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Efficacy of Internet Based Cognitive Behavioural Therapy (iCBT) on Patients with Depression - A Comparison with Face to Face Cognitive Behavioural Therapy

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Over the past two decades, Internet-based cognitive-behavioural therapy (iCBT) programs have proliferated. A growing body of research supports the efficacy of iCBT for depression and other psychiatric conditions, and these programs may help address barriers that hinder access to effective treatment. Internet Based Cognitive Behaviour Therapy (iCBT) can provide an accessible alternative to face-to-face treatment but the evidence base in patients is limited. The aim of this study was to investigate the efficacy of internet based CBT on patients with depressive disorder in comparison with face to face cognitive behavioural therapy. Participants were recruited from Postgraduate Institute of Behavioural and Medical Sciences, Raipur. All of 16 participants (n=16) completed pre and post assessment. The findings suggest that the study there by calls for the attention of mental health professionals on Internet Based Cognitive Behavioural Therapy to provide early interventions for patients with depression as its as efficient as face to face CBT.

Keywords: Internet, Cognitive Behaviour Therapy (CBT), Depressive Disorder

Depression is a worldwide health problem, which lowers the quality of life for the individual and generates huge costs for society. According to the National Mental Health Survey (2016), 1 out of 20 people suffer from depression in India and 10 per cent of the Indian population suffers from common mental disorders (Srinivasan, 2016). International Classification of Diseases 10th Edition defines depression as having three cardinal symptoms of depression such as persistent sadness or low mood, loss of interests or pleasure and fatigue or low energy. Other common symptoms are reduced concentration and attention, reduced self-esteem and self-confidence, ideas of guilt and unworthiness (even in a mild type of episode), bleak and pessimistic views of the future, ideas or acts of self-harm or suicide, disturbed sleep and diminished appetite (World Health Organization [WHO], 1993).

Cognitive Behavioural Therapy for Depression: The first-line psychological treatment for depression is Cognitive Behavioural Therapy (Kendall &Peterman, 2015). Although CBT principles are evidence based and standardized, clinicians are encouraged to use “flexibility within fidelity,” tailoring treatment to the youth’s individual presentation (Kendall, 2008). Cognitive Behavioural Therapy (CBT) is one of the most evidence-based psychological interventions for the treatment of several psychiatric disorders such as depression, anxiety disorders, somatoform disorder, and substance use disorder. The uses are recently extended to psychotic disorders, behavioural medicine, marital discord, stressful life situations, and many other clinical conditions.CBT has been found to be transferable to the internet format, especially in the form of guided self-help. Guided self-help is a format of treatment delivery that presents structured self-help materials (e.g., via the internet) together with therapist contact (e.g., by email). The role of the therapist is to provide support, encouragement and occasionally direct therapeutic activities (Levy, 2012). Since its initial development in the 1960s, Cognitive Behavioural Therapy (CBT) has flourished and emerged as one of the most commonly practiced and most extensively researched forms of psychotherapy.

iCBT Programs for Depression: One way to increase access to treatment of patients with depressive disorder is via internet-based cognitive behavioural therapy (iCBT). iCBT interventions are one way of disseminating evidence-based treatment in primary care settings while maintaining treatment fidelity (Craske, 2009). The field of iCBT has advanced considerably in the past two decades, yielding several popular tools that appear to be efficacious and effective for the treatment of depression. This approach holds promise for improved access; enhanced out- comes, and reduced costs. Still, further research is needed to determine the best approaches for selecting patients, optimizing engagement, and integrating these tools into the larger health care delivery system (Webb, 2017).

Aim:

The present study aims to study the efficacy of internet based Cognitive Behavioural Therapy (iCBT) on the patients with depression in comparison with face to face CBT.

