Early Maladaptive Schemas in Depressed Women and Its Relationship with Depression

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Abstract

Objective: Objective: Schemas are deep enduring cognitive structures that are the source of dysfunctional cognitions, emotions and behaviors, activate after critical incidents in depression. A subset of schemas called Early Maladaptive Schemas (EMS) which are hyphotised to arise from early traumatic and adverse life events are also claimed to be related with not only personality disorders but also mood disorders. In this study we aimed to investigate the relationship between early maladaptive schemas and depression and relationship between schema scores and depression severity in depressed women and compare it with non-depressed controls.

Methods: 40 women attending to an outpatient psychiatry clinic and 30 healthy controls participated. All participants were assessed with SCID-1. Data were obtained by using a Sociodemographic Questionnaires, Young Schema Questionnaire-Short Form 3 (YSQ) and Beck Depression Inventory (BDI).

Results: All except one (enmeshment/undeveloped self) maladaptive schema scores of depressed women were higher than controls. BDI was correlated to some schema and schema domain scores in both depressed and control groups but the correlations were stronger in control group. Mean emotional deprivation, negativism, abandonment and instability, failure EMS scores showed the highest difference between two groups. The schema domains most related to depression symptom severity were disconnection and rejection, impaired autonomy and performance.

Conclusions: Almost all early maladaptive schemas are related to depression, and some schemas are related to depression symptom severity but these correlations are weaker in control group. This may mean that EMS are stable and mood independent structures. Although other schemas are related to depression, mostly related EMS in women might be emotional deprivation schema. These schemas may also overlap with Beck's unlovability core belief or sociotropy dimension **(Journal of Cognitive Behavioral Psychotherapy and Research 2013, 2: 98-105).**

Keywords: Schema, therapy, depression, cognitive

Özet

Kadınlarda Erken Dönem Uyumsuz Şemalar ve Depresyon ile İlişkisi

Amaç: Şemalar işlevsel olmayan, bilişlerin, duyguların ve davranışların kaynağı olan derin bilişsel yapılardır. Depresyonda tetikleyici bir olay sonrasında aktive olurlar. Bu şemaların bir kısmına erken dönem uyumsuz şemalar denmektedir ki bunların erken travmatik ve olumsuz yaşam olayları sebebiyle geliştiği öne sürülmektedir. Ayrıca sadece kişilik bozuklukları ile ilgili olmayıp aynı zamanda duygudurum bozukluklarıyla da bağlantılı oldukları iddia edilmektedir. Bu çalışmada erken dönem uyumsuz şemalar ve kadınlardaki depresyon arasındaki ve erken dönem uyumsuz şema puanları ile depresyon şiddeti arasındaki ilişkiyi incelemeyi ve bunu depresyonu olmayan kontrol grubu ile karşılaştırmayı amaçladık.

Yöntem: Psikiyatri polikliniğine başvuran 40 kadın ve 30 sağlıklı kontrol çalışmaya dahil edildi. Tüm hastalara SCID-I uygulanarak tanıları kondu. Sosyodemografik verileri içeren bir form ile beraber Young Şema Ölçeği (YSQ) ve Beck Depresyon Envanteri (BDE) kullanılarak veriler elde edildi.

Bulgular: Depresyondaki kadınların bir erken dönem uyumsuz şema skoru dışında (iç içe geçmişlik/gelişmemiş benlik) tüm şema skorları kontrollerden yüksek olarak bulundu. BDE skorları hem şemalar hem de şema alanları ile korele bulundu ama bu korelasyon kontrol grubunda daha güçlü idi. İki grup arasındaki şema skorları ortalamalarındaki en büyük fark duygusal yosunluk, karamsarlık, terk edilme ve kararsızlık ve de başarısızlık şemaları arasında bulunmuştur.

