psychometrika (1959), 24, 95–112. doi: 10.1007/BF02289823.
[36] J.M.G. Williams, J. D. Teasdale, Z.V. Segal, J. Soulsby, J. Mindfulness- based cognitive therapy reduces overgeneral autobiographical memory in formerly depressed patients. Journal of Abnormal Psychology (2000), 109, 150-155. doi: 10.1037//0021-843X.109.1.150
[37] van M.F. Vreeswijkand de E.J. Wilde, de, Autobiographical memory specificity, psychopathology, depressed mood and the use of the AMT: A meta-analysis. Behaviour Research and Therapy (2004), 42(6): 731-43
[38] M. Seligman, The effectiveness of psychotherapy. American Psychologist (1995), 50,965 –974.
[39] P.C. Kendall and R.S. Beidas, Professional Psychology: Research and Practice (2007), 38(1), 13-20. http://dx.doi.org/10.1037/0735-7028.38.1.13

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