Shiraz E-Med J. 2024 July; 25(7): e142935. https://doi.org/10.5812/semj-142935.

Published online: 2024 July 3. **Research Article**

Relationship Between the Atmosphere of Psychiatric Wards and the Motivation, Attitude, and Perception of Patients Hospitalized in Shiraz and Bushehr University Hospitals-2019

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Received 2023 November 11; **Revised** 2024 March 2; **Accepted** 2024 March 10.

Abstract

Background: Treatment of psychiatric patients is a challenging issue that requires special attention due to their unique nature and conditions. Identifying the factors that influence treatment acceptance among these patients can aid in disease management and health promotion. The environment in which individuals reside can significantly impact their behaviors.

Objectives: The present study aimed to determine the correlation between ward atmosphere and the motivation, perception, and attitude of patients towards continuing the treatment process in psychiatric wards of certain university hospitals in Shiraz and Bushehr in 2019.

Methods: The present cross-sectional study included 299 patients admitted to the psychiatric wards of hospitals in Bushehr and Shiraz, Iran. A convenience sampling method was employed. Data collection tools included a demographic characteristics form, a short-form psychiatric ward questionnaire, and patient attitude, motivation, and treatment perception questionnaires. Data were analyzed using SPSS 19 with Pearson or Spearman correlation tests, independent *t*-test, one-way analysis of variance, and linear regression. The significance level was set at less than 0.05 in all cases.

Results: The mean score of ward atmosphere was lower than average (18.37 ± 2.99) from the patients' point of view. Among the subscales of ward atmosphere, the "support" subscale correlated with patients' attitudes towards continuing the treatment process ($P = 0.042$). Patients exhibited a more positive attitude towards treatment at higher levels of support. Two subscales, "support" ($P = 0.048$) and "programme clarity" ($P < 0.001$), correlated with patients' perceptions of the treatment continuation. In other words, patients' perception of the treatment process was higher at elevated levels of these two subscales. None of the ward atmosphere subscales correlated with the patient's motivation to continue the treatment process from the patient's point of view.

Conclusions: Given the correlation between certain subscales of ward atmosphere and patients' attitudes and perceptions about continuing the treatment process, it is recommended to design programs to optimize the ward atmosphere. This could improve patients' attitudes and perceptions regarding continuing their treatment. Additionally, it is suggested to study other factors affecting treatment in psychiatric patients.

Keywords: Ward Atmosphere, Patients' Attitude, Motivation and Perception, Psychiatric Wards, Patients

1. Background

The psychiatry ward is a challenging care environment that requires special attention due to its unique nature and the conditions of its patients (1). Studies have reported several issues affecting both patients and the psychiatric ward care team. These studies indicate that patients in psychiatric wards often experience unpleasant situations such as being in isolated rooms (seclusion) and undergoing physical restraints (2). These unpleasant clinical experiences can lead to other problems. For instance, a study in the United States reported about 142 deaths among people with a history of physical restraints and seclusion over the past ten years. In addition to fatalities, the research also noted serious injuries and surgery-related illnesses in these individuals. These problems highlight the challenges faced by patients in psychiatric wards and

underscore the importance of addressing the ward atmosphere and its impact on the organization and care systems (3). The atmosphere of treatment and care settings encompasses the physical environment, structure, and social interactions within treatment wards, including therapeutic elements, nursing care processes, and the relationships between patients and staff. Moos and Houts were the first researchers to study the ward atmosphere in psychiatric centers, describing it as an understanding of the socio-cultural environment (4, 5). According to Moos's findings, the ward atmosphere of psychiatric hospitals is classified into three general fields:

(1) Relationship Dimensions: Involvement, support, and spontaneous behavior.

(2) Personal Growth: Autonomy, practical orientation, personal problems orientation, and anger and aggression.

(3) System Maintenance: Order and organization, programme clarity, and staff control (6).

