

Role of Expressed Emotion and Gender in Adversarial Growth of People with Type 2 Diabetes

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The current study examined the role of expressed emotion and gender in the adversarial growth on a sample of 160 people with type 2 diabetes. Based on the correlational design, the Family Emotional Involvement and Criticism Scale, Semantic Differential Scale–Family, and Silver Lining Questionnaire were administered individually on the participants. The results revealed that the expressed emotions as perceived by the participants significantly contributed to their adversarial growth during illness. The family's emotional involvement as perceived by the participants significantly predicted the presence of their adversarial growth, with men showing better growth than women. The findings indicate the importance of having a positive family environment for the positive growth of people with type 2 diabetes, which in turn plays a role in the process of management of the chronic illness.

Keywords: Expressed emotion, Perception of family, Type 2 diabetes, Adversarial growth, Correlational design.

The chronic illness tends to have a greater impact on the well-being of the people compared to acute illness. Diabetes mellitus (DM) is a chronic illness where its management requires an effective interplay of bio-psycho-social factors. However, this approach of management is rarely utilized by both including individuals with diabetes and health professionals. Among all the Asian countries, India has the highest prevalence of diabetic patients (King & Rewers, 1993; Ramachandran, Snehalatha, Dharmaraj, & Viswanathan, 1992; DECODA study group, 2003) with Andhra Pradesh reporting very high prevalence rates similar to those in urban Indian populations (Chow et al., 2006) and Hyderabad showing high rates of diabetes and impaired glucose tolerance in the southern part of India (Ramachandran et al., 2001).

While many factors play an important role in managing diabetes, family is one of the most prominent factors for the self-care management of the patients in addition to themselves (Etzwiler, 1994). Behavior and affective attitude of the family towards the patient-expressed emotion (Kazarian, 1992) - can be negative,

positive, or both. It has a significant impact on psychological factors (like emotions, beliefs, behavior, perception of illness, adherence, and adversarial growth) and social factors (social relationships, occupation, and economic conditions). Five components of expressed emotions are described by Brown (1985), which includes emotional over-involvement, hostility, critical comments, positive remarks, and warmth. As the present study investigated expressed emotion from the perspective of the recipient it measured two major indicators such as perceived criticism and emotional involvement but, not emotional over-involvement as it implied a negative value judgment about behavior, which was preferred to be avoided in the study, whereas perceived criticism measured negative behavior of the family. Perceived criticism refers to critical comments expressed by the family regarding a patient's behavior as perceived by the recipient. Emotional involvement does not hold a negative connotation as held by emotional over-involvement and is referred to as a caregiver's support, empathy and concern towards the individual that can either be high, moderate or low. Moreover, the study also

focused on a person's emotional perspective of his or her family in a holistic way.

Expressed emotion affects both treatment outcome (Wearden, Tarrier, & Barrowclough, 2000) and one's relationships (Chesla et al., 2004) with emotional over-involvement showing an association with better metabolic control (Dashiff, Hardeman, & McLain, 2007) and hostility with increased glycated haemoglobin (Worrall-Davies, Owens, Holland, & Haigh, 2002). Expressed emotion, which involves both positive and negative indicators, shapes a person's perception of the chronic illness and associated affect, cognition, and quality of life that may either be positive or negative.

Adversarial growth refers to the positive psychosocial changes that can be attributed to adverse life circumstances (Linley & Joseph, 2004). While adversarial growth is a positive growth following a traumatic experience, it is greatly affected by one's social environment, personality, spirituality, affect, and coping styles (Linley & Joseph, 2004). The same pattern is followed in terms of chronic illness, where adversarial growth is affected by one's social relationships (Cordova, Cunningham, Carlson, & Andrykowski, 2001; Maercker & Langner, 2001), cognitive (Armeli, Gunthert, & Cohen, 2001; Waysman, Schwarzwald, & Solomon, 2001) and affective process (Evers et al., 2001), and spirituality (Pargament, Koenig, & Perez, 2000), which further is likely to affect the management of illness. The research findings signify the importance of biological, psychological and social factors in adversarial growth. Recent research has shown that socio-demographic variables such as gender (Weiss, 2002), age (Evers et al., 2001), education (Updegraff, Taylor, Kemeny, & Wyatt, 2002) and income (Cordova et al., 2001) are significant predictors, with women and individuals belonging to a younger age group displaying higher adversarial growth.

