

The Association among Submissive Behavior, Positive-Negative Symptom Severity and Depressive Symptoms in Inpatient Women with Schizophrenia

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ABSTRACT

Objective: In this study the potential connections among submissive behavior, severity of positive and negative and depressive symptoms of schizophrenia are investigated in inpatient schizophrenic women prior to discharge.

Method: 62 consecutive female inpatients under treatment for schizophrenia diagnosed according to DSM IV were included in the study. Patients were evaluated after the completion of acute treatment, during the treatment in subacute ward prior to discharge. A semi-structured sociodemographic and clinical assessment form, Positive and Negative Syndrome Scale (PANSS), Calgary Depression Scale for Schizophrenia (CDSS), Submissive Behaviors Scale (SBS) and UKU (Udvalg for Kliniske Undersøgelser) Side Effect Rating Scale were given to the patients.

Findings: Average age of the patients was 38.59±8.68. SBS score was not significantly correlated with the scores of either PANSS total and total subscale scores ($p>0.05$). Among PANSS positive symptoms subscale items only delusions ($p=0.005$) were negatively and among negative symptoms subscale items only difficulty in abstract thinking ($p=0.01$) was positively correlated with submissive behavior. No statistically significant association was found between SBS scores and pre-discharge depression levels of the subjects ($p>0.05$).

Discussion and Conclusion: Contrary to expectations, the association among submissive behavior and severity of schizophrenic and depressive symptoms might not be a straightforward positive association as it might first appear. The fact that more severe delusions are seen in less submissive women might suggest complex mental mechanisms in operation.

Keywords: submissive behavior, schizophrenia, depression

ÖZET

Yatarak Tedavi Gören Kadın Şizofreni Hastalarında Boyun Eğici Davranış ile Pozitif-Negatif Semp-tom Şiddeti ve Depresyon Belirtileri Arasındaki İlişki

Amaç: Bu çalışmada, şizofreninin pozitif - negatif ve depresif belirtilerinin şiddeti ile boyun eğici davranış arasındaki muhtemel bağlantılar yatarak tedavi gören kadın şizofreni hastalarında taburculuk öncesi incelenmiştir.

Yöntem: DSM IV'e göre şizofreni tanısı almış, yatarak tedavi gören 62 kadın hasta ardışık olarak çalışmaya alındı. Hastalar taburcu edilmeden önce subakut yatan hasta kliniğinde akut tedavinin tamamlanmasından sonra değerlendirildi. Hastalara yarı yapılandırılmış Sosyodemografik ve Klinik Değerlendirme Formu, Pozitif

ve Negatif Sendrom Ölçeği (PANSS), Calgary Şizofrenide Depresyon Ölçeği (CŞDÖ), Boyun Eğici Davranış Ölçeği (SBS) ve UKU (Klinikse Undersogelser için Udvalg) Yan Etki Değerlendirme Ölçeği verildi.

Bulgular: Hastaların yaş ortalaması 38.59 ± 8.68 idi. SBS skoru puanları ile PANSS toplam ve alt ölçek puanları arasındaki ilişki anlamlı değildi ($p > 0.05$). PANSS pozitif belirtilerden yalnızca sanrılar ile SBS ölçeği arasında ($p = 0.005$) negatif anlamlı ilişkili, negatif belirtilerden ise soyut düşünme zorluk ile SBS puanları arasında ($p = 0.01$) pozitif anlamlı ilişkili bulundu. SBS puanları ile olguların taburculuk öncesi depresyon düzeyleri ($p > 0.05$) arasında istatistiksel olarak anlamlı bir ilişki saptanmadı.

Sonuç ve Tartışma: Beklentilerin aksine, şizofrenide hastalık şiddeti, depresif semptomlar ve boyun eğici davranışlar arasındaki ilişki basit bir pozitif ilişki olmayabilir. Daha şiddetli sanrılar az itaatkâr kadınlarda görülmesi, karmaşık zihinsel mekanizmaların işlediğini düşündürmüştür.