Following Moos and Houts, numerous studies have examined the ward atmosphere of hospitals, especially psychiatric hospitals (7-9). These studies have shown that the ward atmosphere can significantly impact treatment and therapeutic interventions (10). A positive atmosphere creates a safe place for both treatment and work, whereas a negative atmosphere can lead to verbal and physical violence, potentially resulting in the seclusion and restraint of patients (11). According to the World Health Organization (WHO), the ward atmosphere plays a crucial role in enhancing treatment measures and care interventions in psychiatric wards (12). Studies indicate that the hospital ward atmosphere is associated with patient satisfaction, encouragement to continue treatment, and financial improvements, which can be very effective in treatment outcomes. Some researchers suggest that improving the ward atmosphere can enhance the continuity of treatment and ultimately lead to positive changes in treatment outcomes. In developed countries, the ward atmosphere in healthcare delivery centers, especially psychiatric hospitals, has led to radical changes in hospital care. It has become a primary factor in transforming the psychiatric care system, thereby improving the care provided in psychiatric patient care centers (13, 14). While various studies have investigated the results and consequences of the ward atmosphere's effect on the treatment process of patients, they have not examined the mechanisms through which this effect occurs. Studying mediating variables between the ward atmosphere and treatment acceptance can help clarify the problem's dimensions and inform the design of appropriate interventions. Studies have found that patients' correct motivation, perception, and attitude, as parts of these mediating variables, can significantly affect treatment acceptance and therapeutic interventions (15, 16). Motivation is the main factor in making efforts and strengthening human volitional behaviors to achieve goals. It is obtained through external rewards or positive and negative encouragements from others (17). Motivation also guides and organizes perception, cognition, or purposeful behavior in humans (18). However, motivating patients to continue the treatment process can be challenging, particularly for those admitted to psychiatric wards, who are usually less motivated to engage in psychiatric and psychological treatment (19).

The research by Sazvar et al. indicated that motivating patients to commit to treatment-related behaviors could be associated with medication adherence. Motivation for behavior is influenced by the correct perception of that behavior. Perception is a process that creates meaningful experiences by organizing understanding and feeling. When a person is exposed to a situation or stimulus, they interpret it as a significant factor that can serve as a basis for future experiences, but these interpretations may differ from reality (20). Noordraven et al. found that 68% of their study participants had low motivation to accept treatment for their diseases (21). Sansone Randy and Sansone Lori indicated that patients with depression who believed that medication was unnecessary or harmful would not adhere to their medication (22).

Attitudes towards behavior are essential in shaping perceptions of that behavior. Attitudes determine behaviors, and changing attitudes can subsequently change behaviors and perceptions. Therefore, a positive attitude towards medication adherence can lead to a proper perception of the treatment and, ultimately, adherence to the treatment process. Attitude is a complex issue encompassing personality, beliefs, values, behavior, and motivation. It consists of three components: Affect (feeling), cognition (thoughts or beliefs), and behavior (activity). Attitude helps individuals understand how they perceive situations and how they behave in those situations (23). Patients' attitudes and their satisfaction within the framework of health services are crucial because attitude is an important concept in the quality of services and a visible tool for the effectiveness of health care. Therefore, it is essential to clarify the attitude of patients and their activities in this context (24). Numerous studies have examined the psychiatric ward atmosphere and its relevant concepts. However, most studies have

described the ward atmosphere or the difference between the real and ideal atmosphere, with few studies focusing on patients' attitudes, perceptions, and motivations toward treatment (7, 8, 10). Some studies have been limited by small sample sizes, according to the authors, and some have not provided the validity of the tools used (25, 26). Therefore, the present study aimed to determine the correlation between ward atmosphere and patients' motivation, perception, and attitudes toward medical care in the psychiatric wards of certain university hospitals in Shiraz and Bushehr in 2019. This study was prompted by the increasing incidence of psychiatric diseases, the challenges in psychiatric wards, the importance of investigating the psychiatric ward atmosphere and its effects on patients, the limitations of the aforementioned studies, and the unique atmosphere of each psychiatric center, which cannot be generalized to other centers and wards. The significant roles of psychiatric nurses in investigating this issue and the usefulness of examining the psychiatric ward atmosphere and its effects as a basis for designing interventions to reduce problems and their consequences in these wards were also considered.

2. Objectives

Studies have primarily focused on the psychiatry ward, ward atmosphere, and the motivation, perception, and attitude of patients toward continuing the treatment process. However, the authors' search yielded no article that specifically focused on the relationship between the atmosphere of psychiatric wards and the motivation, attitude, and perception of patients. Therefore, the present study aimed to determine the correlation between ward atmosphere and the motivation, perception, and attitude of patients toward continuing the treatment process in the psychiatric wards of certain university hospitals in Shiraz and Bushehr in 2019.