Hence, the purpose of the study is to understand and explain the level of expressed emotion and adversarial growth of people with type 2 diabetes and to examine the role

of expressed emotion and gender in their adversarial growth.

Method

Participants

The sample consisted of 160 participants with type 2 diabetes, whose age ranged between 30 to 69 years ($M = 55.49$, $SD = 8.91$), with equal number of men and women. People who suffered from type 2 diabetes for more than one year and less than five years were included in the study. Individuals with type 2 diabetes for more than five years whose age was below 30 years and above 70 years were excluded from the study. Among the participants, 39.4% were housewives, 31.9% were retired, 14.6% were government servants, 6.9% were private employees, and 7.2% were from professions like engineering, teaching, business, social work masonry, and farming.

Measures

Family Emotional Involvement and Criticism Scale (FEICS). The FEICS (Shields, Franks, Harp, McDaniel, & Campbell, 1992) is a 14-item scale that measures two dimensions of expressed emotion—perceived criticism and emotional involvement—as perceived by the patient (e.g., My family complains about what I do for fun). Each item was rated on a 5-point Likert scale ranging from 0 to 4 (0 = almost never, 4 = almost always). The sum of the even numbered responses produced the perceived criticism score and the sum of the odd numbered responses produced the emotional involvement score. Each of these two sets of scores ranged between 0–28. A higher score was interpreted as higher perceived criticism or emotional involvement and vice versa. The confirmatory factor analysis showed each item loaded on its proposed factor (all at $\geq .50$) and not with the other factor (all at $\leq .15$) with the Cronbach's alpha of the perceived criticism scale being 0.82 and that of emotional involvement being 0.74 (Shields et al., 1992). The criterion and content validity of the FEICS have also been established (Shields et al., 1992).

Semantic Differential Scale–Family (SDS–F). The SDS–F (Appendix A1) was developed by the authors by following the standard procedure

to measure the patient's perception of family in terms of intensity of five indicators of expressed emotion—warmth, positive remarks, hostility, emotional over-involvement, and critical comment—as perceived by the patient, in addition to the dimensions measured by the FEICS. The SDS–F consisted of 15 pairs of bipolar adjectives describing a person's perception towards his or her family. These 15 pairs of bipolar adjectives were identified from 25 such adjectives basing upon the content validity established by involving six experts from the field of Health Psychology. Participants marked each item on a 7-point scale basing on how they perceived their family. The closer the mark was to the end-point, the higher was the intensity of the respondent's emotional expression towards the family. The Cronbach's alpha of the present scale was found to be 0.94.

Silver Lining Questionnaire (SLQ-38). SLQ-38 (Sodergren & Hyland, 2000) measured the adversarial growth or positive consequences of illness (e.g.: My illness gave me more confidence). It consisted of 38 items, where each item was rated on a 5 point Likert type scale (0 = strongly disagree, 4 = strongly agree). The scale followed a bi-modal scoring where the responses 'strongly agree' and 'agree' were given a score of 1 and 'not sure', 'disagree' and 'strongly disagree' were given a score of 0. The total score ranged from 0 (low positivity) to 38 (high positivity). The Cronbach's alpha and test-retest reliability were found to be 0.94 and $r=0.90$, $p<0.001$, respectively (Sodergren, Hyland, Crawford, & Partridge, 2004).

Procedure

Three hospitals and five clinics from the twin-city of Hyderabad and Secunderabad of India were identified by the investigators for getting participants for this study. Thereafter, permission of the authorities of the selected hospitals and clinics along with an informed consent was sought for patients' participation. Based on the inclusion and exclusion criteria the investigator contacted the outpatients who approached their consultants. They were explained the purpose of the study and its implications and their informed consents was obtained. After building a rapport,

the patient was given clear instruction about the process of assessment. The questionnaires were administered individually on the majority of the participants while those who were comfortable filling the questionnaire by themselves were allowed to do so. The administration of questionnaires on each participant took an average time of 45 minutes. On completion of questionnaires, the patients were debriefed.