Sonuç: Tüm erken dönem uyumsuz şemalar kesitsel olarak depresyonla ve bazıları da depresyon şiddeti ile ilişkilidir fakat şiddet için olan bu ilişki kontrollerde daha güçlüdür. Bu EMS'lerin kararlı ve duygudurum değişikliklerinden bağımsız yapılar olduğuna işaret ediyor olabilir. Her ne kadar kadınlarda tüm şemalar depresyon ile ilişkili olsa en güçlü ilişki duygusal yoksunluk ile olabilir. Bu şema Beck'in sevilmeme temel inancı ya da sosyotropi kişilik boyutları ile bir oranda örtüşme gösteriyor olabilir **(Bilişsel Davranışçı Psikoterapi ve Araştırmalar Dergisi 2013; 2: 98-105).**

Anahtar Kelimeler: Şema, terapi, depresyon, bilişsel

INTRODUCTION

"Schema" concept plays an important role in cognitive theories of depression. In the context of Beck's theory, maladaptive schemas that are the source of dysfunctional cognitions, emotions and behaviors are deep, enduring cognitive structures that are considered as the source of perceiving, encoding and construction of experiences (Beck et al. 1979, Kovacs and Beck 1978). Young names a subgroup of schemas as "early maladaptive schemas" and defined it as a broad, pervasive theme or pattern, comprises of memories, emotions, cognitions and bodily sensations, regarding oneself and one's relationship with others, developed during childhood and adolescence, elaborated throughout one's lifetime and dysfunctional to a significant degree (Young et al. 2003). During symptomatic recovery these schemas are latent (Beck 2002) and by critical incidents and stressful life events schemas become activated (Beck et al. 1979).

Beck (1999) states that negative core beliefs essentially fall in to two different negative core belief category that are associated with helplessness and unlovability. Helplessness core beliefs are related to power, performance and success and means that the person believing this schema feels ineffective in some way. Patients with unlovability core beliefs are concerned with intimacy and caring that they want t obtain. Judith Beck also defines another category (2005) worthlessness which indicates that the person believes that he or she is morally defective. Besides core beliefs there are intermediate beliefs, which include conditional assumptions that protects the person facing the core beliefs and determines the behavioral strategies the person uses to cope with core beliefs. (Beck 2005, Beck 2011).

In contrast to Beck, Young (2003) defines 18 EMSs that fall under 5 schema domains: Disconnection and Rejection, Impaired Autonomy and Performance, Impaired Limits, Other-Directedness, and Overvigilance and Inhibition . Young et al (2003) states that some EMSs are unconditional like Beck's core beliefs and some EMSS are conditional schemas like Beck's underlying assumptions and are attempts to get relief from or avert the negative outcome of unconditional schemas.

To date there are few studies related to the relationship between EMS, depression and depression severity. Identifying schema factors related to depression which can be the focus of interventions may enhance treatment outcomes. Two studies found elevated schema scores in all schema domains of depressed patients than controls (Riso et al. 2003, Lapsekili and Ak 2012). Dependence/incompetence and defectiveness schemas (Schmift et al. 1995), mistrust/abuse, abandonment/instability, social isolation (Harris and Curtin 2002) schemas to be were found to be predictors of depression severity in non-clinical sample. Disconnection& rejection, impaired autonomy schema domains were found to explain up to 53% of depression symptom severity in clinical samples. (Hoffart et al. 2005, Renner et al. 2012)

The aim of this study is to identify the relationship between early maladaptive schemas, severity of depression. We hypostasized that (1) depressed women have higher EMS scores than healthy controls; (2) severity of depression is related to EMS.

METHOD

Among patients whom applied to a state education hospital outpatient psychiatry clinic between July 2009 and November 2009, 40 women out of 89 women patients who meet the inclusion criteria and diagnosed current major depression by clinical interview accepted to participate to study. 30 healthy controls mainly workers and relatives of workers of the hospital also included to the study. Initial diagnosis was reassessed by a senior psychiatric resident using the SCID-I Turkish Version (Özkürkçügil et al. 1999). Inclusion criteria were DSM IV-TR Major Depressive Disorder, being currently depressed, being aged 18 to 65, minimum primary school education. Patients with comorbid psychotic disorders, mental retardation and serious medical or neurologic diseases were excluded from study.

Beck Depression Inventory (BDI), a 21 item self report instrument was used to assess depression severity. Cut off point of Turkish version was found to be 17 and possible highest score is 63 (Hisli 1989).