Anahtar Kelimeler: boyun eğici davranış, şizofreni, depresyon

INTRODUCTION

In the animal world, submissive behavior is utilized by individuals of inferior social rank in order to avoid attack by dominant individuals. The evolutionary theory of depression suggests that depression is an evolved psychological presentation of submissive animal behavior in humans when humans encounter with dominant others or unavoidable situations (Gilbert 1992). Passive withdrawal as a strategy for avoiding conflict (Allan and Gilbert 1997) and unfavorable social comparison (Gilbert et al., 1998) is closely associated with submissive behavior. Submissive behavior, especially when associated with passive withdrawal and inhibition, is associated with various psychological disorders.

Social roles in the animal world (and humans) caused the evolution of certain mental mechanisms which facilitate the functioning of the individual in a certain social matrix. It is suggested that understanding the functional and constitutional aspects of these mechanisms that enable animals to act as hostile/dominant or threatened/subordinate individuals can help elucidate the self-destructive patterns in psychopathology, such that these mechanisms can be internally activated to be set against each other where individuals attack themselves and subsequently respond to these internal threats with subordinate defense mechanisms (Gilbert 1998, Stevens and Price 2000). In a series of self-report questionnaires that compares 66 schizophrenic patients with auditory hallucinations and 50 depressive patients to measure the strength of hostile thoughts/voices directed against the self and the defensive responses they activate, especially fight or flight reaction, it was found that depressed patients may submit, want to escape from these self-directed thoughts or feel defeated, depreciated or disheartened whilst a psychotic person may feel that he/she is similar to the hostile voices he/she hears. This kind of interaction between dominant and

submissive mental mechanisms may be relevant for both psychotic people hearing voices and depressive people. Malevolent auditory hallucinations in schizophrenia and self-critical thoughts in depression are usually experienced as powerful, dominating and controlling which are the very characteristics of a hostile dominant individual. The consequence of this experience is an activation of evolved subordinate defense mechanism such as fight or flight response which are closely related with depressive mood in both schizophrenia and depression (Gilbert 2001).

There is thought to be a strong association between paranoia and submissive behavior. Allan and Gilbert (1997) suggest that individuals with self-assertiveness difficulties, as conceptualized in their evolutionary framework as individuals of low social rank and low dominance, may be vulnerable to various psychological problems and that submissiveness is associated to paranoia and angry thoughts and feelings. Anger is associated with self-attribution of negative intentions to others and may be associated with attribution of intent in persecutory delusions. A submissive individual may feel depressed with ruminative thought rather than express resentment towards others. This causes a vicious cycle in which the person is predisposed to erroneous attributions and anomalous experiences leading to persistent persecutory ideation. Birchwood et al. (2000) suggest an association between experience of auditory hallucinations and social comparison and Freeman et al. (2005) suggest that interpersonal sensitivity predicts persecutory ideation.

There are a limited number of studies investigating the role of submissive behavior in schizophrenia. Investigation into the association between schizophrenia and submissive behavior may be enlightening for future therapeutic approaches to be developed for this disorder. With regard to the available literature it was hypothesized that the level of submissive behavior is positively correlated to symptom severity and

depression level in women with schizophrenia. In this study the potential connections among submissive behavior, positive and negative symptom severity and depressive symptoms are examined in inpatient schizophrenic women prior to discharge.

METHOD

Participants and Procedure

62 consecutive female inpatients under treatment for schizophrenia were included in the study. Patients aged between 16 to 65 years who had at least 5 years of education (elementary school) were enrolled. All patients were diagnosed with schizophrenia by two clinicians according to DSM-IV criteria. Exclusion criteria were mental retardation, dementia, delirium and/or one of the other amnesic disorders and illiteracy.

Only patients who met the inclusion criteria and gave consent were interviewed. Patients were recruited consecutively and were evaluated after acute treatment was completed and during the treatment in subacute ward prior to discharge. Informed consent for participation in the study was obtained from each patient. Patients were given scales if the PANSS G12 item, "Lack of judgment and insight" score, was 3 or below in order to increase the reliability of the self-rated Submissive Behaviors Scale.

Instruments

A semi-structured sociodemographic and clinical assessment form was used to assess the socio-demographic characteristics, psychiatric history and clinical features of the participants.

Positive and Negative Syndrome Scale (PANSS): A semi-structured interview scale developed by Kay and his colleagues including 30 items and seven-point range for severity (Kay et al. 1987). Positive symptoms subscale represents seven items of 30 psychiatric parameters, negative symptoms subscale represents another seven item and the remaining sixteen items are for general psychopathology subscale. The validity and reliability study of the scale in Turkish were made by Kostakoğlu et al. (1999).