3. Methods

3.1. Study Design and Sampling

This study aimed to determine the correlation between ward atmosphere and the motivation, perception, and attitude of patients towards continuing the treatment process in psychiatric wards of certain university hospitals in Shiraz and Bushehr in 2019. The present research was a descriptive-analytical cross-sectional study. Participants included 299 patients who were admitted to the psychiatric wards of four hospitals: Ebnesina and Professor Moharari Psychiatric Hospitals in Fars Province, and Shohadaye-Khalij-e-Fars and Shahid Ganji Hospitals in Bushehr Province.

Bushehr Province, located on the shores of the Persian Gulf, is the seventeenth-largest province in Iran in terms of area. Shohadaye-Khalij-e-Fars Hospital of Bushehr and Shahid Ganji Hospital of Borazjan are the only centers with psychiatric wards in Bushehr Province. Fars Province is the fourth most populous province of Iran, located in the south, with Shiraz as its capital. Ebnesina and Professor Moharari hospitals in Shiraz are among the most important centers for hospitalization and psychiatric services in the south of Iran.

A convenience sampling method was performed. The sample size formula for regression, with a ratio of 15 samples per predictive variable, was used to determine the sample size. With 19 predictive variables, the sample size was estimated to be 285. During the sampling period, 299 patients met the inclusion criteria and were included in the study. The inclusion criteria were as follows: Consent of patients and their families to participate in the study, a duration of hospital stay in the ward for at least seven days, and the patients' ability to answer questions in writing or orally. Patients with psychiatric emergencies were excluded from the study.

3.2. Data Collection

All patients admitted to the research hospitals who met the inclusion criteria were included in the study for sampling and data collection. Sampling and completion of the questionnaires were performed after obtaining consent from the patients or their legal guardians. In other words, the participation of patients in the study and the completion of the questionnaires depended on the informed consent of the patients or their legal guardians.

After obtaining informed consent, patients completed the demographic information forms, the Ward Atmosphere Scale (WAS), and the questionnaires regarding their motivation, attitude, and perception about medical care. For illiterate patients, the researcher assisted in completing the questionnaires by explaining each question to them. The time required to complete the questionnaires, including reception and rest periods, was approximately thirty minutes per person. The entire data collection process took about thirty days.

3.3. Tools

3.3.1. Patient Attitude, Motivation, and Perception Assessment (PAMPA) Questionnaire

The PAMPA questionnaire, which included three components—the Patient Attitude Questionnaire (PAQ), Patient Perception Questionnaire (PPQ), and Patient Motivation Questionnaire (PMI)—was used to assess the patients' attitudes, perceptions, and motivation to continue the treatment process. This collection was designed by Gudjonsson et al. in 2007 (27).

3.3.2. Patient Attitude Questionnaire

The PAQ is a 13-item self-report tool. Responses are given on a 7-point Likert Scale ranging from "never" to "always," with scores of 1 for "never" and 7 for "always." The minimum score is 13, and the maximum score is 91. A higher score indicates a more negative attitude toward continuing the treatment process.

3.3.3. Patient Motivation Questionnaire

The PMI is a self-report tool consisting of 16 items with "true" and "false" responses. A score of 1 is given to "true" answers, and a score of zero to "false" answers. The minimum score is zero, and the maximum score is 16. A higher score indicates greater motivation to continue the treatment process.

3.3.4. Patient Perception Questionnaire

The PPQ is a self-assessment tool consisting of 29 items. Responses are provided on a seven-point Likert Scale ranging from "never" to "very high," with a score of one for "never" and seven for "very high." The minimum score is 29, and the maximum score is 203. A higher score indicates a better perception of the continuation of the treatment process.

The construct validity and reliability of these questionnaires were initially performed by Gudjonsson (27). In the present study, translation, back-translation, and cultural adaptation of the tool were conducted. Qualitative face validity of the questionnaire was evaluated by gathering the target group's opinions on the difficulty, fitness, and ambiguity of the items. Quantitative face validity was assessed through item impact evaluation, where all items had impact scores greater than 1.5 (ranging from 3.6 to 5).

The content validity of the tool was confirmed through the content validity index (CVI) and content validity ratio (CVR). The mean CVI was 0.87 for the patient attitude questionnaire, 0.84 for the patient motivation questionnaire, and 0.91 for the patient perception questionnaire. All items had a CVR greater than 0.59, according to the opinions of 11 experts. The mean CVR was 0.81 for the patient attitude and patient motivation questionnaires, and 0.82 for the patient perception questionnaire.

