RELATIONSHIP BETWEEN EMOTION REGULATION STRATEGIES AND EGO DEFENCE STYLE AMONG CAREGIVERS OF PATIENTS WITH MOOD DISORDERS

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Abstract

Objective: To find out the relationship between emotion regulation strategies and ego defence styles among caregivers of patients with mood disorders. **Methodology:** A descriptive study was conducted in the psychiatric ward and outpatient department of Amrita Institute of Medical Sciences and Research Centre, Kochi. Caregivers of patients with mood disorders (80) meeting the eligibility criteria were selected using purposive sampling. The data was collected by using the following tools: Tool 1: Structured socio-demographic profile of caregiver, Tool 2: Defence Style Questionnaire (DSQ-40), Tool 3: Emotion Regulation Questionnaire (ERQ). Analysis was done by using Inferential and Descriptive statistics. **Results:** Mature and neurotic ego defence mechanisms were having significant positive correlation with cognitive reappraisal and emotional suppression emotional regulation strategy. Even though immature ego defence mechanisms were not significantly correlated with the emotional regulation strategies, rationalization, projection, denial, acting out, displacement as immature ego defences were positively correlated with cognitive reappraisal emotional regulation strategy. Isolation as immature ego defences were positively correlated with emotional suppression emotional regulation strategy and displacement as immature ego defences were negatively correlated with emotional suppression emotional regulation strategy. **Conclusion:** From the present study it can be concluded that defence styles may be at least   perceptible with regard to emotional regulation strategies of caregivers of patients with mood disorders. Therefore emotion regulation might be improved through adopting appropriate mature defence styles in order to balance the role as a caregiver.

Keywords: Mood disorder, Caregivers, Emotion regulation strategies, Ego defence mechanisms

INTRODUCTION

Mood is a subjective feeling of emotions that colours the perception of the world. Unusual shifts of mood in an individual influence a person's behaviour as well as challenges the physical and emotional resources of family members. Changes in the mood that interfere with everyday life may indicate with a mood disorder. Mood disorders are characterized by a disturbance of mood, accompanied by a full or partial maniac or depressive syndrome, which is not due to any other physical or mental disorder (Sreevani R, 2010).

Family members play an inevitable role in providing care and influencing the perception of the world on mood disorder patients. Care giving in mood disorders is a demanding and exhausting activity that questioning the physical and emotional wellbeing of the family caregivers. Caregivers of patients with mood disorders experience increased level of rage, dissatisfaction and stress when they are obliged to take responsibility for overall care of the patient. Several studies suggests that families who have a member with a chronic mental disorder area high risk for experiencing mental health problems. Care givers use effective and ineffective methods to cope with the burden and challenges. The experienced stress is likely to be exacerbated by lack of emotional regulation and adopting immature defences that cause many forms of defensive behaviour (Sintayehu M et al., 2015).

Emotion regulation is a key element of most theories of emotion which refers to a person's ability to understand and accept his or her emotional experience to engaging healthy strategies to manage uncomfortable emotions when necessary and to engage in appropriate behaviour when distressed (Shehata A.M et al., 2017).

Defence mechanisms are psychological strategies that are unconsciously used to protect a person from anxiety arising from unacceptable thoughts or feelings. Defence mechanisms in DSM-IV have been proposed to protect as an automatic mental process of the individual against anxiety and internal and external factors that are causing stress (Kraustrum K et al., 2011). The effective adaptation of appropriate defence style is inevitable to cope up with the stressful situation as a caregiver.

Mental and behavioural disorders account for 12%of the global burden of diseases. The WHO in its World Health Report 2001 has drawn attention to the fact that 450 million individuals lived with mental disorders worldwide (WHO, 2001). According to National Mental Health Survey (NMHS) of India 2015-16 the life time mental morbidity in India is 14.0 % and also 11% of individuals above 18 years are suffering with a mental disorder. The prevalence of mood disorders according to NMHS of India was 2.9%, mood disorders was higher in the 40-49 age group (3.9%) and among urban metro residence (5.6%) when compared to their respective counter parts. Also, the current rates for females (3.1%) were higher as compared to those for males (2.6%) (NMHS, 2015-16).

In past decades most researchers and mental health professionals have concentrated much of time and efforts on people living with mental disorders with particular interest on causation and symptomotology (Marsh D T et al, Bowd CLA et al,1997). There is now need to focus on caregivers of patients with mental disorders as well, especially in developing countries where health systems for managing mental health of patients and their caregivers are lacking (Bassal C et al 2015,Vaillant GE et al,2000).