Calgary Depression Scale for Schizophrenia (CDSS): CDSS is a scale developed by Addington and colleagues (1992). Validity and reliability study of this scale in Turkish was done by Aydemir et al. (Aydemir 2000). CDSS was aimed at not being affected by the positive and negative symptoms of schizophrenia or extrapyramidal side effects; this aim has proven to meet expectations. Cut-off score for the Turkish version of CDSS was designated as 11-12 for schizophrenia accompanied by depressive disorder.

Submissive Behaviors Scale (SBS): The Submissive Behaviors Scale (Allan and Gilbert 1997) is a 16-item scale assessing a number of behaviors considered as submissiveness (e.g. 'I agree that I am wrong, even though I know I'm not'). Each behavior is rated on a five-point scale (0 never, 4 always). Higher scores indicate greater use of submissive behaviors.

UKU (Udvalg for Klinikse Undersogelser) Side Effect Rating Scale: It is a 52-item scale used to evaluate psychotropic medication induced side effects by establishing a causal relationship. It was developed by Lingjaerde and colleagues (1987). Turkish validation and reliability studies have not yet been performed and a translation is used. Since depressive symptoms and post-traumatic stress disorder symptoms are evaluated in our study, the side effect scale is used in order to exclude any other interfering factors due to a specified medication side effect.

Analysis

Results were evaluated by SPSS for Windows version 16.0. In the analysis of quantitative data, Pearson correlation test was used for correlation of parameters showing normal distribution, along with descriptive statistical methods (frequency, mean, standard deviation). Significance was evaluated at $p < 0.05$ level.

FINDINGS

Sociodemographic Data

Average age of the patients was 38.59 ± 8.68 . Regarding the education levels of patients, 11.3% ($n=7$) of the patients were below primary school level, 75.8% ($n=47$) were at primary school level and 12.9% ($n=8$) were above primary school level. 43.5% ($n=27$) of patients were single, 27.4% ($n=17$) were married and 29.0% ($n=18$) were divorced or widowed. 88.7% ($n=55$) were unemployed, 11.3% ($n=7$) were employed. 17.7% ($n=11$) were living alone while the rest were living with their families.

Clinical Features

Mean age of onset of schizophrenia was 26.09 ± 7.79 , mean total duration of disorder was 12.61 ± 9.03 years, mean total number of hospitalizations was 4.58 ± 4.63 , and mean total length of all hospitalizations was 123.33 ± 141.65 days. Clinical and sociodemographic features of the patients are summarized in Table 1.

Mean PANSS total score was 52.82 ± 13.18 , mean PANSS positive symptoms subscale score was 13.25 ± 5.19 , mean PANSS negative symptoms subscale score was 12.01 ± 4.52 , mean PANSS General Psycho-

Table 1. Clinical and sociodemographic features of the subjects

	Mean	Std. Deviation	Frequency(n)	Percent (%)
Schizophrenia n=62				
Clinical features				
Age (years)	38.59	8.68	-	-
Age of schizophrenia onset (years)	26.09	7.79	-	-
Total duration of disorder (years)	12.61	9.03	-	-
Total number of hospitalizations (times)	4.58	4.63	-	-
Total length of all hospitalizations (days)	123.33	141.65	-	-
Sociodemographic data				
Marital status				
Single	-	-	27	43.5
Married	-	-	17	27.4
Divorced or widowed	-	-	18	29.1
Education level				
Below primary school	-	-	7	11.3
Primary school	-	-	47	75.8
Above primary school	-	-	8	12.9

pathology subscale score was 21.72 ± 4.61 . Mean Submissive Behaviors Scale score was 44.88 ± 10.90 , mean Calgary Depression Scale score was 3.16 ± 3.55 , mean UKU Side Effect Rating Scale score was 9.17 ± 5.7 .

Correlation Data

Submissive Behaviors Scale score was not significantly correlated with either of the following clinical features: age of the patient ($r=0.05$; $p=0.68$), age of onset of schizophrenia ($r=-0.02$; $p=0.83$), total duration of disorder (years) ($r=0.06$; $p=0.63$), total number of hospitalizations ($r=0.04$; $p=0.72$), total length of all hospitalizations (days) ($r=-0.04$; $p=0.75$).