The reliability of the questionnaires was evaluated by examining internal consistency and test-retest correlation. The internal consistency values, as determined by Cronbach's alpha coefficient, were 0.90 for the patient attitude questionnaire and 0.70 for the patient perception questionnaire. For the patient motivation questionnaire, the Kuder–Richardson coefficient was 0.92. A test-retest was conducted two weeks apart, with an inter-class correlation of 0.96 for the attitude questionnaire and 0.81 for the perception questionnaire (28).

3.4. The Short-form Ward Atmosphere Scale

This scale, specifically designed for measuring the psychiatric ward atmosphere, has two forms: A long form (100 items) and a short form (40 items), both responded to using the true-false method. The short form was used in this study. The ten fields of this tool included "Involvement," "Support," "Spontaneous Behaviors," "Autonomy," "Practical Orientation," "Personal Problems Orientation," "Anger and Aggression," "Order and Organization," "Programme Clarity," and "Staff Control." The minimum score was zero, and the maximum was 40 (5). If participants' mean scores were close to or higher than the median, they had a more positive view of the ward atmosphere. If their mean scores were lower than the median of the questionnaire, the participants had more negative views about the ward atmosphere.

In the present study, the stages of translation, reverse translation, and cultural adaptation of the tool were performed, and its content validity was evaluated and confirmed. The content validity of the tool was verified by the mean content validity index and ratio, with values of 0.92 and 0.99, respectively. The internal reliability of the tool among patients was found to be 0.86 using the Kuder–Richardson coefficient. Furthermore, a test-retest was conducted at two-week intervals, and the reliability of the questionnaire was approved using the intra-class correlation coefficient of 0.86 for the test-retest.

3.5. Data analysis

Data were analyzed using SPSS 19. The Pearson correlation test was used to analyze the correlation between age and patients' perception, motivation, and

attitude, while the Spearman correlation test was applied to examine the correlation between ward atmosphere and its subscales, as well as the length of hospitalization, with patients' perception, motivation, and attitude. Additionally, the independent *t*-test, one-way analysis of variance (ANOVA), and linear regression were employed. The significance level was set at less than 0.05 for all cases.

3.6. Ethical Considerations

Legal permits and the ethical code IR.BPUMS.REC.1398.080 were obtained to comply with research ethics before data collection. Necessary explanations regarding the objectives and how to respond to the questionnaires were provided, and informed consent forms were signed by the participants. Participation in the study was anonymous and voluntary, and the participants and their legal guardians were assured of data confidentiality.

4. Results

The mean age of the patients was 31.53 ± 6.17 years. Over 75% of the participants were male, with the remainder being female. Participants were often self-employed or unemployed, and most had a high school diploma or lower. They were generally not under the protection of any organizations. Table 1 presents the demographic profile of participants and compares perception and attitude scores across different levels of these variables.

Table 1. Demographic Profile of Participants and Comparison of Perception and Attitude Scores Between Level of These Variables

Variables	No. (%)	Patients' Attitudes [a]	P-Value	Perception [a]	P-Value
Gender			0.317		0.528
Male	231 (77.3)	47.35 ± 10.00		120.66 ± 15.02	
Female	68 (22.7)	48.69 ± 7.36		119.31 ± 12.69	
Marital Status			0.897		0 .043
Single	142 (47.6)	47.54 ± 9.72		120.10 ± 5.12	
Married	131 (44.3)	47.89 ± 9.25		119.29 ± 12.54	
Divorced	24 (8.1)	46.95 ± 9.78		127.52 ± 19.32	
Job			0.342		0.114
Unemployed	121 (40.7)	48.80 ± 8.29		119.1 ± 11.84	
Manual worker	15 (5.1)	44.93 ± 11.97		118.77 ± 15.93	
Freelance job	127 (42.8)	47.09 ± 9.81		122.79 ± 6.31	
Employee	34 (11.4)	47.33 ± 10.76		116.84 ± 15.59	
Education			0.922		0.051
High school	106 (35.5)	47.45 ± 9.37		118.29 ± 11.34	
Diploma	149 (49.8)	47.88 ±8.43		120.44 ± 14.55	
Above the diploma	44 (14.7)	47.40 ± 12.72		125.11 ± 19.75	
Social support services			0.210		0.258
Yes	66 (22.1)	46.26 ± 11.63		122.21 ± 16.74	
No	232 (77.9)	48.20 ± 8.52		119.72 ± 13.68	
Place of hospitalization			< 0.001		< 0.001
Bushehr or Borazjan	25 (8.4)	51.08 ± 4.58		119.88 ± 3.43	
Ebnsina	90 (30.1)	41.24 ± 13.15		129.87 ± 19.42	
Moharari	184 (61.5)	50.29 ± 5.60		115.99 ± 10.19	

[a] Values are expressed as mean ± SD.