Another study done on coping styles and association of sources of stress in undergraduate medical students showed the need of stress management techniques (Cherkil S, Gardens SJ et al 2014)

Examining the relationship between emotional regulation strategies and ego defence style will allow for the development of interventions and program content that will help caregivers effectively cope with their situation and acquire effective defence style and emotion regulation to improve their mental health condition. Defence style and emotional regulation are crucial to healthy mental functioning and that disturbances in them may an important role in psychopathology. Hence, the current study would shed light on individual

differences in defence using relation to emotion regulation among caregivers of mood disorder patients. Adaptation of effective emotion regulation strategies and defence style mechanism will help to manage their stressful situation. No studies were conducted in Indian setting to find out relationship between emotion regulation strategies and ego defence styles among caregivers of mood disorder patients. The current study will allow for the development of intervention and program content that will help caregivers effectively regulate the emotions and adopt appropriate ego defence styles.

METHOD AND MATERIALS

A descriptive correlation study was conducted to find out the relationship between emotional regulation strategies and ego defence style among caregivers of patients with mood disorders in a tertiary hospital, Kochi. Institute ethical committee clearance has obtained for conducting this study. Eighty caregivers who met the inclusion criteria were enrolled by purposive sampling technique. Informed consent was obtained after explaining the details of the study. A Socio demographic profile, DSQ-40 consisting of 40 items to measure the ego defence style and ERQ consisting of 10 items to assess the emotion regulation strategy were used to collect data. Caregiver's response was measured depending on the scores allotted to each item on the structured questionnaire.

Tool 1: Structured Socio-demographic Profile: Consists of demographic and clinical variables of the caregiver.

Tool 2: Emotion Regulation Questionnaire: Defence Style Questionnaire 40 was developed by Andrews *et al* (1993), the scale is self-administered and consists of 40 short statements; the primary aim of the DSQ-40 is to measure and differentiate between impaired and unimpaired defences. It is a measure of 20 defence mechanisms consistent with those in the DSM-IV-TR (American Psychiatric Association, 2003). These defence styles are grouped as mature (sublimation, suppression, anticipation, altruism, and humor), immature (projection, passive aggression, acting out, fantasy, hypochondriasis, and dissociation), and neurotic (displacement, repression, isolation, and reaction formation). Items are rated on a Likert scale ranging from 1 ("strongly disagree") to 9 ("strongly agree") based on personal agreement with the statement.

Tool 3: Defence Style Questionnaire: Emotion Regulation Questionnaire was developed by Gross & John (2003). It is a 10-item scale designed to assess respondents' tendency to regulate their emotions in the habitual use of two emotion regulation strategies: cognitive reappraisal and expressive suppression. Respondents answer each item on a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). It is scored by taking a mean score of the representative items.

The data was analyzed using the PC with SPSS-16 and Windows Version 7.0. The selected level of significance was at $p \leq 0.05$. Descriptive statistics were done using arithmetic mean, percentage and standard deviation. T-test and ANOVA was used to determine the difference between the groups. Karl Pearson's coefficient of correlation test was done to find out the relationship between study variables.

RESULTS

The study findings show the relationship between emotional regulation strategies and ego defence style among caregivers of patients with mood disorders.

Table No. 1: Socio demographic characteristics of caregivers of patients with mood disorders

n=80

Socio demographic characteristics		Number of caregivers	Percentage
Age	18 to 34 years	8	10.00
	35 to 49 years	29	36.25
	50 to 64 years	28	35.00
	Above 65 years	15	18.75
Gender	Female	39	48.75
	Male	41	51.25
Marital status	Married	75	93.75
	Single	5	6.25
Family type	Nuclear	66	82.50
	Joint/ Extended	14	17.50
Socio economic status	APL	57	71.25
	BPL	23	28.75
Education	Primary/ Secondary Education	37	46.25
	Higher Education	43	53.75
Occupation	Unemployed	30	37.50
	Professional	19	23.75
	Non-Professional	20	25.00
	Retired	11	13.75
Place	Urban	24	30.00
	Rural	56	70.00
Duration of taking care of the patient			
	Less than 1 year	20	25.00
	1 to 5 years	29	36.25
	6 to 10 years	13	16.25
	Above 10 years	18	22.50

Relationship with the patient		
Parents	30	37.50
Spouse	36	45.00
Siblings/Children	14	17.50
Experience of taking care of patients with similar illness		
Yes	9	11.25
No	71	88.75

The socio demographic characteristics of caregivers of patients with mood disorders reveal that in a total of 80 participants, 36.25% are in an age group of 35-49 years and 35% are in an age group of 50-64 years. Among the total participants 51.25% were males. Most of the participants were married (93.75%) and from a nuclear family (81.25%). 71.25% of them belongs to an Above Poverty Line (APL) category. 33.75% of them are having secondary level of education and 37.50% were unemployed or homemaker. 45% and 37% of caregivers of the patients are spouse and parents respectively. 36.25% of the caregivers are taking care of the patients for a period of 1-5 years and 88% of them are not having any previous experience of taking care of the patients (Table 1).