Materials and Method

The study was carried out with a pre and post-test control group design, which was opted in the correspondence with the aim of the study. Using purposive sampling method sixteen patients with depressive disorder were recruited from the Outpatient Department of Post Graduate Institute of Behavioural and Medical Sciences, Raipur. They were then randomly assigned to two groups equally (eight each), one group of patient undergone internet based cognitive behavioural therapy and another group undergone face to face cognitive behavioural therapy. Inclusion Criteria were either sex, age range between 18 to 55 years, patients who have given the consent, duration of the illness six months to five years, patients who were diagnosed with Depression as per ICD-DCR (WHO, 1993). Only those patients who were educated at least 8th grade and able to use internet and smart phone. Exclusion Criteria were patients with the history of other co-morbidities mental illness, intellectual disability, organicity, substance dependent except nicotine and caffeine, patients with hearing and visual impairment or any major disability and patients already undergone any psychotherapy. The following tools were used Socio-Demographic and Clinical Data Sheet (SDCDS), Beck Depression Inventory (BDI), Hamilton Depressions Rating Scale, Cognitive Distortion Scale (CDS) and World Health Organization Quality of Life Brief Version (WHOQOL-BREF).

Therapeutic Package: Intervention package was adapted for patients with depression with regard to language and socio-cultural background. The therapy consisted a total number of eight therapy sessions each session of 45-50 minutes duration conducted twice a week apart from a pre (baseline) and a post intervention assessment session for each participant. The therapy was individually tailored for each patient based of their needs. The whole package included individual activities and procedure in both the groups were kept identical and homogenous. This is done in consideration of brief cognitive behavioural therapy module adapted from 'A Therapist Guide to Brief CBT' (Cully & Teten, 2020). Skills were chosen from the adapted module of CBT which were more relevant in context of the dependent variables in the current studies. This is done to bring flexibility in package so that therapy would be beneficial in time constraint situation to maximise the experimental variance. However, the core nomenclature of CBT were kept intact.

Statistical Analysis: The data was analysed using Statistical Package for Social Sciences version 20 (SPSS 20). Appropriate statistics were applied - mean, standard deviation and One-Way ANOCOVA to determine the significant differences between the two groups (face to face CBT and iCBT) as per the requirement of the data.

Ethical Consideration: The following ethical considerations were kept in mind during the study; Institutional ethical clearance was taken, informed consent was taken before data collection, permission from the hospital was taken for data collection, participants were informed in detail about the objectives and implications of the study and also on how the results of the study will be used in the future, confidentiality was maintained and the responses were only

used for the academic research purposes, participants were allowed to withdraw at any given point during the course of the study and the psychologist received supervision in both CBT and iCBT during the study.

Results

The present study is assessing the effectiveness of internet based CBT and face to face CBT in reducing the symptom severity, cognitive distortions and improving quality of life among patients with depression. Results after going through the analysis are presented below:

Table 1 Pre Assessment ; Quality of Life, Symptom Severity and Cognitive Distortions of CBT and iCBT group (N=16)

Dependent Variable	Group	Mean	SD
WB-1	CBT	32.75	5.726
	iCBT	35.25	4.950
WB-2	CBT	31.13	3.482
	iCBT	36.75	9.192
WB-3	CBT	26.50	4.243
	iCBT	29.50	2.777
WB-4	CBT	37.13	5.330
	iCBT	37.78	5.980
BDI	CBT	25.88	5.939
	iCBT	25.50	4.690
HAM-D	CBT	18.50	3.742
	iCBT	17.38	3.420
SC	CBT	57.63	8.400
	iCBT	61.00	5.014
SB	CBT	61.25	7.206
	iCBT	63.63	5.423
HLP	CBT	69.38	10.141
	iCBT	72.25	9.677
HOP	CBT	68.88	10.006
	iCBT	69.50	6.740
PWD	CBT	60.88	8.967
	iCBT	61.63	3.462
*WB-1	CBT	55.63	7.190
	iCBT	58.00	8.142
*WB-2	CBT	53.00	8.701
	iCBT	57.13	10.750
*WB-3	CBT	61.00	8.848
	iCBT	64.00	9.411
*WB-4	CBT	59.50	9.547
	iCBT	61.38	7.328
*BDI	CBT	13.13	5.643
	iCBT	8.38	3.701
*HAM D	CBT	8.50	4.175
	iCBT	6.75	1.832
*SC	CBT	48.38	4.596
	iCBT	48.50	3.251
*SB	CBT	51.50	4.440
	iCBT	50.25	3.412
*HLP	CBT	52.50	5.606
	iCBT	52.13	3.603
*HOP	CBT	47.13	2.800
	iCBT	47.25	8.763
*PWD	CBT	47.88	4.734
	iCBT	48.25	12.948