The mean and standard deviation of the patients' attitude, motivation, and perception scores were 47.66 ± 9.47, 9.84 ± 3.93, and 120.36 ± 14.53, respectively. Table 2 shows the mean and standard deviation of the ward atmosphere and its subscales, along with the correlation between these variables, age, and the number of days of hospitalization with patient attitude, motivation, and perception scores. The research results indicated an inverse significant correlation between the total scores of the ward atmosphere ($r = -0.308$, $P < 0.001$) and several of its subscales, namely "support" ($r = -0.300$, $P < 0.001$), "spontaneous behavior" ($r = 0.227$, $P < 0.001$), "autonomy" ($r = -0.125$, $P = 0.035$), "anger and aggression" ($r = -0.170$, $P = 0.004$), and "programme clarity" ($r = -0.300$, $P < 0.001$), with the patients' attitudes towards medical care. Since a higher score on the attitude scale indicated a more negative attitude, an increased score in the ward atmosphere and its subscales corresponded with a decrease in negative attitudes towards medical care.

Table 2. Correlation Between Dependent and Independent Variables

Independent Variables	Mean ± SD	Dependent Variables					
		Patients' Motivation		Patients' Perception		Patients' Attitudes	
		r [a]	P-Value	r [a]	P-Value	r [a]	P-Value
Involvement	3.03 ± 1.01	-0.039	0.504	-0.046	0.443	0.049	0.412
Support	1.31 ± 0.79	0.37	0.527	0.325	< 0.001	-0.300	< 0.001
Spontaneous behavior	0.70 ± 0.90	-0.055	0.346	0.238	< 0.001	-0.227	< 0.001

Independent Variables	Mean ± SD	Dependent Variables					
orientation	1.81 ± 0.99	-0.049	0.400	0.081	0.176	-0.093	0.116
Personal problems orientation	2.28 ± 0.96	0.024	0.682	-0.052	0.383	0.025	0.671
Anger and aggression	1.26 ± 0.69	0.027	0.639	0.171	0.004	-0.170	0.004
Order and Organization	3.25 ± 0.84	0.054	0.361	-0.048	0.422	0.041	0.486
Program clarity	0.84 ± 1.01	0.007	0.912	0.280	< 0.001	-0.300	< 0.001
Staff control	2.64 ± 0.84	-0.073	0.211	-0.016	0.786	0.026	0.664
Total score of The ward atmosphere	18.37 ± 2.99	-0.023	0.694	0.319	< 0.001	-0.308	< 0.001
Age	31.53 ± 6.17	0.035	0.574 [b]	0.198	0.001 [b]	-0.002	0.975 [b]
Day of hospitalization	21.22 ± 7.22	0.049	0.499	0.066	0.284	-0.149	0.012

[a] r = correlation coefficient.

[b] Pearson correlation test was done, but in the rest of the cases Spearman correlation was done.

There was a positive and significant correlation between patients' perception of health care and the subscales "support" (r = 0.325, P < 0.001), "anger and aggression" (r = 0.171, P = 0.004), "programme clarity" (r = 0.280, P < 0.001), and "spontaneous behavior" (r = 0.238, P < 0.001). Additionally, there was a statistically significant negative correlation with the "staff control" subscale. The research results also indicated that the total score of the ward atmosphere and its subscales were not significantly correlated with motivation towards health care (Table 2).

Table 3 presents the results of the multiple regression analysis investigating the correlation between the subscales of ward atmosphere and patients' attitudes towards treatment, adjusted for demographic and job variables. The regression coefficients indicated that among the ward atmosphere subscales included in the model, only the "support" subscale had a statistically significant inverse correlation (P = 0.042) with patients' attitudes toward treatment. This suggests that a higher score in the "support" subscale is associated with a less negative attitude towards continuing the treatment process.