Table No. 2: Self reported ego defence style among caregivers of patients with mood disorders

n=80

Ego defence mechanism	Mean ± SD	Percent score ± SD
Mature	47.45 ± 14.55	65.90 ± 20.22
Suppression	11.09 ± 5.43	61.59 ± 30.17
Sublimation	14.06 ± 4.50	78.13 ± 25.38
Humor	10.15 ± 5.25	56.38 ± 29.18
Anticipation	12.15 ± 5.36	67.50 ±29.82
Neurotic	49.64 ± 12.81	68.94 ± 17.19
Pseudo altruism	12.49 ± 4.16	69.37 ± 23.13
Reaction formation	11.09 ± 4.45	61.59 ± 24.75
Idealization	13.59 ± 5.18	75.48 ± 28.77
Undoing	12.48 ± 4.70	69.30 ± 26.11
Immature	110.00± 27.39	50.92 ± 12.68
Projection	10.98 ± 4.45	60.94 ± 24.73
Passive aggression	7.80 ± 4.35	43.33 ± 24.16
Denial	10.43 ± 5.36	57.91 ± 29.81

Dissociation	7.74 ± 4.67	42.98 ± 25.96
Acting out	7.85 ± 4.58	43.61 ± 25.48
Devaluation	4.20 ± 3.73	23.33 ± 20.78
Displacement	6.13 ± 4.27	34.03 ± 23.75
Splitting	11.93 ± 4.41	66.25 ± 24.50
Isolation	11.53 ± 5.32	64.03 ± 29.56
Rationalization	14.00 ± 4.3	77.78 ± 23.91
Autistic fantasy	5.66 ± 5.66	31.45 ± 31.47
Somatization	11.78 ± 6.13	65.42 ± 34.07

The distribution of the caregivers of the patients with mood disorders according to their total percent mean score of ego defence mechanisms shows that the highest percent score was for neurotic ego defence mechanisms (68.94 ± 17.79) and in it idealization has the highest mean score (13.59 ± 5.18). Whereas immature defence mechanisms has the lowest percent score (50.92 ± 12.68), the highest mean score among this group was for rationalization (14.00 ± 4.3). The percent score for mature defence mechanisms was 65.90 ± 20.22. Sublimation has the highest mean score (14.06 ± 4.50) among the mature defence mechanisms (Table 2).

Table No. 3: Emotional regulation strategies among caregivers of patients with mood disorders

n=80

Emotional regulation strategies	Mean ± SD	Percent score±SD
Cognitive reappraisal	35.31 ±20.38	84.08±72.77
Emotional suppression	55.68± 8.10	79.55±19.37
Total mean score	**58.81 ±11.90**	**21.00±17.00**

The distribution of care givers of patients with mood disorders according to their mean score of emotion regulation strategies was noted that emotional suppression strategy had a higher mean score (55.68 ± 8.10) than the cognitive reappraisal strategy (35.31 ± 20.38) (Table 3).

Table No 4: Relationship between self reported ego defence styles and emotional regulation strategies among caregivers of patients with mood disorders

n=80

Ego Defence Mechanism	Emotional Regulation Strategies			
	Cognitive reappraisal		Emotional suppression	
	R	P	R	P
Mature	**0.581**	**0.000***	**0.281**	**0.012***
Suppression	0.470	0.000*	0.230	0.040*
Sublimation	0.400	0.000*	0.188	0.096
Humor	0.360	0.001*	0.099	0.385
Anticipation	0.400	0.000*	0.273	0.014*
Neurotic	**0.449**	**0.000***	**0.221**	**0.048***
Pseudo altruism	0.210	0.062	0.127	0.260
Reaction formation	0.309	0.005*	0.091	0.420
Idealization	0.417	0.000*	0.286	0.010*
Undoing	0.284	0.011*	0.089	0.434
Immature	**0.027**	**0.814**	**0.096**	**0.399**
Rationalization	0.454	0.000*	0.190	0.091
Projection	0.223	0.047*	0.118	0.296
Denial	0.296	0.008*	0.092	0.419
Dissociation	0.176	0.119	0.020	0.859
Devaluation	0.198	0.780	0.003	0.976
Acting out	0.234	0.037*	-0.064	0.572
Somatization	0.058	0.607	0.015	0.892
Autistic fantasy	0.100	0.375	0.055	0.627
Splitting	0.064	0.572	-0.069	0.545
Displacement	0.284	0.011*	-0.232	0.038*
Isolation	0.069	0.545	0.245	0.028*
Passive aggression	0.173	0.125	0.127	0.263