Table 2F value and p – value of Quality Of Life, Symptoms Severity (HAM-D and BDI) and Cognitive Distortions(N=8)

Variable	Dependent Variable	F Value	P-Value
Symptoms Severity	BDI	3.967	.068
	HAM D	.775	.395
Quality of Life (QOL)	WB-1	.416	.530
	WB-2	.139	.715
	WB-3	.110	.745
	WB-4	.252	.624
Cognitive Distortion Scale (CDS)	SC	.071	.794
	SB	.934	.351
	HLP	.014	.906
	HOP	.000	.996
	PWD	.001	.974

Note: According to the table 9, the p-value of BDI (0.068), HAM-D (0.395), WB-1(0.530), WB-2(0.715), WB-3(0.745), WB-4(0.624), SC(0.794),SB(0.351), HLP(0.906), HOP(0.996) and PWD(0.974) were above the critical

significance level of 0.05 (p>0.05). In this case, the null hypothesis is retained which means there are no significant differences between the two groups (CBT and iCBT) in treating patients with depression.

Discussion

The present study aims to study the efficacy of internet based Cognitive Behavioural Therapy (iCBT) in comparison with face to face CBT among the patients with Depression. In Quantitative Analysis, the pooled data was analysed using SPSS, and the Mean and SD were found out as per the individual objectives of the study. To testify each of the following hypotheses, the required findings were reported with theoretical explanations and were substantiated with appropriate literature review. The first objective of the research was to study the differences in quality of life amongst patients with depression in both the group CBT and iCBT using SPSS. The two groups had total 16 participants, 8 divided in each group randomly fulfilling the inclusion criteria of the study. For the same purpose, the mean and SD were calculated for participant scores of both the groups.

Quality of life refers to subjective well-being, life satisfaction, perceptions of social relationships, physical health, economic status, and functioning in daily activities and work and is typically assessed through subjective views of one's life circumstances, perceptions of mental and physical health, social and family relationships, and functioning at work and home (Hofmann & Curtiss, 2018). Effective treatments of this pervasive and chronic disorder can lead to a reduction in depressive symptoms, improvement of psychosocial functioning, and greater QOL (Merikangas & Ames, 2008).It has also been suggested that psychotherapy might be more effective for changing QOL because it directly targets general well-being, (Angermeyer & Kilian, 2006), but there is little empirical data to support this argument. For instance, (Freeland & Carney, 2009) randomized depressed individuals to 12 weeks of CBT (n = 15) or escitalopram (n = 11). The authors found no statistically significant differences between treatment groups on any of the outcome measures, including QOL.

