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COMPARATIVE EFFICACY OF HOMOEOPATHY, COGNITIVE BEHAVIOR THERAPY AND PLACEBO ON DEPRESSION

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ABSTRACT: Depression produces serious emotional and psychological disorders and has severe consequences if not managed at proper time .With the progression of emotional load of depression one is unable to cope up with the extreme negative feelings and tend to create the world of their own thoughts which may end with the end of their life. Whatever forms of symptoms may be related to the grief, depression is far different from normal sadness in that it engulfs our day-to-day life interfering with ability to work, study, eat, sleep, and having fun. World Health Organization W.H.O. (Mental Health and Substance Abuse; Facts & Figures) reported that 15% of depressed persons end their lives in the form of suicide at younger age. Tendency of developing suicidal behavior among the depressed persons is very lethal entangled condition. People who have an impulsive desire to die or perceive suicidal thoughts are very risky. Simultaneously there are many depressed persons who do not have suicidal plan but they prefer to die through some sudden severely fatal medically induced diseases. The present research study explains the comparison between the homeopathic, cognitive behavior therapy and placebo on depression.

INTRODUCTION: Cognitive Behavior Therapy (**CBT)** is the most popular and commonly used therapy for the effective treatment of depression. Consisting of a number of useful and simple techniques which focus on the internal dialogue which takes place within a person's mind, cognitive-behavioral therapy is not concerned with causes of the depression so much as what a person can do, right now, to help change the way they are feeling Cognitive therapy was initially developed in the early 1960s by Dr Aron Beck of the University of Pennsylvania. The theory postulates that during clients' cognitive development they learn incorrect habits of processing and interpreting information.

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Cognitive therapy's theoretical underpinning come from three main sources [1], first, the phenomenological approaches to psychology, which posits that the individual's view of self and personal world are central to how they behave. Second, structural theory and depth psychology, in particular Freud's theory, contribute to Beck's structuring cognition into primary and secondary processes.

Third the work of early cognitive psychologist like all port, Piaget and George Kelly in particular influenced Beck [2]**.** For example Kelly's concept of professional constructs is similar to Beck's idea of schemas. Aaron Temkin 'Tim' Beck was born on 18th July 1921, improvidence, Rhode Island, the Fourth but third surviving, son of Russian Jewish immigrant parent. Beck's process of developing theory is that he first observes patients, then develops ways of measuring these observations,

then formulates a theory if the observations are validated by a number of cases, then designs innervations congruent with the theory, then over time and through further. Experimentation continues to assess whether the theory is confirmed or negated and to refine it. When developing theory Beck also uses self observations finally, treatment protocols are tested via outcome studies, including examination of relapse and post treatment course [3]. Beck and others continue to evolve connective therapy based on new research.

Beck has authored or co-authored over 375 articles in professionals and scientific journals. His books include Cognitive therapy and the Emotional Disorders (1976), Cognitive Therapy of Depression [3]. The integrative power cognitive therapy [4] scientific foundation cognitive theory and therapy depression [5] and prisoners of hate: the cognitive basis of Anger, Hostility and Violence. Test and measure that Beck has developed with colleagues include the Beck depression inventory ,the Beck Hopelessness scale ,the suicide Intent Scale the suicide Ideation Scale, the Beck self-concept Test, The Beck youth inventories and the Clark-Beck Obsessive- Compulsive Inventory.

In cognitive-behaviour therapy, emphasis is placed on discussing the thoughts and the behaviours associated with depression. While emotions are certainly a focus of some of the time throughout therapy, it is thought within this theoretical framework that thoughts and behaviours are more likely to change emotions than trying to attempt a post-mortem analysis of why a person is feeling the way they are [6]. Because of this approach, cognitive-behaviour therapy is short-term (usually conducted under two dozen sessions) and works best for people experiencing a fair amount of distress relating to their depression. Individuals who can approach a problem from a unique perspective and those who are more cognitively-oriented are also likely to do better with this approach [7].

CBT is a psychological form of treatment that communicates the interactions among thoughts, feelings and behavior. It is time bound process of varying duration called as sessions (approximately10-20 sessions), focuses on current problems and follows a structured style of intervention [8]. CBT is a mode of treatment which includes various steps e.g. - teaching, coaching, and reinforcing positive behaviours. CBT helps people to identify cognitive patterns or thoughts and emotions that are linked with behaviours. The opinions of the different people cannot be same at a time for same event. The way in which we think about an event influences how we feel and how we act. People do not have to continue to think about their experiences in the same way for their entire lives. By identifying dysfunctional thoughts and by learning to think differently about their experiences, people can feel differently about these experiences, and in turn, behave differently [9]. A depressed individual may remember the person who ignored her in a conversation but not remember the person who found her interesting.

Therefore, she may conclude, "I am a boring person". After the help from cognitive-behavioural therapy practitioner, people understand how, by selecting particular evidence to focus on, they can end up forming beliefs that are 'cognitive distortions'.