*: Statistically significant at p≤0.05

The relationship between ego defence mechanisms and emotional regulation strategies among the caregivers of patients with mood disorders shows that total mature defence mechanism was significantly correlated with cognitive reappraisal and emotional suppression emotional regulation strategy (r=0.581, p=0.00 and r=0.281, p=012). Suppression, sublimation, humor and anticipation as mature ego defences were positively correlated with cognitive reappraisal emotion regulation strategy (r=0.47, p=0.00; r=0.40, p=0.00; r=0.36, p=0.01; r=0.40, p=0.00 respectively). Suppression and anticipation as mature defences were positively correlated with emotional suppression emotional regulation strategy (r=0.23, p=0.04 and r=0.273, p=0.014). Furthermore, total neurotic defence mechanism was significantly correlated with cognitive reappraisal and emotional suppression emotional regulation strategy (r=0.449, p=0.00 and r=0.221 p=0.48). Reaction formation, idealization and undoing as neurotic defences were positively correlated with cognitive reappraisal emotion regulation strategy (r=0.309, p=0.005; r=0.417, p=0.000; r=0.284, p=0.011 respectively). Idealization as neurotic defences were positively correlated with emotional suppression emotion regulation strategy (r=0.286, p=0.01) (Table 4).

Even though total immature ego defence mechanisms were not significantly correlated with the emotional regulation strategies, Rationalization, projection, denial, acting out, Displacement as immature ego defences were positively correlated with cognitive reappraisal emotional regulation strategy (r=0.454, p=0.00; r=0.223, p=0.047; r=0.296, p=0.008; r=0.234, p=0.037; r=0.284, p=0.011 respectively). Isolation as immature ego defences were positively correlated with emotional suppression emotional regulation strategy (r=0.245, p=0.028) and displacement as immature ego defences were negatively correlated with emotional suppression emotional regulation strategy (r=-0.232, p=0.038) (Table 4).

Table No. 5: Relationship of emotion regulation strategies and ego defence style with type of family among caregivers of patients with mood disorders.

n=80

Ego Defence Mechanism	Type of Family		P
	Nuclear	Joint/ Extended	
	Mean ± SD	Mean ± SD	
Mature	**65.81 ± 21.17**	**66.29 ± 16.02**	0.934
Suppression	62.56 ± 29.92	57.40 ± 31.96	0.554
Sublimation	78.80 ± 26.51	75.19 ± 20.35	0.622
Humor	65.12 ± 29.40	61.85 ± 28.55	0.423
Anticipation	66.75 ± 31.54	70.74 ± 21.35	0.644
Neurotic	**68.86 ± 18.55**	**69.25 ± 14.56**	0.939
Pseudo altruism	68.11 ± 24.28	74.81 ± 16.91	0.315
Reaction formation	59.31 ± 25.38	71.48 ± 19.57	0.086
Idealization	77.94 ± 28.96	64.81 ± 26.19	0.116
undoing	70.08 ± 26.49	65.92 ± 25.01	0.581
Immature	**52.37 ± 13.07**	**44.62 ± 8.60**	0.032*
Rationalization	76.84 ± 25.14	81.85 ± 17.75	0.468

Projection	62.05 ± 26.41	56.30 ± 15.26	0.420
Denial	61.88 ± 29.89	40.74 ± 23.25	0.012*
Dissociation	44.61 ± 27.25	35.92 ± 18.52	0.012*
Devaluation	25.12 ± 22.44	15.55 ± 6.70	0.245
Acting out	47.43 ± 24.47	27.03 ± 23.74	0.050*
Somatization	65.90 ± 35.14	63.33 ± 29.97	0.795
Autistic fantasy	32.30 ± 32.45	27.77 ± 27.53	0.618
Splitting	68.37 ± 23.83	57.03 ± 26.95	0.107
Passive aggression	44.18 ± 24.95	39.62 ± 20.77	0.514
Displacement	34.70 ± 25.23	31.11 ± 16.23	0.601
Isolation	65.13 ± 30.18	59.26 ± 27.19	0.468
Emotional Regulation Strategies Cognitive reappraisal Emotional suppression	83.85 ± 20.22 73.02 ± 22.43	85.08 ± 15.23 71.67 ± 13.66	0.825 0.823