The variation in QOL mean scores (WB-1,WB-2,WB-3 and WB-4 as well as WB-1*,WB-2*,WB-3* and WB-4*) across both the groups (face to face CBT and iCBT) can be noted. Keeping in view with each domain of Quality of Life, the mean score for pre assessment of WB-1(Physical Health)in the face to face CBT was found to be 32.75 with standard deviation 5.726 and the mean score for post assessment of *WB-1 was found to be 55.63 with standard deviation 7.190 whereas in iCBT Group, the mean score for pre assessment of WB-1 was found to be 35.25 with the standard deviation of 4.950 and the mean score for post assessment of *WB-1 was found to be 58.00 with the standard deviation of 8.142. This indicates that the Physical Health (WB-1) domain of Quality of Life Scale was found to be slightly higher in iCBT group, however, there was no statistical significant differences seeing among the patients with depression receiving iCBT and face to face CBT. In the Pre and Post assessment of quality of life, iCBT has got higher mean score than face to face CBT. The results go beyond previous reports, showing that a meta-analysis was conducted to examine changes in QOL in adults with major depressive disorder who received CBT (24 studies examining 1,969 patients) for their depression. It was found that Moderate improvements in QOL from pre to post-treatment were observed in CBT treatment. The greater improvements in depression were significantly associated with greater improvement in QOL for CBT (Hofmann & Curtiss, 2018) This can be further corroborated with the findings in the table 9 ; the p-value of WB-1(0.530) is above the critical significance level of 0.05 (p>0.05). In this case, the null hypothesis is retained which means there are no significant differences between the two groups (CBT and iCBT) in treating patients with depression. This result ties well with previous studies wherein randomized patients received 12 weeks of CBT (n = 7) or iCBT (n = 8) for the treatment of major depressive disorder. After treatment, the group showed improved QOL and reduced severity of depression symptoms, with no statistically significant group differences (Orjuela & Juarez, 2015).

The Psychological is the second domain of Quality of Life Scale. In the face to face

CBT group, it's found that the mean score of the pre-assessment of WB-2 was found to be 31.13 with standard deviation of 3.482 and post assessment of *WB-2 was found to be 53.00 with standard deviation of 8.701 whereas in the iCBT group, the mean scare for the pre assessment of WB-2 was found to be 36.75 with the standard deviation of 9.192 and the mean score for the post assessment of *WB-2 was found to be 57.13 with the standard deviation of 10.750. This indicates that the mean score of psychological domain of quality of life scale was found to be slightly higher in face to face CBT group than iCBT group., however the difference was not statistically significant. As per the table 9, the p-value of WB-2 (0.715) is above the critical significance level of 0.05 (p>0.05). In this case, the null hypothesis is retained which means there are no significant differences between the two groups (CBT and iCBT) in treating patients with depression. Alternatively, it could simply mean that patients with depression present with deficits in quality of life (QOL) particularly psychological and even physical functioning that is only partially explained by the variation in the intensity of the depressive symptoms (Berlim, Mattervi, & Fleck, 2003)

The third domain of quality of life is social relationship. Studies have consistently shown that depressed patients present with significant deficits in many areas of social functioning (e.g. Leisure, work, interpersonal relations, health status and academic performance) when compared with healthy controls (Rapaport & Clary, 2005). In the face to face CBT, the mean score for the pre assessment of WB-3 was found to be 26.50 with standard deviation of 4.243 and the mean score for the post assessment of *WB-3 was found to be 61.00 with the standard deviation of 8.848 whereas in the iCBT group, it was found that the mean score of the pre assessment of WB-3 was found to be 29.50 with standard deviation of 2.777 and post assessment of *WB-3 was found to be 64.00 with standard deviation of 9.411. This indicates that the third domain of quality of life i.e. social relationship was found to be similar in both the groups, there was no significant differences seeing among the patients with depression receiving iCBT and Face to face CBT. The results lead to similar conclusion where the p-value of WB-3(0.745) is above the critical significance level of 0.05 (p>0.05). From this results, it is clear that the null hypothesis is retained which means there are no significant differences between the two groups (CBT and iCBT) in treating patients with depression. Recent evidence indicates that depression was associated with important deficits in the QOL. In fact, patients with major depression presented QOL scores inferior not only to that of individuals with sub-syndrome depressive disorders, but also to that of non-depressive subjects in the general population. (Goldberg, Fisher, & Wilson, 2000)

