

# Studying the Belief of Borderline Personality Disorder Patient about the Necessity of Medication and the Role of Demographic Factors in Adherence to Treatment

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Received September 22, 2014; Revised October 08, 2014; Accepted October 12, 2014

**Abstract** Adherence to appropriate treatment and medicine taking plays a crucial role in the success of treatment especially in treating chronic diseases and total quality in patient as “user- client”. Patient adherence to treatment is dependent on their belief about the necessity of the taking medicine and their concerns over its effects. This paper aims at studying the effect of patient belief about the prescribed medicine and the role of some demographic factors including gender, age and educational level in adherence to disease. This descriptive-analytical via cross-sectional study was done through interviewing 38 patients with border line personality disorder and three valid and reliable questionnaires including demographic, BMQ and Morisky features. Result showed there was a significant and reverse relationship between the patients’ age and their adherence to treatment, but this did not apply to the patient gender. There was a significant and reverse relationship between educational level and adherence to treatment, in patients with a history of violence and history of hospitalized there was also a significant relationship between patient belief in the necessity of prescribed medicine and adherence. So, through demographic features, age was a significant and reverse relationship ( $P=0.001$ ) to adherence. There was a significant and reverse relationship between educational level and adherence to treatment in two groups of outpatients and patients with a history of violence too. Accordingly the more educated patients adhered less to treatment, there was no significant relationship between adherence to treatment and educational level. Therefore, we concluded applying educational interventions in order to improve patient awareness about medication and their belief on necessity of treatment will promote their health.

**Keywords:** *adherence to treatment, patient belief, borderline personality disorder, educational level, demographic features, educated patients*

**Cite This Article:** Bani Asad MH, Vahdat Shariat Pana M, and Hemmati MA, “Studying the Belief of Borderline Personality Disorder Patient about the Necessity of Medication and the Role of Demographic Factors in Adherence to Treatment.” *American Journal of Applied Psychology*, vol. 2, no. 5 (2014): 104-108. doi: 10.12691/ajap-2-5-1.

## 1. Introduction

Appropriate consumption of medicines has a significant role in controlling disease, especially chronic diseases and it is regarded as treatment success key. The literature in this area suggests that medicine consumption and adherence to treatment are as important as accurate disease diagnosis and correct prescription [1]. In this respect, it is estimated that more than 30 percent of prescribed medicine for patients in USA are not consumed as the physician’s instructions [2]. According to the World Health Organization (WHO), only about 50 percent of patients typically take their medicines as prescribed [3]. For this reason, WHO calls poor adherence rates “a worldwide problem of striking magnitude” [3] and has published an evidence-based guide for health care providers, health care managers, and policymakers to improve strategies of medication adherence [4]. If we

consider that medicine is prescribed appropriately, inappropriate consumption leads to wasting resources and missing golden opportunities of improvement. However, the number of inappropriate prescription is also high [5]. Studies suggest that One of these persistent challenges is improving patient “compliance” (or “adherence”) - defined as the extent to which patients take medications as prescribed by their health care providers and their consumption is very important [6]. Adherence to treatment especially for chronic diseases is of great importance and the patient must properly adhere to treatment in order to control his/her illness and prevent it from progression and worsening, as these illnesses are progressive and weak adherence to treatment will lead to disease progression, decrease in life quality, and finally treatment failure [7]. Correct treatment of psychiatric disease, similar to other disease, decreases cost, duration of hospitalization, and increases their effects. One of the main points of appropriate treatment is the patient

adherence and the patient's belief in the effectiveness of adherence to prescribed medicine. Patient belief about prescribed medicine involves two aspects: 1. Belief in necessity of prescribed medicine; 2. Concern over side effects of medicine [7]. The patients' concern on medication side effects leads to their concern about medication consumption and this decreases their motivation in necessity of consumption [7,8]. Furthermore, patient adherence may be affected by type of disease, culture, and some demographic factors [7,9]. Other satisfaction dimensions that affect patients' perceptions: 1) doctor conduct; 2) service availability; 3) confidence; and 4) efficiency/outcomes [10]. It would therefore be reasonable to assume that health professionals manifest particularly high levels of skill in dealing with patients at an interpersonal level. The facts unfortunately often fail to bear this out [11].