Turkish version of Young Schema Questionnaire-Short Form 3 (YSQ-SF3) (Soygüt et al. 2009), was used to assess 18 specific schema scores. It includes 90 items rated along a 1 to 6 point scale. Although there is no cut off point higher scores means stronger EMS. These schemas include (1) abandonment/instability, (2) mistrust/abuse, (3) emotional deprivation, (4) defectiveness/shame, (5) social isolation/alienation, (6) dependence/incompetence, (7) vulnerability to harm and illness, (8) enmeshment/undeveloped self, (9) failure, (10) entitlement/grandiosity, (11) insufficient self-control, (12) subjugation, (13) self-sacrifice, (14) approval-seeking (15) negativity, (16)

emotional inhibition, (17) unrelenting standards/ hypercriticalness and (18) punitiveness. Turkish version of YSQ-SF3 demonstrated 14 factors and 5 schema domains (Soygüt et al. 2009).

A questionnaire to assess personal information and socio-demographic variables were completed by all participants.

Statistical Analysis: All data was analyzed using SPSS 11,5 software. When normality assumptions were met Independent Samples t Test, if not met Mann Whitney u Test was used to compare groups. Pearson Correlation Test was used to assess relationship between BDI scores, schema domains and schema scores if the normality assumptions were met. To compare categorical variables Pearson chi-square test, Yates chi-square test and Fisher Exact t-Test was used. $p<0.05$ was accepted as statistically significant.

RESULTS

There were no statistically significant difference between depressed and control group with respect to age, marital status, types of marriage, level of education, monthly income (table 1).

Comparisons of schema and schema domain scores between two groups (Table 2):

All schema and schema domain points of Young Schema Questionnaire were in normal distribution. All schema domian scores of depressed group was significantly higher than controls. (all p values<0,001) and except enmeshment and underdeveloped self and, entitlement and grandiosity all EMSs scores of depressed group was significantly higher than controls (Table 2).

Relationship between Schema and Schema Domain Scores and BDI scores of Depressed Group :

In depressed group, there was positive and weak correlation between YSQ disconnection and rejection schema domain scores and BDI scores (r=0,421; p=0,023). Related schemas abandonment/instability (r=0,484; p=0,006), defectiveness/shame (r=0,397; p=0,027) also showed the same positive and week correlation but there was no significant correlation between BDI scores and mistrust/abuse (r=0,275; p=0,142), emotional deprivation (r=0,015; p=0,937), social isolation /alienation (r=0,318; p=0,087).

YSQ impaired autonomy and performance schema domain and BDI scores showed a positive and weak correlation (r=0,468; p=0,014). While related schemas vulnerability to harm or illness (r=0,393; p=0,029) and failure (r=0,392; p=0,036) schema

Table 1. Comparison of mean age and distribution of marital status, type of marriage, level of education, and monthly income.

Mean Age and Standard Deviation		Depressed 32,93±8,04		Control Group 34,60±10,05		p 0,472
		N	%	N	%	
Marital Status	Single	12	30	6	20	0,502*
	Married	28	70	24	80	
Type of Marriage	Non-arranged	13	43,3	12	52,2	0,718*
	Arranged	17	56,7	11	47,8	
Level of Education	Primary	13	32,5	8	26,7	0,801**
	Secondary	9	22,5	5	16,7	
	High	11	27,5	11	36,7	
	Undergraduate	7	17,5	6	20	
Income (TL/Mount)	0-500	6	15	11	36,7	0,100**
	501-1000	22	55	11	36,7	
	1001-3000	11	27,5	7	23,3	
	3001 and above	1	2,5	1	3,3	

*Yates chi-square test
**Pearson chi-square test

Table 2. Depression and control groups' comparison of schema domain and related schemas' scores