The fourth domain of quality of life scale is Environment. For the face to face CBT, the mean score for the pre assessment of WB-4 was found to be 37.13 with standard deviation of 5.330 and the mean score of post assessment of *WB-4 was found to be 59.50 with standard deviation of 9.547. For the iCBT group, the mean score for the pre assessment of WB-4 was found to be 37.78 with standard deviation of 5.980 and the mean score for the post assessment of *WB-4 was found to be 61.38 with standard deviation of 7.328. This indicates that the fourth domain i.e environment mean score was found to be higher in iCBT group than in face to face CBT. According to the table 9, the p-value of WB-4 (0.624) was above the critical significance level of 0.05 (p>0.05). In this case, the null hypothesis was retained which means there were no significant differences between the two groups (CBT and iCBT) in treating patients with depression. A recent study evaluated the impact of major depression, double depression and dysthymia on the QOL of the affected subjects(as assessed by the Q-LES-Q) and compared them to a control group. The findings of previous studies demonstrated that patients with major depression and double depression were the ones with the lower QOL scores. (Rapaport & Clary, 2005).

The symptoms reduction in patients with depression was assessed with two tools i.e. Hamilton Depression Rating Scale and Beck Depression Inventory. For the Hamilton Depression Rating Scale (HAM-D), the face to face CBT group, mean score for the pre assessment HAM-D was found to be 18.50 with

standard deviation 3.742 and the mean score for post assessment of * HAM-D was found to be 8.50 with standard deviation 4.175 whereas in iCBT Group, the mean score for pre assessment of HAM-D was found to be 17.38 with the standard deviation of 3.420 and the mean score for post assessment of * HAM-D was found to be 6.75 with the standard deviation of 1.832. This indicates that the Hamilton Depression Rating Scale (HAM-D) was found to be similar in both the groups, there was no significant differences seeing among the patients with depression receiving iCBT and Face to face CBT. This has also been found in the table 9, the p-value of Hamilton Depression Rating Scale (0.395) was also above the critical significance level of 0.05 ($p>0.05$). In this case, the null hypothesis was retained which means there were no significant differences between the two groups (CBT and iCBT) in treating patients with depression. In order to support the dissemination of iCBT, similar relapse-prevention findings would be helpful. In their meta-analytic review, the authors found 14 studies that included follow-up data examining whether patients who received a course of iCBT for depression maintained their gains relative to control conditions. On average, iCBT patients reported lower levels of depressive symptoms than control participants, but the between-group effect size at follow-up was smaller than at post treatment (Rosso & Lauch, 2017).For, the Beck Depression Inventory and group-1i.e face to face CBT, the mean score for the pre assessment BDI was found to be 25.88 with standard deviation 5.939 and the mean score for post assessment of *BDI was found to be 13.13 with standard deviation 5.643 whereas in iCBT Group, the mean score for pre assessment of BDI was found to be 25.50 with the standard deviation of 4.690 and the mean score for post assessment of *BDI was found to be 8.38 with the standard deviation of 3.701 This indicates that the Beck Depression Inventory (BDI) was found to be similar in both the groups, there was no significant differences seeing among the patients with depression receiving iCBT and Face to face CBT.This analysis found evidence for the above findings as shown in the table 9, the p-value of Beck Depression Inventory- BDI; (0.068) was above the critical significance level of 0.05 ($p>0.05$). This suggests that the null hypothesis was retained which means there were no significant differences between the two groups (CBT and iCBT) in treating patients with depression.One study demonstrated that iCBT was more effective than face-to-face CBT at reducing depression symptom severity, however, there were no significant differences between the two interventions on participant satisfaction (Luo & Sanger, 2020).