Results

The present study followed a correlational design, which aimed at investigating the relationship between the variables—expressed emotion as perceived by the patient, adversarial growth, age and gender, where expressed emotion included perceived criticism, emotional involvement, and patient's perception of family. Expressed emotion, adversarial growth, and age were continuous variables, and gender came under a dichotomous variable that had two levels that were coded as '0' and '1'.

Adversarial growth in people with type 2 diabetes

The frequency distribution along with M and SD scores of variables—perceived criticism, emotional involvement, patient's perception of family, and adversarial growth—was analyzed. The scores of perceived criticism ($N = 160$) ranged from 0 to 27 ($M = 7.70$, $SD = 5.24$) showing lower perceived criticism of family by the participants. The frequency distribution of the scores of emotional involvement ($N = 160$) ranged from 6 to 28 ($M = 20.81$, $SD = 4.90$) and hence, displayed higher perceived emotional involvement of the family by the participants. The scores of patient's perception of the family ($N = 160$) ranged from 22 to 105 ($M = 84.50$, $SD = 14.50$), which illustrated positive perception of the family by the participants. The scores of adversarial growth ($N = 160$) ranged from 0 to 37 ($M = 22.14$, $SD = 10.14$), which showed higher levels of adversarial growth.

Relation between adversarial growth, expressed emotion, age, and gender

The product-moment correlations of adversarial growth with perceived criticism,

Table 1. Pearson's Product-Moment Correlations among Adversarial Growth, Perceived Criticism, Emotional Involvement, Patient's Perception of Family, Age, and Gender

Variables	1	2	3	4	5	6
1. Adversarial growth	-	-.33**	.48**	.23**	-.01	.19*
2. Perceived criticism		-	-.72**	-.67**	-.14	-.09
3. Emotional involvement			-	.46**	.16*	.10
4. Patient's perception of family				-	.10	.13
5. Age					-	.24**
6. Gender						-
M	22.14	7.70	20.81	84.50	55.50	-
SD	10.14	5.24	4.90	14.50	8.91	-

Note. a Gender is a dichotomous variable coded as 0 = woman and 1 = man
N = 160, **p<.01, *p<.05

Table 2. Summary of multiple regression analysis for Perceived Criticism, Emotional Involvement, Patient's Perception of Family and Gender predicting the Adversarial Growth

Predictors	B	SEB	β	Tolerance	VIF
Perceived criticism	.08	.23	.04	.35	2.89
Emotional involvement	.99	.21	.48**	.49	2.05
Patient's perception of family	.02	.06	.02	.55	1.81
Gender	2.95	1.42	.15*	.98	1.02
R ²	0.25				
C	-2.14				
F	12.89***				

Note. B = non-standardized Beta Coefficient, SEB = Standardized Error of Beta, β = Standardized Beta Coefficient, VIF = Variance Inflation Factor a Gender is a dichotomous variable coded as 0 = woman and 1 = man

N = 160, ***p<.001, **p<.01, *p<.05

emotional involvement, the patient's perception of family, age, and gender are presented in Table 1.

A significant, negative correlation was found between adversarial growth and perceived criticism, $r(158) = -.33$, $p < .01$ in people with diabetes. This indicated that with a decrease in patient's perceived criticism of the family, there was an increase in the adversarial growth in a diabetic patient. Adversarial growth was found to have significant positive correlations with emotional involvement, $r(158) = .48$, $p < .01$ and

with the patient's perception of family $r(158) = .23$, $p < .01$. This showed that an increase in emotional involvement and a positive perception of the family by the patient lead to an increase in adversarial growth. There was a significant and positive correlation between adversarial growth and gender, $r(158) = .19$, $p < .05$, which indicated that men had a higher presence of adversarial growth than women. There was no significant correlation found between adversarial growth and age.

Role of expressed emotion and gender in adversarial growth of people with type 2 diabetes

A multiple linear regression analysis was conducted using enter method to analyze the combined effect of perceived criticism, emotional involvement, patient's perception of family and gender on adversarial growth, which is depicted in Table 2.