	Depressed				Control Group				p
	Mean	**Min**	**Max**	**Sd**	**Mean**	**Min**	**Max**	**Sd**	
Disconnection & rejection	**77,41**	**32,00**	**129,00**	**24,31**	**46,93**	**28,00**	**77,00**	**15,31**	**<0,001**
Abandonment/instability	16,92	5,00	28,00	6,40	10,57	5,00	20,00	3,48	<0,001
Mistrust/abuse	16,46	5,00	27,00	5,88	10,63	5,00	21,00	4,46	<0,001
Emotional deprivation	17,25	5,00	30,00	6,92	8,31	5,00	17,00	3,74	<0,001
Defectiveness/shame	12,35	5,00	26,00	5,82	7,97	5,00	18,00	3,48	<0,001
Social Isolation/Alienation	15,31	5,00	27,00	5,88	9,27	5,00	17,00	3,08	<0,001
Impaired autonomy &performance	**58,74**	**28,00**	**100,00**	**19,57**	**38,30**	**24,00**	**84,00**	**13.19**	**<0,001**
Dependence/incompetence	13,97	5,00	28,00	6,46	8,03	5,00	23,00	3,98	<0,001
Vulnerability to harm or illness	16,75	5,00	28,00	6,52	10,57	5,00	19,00	3,99	<0,001
Enmeshment/Undeveloped self	13,53	7,00	26,00	5,12	11,60	5,00	20,00	4,38	0,106
Failure	14.13	5,00	26,00	5,89	8,10	5,00	22,00	3,86	<0,001
Impaired limits	**33,38**	**10,00**	**46,00**	**8,48**	**27,21**	**10,00**	**45,00**	**9,51**	**0,006**
Entitlement/Grandiosity	16,28	5,00	29,00	5,44	13,90	5,00	23,00	5,43	0,078
Insufficient self-control	17.10	5,00	28,00	5,55	13.17	5,00	22,00	4,62	0,002
Other-directedness	**54,68**	**20,00**	**79,00**	**12,66**	**41,40**	**21,00**	**64,00**	**10,39**	**<0,001**
Subjugation	15,68	5,00	30,00	6,41	10,23	5,00	22,00	4,51	<0,001
Self-sacrifice	20,30	5,00	30,00	6,02	16,37	5,00	22,00	4,24	0,003
Approval-seeking	18,70	6,00	28,00	4,87	14,80	5,00	25,00	5,17	0,002
Overvigilance & inhibition	**66,26**	**24,00**	**102,00**	**18,01**	**50,46**	**31,00**	**84,00**	**14,43**	**<0,001**
Negativity	18,78	5,00	28,00	5,80	12,33	5,00	21,00	4,26	<0,001
Emotional inhibition	14,65	5,00	26,00	6,29	11,30	5,00	27,00	5,74	0,025
Unrelenting Standards/Hypercriticalness	17,51	9,00	30,00	5,63	14,34	7,00	22,00	4,70	0,017
Punitiveness	15,63	5,00	29,00	5,70	12,72	5,00	22,00	3,80	0,014

scores were positive and weakly correlated to BDI scores, dependence/incompetence (r=0,187; p=0,324) and enmeshment/undeveloped self-scores (r=0,291; p=0,119) did not show significant correlation to BDI scores .

Although the correlation between BDI scores and impaired limits schema domains (r=0,342; p=0,060) was not significant, this positive and weak correlation inclined for significance. Related schema entitlement/grandiosity schema score showed a significant positive and weak correlation to BDI scores (r=0,465; p=0,008) but insufficient self-control (r=0,047; p=0,802) did not.

Other-Directedness schema domain (r=0,102; p=0,583) and related schema scores (subjugation r=0,110; p=0,556, self-sacrifice r=0,087; p=0,642 and approval-seeking r=0,027; p=0,887) did not demonstrate a significant correlation to BDI scores.

YSQ Over vigilance& inhibition schema domain was correlated positively and weakly with BDI scores (r=0,357; p=0,049). Negativity and BDI scores was positively and weakly related (r=0,444; p=0,012). Although unrelenting standards/hypercriticalness (r=0,332; p=0,068) schema scores positive and weak relation with BDI scores inclined to statistical significance, there was no significant relation between BDI scores and emotional inhibition (r=0,184; p=0,321) or punitiveness (r=0,131; p=0,483) schema scores.