Since this topic has not been studied in Iran yet, we have tried to investigate the relationship between patient belief on prescribed medicine and their adherence, and to consider some demographic factors of this relationship. Clearly; through applying the results of this study, we can enhance effectiveness of patient treatment and take effective steps in improving the relation between the patient and the physician, the pharmacist, and the nurse.

## 2. Methods

This descriptive, analytical, and cross-sectional study was performed in Lavasani Hospital-Tehran in 2012-2013. 38 patients were randomly selected amongst the outpatients, patients with referral for re-hospitalization, and patients referring to the pharmacy of the hospital, all of whom were diagnosed with borderline personality disorder. The essential feature of borderline personality disorder is a pervasive pattern of instability of interpersonal relationships, affects, and self-image, as well as marked impulsivity.

Diagnostic Criteria for Borderline Personality Disorder (DSM 4<sup>th</sup> edition) [12].

A pervasive pattern of instability of interpersonal relationships, self-image, and affects, and marked impulsivity beginning by early adulthood and present in a variety of contexts, as indicated by five (or more) of the following:

- (1) Frantic efforts to avoid real or imagined abandonment<sup>a</sup>
- (2) A pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation
- (3) Identity disturbance: markedly and persistently unstable self-image or sense of self
- (4) Impulsivity in at least two areas that are potentially self-damaging (e.g., spending, sex, substance abuse, reckless driving, binge eating)<sup>a</sup>
- (5) Recurrent suicidal behavior, gestures, or threats, or self-mutilating behavior
- (6) Affective instability due to a marked reactivity of mood (e.g., intense episodic dysphoria, irritability, or anxiety usually lasting a few hours and only rarely more than a few days)
- (7) Chronic feelings of emptiness

(8) Inappropriate, intense anger or difficulty controlling anger (e.g., frequent displays of temper, constant anger, recurrent physical fights)

(9) Transient, stress-related paranoid ideation or severe dissociative symptoms

<sup>a</sup>Excluding suicidal or self-mutilating behavior (covered in criterion 5).

The criteria for sampling in this study, was that 1- the patients must have consumed at least 2 types of medicines over a period of two months for their illness, or patients with history of hospitalized or violation as refractory patients in this study ; 2- their age must be 18-45 years old because they must enter the study with complete awareness and consent.

In order to study the effect of demographic factors such as gender, age, and educational level on adherence to treatment, the study population was divided into two groups of men and women; they were all adult, and the group was divided into 4 levels of -illiteracy, -below intermediate course, -intermediate course, and - university education. Data were gathered from patients through filling three questionnaires. The first questionnaire questioned the demographic features such as age, gender and educational level and it was prepared in order to study the relationship between these factors and the patient adherence to treatment.

The second questionnaire was BMQ investigated patient belief about their prescribed medicine and was validated to be used in studying chronic diseases [13]. BMQ involves a necessity-concern framework and consists of two parts: the first part proposes 5 questions which evaluate patient belief on necessity of treatment for preserving health; the second part proposes 5 questions in order to assess the patient's concern over pharmaceutical care and dependency on medicines [14]. Answer to each question is scored for five grades based on Likert scale: 1. I completely disagree, 2. I disagree, 3. I am not sure, 4. I agree, 5. I completely agree. In both parts (necessity and concern), the grades are summed up in order to achieve a standard grade. Therefore the total score for necessity and concern varies from 5-25 [15]. Patients with grades of treatment necessity higher than 13 have a strong belief and patients with grades of treatment concern higher than 13 are more concerned about consuming their medicine. Finally, the score difference (necessity-concern) is regarded as a criterion of patient belief about medication, so that the higher the grade, the stronger the patient belief in prescribed medicine and their usefulness [14].