Submissive Behaviors Scale score was not significantly correlated with the scores of either of the following scales: PANSS total score ($r=0.01$; $p=0.88$), PANSS positive symptoms subscale ($r=0.19$; $p=0.13$), PANSS negative symptoms subscale ($r=0.10$; $p=0.40$), PANSS General Psychopathology subscale ($r=0.10$; $p=0.42$), UKU Side Effect Rating Scale ($r=0.01$; $p=0.91$), Calgary Depression Scale ($r=0.16$; $p=0.21$). Correlations of The Submissive Behaviors Scale with Calgary Depression Scale for Schizophrenia (CDSS) and Positive and Negative Syndrome Scale (PANSS) total scores and its subscale scores are summarized in Table 2.

Among PANSS positive symptoms subscale items only delusions were significantly negatively correlated with submissive behaviors ($r=-0.35$; $p=0.005$). Among

PANSS negative symptoms subscale items only difficulty in abstract thinking was significantly positively correlated with submissive behaviors ($r=0.31$; $p=0.01$).

DISCUSSION

There is a significant association of paranoia with submissive behaviors in the non-clinical population (Freeman 2005). Allan and Gilbert (1997) suggest that individuals with self-assertiveness difficulties conceptualized as individuals of low social rank and low dominance may be vulnerable to various psychological problems including paranoia. In the present study there was no statistically significant association between submissive behavior and total positive and negative symptoms unresponsive to acute medication in female schizophrenia patients. Among the PANSS positive symptoms subscale only delusions were negatively correlated with submissive behavior ($p=0.005$). Furnham (1979) argues that aggressivity is utterly associated with cultural features and that especially in Eastern cultures women are culturally compelled to behave obediently and submissively. This might imply that subordinate self-perceptions are more likely to be experienced in the context of failure when the social environment is potentially hostile / rejective. Therefore, the features of accessible other-to-self and self-to-self scripts and memories – warm/supportive vs. condemning/critical – determine emotional and social responses to events

Table 2. Correlations of The Submissive Behaviors Scale with Calgary Depression Scale for Schizophrenia (CDSS), UKU Side Effect Rating Scale, and Positive and Negative Syndrome Scale (PANSS) total scores and subscale scores.

		CDSS	UKU	PANSS Positive Symptoms Subscale Score	PANSS Negative Symptoms Subscale Score	PANSS General Psychopathology Subscale Score	Total PANSS Score
SBS	r	0.16	0.01	-0.19	0.10	0.14	0.01
	p	0.21	0.91	0.13	0.40	0.26	0.88

r: Pearson correlation coefficient

UKU; Udvalg for Kliniske Undersogelser Side Effect Rating Scale, SBS; Submissive Behaviours Scale, CDSS; Calgary Depression Scale for Schizophrenia , PANSS; Positive and Negative Syndrome Scale.

and self-evaluation (Baldwin 2005, Mikulincer and Shaver 2005). Delusions like paranoia are complex phenomena likely to be determined by a number of social, cognitive and behavioral factors. Anger is usually founded on a basis of attributions that the other has negative intentions and it may contribute to the attribution of intent in persecutory ideation. However, a submissive individual may feel depressed and have ruminative thoughts rather than express anger and resentment toward others. The findings of this study were not compatible with this conception. The fact that more drug resistant delusions were seen in less submissive women may be explained by the cultural unacceptability of assertive behavior in women and the increase in spousal and environmental conflicts and higher stress levels that ensue (Salokangas et al. 2012). Some studies suggest that the perception of aggressive and assertive behaviors varies among cultures and the culturally assigned gender roles affect the perception of gendered behavior (Furnham 1979). According to social defeat hypothesis ethnic groups with strong social and familial networks (e.g. Cape Verdian people of Netherlands) ought to have 'normal' or mildly elevated risks for schizophrenia (Jean-Paul Selten 2007).

In the PANSS negative symptoms subscale only difficulty in abstract thinking was positively correlated with submissive behavior ($p=0.01$). It appears that women with an impaired capacity of abstraction are more likely to behave submissively. The impairment in abstraction, which is an essential cognitive faculty, may hinder the assertive capacity in women with schizophrenia. Contrary to expectations, there was no significant correlation between submissive behaviors and the other negative symptoms subscale items. These findings must be further scrutinized in studies with larger sample sizes.