*: Statistically significant at p≤0.05

The relationship between ego defence mechanisms, emotional regulation strategies and the type of family among caregivers of patients with mood disorders shows that higher mature and neurotic mean scores in joint/ extended family (66.29 ± 16.02, p=0.934;69.25 ± 14.56, p=0.939 respectively) than the nuclear family (65.81 ± 21.17, p=0.934;68.86 ± 18.55, p=0.939 respectively) with no significant difference and the higher immature mean score is in the nuclear family (52.37 ± 13.07, p=0.032) than the joint/ extended family (44.62 ± 8.60, p=0.032) with positive significance. It also observed that denial, dissociation, acting out as immature ego defences has significantly correlated with the nuclear and joint/extended type of family (61.88 ± 29.89, p=0.012; 44.61 ± 27.25, p=0.012; 47.43 ± 24.47, p=0.050 respectively) (Table 5).

The cognitive reappraisal emotional strategy was highly used by the members from the joint or extended family (85.08 ± 15.23) than the nuclear family (83.85 ± 20.22) with no significant difference (P=0.825). The emotional suppression emotional strategy was highly used by the nuclear family (73.02 ± 22.43) than the joint or extended family(71.67 ± 13.66) with no significant difference (p=0.823) (Table 5).

Table No. 6: Relationship of emotion regulation strategies and self-reported ego defence style with education of caregivers of patients with mood disorders.

n=80

Ego Defence Mechanisms	Education		P
	Primary/ Secondary Education	Higher Education	
	Mean ± SD	Mean ± SD	
Mature	**65.72± 20.27**	**66.05 ± 20.41**	0.943
Suppression	60.36± 32.39	62.66 ± 28.56	0.739
Sublimation	84.38 ±21.86	72.74 ± 27.15	0.037*
Humor	54.50± 32.31	58.01 ± 26.48	0.601
Anticipation	63.66± 32.54	70.80 ± 27.21	0.295
Neurotic	**74.21± 17.71**	**64.40 ± 16.76**	0.013*
Pseudo altruism	68.16± 25.10	70.41 ± 21.54	0.672
Reaction formation	69.09± 23.62	55.16 ± 24.13	0.011*
Idealization	86.33± 20.39	66.14 ± 31.74	0.001*
Undoing	73.27± 27.05	65.89 ± 25.09	0.212
Immature	**54.06± 11.57**	**48.22 ± 13.09**	0.037*
Rationalization	79.43±23.19	76.36 ± 24.70	0.570
Projection	61.71±26.28	60.34 ± 23.61	0.087
Denial	67.41±30.23	49.74 ± 27.21	0.008*
Dissociation	46.09 ±28.89	40.31 ± 23.16	0.332
Devaluation	22.67±21.53	23.90 ± 20.26	0.794
Acting out	43.24± 24.46	43.92 ± 26.61	0.905
Somatization	70.42± 34.77	61.11 ± 33.26	0.227
Autistic fantasy	36.83± 36.47	25.96 ± 25.62	0.102
Splitting	73.42± 21.95	60.07 ± 25.13	0.013*
Passive aggression	45.64± 25.42	41.34 ± 23.13	0.431
Displacement	28.68± 20.35	38.63 ± 25.68	0.057
Isolation	72.22± 24.46	56.98 ± 31.96	0.018*
Emotional Regulation Strategies			
Cognitive reappraisal	86.42 ± 18.35	82.06± 20.28	0.313
Emotional suppression	78.28 ± 18.33	68.02 ± 22.18	0.026*

*: Statistically significant at p≤0.05

Table 6 reveals the relationship between ego defence mechanisms, emotional regulation strategies and education of caregivers of patients with mood disorder.It was noted that the group having higher education is having highest mature mean score (66.05 ± 20.41) than the group with primary or secondary education (65.72 ± 20.27) with no significant difference (P =0.943).Even though, Sublimation has as mature ego defence was highly used by the group with primary or secondary education (84.38 ± 21.86) than the group having higher education (72.74 ± 27.15) with positive significance (0.037). Neurotic and immature defences were higher among the group having primary or secondary education (74.21 ± 17.71, P = 0.037; 54.06 ± 11.57, P=0.037) than the group with higher education (64.40 ± 16.76, P = 0.037; 48.22 ± 13.09, P=0.037), having a significant positive difference.