The combined predictors explained a statistically significant (23%) proportion of the variance in adversarial growth accurately, $R^2 = .25$, adjusted $R^2 = .23$, $F(4, 155) = 12.89$, $p < .001$. Among the four predictors, emotional involvement ($\beta = .48$, $p < .01$) and gender ($\beta = .14$, $p < .05$) were found to be individual significant predictors of adversarial growth. Perceived criticism and patient's perception of the family were unable to predict adversarial growth, significantly. The predictor, emotional involvement was found to be the best predictor of adversarial growth. By partialing out the effect of other predictor variables- emotional involvement, patient's perception of family and gender, the predictor, perceived criticism was found to predict 3% of criterion variable that is adversarial growth with its unique contribution being 2.6%. Accordingly, emotional involvement was found to predict 36.7% of adversarial growth by partialing out the effect of other predictors. Its unique contribution was found to be 34.2%, making it the best predictor of adversarial growth among all the other predictors. On partialing out the effect of the other predictors, patient's perception of family was found to predict 1.6% of the criterion variable with a unique contribution of 1.4%. Gender was found to predict 16.1% of adversarial growth, on partialing out the effect of perceived criticism, emotional involvement, and patient's perception of family. Its unique contribution to adversarial growth was found to be 14.1%.

Discussion

Majority of the participants have perceived family to be less critical, more concerned, empathetic and supportive. Likewise, on an average they have displayed higher levels

of adversarial growth. Moreover, adversarial growth is found to have a direct relationship with expressed emotion in diabetic patients. The emotional involvement has a positive relationship with adversarial growth, where higher emotional involvement of family as perceived by the people contributed to higher levels of adversarial growth. Perception of family in terms of hostility, critical comments, emotional over-involvement, positive remarks, and warmth has been found to have a positive relationship with adversarial growth, where positive perception of family by the person has showed higher levels of adversarial growth. This indicates that adversarial growth is influenced by perceived family or social support and involvement, which is consistent with the previous research findings (Weiss, 2004; Senol-Durak&Ayvasik, 2010). A high level of perceived social support is one of the major factors associated with adversarial growth (Powell, Gilson, & Collin, 2012). The findings of the study also indicate that perceived criticism has a negative relationship with the adversarial growth in individuals with type 2 diabetes, where lower perceived criticism of one's family by the individual results in lower adversarial growth.

A significant and positive relationship is found between gender and adversarial growth, which is contrary to the findings of the recent research (Senol-Durak&Ayvasik, 2010). This inconsistency in the result regarding gender and adversarial growth may be attributed to the culture of the participants. The role of gender in Indian culture is different from the western counterparts. As the Indian culture highlights women to be self-sacrificing, affectionate, and humble as both wives and mothers, and men are to be empathized with, cared for, and are reliant on women for support (Gallant, Spitze, & Grove, 2010; Rajadhyaksha & Bhatnagar, 2000), a variation such as this is likely to exist. Research in this area has shown that men are more occupation oriented, while women, though working, are more committed to their families and marital relationships, and are never free from the responsibility of 'caring', which includes parenting and also taking care of spouses, children, and parents, in-laws, and

other members in their families (Rajadhyaksha & Bhatnagar, 2000). Moreover, the majority of women included in the study were taking care of their households only. Employment is seen to foster socialization (Cable & Parsons, 2001; Kjeldsen & Jacobsen, 2012) and has a positive effect on self-esteem (Twenge & Campbell, 2002; Pierce & Gardener, 2004) of the individual. Both socialization (Joseph, Linely, & Harris, 2004; McBride, Schroevers, & Ranchor, 2009) and self-esteem (Evers et al., 2001) contribute to the adversarial growth in individuals. Lower levels of adversarial growth may thus, be attributed to their unemployment.

The findings of the study indicate that age is not significantly related to adversarial growth, which is corroborated by the findings of recent research (Dekel, Mandl, & Solomon, 2010; McBride, Dunwoody, Lowe-Strong, & Kennedy, 2008). However, research concerning the effect of age on adversarial growth in chronic illness has revealed inconsistent results (McBride et al., 2008). Thus, further research is required to examine and understand the intricacies of adversarial growth as a result of a trauma and how it changes over time (McBride et al., 2008).