The Cognitive Distortion Scale involves five sub domains such as Self-Critical (SC), Self-Blame (SB), Helplessness (HLP), Hopelessness (HOP) and Preoccupation with Danger (PWD). According to Beck's (1976) cognitive model of depression, cognitive distortions play a significant role in the etiology and maintenance of depression. (Marton & Kutcher, 1993). As stated previously, for individuals coping with depression, cognitive distortions tend to involve absolutist thinking, increased negative cognitions about the self, and revolve around themes of loss, deprivation, and personal inadequacy (Burns, 1999). The negative automatic thoughts represent those cognitive distortions of decreased self-worth and all-or-nothing exaggerated thinking when interpreting external events (Leung & Poon, 2001). The first domain of Cognitive Distortion Scale was Self – Critical (SC). In the group-1i.e face to face CBT, the mean score for the pre assessment SC was found to be 57.63 with standard deviation 8.400 and the mean score for post assessment of *SC was found to be 48.38 with standard deviation 4.596 whereas in iCBT Group, the mean score for pre assessment of SC was found to be 61.00 with the standard deviation of 5.014 and the mean score for post assessment of *SC was found to be 48.50 with the standard deviation of 3.251.This indicates similar conclusion where the Self-Critical domain of Cognitive Distortion Scale was found to be less on face to face CBT group than iCBT group, however the difference was not significant. Therefore, there was no significant differences seeing among the patients with depression receiving iCBT and face to face CBT. According to the table 9, the p-value of SC(0.794) is above the critical significance level of 0.05 ($p>0.05$). In this case, the null hypothesis is retained which means there are

no significant differences between the two groups (CBT and iCBT) in treating patients with depression. A sufficient number of researches have been conducted and shown the efficacy of CBT in depressive disorders. A meta-analysis of 115 studies has shown that CBT is an effective treatment strategy for depression. Evidence also suggests that relapse rate of patient treated with CBT is lower in comparison to the patients treated with online based cognitive behavioural therapy (Fennel M, 2017).

The second domain of Cognitive Distortion Scale was Self – Blame (SB). In the group-1i.e face to face CBT, the mean score for the pre assessment SB was found to be 61.25 with standard deviation 7.206 and the mean score for post assessment of *SB was found to be 51.50 with standard deviation 4.440 whereas in iCBT Group, the mean score for pre assessment of SB was found to be 63.63 with the standard deviation of 5.423 and the mean score for post assessment of *SB was found to be 50.25 with the standard deviation of 3.412. This indicates that the self-blame domain of cognitive distortion scale was found to be similar in both the groups, there was no significant differences seeing among the patients with depression receiving iCBT and Face to face CBT. According to the table 9, the p-value SB; Self Blame (0.351) was above the critical significance level of 0.05 ($p>0.05$). In this case, the null hypothesis was retained which means there were no significant differences between the two groups (CBT and iCBT) in treating patients with depression.

It was more interested to note other findings more recently, in a study examining iCBT combined with face-to- face therapist guidance, researchers found that being married, having higher life satisfaction, and having had more depressive episodes predicted better treatment outcomes; by contrast, having a higher level of dysfunctional thinking predicted poorer outcomes. In summary, individuals with relatively more severe depression at the beginning of treatment may derive greater therapeutic benefit from iCBT treatment than those with lower depression severity (Rosso & Lauch, 2017).

The third domain of Cognitive Distortion Scale was Helplessness (HLP). In the group-1i.e face to face CBT, the mean score for the pre assessment HLP was found to be 69.38 with standard deviation 10.141 and the mean score for post assessment of *HLP was found to be 52.50 with standard deviation 5.606 whereas in iCBT Group, the mean score for pre assessment of HLP was found to be 72.25 with the standard deviation of 9.677 and the mean score for post assessment of *HLP was found to be 52.13 with the standard deviation of 3.603.The above findings suggests that the Helplessness (HLP) domain of Cognitive Distortion Scale was found to be similar in both the groups, there was no significant differences seeing among the patients with depression receiving iCBT and face to face CBT. According to the statistical table 9, the p-value of HLP; Helplessness(0.906) was above the critical significance level of 0.05 ($p>0.05$). In this case, the null hypothesis was retained which means there were no significant differences between the two groups (CBT and iCBT) in treating patients with depression. It is worth discussing that this finding also revealed in other study's results where greater symptom improvement among iCBT participants was reflected, however, the influence of "common" therapeutic factors, including greater expectations of improvement. In order to control for these factors, future studies will need to test iCBT versus more stringent or credible control conditions, such as a psychosocial placebo- control condition that elicits similar expectations of symptom improvement relative to the treatment condition (Johansson, 2012).