Reaction formation and idealization as neurotic ego defences were highly used by the group with primary or secondary education (69.09 ± 23.62, p=0.011; 86.33 ± 20.39, p=0.001 respectively) than the group having higher education (55.16 ± 24.13, p=0.011; 66.14 ± 31.74, p=0.001 respectively) with positive significance. Denial, splitting and isolation as immature ego defences were highly used by the group with primary or secondary education (67.41 ± 30.23, p=0.008; 73.42 ± 21.95, p=0.013; 72.22 ± 24.46, p=0.018 respectively) than the group having higher education (49.74 ± 27.21, p=0.008; 60.07 ± 25.13, p=0.013; 56.98 ± 31.96, p=0.018 respectively) with positive significance (Table 6).

Cognitive reappraisal emotional strategy was highly used by the care givers with primary or secondary education (86.42 ± 18.35) than the caregivers with higher education (82.06 ± 20.28) with no significance (p=0.313). Also emotional suppression emotional strategy was highly used by the care givers with primary or secondary education (78.28 ± 18.33) than the caregivers with higher education (68.02 ± 22.18) with positive significance (p=0.026) (Table 6).
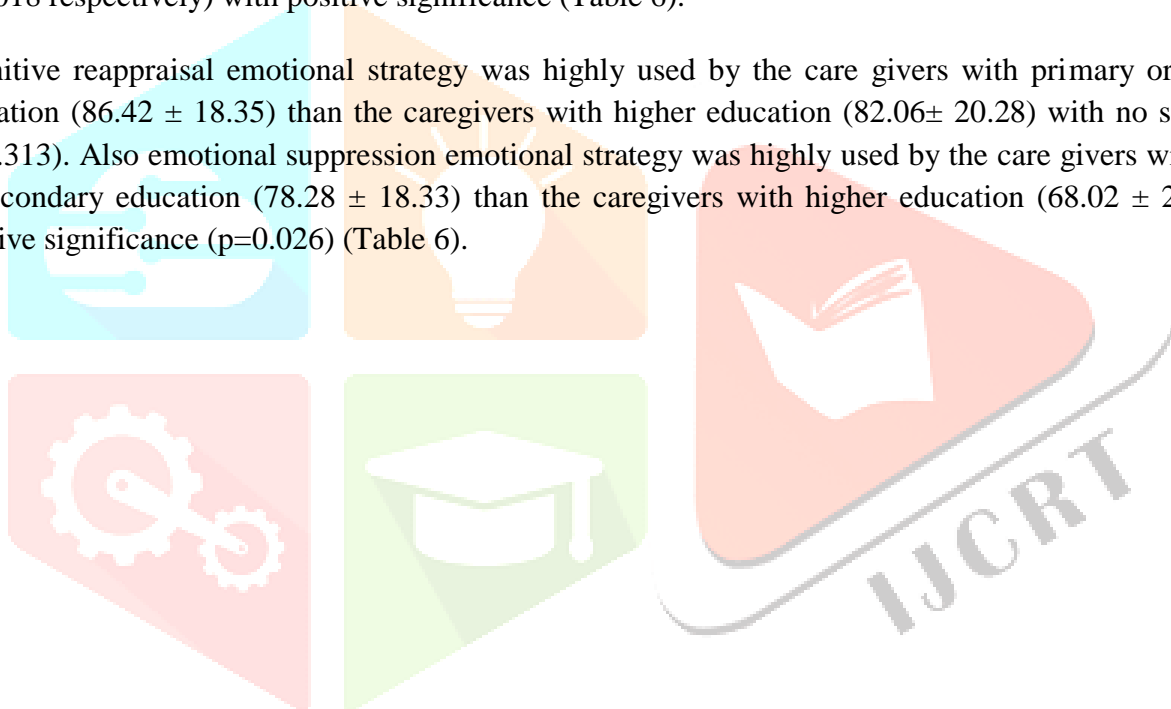
Table No 7: Relationship of emotion regulation strategies and ego defence mechanism with occupation of caregivers of patients with mood disorders.