No statistically significant correlation was found

between Submissive Behaviors Scale scores and clinical features of the subjects. Age of the patient ($p=0.68$), age of onset of schizophrenia ($p=0.83$), total duration of disorder (years) ($p=0.63$), total number of hospitalizations ($p=0.72$), total length of the last hospitalization (days) ($p=0.75$) were not correlated with submissive behaviors. It may be suggested that submissive behavior may not be a relevant factor in the process of the disorder in women.

Contrary to expectations, no statistically significant association was found between Submissive Behaviors Scale scores and the pre-discharge depression levels of the subjects. Depression-like states occur in animals and humans after a defeat or a loss of rank and in subordinate individuals under constant harassment and threat by more dominant individuals in inescapable situations (MacLean 1990). Loss of status, sense of defeat and entrapment are strongly related to depression in schizophrenic patients (Rooke and Birchwood 1998). As a matter of fact, the original model of depression suggested by Price (1972, 2000) focused more on defeat than submissive behavior. Recent theory and research in depression focus on two essential social outcomes or perceptions of current circumstances i.e. defeat and entrapment (Dixon 1998). Although defeat and entrapment are usually strongly associated with perceptions of low rank, they may also have specific effects on mood. It has been suggested that life events experienced as humiliating defeats and/or entrapment are more likely to cause depression than loss events alone (Brown et al. 1995). Thus defeat may be a more important factor than submissive behavior in depression in schizophrenic women but this point needs to be further tested by future studies. Individuals with low dominance trait experience pleasant affect while behaving submissively, such as leaving decision-making to and go-

ing along with others. Dominant behavior may be responded to with dominance or submission (Orford 1986). An individual with low dominance may be content with either a dominant or submissive response. Therefore, submissive behavior becomes regularly associated with the desired response from others and may be followed by pleasant affect. In contrast, a submissive response may be the only satisfactory response for a high dominance individual engaged in dominant behavior. Hence, the relations among high level of dominance, dominant behavior and affect may not be predictable without knowledge of the response of the other (Moskowitz 2007). The family response to assertive/submissive behavior in female schizophrenics may be of importance. The social defeat hypothesis predicts a smaller increase in risk in groups renowned for strong social and familial networks because social support alleviates the pain generated by social exclusion and humiliation. The Asian immigrant population in the UK and Turkish immigrant population in the Netherlands may serve as examples to this notion. When minority groups comprise a greater proportion of a local population the incidence is smaller. This observation is consistent with the social defeat hypothesis (Boydell et al. 2001). The experience of defeat is relative to the observer. Social defeat is neither a necessary nor a sufficient condition for the development in schizophrenia and is not necessarily followed by the occurrence of a psychiatric disorder (Jean-Paul Selten 2007). It can be suggested that family support should be considered as a parameter in future studies investigating into the effects of submissive behavior on schizophrenia and depression.

No statistically significant association was found between Submissive Behaviors Scale scores and medication side effect levels. Side effects such as extrapyramidal symptoms and sedation may be expected to enhance or mimic submissive behavior. It can be said that medication side effects do not affect the above findings of this study.

CONCLUSION

Limitations

The results of this study are relevant only for female patients. The study is conducted solely on inpatients. The chosen sample comprised of treatment-resistant cases. Since dominant/submissive behavior is also culturally mediated, a study conducted in a different cultural context might yield different results. This study might not be suggestive about symptom severity in acute attack. Lack of control group is an important limitation.

Total positive and negative symptoms unresponsive to acute drug treatment were not found to be significantly correlated with submissive behavior. Among PANSS positive symptoms subscale items only delusions were negatively and among the PANSS negative symptoms subscale only difficulty in abstract thinking was positively correlated with submissive behavior. No statistically significant correlation was found between Submissive Behaviors Scale scores and clinical features of the patients. No statistically significant association was found between Submissive Behaviors Scale scores and the pre-discharge depression levels of the subjects. The association among submissive behavior, severity of schizophrenia and depressive symptoms in schizophrenia may not be a uniform positive association, contrary to expectations.

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