The individual may not even be aware that they have formed these beliefs. Such cognitive distortions are problematic, not only because they can be inaccurate, but also because they contribute (more than necessary) to debilitating negative emotions or avoidance of troubling situations.CBT helps people to learn new behaviours and new ways of coping with events, often involving the learning of particular skills. Emphasizing behavioural change may also be important for fear reduction. Avoidance is a central feature of anxiety disorders. Unfortunately, avoidance can further the fear of anxious situations, and can place severe limits on an individual's ability to freely engage in a full range of daily activities. Exposing individuals to fearful situations gradually and safely is a primary means of weakening the link between a feared situation and the anxious symptoms it triggers [10].

The type of relationship between a qualified CBT practitioner and an individual seeking treatment for depression should be collaborative. They should work together to understand the person's difficulties and how he may be helped. Both the practitioner and the patient have their own

expertise, one on CBT whereas the individual is an expert on his/ her own life and experiences. During therapy, both of them work together to generate and try out new ways for the person to think and behave [11]. In CBT, the therapeutic relationship is sometimes seen as one of the module of "coaching"; the practitioner uses his/her expertise to challenge the person's thinking and guide them to explore various alternatives.

After completion of the step of identifying the individual's problems, it is important for the qualified CBT practitioner and individual to set goals together to deal with these problems which latter on start minimizing the worries/ complaints of the individual. Patients are encouraged not to think about the past period but to focus on the Present, as the past cannot be changed, but the way we think about the past can be as can the present and the future. It is often distressful in the present and hopes for the future that leads an individual into treatment. CBT is focused mainly on what the individual feels and how he/she is coping in the present. However, feelings and behaviour are often determined by past experiences [12]. For example, the present focus for the individual described in the goal-setting section would be the beliefs and fears she has about going out in public.

In addressing and changing her beliefs about being out in public, she may recall a past public situation(s) which was frightening (for example, "I saw someone having their purse snatched on the subway") or an experience that was related in some way to the development of her fear (for example, "My parents continuously talked about how the streets were unsafe and they would not let me go out alone until I was 18").

The individual in this example may also find it helpful to recognize that her fears might have made sense in light of some of her earlier experiences but, over time, have ceased to be helpful. In talking about her fears, and the factors that brought them on and now maintain them, she can experiment with alternate beliefs (for example, people are rarely robbed on subways; my friends travel safely on the city streets) and new behaviours (for example, going downtown) to feel differently (for example, "I am less afraid knowing that, with planning, I can go downtown safely on my own").

Cognitive Behavior Therapy for Depression:

Psychological treatment for depression can assist the depressed individual in several ways. First, Supportive counseling helps ease the pain of depression & addresses the feelings of hopelessness the accompany depressions. Second cognitive therapy changes the pessimistic idea; unrealistic expectations and overly critical evaluation that create depression and sustain it [13]. Cognitive therapy helps the depressed persons recognize which life problem are critical and which are minor. It also helps him/her to develop positive life goals and a more positive self assessment. It also changes the areas of persons life that are creating significance stress & contributing to the depression scientific researchers have observed and confirmed that perception, expectation, values ,attitudes, personal evaluation of self and others, fears desires etc. are all human experiences that affect behaviour. Our all activities which represent the behaviour are well affected by the cognitive experiences [14].

While treating depression following components of behaviour are taken into account.

Self evaluation, Identification of skill deficits, Evaluation of life experiences, Self talk, Automatic thoughts, over generalizing, Cognitive distortions.

Diagnostic Criteria:

Diagnosis of any disorder solely depends on the manifestations of signs and symptoms in the sick. Similarly, depressive episode includes as minimum five or more the following symptoms related with either depressed mood or decreased interest in pleasurable activities is present since at least more than two weeks-

1. For most of nearly every day, interest or pleasure is markedly decreased in nearly all activities.
2. There is a marked loss or gain of weight or appetite is markedly decreased or increased nearly every day.
3. Nearly every day the patient sleeps excessively or not enough.

4. Nearly every day others can see that the patient's activity is agitated or compromised.
5. Nearly every day there is fatigue or loss of energy.
6. Nearly every day the patient feels worthless or inappropriately guilty.
7. Nearly every day the patient is indecisive or has trouble thinking or concentrating.
8. The patient has had repeated thoughts about death, suicide, or has made a suicide attempt.

Regarding effects on symptoms in different patient populations, there is evidence that CBT is effective for individuals with acute depression, chronic depression lasting two years or more, and for recurrent depression. CBT has been effective with children over ten years of age, adolescents, and older adults. Furthermore, CBT may prevent the development of depression in children and adolescents. There is emerging evidence that CBT is effective in treating depressive symptoms in individuals with medical conditions such as rheumatoid arthritis, cancer, multiple sclerosis and brain injury.

During active treatment, the effects of CBT appear to be as effective as medication. However, several studies have shown that after treatment, relapse rates remain low for at least two years for people who have engaged in CBT (either on its own or after treatment with medication).

As compared to those who have received medication alone. Interestingly, in one study that followed people for six years. Individuals who received CBT had only a single relapse whereas those who received medication and were monitored by a psychiatrist had multiple relapses.

CBT that continues with monthly follow-up sessions can help to further reduce relapse rates, particularly in people whose depression had an early onset, or whose depressive symptoms did not disappear by the end of active treatment. In addition to reducing symptoms, CBT for depression also appears to have an effect on broader aspects of functioning that are generally maintained when people are followed after treatment. Generally, functioning in a person's work, school, home and leisure activities improves in concert with reduction in depressive symptoms both during and following a course of CBT.