Relationship between Schema domain and Schema Scores and BDI scores of Control Group

YSQ disconnection and rejection schema domain scores and BDI scores was positively and moderately correlated (r=0,633; p=0,001) in control group. Correlation of BDI and schemas of this domains abandonment/instability, mistrust/abuse, defectiveness/shame, social isolation/alienation were positive and moderate (respectively r=0,608, p=0,001; r=0,514, p=0,007; r=0,501, p=0,009; r=534, p=0,005) though emotional deprivation schema was positively but weakly correlated to BDI scores

YSQ impaired autonomy and performance schema domain and BDI scores demonstrated a positive and moderate correlation (r=0,545; p=0,004). While both enmeshment/undeveloped self, and vulnerability to harm or illness was positively and first being moderately, second being weakly correlated with BDI scores (respectively r=0,629, p=0,001; r=0,462, p=0,018), failure schema scores positive and weak

correlation with BDI scores inclined for statistical significance (r=0,385; p=0,052). There was no significant correlation between BDI and dependence/incompetence schema scores.

In controls YSQ impaired limits schema scores and BDI scores demonstrated a positive and weak correlation (r=0,403; p=0,046). While entitlement/grandiosity schema score demonstrated a positive and weak correlation with BDI scores (r=0,462; p=0,020) but insufficient self-control demonstrated no significant correlation (r=0,323; p=0,107).

Other-directedness schema domain and related schemas subjugation, self-sacrifice schema scores was positively and moderately correlated to BDI scores and approval-seeking demonstrated a positive but weak correlation to BDI scores (respectively r=0,665, p<0,001; r=0,501, p=0,009; r=0,552, p=0,003; r=0,475, p=0,014).

Over vigilance and inhibition schema domain scores demonstrated a positive and moderate correlation with BDI scores (r=0,554; p=0,005). Also emotional inhibition schema with BDI scores demonstrated a positive, moderate correlation (r=0,586; p=0,002). Negativity, unrelenting standards/hypercriticalness schema scores were positively and weakly correlated with BDI scores (respectively r=0,434, p=0,027; r=0,455, p=0,022). Punitiveness was not significantly correlated with BDI scores (r=0,226; p=0,278).

DISCUSSION

In this study we aimed to compare YSQ-SF3 schema domain and schema scores of depressed women with healthy controls and determine which schema scores are related to depression and depression severity.

We found that except enmeshment/undeveloped self all schema and schema domain scores of depressed women were significantly higher than healthy controls. These findings are in line with Riso et al.'s (2003) study of cognitive factors of depression. This result implies that can there is no specific one but all schemas are related to depression. Although because of our studies' cross sectional design we cannot fully determine if this was a result of schema activation or cognitive bias of depression only by this finding.

It was reported that disconnection and rejection, impaired autonomy and performance schema domain scores explain 53% of variance in depression severity (Hoffart et al. 2005). After controlling for overlap in schema scores a recent study find a similar result (Renner et al. 2012) though all schema scores were

related to depression severity. Other studies also found other than these two domains' schemas subjugation (Petrocelli et al. 2001) vulnerability to harm (Petrocelli et al. 2001), self sacrifice (Shah and Waller 2000, Calvete et al. 2005), insufficient self-control (Shah and Walker 2000), impaired limits (Halvorsen et al. 2009) to be related to depression severity. Although in our study we could not perform a regression analysis to exclude the effects of overlapping schemas, except other-directedness schema domain all schema domains and some specific schemas were significantly correlated to depression; disconnection and rejection, impaired autonomy and performance schema domains were the most powerfully related schemas to BDI scores. This finding is similar to previously given studies, together indicate that all schemas are related to depression with impaired autonomy and performance, disconnection and rejection schemas being the most important ones. Beck (1999) proposes two broad schema categories, helplessness and unlovability. Impaired autonomy and performance; disconnection and rejection schemas may be overlapping these two broad negative self schema categories as Renner et al. (2012) pointed. Although related with depression severity the other 2 schema domain category overvigilance and inhibition, and other directedness are mainly conditional schemas. This implies an overlap with the previously mentioned schema domains.