The third questionnaire was Morisky which assesses patient adherence to treatment and was validated to be used in studies in chronic disease. This questionnaire consists of multiple-choice questions (5 choices: 4= never, 3= seldom, 2= sometimes, 1= often, 0=always). These grades are summed up and the result is applied as a criterion for defining patient adherence to treatment. In this method, patients with a grade of adherence higher than 14 were regarded as patients adhering to treatment and patient with lower grade of the same were regarded as the non-adhering patients [9,16,17].

Reliability of Morisky questionnaire and BMQ was investigated in a limited study population (8 persons) applying Cronbach's *alpha*; with an index of 0.67 for Morisky questionnaire and 0.71 for BMQ.

The gathered data were analyzed by applying SPSS 17 and the descriptive indices were used for defining the average and ANOVA test was used to investigate the data and compare them in the studied groups.

### 3. Results

The results of distribution of demographic factors including gender, age and educational level in the statistical society for measurement of the effects of these factors on patient adherence are shown in Table 1.

According to Table 1, the most patients were Man and patient had 4 levels of Education.

**Table 1. Demographic Features of the Studied Statistical Population**

Demographic Features	Variable	Number	Percent
Gender	Male	31	80.2
	Female	7	19.28
Level of Education	Illiterate	5	13.6
	Below Intermediate Course	12	32.9
	Intermediate Course	11	28.6
	University Education	10	24.9

**Table 2. Results of correlation tests for measurement of the relationship between demographic features and adherence to treatment**

Adherence to treatment	Kramer	P-value	Pearson	P-value	Spearmen	P-value
	0.152	0.412	-0.426	0.001	- 0.631	0.001

**Table 3. Results of Comparison of Treatment Necessity among Patients (ANOVA Test)**

Illness	Average Difference	Standard Deviation	P-value
Mild	-6.78460	0.29169	0.001
With a history of Hospitalization	-626554	0.28122	0.001
History of Violation	-6.78460	0.29169	0.001

The results of correlation measurement (Table 2) showed that there is no significant relationship between patient gender and adherence to treatment, but there is a significant and reverse relationship (P=0.001) between age and adherence to treatment and there is a significant and reverse relationship (P=0.001) between level of education and adherence to treatment.

Also the correlation tests including Pearson, Kramer, and Spearman were applied in order to measure the relation between demographic features and patient adherence to treatment and the significance level of these tests was P< 0.05.

In respect of Necessity of Treatment for outpatients with mild-to-moderate degree of disorder, 80 % of the patients stringly believed in necessity of treatment and 20% weakly believed in this fact. But, amongst the patients with multiple hospitalization or risky behavior, all of them (100%) strongly believed in necessity of treatment.

The average of treatment necessity in mild patients, patients with record of hospitalization, and violance were (15.61 ± 2.49), (22.4 ± 1.39), (21.88 ± 1.24) respectively.

The results of comparison of treatment necessity among the groups (Table 3) showed a significant diffrence

(P=0.001) in belief about treatment necessity between outpatients and patients with a history of hospitalization or history of violation.

### 4. Adherence to Treatment

56% of the outpatients group (group 1); 6% the patients with a history of hospitalization (group 2); and 7% of the patients with a history of violation (group 3) did not adhere to treatment. Average grades for adherence to treatment among the patients of group 1, group 2, and group 3 were (12.74 ± 1.39), (14.88 ± 0.81), and (14.29 ± 0.86) respectively.

As shown in Table 4, there is a significant difference (P=0.001) in adherence to treatment among the three groups.

Also, among the three groups of patients, there was a direct and significant relationship between patient belief and their adherence to treatment. So adherence to treatment was highest in group 2 and Outpatient lowest adherence.