CBT is often used as an adjunctive therapy to medication. Some studies have compared the effects of a combination of CBT and medication in to either CBT or medication alone. Some, but not all, studies show the combination of CBT and medication works better only in the case of severe or chronic depression but that CBT alone works as well as the combined treatment for mild-to-moderate depression. The combined treatment may also be of greater benefit in treating depressed adolescents.

It is thought that CBT and medication act differently on different subgroups of depressed individuals, although this proposal requires further testing. Studies have shown that there are several factors that predict what kinds of people will benefit from CBT. Most of these factors are associated with less severe illness. For example, individuals with less severe illness, shorter length of illness, later age of illness onset, and fewer previous episodes of illness tend to respond well to CBT. Among adult populations, demographic factors such as gender, age and education generally do not affect outcome for CBT, although married people generally to do better than unmarried people. There is evidence that children respond better to CBT for depression than adolescents.

MATERIALS AND METHODS:

Locale of the study:

The study was conducted in district Sagar of Madhya Pradesh, India since May2007 to January 2008 and thereafter in Allahabad, U.P. India, since February 2008 to 2012.

Sagar has a population of 2,378,295 (according to census report of 2011) and has a population density of 232 inhabitants per square kilometer. This city has a sex ratio of 896 females for every 1000 males and a literacy rate of 77.52%.Sagar lies in an extensive plain broken by low, forested hills and watered by Sonar River. Wheat, chickpeas, soghum, and oilseeds are chief crops of the region, there is extensive cattle raising. Sandstone, Limestone, iron ore and asbestos deposits are worked. Allahabad is located on the confluence of

holy rivers Ganga, Yamuna and Saraswati. It is located in the southern part of Uttar Pradesh, at 25.45 North and 81.84 East. According to Census 2011, Allahabad district has a population of 59, 59,798 including 31, 33, 421 males and 28, 26, 319 females. Allahabad has a population density of 1,087 per square kilometer and has a sex ratio of 902 females for every 1000 males. Literacy rate of Allahabad is 74.41%. The main industries of Allahabad are tourism, fishing and agriculture. Allahabad city is the largest commercial centre in the state; it also has the second-highest per capita income and the third greatest GDP in the U.P.

Research Design:

To facilitate the fulfillment of objectives of the research, the experimental as well as descriptive research designs have been followed in the investigation.

In order to determine the profile of respondents, first, an attempt was made to describe aetiological, sociological and psychological characteristic of the respondents through detailed case studies. Secondly, was to find out the depressive tendency to establish assessment and the effect of C.B.T medicines at individual level and as combined regimen of the duo as well as effect of placebo therapy on the depressive respondents. The depressive tendency experiment used the Depression Scale decided by the score of questionnaire designed and given to the patient to determine the degree of depression.

Selection of Sample:

The subjects who volunteered to participate in this study were selected from OPD centres of Sagar Homoeopathic Medical College and Hospital, Sagar- M.P and different Homoeopathic Centers in Allahabad. The patients were selected on the outreach basis and approximately 20 % of the total O.P.D. attendance related to psychological, psychosomatic/somatopsychic disorders in a month. Certain criterion in the mind were kept regarding preference for selection of the patients e.g. cooperative in nature, willing to visit for follow up regularly, belonging mild and moderate to severe degree of depression etc. Patients belonging to very severe degree of depression and having manic tendency were not included. Degree of depression was decided after the filling of questionnaire given to the patient by researcher and scoring the number by scored the patients. All this was drawn from the first level 'visiting up' patients to the hospital for the treatment.

Only those patients were included who belonged to different SES (Socio Economic Status) and above High School-Education. Further they were divided into a pre-test and post test design under 04 groups (G1, G2, G3, G4) to facilitate the comparative study for the pre and post test trial. Patients were divided among four equal groups and the sample size of each group was 52. Due to a greater prevalence of females majoring in number than males, most of the selected subjects were female. There were 208 (127 women and 81 men) of the age range between 16-60 years, selected as respondents.

N= 208

Patients of G1 were given only homoeopathic medicines.

Patients of G2 were given only CBT.

Patients of G3 were given combined regimen of CBT and homoeopathic medicines.

Patients of G4 were given placebo.

Development of data gathering instrument-

A suitable questionnaire was developed as well as following interview was developed in the light of objectives. The questionnaire was designed to elicit the following kinds of information about the respondent and his problem-

1- General information

2- Aetiological, Psychological and Socio-economical relationship with depression.

3- Metabolic and endocrine disorders , Mood disorders

Methods of Data collection:

1- **Primary source-** Such information were collected by personally interviewing the patient at OPD centres of homoeopathic clinics through the case taking process.

2- **Secondary sources-** Some of the information which patient didn't provide,

were obtained through other reliable sources.

3- **Instruments –** Case taking Pro forma, questionnaire sheet, Homoeopathic repertories, homoeopathic softwares, Sphygmomanometer, Stethoscope, Torch, weighing machine, Tendon hammer.