When we examine the specific relationship of EMS scores to depression severity the significant differences between patients and control group EMS mean scores were in degreeing order: emotional deprivation (8,91), negativism (6,45), abandonment and instability (6,35), failure (6,03) , followed by other EMSs. Again these high scores also remind the cognitive triad of Beck (Beck 2005).

A problem is that in control group depression severity is more powerfully correlated to schema scores. Only socio-demographic value that was significant was working status between depressed group and controls but further analysis did not demonstrate any relationship between working status and depression scores (data not given). Most of the patients in depressed group were unemployed and education and income of this group was non-significantly lower than controls. Besides clinical sample being only women low sociocultural and economical status of depressed group might have overshadowed the cognitive components of depression leading to a depression manifesting itself in medically unexplained somatic symptoms (Zubin and Spring 1977).

On the other hand its been shown that in healthy subjects some schema scores increase with depressive mood inductions (Stopa and Waters 2005). The authors of this study argue that whether YSQ is measuring stable, underlying constructs or mood-activated negative cognitions. In our study EMS scores in depressed patients being higher than control group but power of correlation between EMS scores and depression severity being weaker may mean that these schema are relatively stable and less effected by mood changes. This finding may support the schematic vulnerability hypothesis. The long term stability (Riso et al. 2006, Wang et al. 2010) and relative stability of schemas in the context of symptom change (Renner et al. 2012) was studied before.

Especially the highest mean score different EMS, emotional deprivation was not correlated with depression severity. This schema might be the most important EMS in depressed woman. Beck argues that two personality dimensions sociotrophy and autonomy exists and women are more sociotroph and men are more autotroph (1983). Although we cannot compare our results with males, emotional deprivation EMS being higher in women is in line with Beck's (1983) predictions that women are more sociotroph.

Only enmeshment and undeveloped self score was not higher than controls and was not related to depression symptom severity in depressed group. This finding was in line with Renner and colleagues (2012) study that found enmeshment schema score being negatively related to depression symptom severity. This finding may be understand as enmeshment being opposite of emotional deprivation schema thus negatively related to depression symptom severity but not all studies demonstrate this finding. (Lapsekili and Ak 2012) Also in control group this schema showed a positive relation with depression symptom severity.

Entitlement schema being related to depression severity was not in line with previous studies (Renner et al. 2012). Also happy mood induction increases entitlement scores in healthy subjects (Stopa and Waters 2005). In university students entitlement was also found to be related with anger (Maud et al. 2012). As in depressed group non depressed control group BDI scores are correlated to entitlement EMS scores almost as same power with depressed patients. This might be a cultural difference that Turkish patients experience frustrations or anger similarly to depressive symptoms.

Limitations of our study are: First our sample because of our clinical conditions consists of

only women. This makes it harder for us to make comparisons with older studies and limits its value. A study on alcohol dependent patients showed differences in EMS between two sexes (Shorey et al. 2012). This finding may imply that two sex may be different related to EMS and must be examined accordingly. Secondly Young et al. (2003) especially emphasized EMSs in chronic conditions. We did not make any comparison using chronicity of depression, and did not assess personality disorders. Further studies are needed to clarify these. Third due to low number of patients we could not perform regression analysis to demonstrate which schemas explain most of depression severity and exclude the effects of overlapping of schemas. Fourth cross-sectional design does not allow us to make casual conclusions. Longitudinal studies are needed to demonstrate such casual relations. Fifth, Young and colleagues (2003) emphasize the importance of schema avoidance and schema compensation that might be leading to low EMS scores despite schemas being strong.

As a conclusion we found that depression and depression severity were related to EMS scores with some specific EMSs being especially linked to depression severity. Also in depressed patients EMS scores was higher and more mood independent than control group. This might mean that EMS are relatively stable in depressed patients, or cause vulnerability to depression. Also emotional deprivation might be the most important EMS related to depression in women. Further studies with better matched study and control groups accordingly to clinical, socio-demographic and early adverse life events are needed to clarify which specific EMS's are related to depression and severity of depression.

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