n=80

Ego Defence Mechanism	Occupation of Caregivers				P
	Unemployed	Professional	Non-Professional	Retired	
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	
Mature	**68.37 ± 17.40**	**59.57 ± 22.38**	**67.63± 22.41**	**66.91 ± 22.41**	0.485
Suppression	64.62 ± 28.15	57.60 ± 26.13	65.00 ± 32.94	54.04 ± 38.17	0.672
Sublimation	80.37 ± 24.00	66.96 ± 28.35	78.06 ± 25.64	91.41 ± 16.54	0.071
Humor	54.81 ± 26.97	51.16 ± 26.22	62.05 ± 31.00	58.58 ± 37.62	0.660
Anticipation	73.70 ± 26.13	62.57 ± 32.12	65.00 ± 29.95	63.64 ± 35.95	0.551
Neurotic	**74.07 ± 16.84**	**58.84 ± 15.72**	**74.79 ± 16.28**	**61.74 ± 18.11**	0.004*
Pseudo altruism	72.22 ± 24.36	64.32 ± 20.89	70.00 ± 20.02	69.19 ± 29.74	0.719
Reaction formation	66.11 ± 20.32	49.12 ± 24.58	72.50 ± 21.74	51.01 ± 30.81	0.006*
Idealization	82.59 ± 25.55	59.35 ± 33.02	83.05 ± 21.05	70.20 ± 34.18	0.020*
undoing	75.37 ± 25.63	62.57 ± 22.40	73.61 ± 25.67	56.56 ± 30.20	0.108
Immature	**50.30 ± 13.77**	**48.75 ± 13.49**	**51.20 ± 10.72**	**55.85 ± 11.69**	0.521
Rationalization	76.85 ± 24.91	65.20 ± 26.30	86.11 ± 17.14	86.87 ± 19.28	0.022*
Projection	64.44 ± 23.27	65.79 ± 20.56	54.44 ± 25.97	55.05 ± 31.86	0.348
Denial	57.59 ± 29.12	46.49 ±26.97	59.16 ± 31.80	76.26 ± 26.65	0.069
Dissociation	45.55 ± 22.09	37.13 ± 24.29	41.11 ± 32.46	49.49 ± 26.58	0.569
Devaluation	22.59 ± 18.45	24.56 ± 18.82	16.38 ±11.03	35.85 ± 35.60	0.093
Acting out	39.44 ± 22.57	49.41 ± 27.52	43.05 ± 23.49	45.95 ± 33.43	0.603
Somatization	60.93 ± 47.18	66.67 ± 32.12	74.17 ± 29.20	59.60 ± 37.68	0.542
Autistic fantasy	32.77 ± 31.40	27.48 ± 26.15	35.55 ± 37.35	27.27 ± 31.47	0.834
Splitting	67.03 ± 26.89	58.47 ± 21.94	67.77 ± 24.08	74.74 ± 21.85	0.347
Passive aggression	38.33 ± 24.94	47.95 ± 48.33	21.02 ± 39.89	39.89 ± 30.51	0.389
Displacement	31.48 ± 19.37	35.96 ± 27.55	31.94 ± 22.57	41.41 ± 30.66	0.648
Isolation	66.67 ± 28.92	59.94 ± 28.12	56.39 ± 33.29	77.78 ± 23.96	0.231
Emotional Regulation					

Strategies					
Cognitive Reappraisal	90.32±10.99	74.19 ± 22.84	87.26 ± 16.24	78.35 ± 28.20	0.019*
Emotional suppression	77.98 ± 18.23	65.04 ± 23.16	74.46 ± 19.53	68.83 ± 24.74	0.177

*: Statistically significant at p≤0.05

Table 7 shows that the mature defences were mostly adapted by the unemployed caregivers (68.37 ± 17.40) than professional (59.57 ± 22.38),non-professional (67.63 ± 22.41) and retired(66.91 ± 22.41) caregivers with no significant difference(P=0.485).Neurotic defences were highly used by the non-professionals (74.79 ± 16.28) than the group of unemployed (74.07 ± 16.84), professional (58.84 ± 15.72)and retired (61.74 ± 18.11) caregivers with positive significance (0.004). Reaction formation and idealization as neurotic defenceswas mostly used by the non-professionals (72.50 ± 21.74, p=0.006; 83.05 ± 21.05, p=0.020) than the unemployed (66.11 ± 20.32, p=0.006; 82.59 ± 25.55 p=0.020), professional (49.12 ± 24.58, p=0.006; 59.35 ± 33.02, p=0.020) and retired (51.01 ± 30.81, p=0.006; 70.20 ± 34.18, p=0.020) caregivers with positive significance.