4- **Statistical analysis of data-** It included pretesting of interview schedule, data collection, tabulation, analysis and interpretation of data through statistical tools as per nature and requirements of Data such as descriptive and inferential statistic were applied for drawing valid explanation.

Assessment of sessions of CBT and their duration was decided on the basis of the nature of complaint and temperament of the patients. Before starting the therapy, the mood of the patient was assessed through the clinical signs and symptoms and the mode of behaviour of the respondents also through the questionnaire. On follow up turns for the therapy sessions, the most important part was to know from the patients that how he was feeling this week in comparison to previous weeks. It was termed as checking of the mood.

On the information given by the respondents and after discussing other points about his remaining problems, mood and willingness, the patients were taught about the new skills for making the best use of what they had learnt during these sessions. During the sessions of C.B.T., both the therapist and the patient were quite active with the different parts of the therapy. Determination of length of period of treatment was also decided on the basis of cooperation provided by the patient. Usually after interviewing the patient, a rough idea about approximate number of sessions could be calculated on many occasions.

Mostly patients who had history of shorter duration of association of problems, needed only six to eight sessions while those who had history of longer duration of association of complaints, need more sessions. As soon as patient felt better and desired to stop therapy, tapering of therapy was started e.g. once every two weeks and then once every three weeks and gradually stopped for booster sessions after three and six months.

Combined regimen therapy of C.B.T. and Homoeopathic Medicines was also same as sessions of C.B.T. The only difference was to prescribe homoeopathic medicines also along with C.B.T. Dose, potency and repetition of the medicines was decided according to the principles of Homoeopathy and on the discretion of researcher.

Patients on placebo therapy were also called on every 10 days interval and examined systematically and their case taking was done. Their complaints were recorded and on follow up visits they were reassessed. They were given placebos either in the form of globules or liquids.

Analysis of Data:

In order to find out the relevant logical explanations and drawing valid conclusions, the following analysis of data was as under-

Pre test and Post test Group:

This included all the 208 patients. Case history and personal interview was taken first. Afterwards quantitative and qualitative assessment of symptoms was recorded. Like intensity and frequency of depressive symptoms. Afterwards the patients were divided into four groups for intervention.

N=208

G 1	G 2	G 3	G 4
N=52 Hom. medicine	N=52 CBT	N=52 Combined regimen	N=52 Placebo

Post Test Trials Data collection and clinical treat:

Patient's visit was called once within 10 days for the treatment. Each group was given covered treatment regimen individually; one group was given treatment on one day. The next day other group would receive the treatment. After giving the required treatment the patients were called after every ten days, where the required treatment regimen was given and observation was recorded. The treatment procedure continued up to six months.

The instruments used for the purpose of research study were questionnaire consisting of score calculation system, Sphygmomanometer,

Stethoscope, Small torch, Thermometer, Dr. Kent's and few other Homoeopathic Repertories, Homoeopathic Materia Medica by some eminent authors e.g. Dr. William Boericke-Pocket Manual of Homoeopathic Materia Medica, A Dictionary of Practical Materia Medica by Dr. J.H. Clarke etc. including Case taking format.

Homoeopathic Medicines given to the patients was in the form of globules and liquid.

Determination of socio economic status was determined on the average annual income as following-HIG (Higher Income Group) - > Rs.10, 00,000.00, MIG (Medium Income Group) - Rs.5, 00,000.00- 9, 99,999.00, LIG (Lower Income Group) - <Rs.4, 99,999.00. Appropriate statistical methods were used as per the requirement for the analysis of data

RESULTS AND DISCUSSION:

Effect of CBT on married and unmarried respondents:

TABLE 1:

Married frequency	Response	Un-married frequency	Response
82 (39.42%)	Usually good but very few unsatisfactory	126 (60.58%)	Mostly good but in few cases unsatisfactory

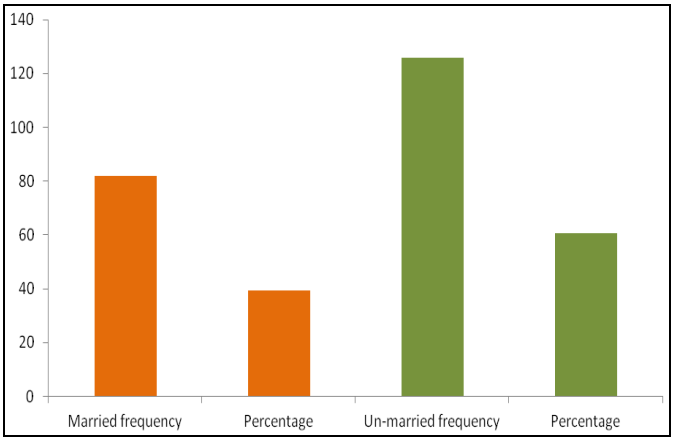

FIG.1: EFFECT OF CBT ON MARRIED AND UNMARRIED RESPONDENTS

The above data in the study shows that 39.42% of respondents were unmarried and 60.58% were married. The effect of CBT was excellent among the unmarried respondents than the married ones. The reason in married respondents may be lack of proper coordination in physical, intellectual, and emotional components between the spouses, lack of devotion of time for each other, habit of avoiding each other, responsibilities of family and increased financial and social responsibilities.