The fourth domain of Cognitive Distortion Scale was Hopelessness (HOP). In the group-1i.e face to face CBT, the mean score for the pre assessment HOP was found to be 68.88 with standard deviation 10.006 and the mean score for post assessment of *HOP was found to be 47.13 with standard deviation 2.800 whereas in iCBT Group, the mean score for pre assessment of HOP was found to be 69.50 with the standard deviation of 6.740 and the mean score for post assessment of *HOP was found to be 47.25 with the standard deviation of 8.763. The result provides evidence that the Helplessness (HOP) domain of cognitive distortion scale was found to be similar in both the groups, there was no significant differences seeing among

the patients with depression receiving iCBT and face to face CBT. The results confirm that the p-value of HOP; Hopelessness(0.996) is above the critical significance level of 0.05 (p>0.05) as shown in the table 9 which means there are no significant differences between the two groups (CBT and iCBT) in treating patients with depression. An initial evidence shows that psychological treatments such as CBT tend to be preferred by many individuals with elevated depressive symptoms, compared to iCBT. However, given the limited access to qualified therapists and relatively high cost, it would be difficult to have face-to-face CBT interventions benefit each individual with sub-threshold depression. Moreover, people with mild depressive symptoms might also be less motivated to seek intensive treatment (Cuijper & Hollon, 2013).

The final domain of Cognitive Distortion Scale was Preoccupation with Danger (PWD). In the group-1 i.e face to face CBT, the mean score for the pre assessment PWD was found to be 60.88 with standard deviation 8.967 and the mean score for post assessment of *PWD was found to be 47.88 with standard deviation 4.734 whereas in iCBT Group, the mean score for pre assessment of PWD was found to be 61.63 with the standard deviation of 3.462 and the mean score for post assessment of *PWD was found to be 48.25 with the standard deviation of 12.948. This indicates that the Preoccupation with Danger (PWD) domain of Cognitive Distortion Scale was found to be similar in both the groups, there was no significant differences seeing among the patients with depression receiving iCBT and Face to face CBT. According to the table 9, the p-value of PWD; Preoccupation with Danger (0.974) is above the critical significance level of 0.05 (p>0.05). In this case, the null hypothesis is retained which means there are no significant differences between the two groups (CBT and iCBT) in treating patients with depression. One study found that CBT was more effective than iCBT in reducing depressive symptoms for individuals who were experiencing a relatively large number of life stressors, were unemployed, or were married (Levy, 2012). The results demonstrated that according to the table 9, the p-value of Beck Depression Inventory (0.068), Hamilton Depression Rating Scale (0.395), WB-1; Physical health(0.530), WB-2: Psychological, (0.715), WB-3: Social relationships (0.745), WB-4: Environment (0.624), SC; Self Critical (0.794), SB; Self Blame(0.351), HLP; Helplessness(0.906), HOP; Hopelessness(0.996) and PWD; Preoccupation with Danger (0.974) are above the critical significance level of 0.05 (p>0.05). In this case, the null hypothesis were retained which means there are were significant differences between the two groups (CBT and iCBT) in treating patients with depression. The results are in line with the recent study that no significant differences between iCBT and face-to-face CBT in depressive symptoms at three-month post treatment follow-up assessment. Although the iCBT group showed a significant trend in the direction of greater symptom improvement (Rosso & Lauch, 2017).

Conclusion

The purpose of the research was to study the efficacy of internet based Cognitive Behavioural Therapy (iCBT) in comparison with face to face CBT among the patients with depression. It was found that there were no significant differences between the two groups (CBT and iCBT) in treating patients with depression in terms of their cognitive distortion, quality of life and symptoms reduction. Among patients with depression, providing internet based CBT compared with face-to-face CBT resulted in close to equivalent improvement in depression at post treatment. This study found that internet based CBT was as effective in reducing depressive symptoms as traditional face-to-face CBT at post treatment, supporting our hypothesis.

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