**Table 4. Result of comparison of adherence to treatment among the group of patients (ANOVA TEST)**

	P-value	Standard Deviation	Average Difference	Illness
Outpatient	History of Hospitalization	-2.14343	0.17091	0.001
	History of Violation	-1.54524	0.16478	0.001
History of Hospitalization	Outpatient	2.14343	0.17091	0.001
	History of Violation	0.59815	0.15245	0.001
History of Violation	Outpatient	1.54524	0.16478	0.001
	History of Hospitalization	-0.59815	0.15245	0.001

### 5. Discussion

Patients with a history of multiple hospitalization and violation were selected for two reasons: firstly Patients who enjoy good quality communication tend, for example, to be more satisfied with the care received, exercise greater adherence to agreed/recommended treatment regimens and courses of action, and seem to make more

rapid recoveries with fewer complications [18,19]; secondly, non-adherence to treatment, regarding the patients' chronic and risky nature, is troublesome to other people and requires more accurate and complete follow up [20]. In addition, these three groups are of different natures which affect differently patient belief in the prescribed medicine, their concern on the side effects, and finally their adherence to treatment [20]. This study, in line with other studies, suggests that some demographic

features such as age, gender and level of education affect patient adherence to treatment [1,2]. Within the literature, the studies of those patients willing to treatment referring to pharmacy emphasized on the significant relationship between demographic features and patient adherence to treatment [21,22]. Results suggest that in none of the studied groups, there was a significant relationship between patient gender and their adherence to treatment and both groups (men and women) adhere equally to treatment. This fact is affected by other factors such as level of knowledge, the women's affectedness by men, and their less financial independency compared to men. Similar results were achieved in 1998 in a study on the role of patient belief in their adherence to treatment, and it suggests that there is no significant relationship between gender and adherence to treatment [7]. The results also suggest that there is a significant relationship between the patients' age in the given three groups and their adherence to treatment. That is, patients of ages below 45 years mostly adhered to treatment. Gottlieb et al showed in their study on adherence to treatment and age difference of heart patients, suggested that patients of different age groups adhere to treatment differently and the older patients adhere less and require more treatment recommendations [23]. Weak adherence to treatment amongst aged patients may be due to hearing and visual impairments and therefore lack of full understanding of treatment recommendations, or physical and mental weakness, social issues, sensitivity to the side effects of medicines or suffering from other illnesses [1,2]. Stronger adherence to treatment amongst the younger patients may be due to their motivation to preservation of health, their strong belief in the prescribed medicine and their effectiveness, or better Pharmacodynamics of medication in these people [7,24]. Studying the results suggested that among the groups of mild-degree outpatients and patients with a history of violation, there is a significant relationship between educational level and adherence to treatment. So, the more educated patients, the less they adhered to treatment. However, amongst the patients with a history of multiple hospitalizations, there was no significant relationship between adherence to treatment and level of education.

Contrary to the current approach, the study carried out by Mardby & et. al on adherence to treatment showed that there is a direct and significant relationship between patients' level of education and adherence to treatment [20]. The results of this study show that there is a significant difference in patient belief about treatment necessity amongst the three groups of patients and the patients with a hospitalization history or violence history believe more strongly in necessity of treatment than the outpatients, which may be due to patient being of different natures and understanding of their disease severity and its circumstances. On the other hand, adherence to treatment amongst the three groups is significantly different and the patients with a history of hospitalization and violation adhere more to treatment, compared to the outpatients. Importantly, patient belief in their prescribed medicine is strongly relative to their adherence to treatment. Therefore, the results of this research suggest that a strong belief in the prescribed medicine leads to more adherence to treatment even in chronic illnesses and these two factors are directly related. Several studies have introduced

patient belief in prescribed medicine as one of the predictive factors of level of adherence to treatment and final success in treatment [25-29].

It is concluded that demographic features such as age and especially level of education affect patient adherence to treatment, regardless of illness type and severity. Therefore, we must pay attention to the patient as the active decision maker. It seems that appropriate and useful training and recommendation by the physician, the pharmacist, and the medical staff is required to enhance the patient's knowledge about the prescribed medicine and their effectiveness as well as the situation caused by the disease.

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