Response wise data of CBT on depression in different age group:

TABLE: 2

Age group in years	Frequency	Good improvement	Percentage	Moderate improvement	Percentage	Mild/No improvement	Percentage
16-20	16	10	62.5	4	25	2	12.5
21-40	26	18	69.23	5	19.23	3	11.53
41-60	10	5	50	3	30	2	20

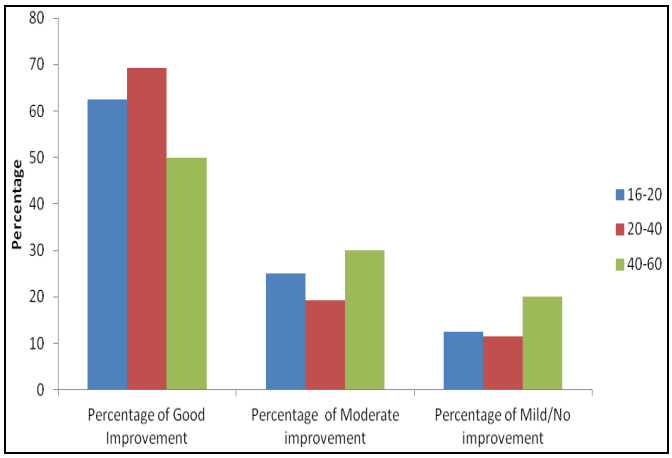

FIG.2: RESPONSE WISE DATA OF CBT ON DEPRESSION IN DIFFERENT AGE GROUP

X^2 calculated= 34.78; X^2 tabulated=9.49 df= 4

The calculated value (X^2 = 34.78) is greater than the tabulated value (X^2 =9.49) at 0.05 level of significant. Therefore, it is concluded that the response of Cognitive Behaviour therapy (CBT) on depression is significant. It means the use of CBT had good improvement in the age group of 21-40 as compared to 16-20 as well as 41-60.

The effect of Cognitive Behavior Therapy on the respondents of different age groups differed. The reason probably may be variation into the social and biological demands of the concerned age,

change in life style and moral values, the difference in thought pattern and culture. Therefore, while and the modules be designed accordingly. In spite of all above stated variations, CBT plays a good role into transforming the change from pessimism

Effect of CBT on duration of illness of depressed of the respondents:

TABLE: 3

Factor	Number of Respondents	Response	Percentage
Problems with mild severity and short duration	83	Good	39.90
Problems with moderate severity and short duration	77	Satisfactory	37.02
Problems with prolonged duration	48	Mild	23.8
Total	208		100

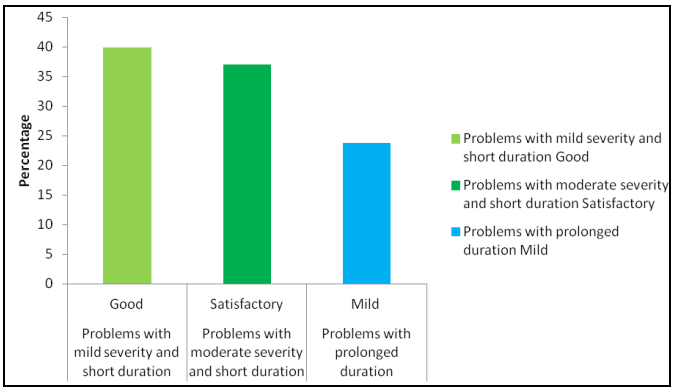

FIG. 3: EFFECT OF CBT ON DURATION OF ILLNESS OF DEPRESSED OF THE RESPONDENTS

Table 3.0 yields information that CBT is more effective on the problems related to shorter and moderate duration with mild to moderate severety than the problems of prolonged duration**.** People planning to provide CBT, it is important that the therapy be well adjustable with the concerned age suffering from prolonged duration illness required frequently administration of CBT sessions.

Most indicated homoeopathic medicines in the study:

TABLE 4:

Name of Medicine	Frequency	Percentage
Natrum- Mur	53	25.48
Pulsatilla	41	19.71
Nux Vomica	23	11.05
Ignatia	17	8.17
Anacardium	17	8.17
Argentum Nitricum	15	7.21
Aurum Met	10	4.80
Sepia	10	4.80
Lycopodium	09	4.32
Zincum Metallicum	06	2.88
Natrum Carbonicum	04	1.92
Staphisagria	03	1.44

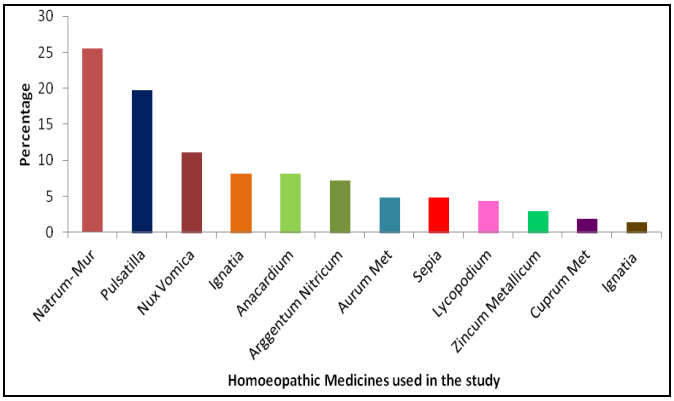

FIG.4: MOST INDICATED HOMOEOPATHIC MEDICINES IN THE STUDY

Table 4 represents frequency of the homoeopathic medicines used in the course of study. The characteristic features of the drugs have already been discussed in the introduction chapter of the thesis.