Emotional involvement and gender individually predict adversarial growth in people with type 2 diabetes. In other words, adversarial growth is predicted more by the presence of higher emotional involvement by the family as perceived by the patient, than by the absence of or lower perceived criticism. This illustrates the role of presence of positive aspects, rather than absence of negative aspects in a family and the perception of the same on adversarial growth. This phenomenon is observed in the findings of a study (Richman et al., 2005) that illustrates the role of positives and negatives in terms of emotions and well-being where the presence of positive emotions is not equivalent to the absence of negative emotions and positive emotions have greater associations with health outcomes than the negative emotions.

The participants reveal high levels of perceived family emotional involvement, adversarial growth and hold a positive

perception of their families with low levels of perceived criticism from family members. While perceived criticism is negatively associated with adversarial growth, emotional involvement, positive perception of family, and gender show a significant positive relationship with adversarial growth. Family emotional involvement as perceived by the patient significantly contributes to adversarial growth, with men showing higher adversarial growth.

Conclusion

The present study demonstrated the importance of positive family environment and the perception of same by people in their adversarial growth, while highlighting the importance of employment, social relationships, and psychological well-being in fostering adversarial growth. Thus, bringing into account the protective factors that enhance positive health of a person with diabetes, which in turn has a role to play in the management of the chronic illness. Hence, the health care system in India should include a health psychologist, who would educate both individuals suffering with diabetes and their families about the biopsychosocial aspects of the illness. The health psychologist would transform the family of the people suffering with diabetes to a resource capital for the management of the chronic illness. The health psychologist would also promote the well-being by designing and adopting a holistic intervention for the person who suffers and also for the community as a preventive measure.

One of the shortcomings of the study was the size and nature of the sample. The sample included majority of women who were housewives, with very few employed women. Hence, future research can be directed in a way that would consider women from a varied range of professions to understand the outcome in a better way. The results may vary due to the principle of cognitive theory that emphasizes that a person may be optimistic or pessimistic because of early experiences. While an optimist person may have a tendency to perceive both expressed emotion and adversarial growth in a positive manner, the pessimist person may

perceive in an opposite way. The researchers may take this observation in account and be careful in designing their researches. Future research, however, may be directed to the study of positive lived experiences of individuals suffering with diabetes using qualitative methods or a mixed-method approach.

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Manuscript submitted on October 2, 2015

Final revision received on January 31, 2016

Accepted on February 06, 2016

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Conflict of interest: None.

FAMILY**Instructions:**

“Please put a Cross **Mark (X)** in the blank to rate **FAMILY** on a series of 7-point scale. The closer to the end-point the cross mark is placed; the more strongly you feel that aspect of **FAMILY**. If you want to be neutral to any aspect, check the middle blank.”

Example:

I feel that my family is very good, so I put a Cross Mark as follows:

Good		X						Bad
Caring	7	6	5	4	3	2	1	Neglectful
Encouraging	7	6	5	4	3	2	1	Discouraging
Flexible	7	6	5	4	3	2	1	Rigid
Friendly	7	6	5	4	3	2	1	Hostile
Happy	7	6	5	4	3	2	1	Depressed
Helpful	7	6	5	4	3	2	1	Harmful
Loving	7	6	5	4	3	2	1	Hateful
Lenient	7	6	5	4	3	2	1	Stringent
Pleasant	7	6	5	4	3	2	1	Unpleasant
Positive	7	6	5	4	3	2	1	Negative
Polite	7	6	5	4	3	2	1	Rude
Peaceful	7	6	5	4	3	2	1	Troubled
Responsible	7	6	5	4	3	2	1	Irresponsible
Submissive	7	6	5	4	3	2	1	Aggressive
Sympathetic	7	6	5	4	3	2	1	Apathetic

Note. The scores of the items are to be added to find out the total score. The SDS–F may be used for research purpose after obtaining the permission from the corresponding author.