Total immature defence mean score is high amongretired people(55.85 ± 11.69) than unemployed (50.30 ± 13.77), professional (48.75 ± 13.49) and non-professional(51.20 ± 10.72) caregivers without any significant difference(P=0.521).It also observed thatrationalization as an immature defence was high among retired (86.87 ± 19.28) and non-professional (86.11 ± 17.14) caregivers than unemployed (76.85 ± 24.91) and professional caregivers (65.20 ± 26.30) with positive significance (p=0.022) (Table 7).

Cognitive reappraisal emotional regulation strategy was highly used by the unemployed caregivers (90.32±10.99) than the professional (74.19 ± 22.84), non-professional (87.26 ± 16.24) and retired (78.35 ± 28.20) caregivers with a positive significance (0.019). Emotional suppression emotional regulation strategy was highly used by the unemployed caregivers (77.98 ± 18.23) than the professional (65.04 ± 23.16), non-professional (74.46 ± 19.53) and retired (68.83 ± 24.74) caregivers with no significance (0.177) (Table 7).

DISCUSSION

Caring a mentally ill is a distressing and exhausting activity and it also affects the emotion regulation strategies and defence style adopted by the individual. Hence the current study would shed light on individual differences in defence use in relation to emotion regulation among caregivers of patients with mood disorder.

Present study shows mature and neurotic defence styles have a positive significant correlation with both cognitivereappraisal and emotional suppression emotional regulation strategies. A study by Shehtaet al, (2017) also reported that mature defence style has positive significant correlation with cognitive reappraisal of emotion regulation. Also coping is a situational based and successful coping with situation seems to require the thinking ability to do when the problems are within his or her control to cope and function as a self-reliant to using mature defences and cognitive reappraisal. In addition suppression, sublimation, humor and anticipation as mature defences were positively correlated with cognitive reappraisal.

In the present study emotion suppression is having a positive and significant relation with the mature defence mechanism in which the individual may be consciously suppressing their emotion within them in order to prevent the influence of it on their day to day a life. And among the mature defence mechanism anticipation is positively related with the emotional suppression. They may be suppressing their emotions by speculation about the future. These findings can be strengthened by a study conducted by Bassal et al (2015) suggested

that expressive suppression significantly moderates the relationship between positive experienced emotions and emotional exhaustion.

In the present study the mature defence mechanism was mostly adopted by the members from the joint or extended family and the immature mechanism was adopted by the members from nuclear family. It may be due to the support system existed in the joint or extended family set up which helps the individual more to adopt a healthy defence mechanism. A study conducted in Thai family caregivers found that extended family was a major source of support to caregivers physically, financially and emotionally(Sethabouppha H A et al., 2005).Another study by Masunga K(2016)suggests that caregiving occurring in a more nuclear family can resulted in decreased support to the family caregivers and shed light to the point of present study that immature mechanisms are more adopted by the members from nuclear family.

In the present study, neurotic and immature defences were higher among the caregivers with primary or secondary education than the caregivers with higher education. Reaction formation and idealization as neurotic ego defences were highly used by the group with primary or secondary education. Denial, splitting and isolation as immature ego defences were highly used by the group with primary or secondary education. Emotional suppression emotional strategy was highly used by the care givers with primary or secondary education.

Present study reports that neurotic defences were highly used by the non-professionals than the group of unemployed, professional and retired caregivers. Reaction formation and idealization as neurotic defences was mostly used by the non-professionals. Cognitive reappraisal emotional regulation strategy was highly used by the unemployed caregivers than the professional, non-professional and retired caregivers.

CONCLUSION

From the present study it can be concluded that defence styles may be at least perceptible with regard to emotional regulation strategies of caregivers of patients with mood disorders. The findings show that mature and neurotic defence style has a positive and significant correlation with cognitive reappraisal and emotional suppression emotional regulation strategies. Therefore emotion regulation might be improved through adopting appropriate mature defence styles in order to balance the role as a caregiver.

The study was limited to the caregivers of inpatients and outpatients with mood disorders. Also self- reported responses by the caregivers are the basis of the inference; therefore the reliance may be questioned.

The study can be replicated using qualitative or mixed methodology, bigger sample size, with professionals, patients and caregivers of patients with other mental illnesses. There is scope for further studies with planning and evaluating interventions to improve the ego defences and emotional regulations of patients with mood disorders and other psychiatric disorders.

To conclude, the findings of the present study have important implications for clinical practice, education, research and psychiatric hospital administration. The added responsibility of mental health professionals is to develop and suggest effective practices or teaching practices to improve the caregiver's lives with their patients. Also the findings can guide mental health professionals while developing interventions for caring patients with mood disorders in the psychiatric hospitals.

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