Response of combined regimen therapy on depression in different age group:

TABLE 5:

Age group in years	Frequency	Good improvement	%	Moderate improvement	%	Mild/No improvement	%
16-20	6	3	50	2	33.33	1	16.67
20-40	19	13	68.42	3	15.79	3	15.79
40-60	27	14	51.85	9	33.33	4	14.82

X^2 calculated= 1.96; X^2 tabulted= 9.49; df=4

The calculated value (X^2 calculated= 1.96) is less than the tabulated value (X^2 tabulted= 9.49) at 0.05 level of significant. Therefore it is concluded that the response of Combined Regiment Therapy on

depression on different age group were not statistically significant. It means use of Combined Regimen Therapy on depression has improvement in all the age group.

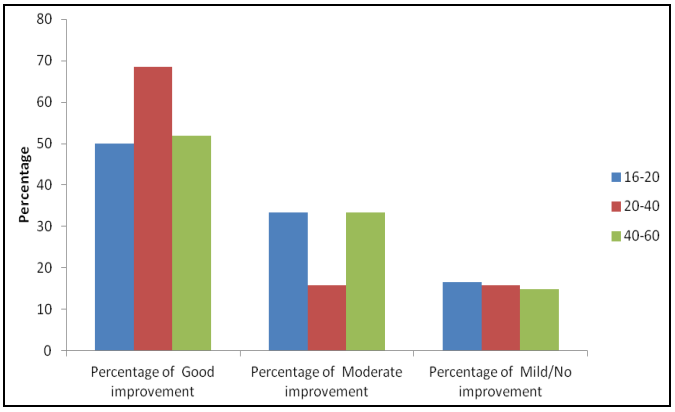

FIG.5: RESPONSE OF COMBINED REGIMEN THERAPY ON DEPRESSION IN DIFFERENT AGE GROUP

Table 5 shows that most people suffering with depression responded when they found a suitable combined regimen therapy which consisted of CBT and Homoeopathic medicines. CBT is effective in treating depression. It brings tremendous changes in the thought pattern of the respondents and medicines equally correct the physical and mental spheres of the depressed person. CBT can be as effective as antidepressant drugs in treating depression.

The benefits of combined therapy of above duo module over the conventional drug treatment include no side-effects such as nausea, drowsiness and dependency and reduce visits to medical healthcare professionals.

Response of PLACEBO therapy on depression in different age group:

TABLE 6:

Age group in year	Frequency	Good improvement	%	Moderate improvement	%	Mild/No improvement	%
16-20	10	3	30	2	20	5	50
20-40	14	4	28.57	2	14.28	8	57.15
40-60	28	5	17.86	6	21.43	17	60.71

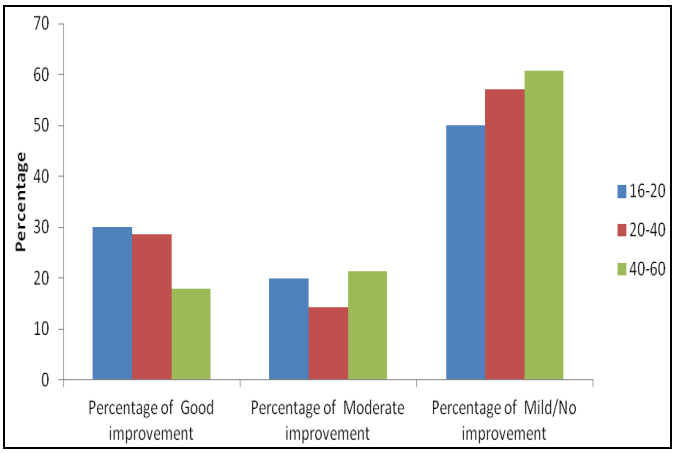

FIG.6: RESPONSE OF PLACEBO THERAPY ON DEPRESSION IN DIFFERENT AGE GROUP

X^2 calculated= 3.33; X^2 tabulted= 9.49; df=4

The calculated value (X^2 calculated= 3.33) is less than the tabulated value (X^2 tabulted= 9.49) at 0.05 level of significant. Therefore it is concluded that the response of PLACEBO Therapy on depression in different age group have not statistically different. It means use of PLACEBO Therapy on depression had equal improvement on the different age group.

Table 6 shows information regarding the effect of placebo therapy. More than half of the patients responded to placebo therapy. A patient's faith in the physician's treatment and the globules/ liquids given as placebo, response is dependent upon a variety of factors.

These include relationship between physician and patients, faith of patient in the physician, sympathetic attitude, sincerity toward the patient, are associated with development of positive effects of placebos among the patients. Depressed patients are loaded with variety of subjective complaints and uneasiness in mind. When they find a treatment, their belief that medicine will work and provide them relief, allows their mind to be at ease and disappearing of symptoms related to psychic disturbances. Thus the patient felt well and relief from symptoms of depression.

Different therapy wise data received by respondents

TABLE 7:

Age in yrs.	Frequency	Hom.Medicines	CBT	Placebo therapy	Combined regimen
16-20	38	6 (15.79 %)	16 (42.10%)	10 (26.32%)	6 (15.79%)
21-40	86	27 (31.40%)	26 (30.23%)	14 (16.28%)	19 ((22.09%)
41-60	84	19 (22.61%)	10 (11.90%)	28 (33.33%)	27 (32.14%)
Total	208	52 (25.00%)	52 (25.00%)	52 (25.00%)	52 (25.00%)

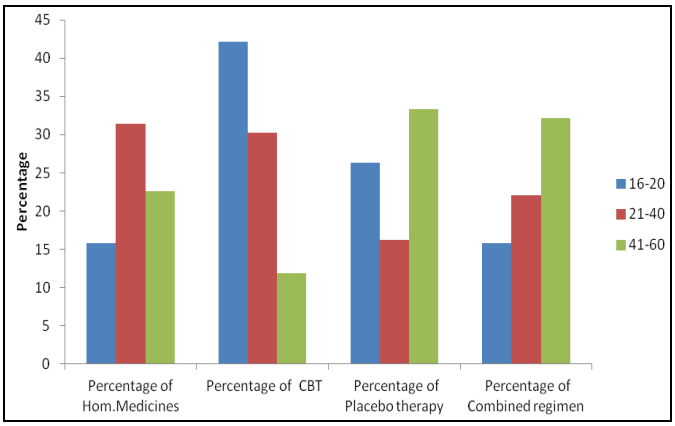

FIG.7: DIFFERENT THERAPY WISE DATA RECEIVED BY RESPONDENTS

The above **Table 7** provides the information about the data regarding different therapies received by the respondents during the study.

X^2 calculated= 41.97; X^2 tabulted= 12.59; df=6

The calculated value (X^2 calculated= 41.97) is more than the tabulated value (X^2 tabulted= 12.59) at 0.05 level of significant. Therefore it is concluded that the response of Combined Regiment Therapy on depression is more statistically significant as compared to individual homoeopathic, CBT and PLACEBO therapy. It means use of Combined Regimen Therapy on depression had more improvement on the respondents. It also concluded that the Combined Regiment Therapy have good improvement in the age group of 20-40 as compared to 16-20 as well as 40-60.

Score wise data obtained through the questionnaire (pre and post test):

TABLE: 8

Score group	Degree of depression	Pre test frequency	Percentage	Post test frequency	Percentage
0-9	Depression likely	5	2.40	0	0
10-17	Possibly mild	9	4.33	0	0
18-21	Border line	32	15.38	10	4.80
22-35	Mild to moderate	83	39.90	24	11.53
36-53	Moderate to severe	49	23.56	19	9.13
54 and above	Very Severely depressed	30	14.43	13	6.25

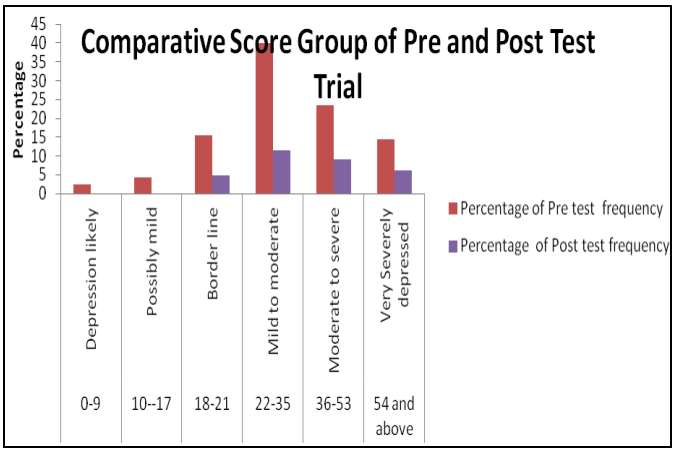

FIG.8: SCORE WISE DATA OBTAINED THROUGH THE QUESTIONNAIRE (PRE AND POST TEST)

Statistical Analysis:

t-Test: Two-Sample Assuming Unequal Variances

	Variable 1	Variable 2
Mean	34.66666667	11
Variance	821.8666667	96
Observations	6	6
Hypothesized Mean Difference	0	
df	6	
t Stat	1.913475562	
P(T<=t) one-tail	0.052102273	
t Critical one-tail	1.943180274	
P(T<=t) two-tail	0.104204546	
t Critical two-tail	2.446911846	

The result of the dependent t-test can be seen in the above table. The value of t (t Stat) is 1.913475 which can be round off to 1.92. The probability of this result being due to chance can be read from the table as 0.1042045 (two-tail) which means that this result is significant at the 0.11 level.

We will set our alpha level as .05, so we will say that p < .05 rather than that p = 0.11 We could also look up the t critical value or cut-off value for t from the table by looking at t Critical one-tail which is 2.4469 without using the spreadsheet. We now have all the information we need to complete the six step statistical inference process:

State the null hypothesis and the alternative hypothesis based on your research question. Null hypothesis: There is no significant difference between the heights of the two samples of snail shells.

Alternative hypothesis: There is a significant difference between the heights of the two samples of snail shell.

1. **Set the critical P level (also called the alpha level)**

   P=0.05

2. **Calculate the value of the appropriate statistic. Also indicate the degrees of freedom for the statistical test if necessary.**
   t = 1.91 df = 06 (unpaired , unequal sample variance)

3. **Write the decision rule for rejecting the null hypothesis.**
   Reject null hypothesis since t is <= -2.4496

4. **Write a summary statement based on the decision.**
   Reject null hypothesis , p < .05, two-tailed

5. **Write a statement of results.**
   There is a significant difference between the pre test and post frequencies. Post test frequencies are much more significant as compared to the pre-test frequencies. Therefore we can conclude from the above t-test that the patients with mild to moderate degree of depression were benefitted significantly.

Table 8 shows the comparative feature of score of depression calculated on the basis of questionnaire of pre and post test status. Respondents falling in the score group 0-9 & 10-17 have responded excellent. Score group between 18-21 and 22-35 responded good whereas respondents of score group 36-53 had shown moderate response and the score group 54 and above only mild improvement was noted. It denotes that depression of mild and borderline nature responded in excellent way while moderate degree of depression gives good response. Moderate to severe degree depression responds moderately while those falling in severe depression category do not show desired result but improve significantly.

Information regarding over all response of treatment on depression in different age group:

TABLE: 9

Age group in years	Frequency	Good improvement	%	Moderate improvement	%	Mild/No improvement	%
16-20	38	21	55.27	13	34.21	4	10.52
21-40	86	62	72.09	11	12.79	13	15.12
41-60	84	49	58.33	25	29.77	10	11.90

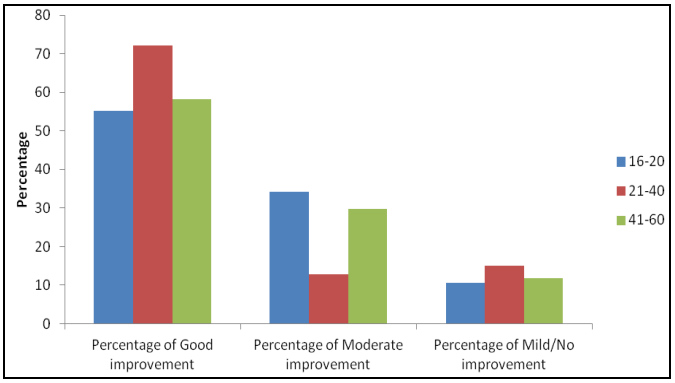

FIG.9: OVER ALL RESPONSE OF TREATMENT ON DEPRESSION IN DIFFERENT AGE GROUP

X^2 CALCULATED= 9.45; X^2 TABULTED= 9.49; df=4

The calculated value (X^2 calculated= 9.45) is slightly less than the tabulated value (X^2 tabulted= 9.49) at 0.05 level of significant. Therefore it is concluded that the overall response of differnt therapies adapted in the research on depression is not statistically different among the different age groups. It means use of overall response on depression had improvement on the different age catagories but it is not statistically different difference.

Table 9 represents the data of overall forms of different modes of therapies in the respondents during the study. It shows that response in age group 21-40 was much better than the other age groups. However, the effect of treatment as good response has been found more than 50% in the age group 16-20 and 41 -60. The respondents which did not show significant response of treatment were 10.52, 15.12 and 11.9 in the age group of 16-20, 21-40, and 41-60 respectively. Treatment failure depends upon various factors including psychological conditions, nature and intensity of severity of the simultaneous associated physical illness, patient's acceptance and adherence to the treatment.

DISCUSSION: Cognitive - behavioral therapy enables a structured consultation, provides the homeopathic clinician with a broad range of techniques to help the patient address his or her current problems and is especially useful in enabling patients to practice these solutions. It should be well planned and applied skill fully. Planning and selecting which area to try to change first is a crucial part of successfully moving forwards. Settings targets and effectively working upon that brings wonderful results. Before starting a session, pre planning is very important.

In CBT, questionnaires are often routinely used with patients to assess the severity of their disorder and to monitor the outcome of treatment. CBT was found a psycho educational form of psychotherapy. Its purpose is for patients to learn new skills of self-management that they will then put into practice in everyday life. It adopts a collaborative stance that encourages. Combined therapy regimen of Homoeopathic Medicines and CBT works very effectively and provides wonderful relief to the patients. Cognitive Behavior Therapy was given to the respondents of both sexes. Among recipient both the married and unmarried respondents showed good response in relation to ease the Depression. However, data suggested that the effect of CBT was excellent among the unmarried respondents than the married ones. The reason in married respondents could be lack of proper coordination in physical, intellectual, and emotional components between the spouses, lack of devotion of time for each other, habit of avoiding each other, responsibilities of family and increased financial and social responsibilities. According to the statistical analysis it has been proved that the patients receiving the combined regimen therapy were significantly benefited as compared to the form of mono-therapy i.e. homoeopathic medicines, CBT and PLACEBO. Therefore we can conclude that combined therapy was more benefitted as compared to individual therapy.

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