Table 3. Regression Analysis to Investigate Predictors of Attitude Towards Treatment

Independent variables	B	SE	β	*t*	P-Value
Support	-5.078	2.488	-0.131	-2.041	0.042
Spontaneous Behavior	0.458	2.577	0.010	0.178	0.859
Autonomy	-3.025	2.440	-0.078	-1.240	0.216
Anger and Aggression	-3.679	2.307	-0.090	-1.595	0.112
Program Clarity	-3.455	2.253	-0.101	-1.533	0.126
Number of hospitalization day	-0.163	0.071	-0.126	-2.307	0.022
Hospital (References: Moharari)					
Bushehr and Borazjan	0.397	1.865	0.011	0.213	0.832
Ebnsina	-6.270	1.273	-0.298	-4.924	< 0.001

Additionally, the number of hospitalization days and being admitted to Ebnesina Hospital were inversely correlated (P < 0.001) with the attitude score towards medical care. In other words, a longer hospital stay was associated with a less negative attitude towards care, and patients admitted to Ebnesina Hospital had a less negative attitude towards treatment compared to those in the other hospitals (Table 3).

The regression coefficients further indicated that the "support" and "programme clarity" subscales had a direct and statistically significant correlation (r = 0.042, P = 0.126) with patients' perceptions of medical care. Age and hospitalization in Ebnesina Hospital were also directly correlated (r = 0.041, P < 0.001) with perceptions of medical care (Table 4).

Table 4. Regression Analysis to Investigate Predictors of Perception Towards Medical Care in Patients

Independent Variables	B	SE	β	*t*	P-Value
Constant	105.979	4.844		21.880	< 0.001
Support	6.991	3.520	0.120	1.986	0.048
Anger and Aggression	-0.147	3.765	-0.002	-0.039	0.969
Program Clarity	12.176	3.420	0.221	3.560	< 0.001
Staff control	-0.718	1.659	-0.025	-0.433	0.666
Age	0.345	0.168	0.148	2.056	0.041
Marital Status (References: Single)					
Married	-1.686	2.114	-0.059	-0.797	0.426
Divorced	3.752	2.993	0.073	1.253	0.211
Hospital (References: Moharari)					
Bushehr and Borazjan	4.247	2.710	0.087	1.567	0.118
Ebnsina	8.601	2.035	0.269	4.227	< 0.001

5. Discussion

The present study aimed to determine the correlation between the psychiatric ward atmosphere and patients' attitudes, perceptions, and motivations to continue the treatment process. Findings indicated that the "support" subscale of the ward atmosphere had a statistically significant inverse correlation with patients' negative attitudes toward treatment. Additionally, the "support" and "programme clarity" subscales had a direct and statistically significant correlation with patients' perceptions of treatment. However, none of the ward atmosphere subscales had a statistically significant correlation with patients' motivation to continue the treatment process.

The results of the present study were consistent with those of Squier which also found a significant relationship between ward atmosphere and patients' attitudes (29). Attitudes are often defined based on three components: Beliefs, feelings, and behavioral goals. Attitude is the product of our beliefs about something, how we feel about it, and how we react to it. Since support involves encouraging patients, following up with them, and being aware of their demands, proper support in the treatment process can positively influence patients' beliefs, feelings, and behaviors. These factors can change patients' attitudes towards continuing the treatment process and lead to better medication adherence. According to the research results, the ward atmosphere had a direct and significant relationship with patients' perception of the continuation of the treatment process in terms of support and program clarity. A study on patients with depressive disorder indicated that the quality of the physician-patient relationship had a positive effect on the patients' knowledge and beliefs about treatment, increased their satisfaction with medication, and decreased treatment discontinuation (30). A meta-analysis found that the quality of the patient-physician relationship was associated with patients' medication adherence (31). The program clarity and support subscales were closely related. Support means having the opportunity to encourage patients, follow up with them, and be aware of their demands. Program clarity measures the explanation of treatment programs for patients, both of which require an appropriate relationship between the caregiver and patient.

Given that individuals' previous experiences can play roles in shaping their beliefs, support creates a positive experience. When patients perceive the support of caregivers, a positive experience is created, strengthening their belief in treatment recommendations and making their perceptions more positive. Based on the relationship between beliefs and perceptions, as previously described, and the relationship between support and perception, it was expected that "staff control" from the patients' perspective would be inversely related to the patients' perceptions of the treatment process. Such a correlation existed in the correlation analysis but was not confirmed in the regression analysis, possibly because staff control exerted its effect through mediating variables. In the present study, none of the ward atmosphere domains from the patients' point of view had a statistically significant correlation with their motivation to continue treatment. There were no studies directly examining the relationship between the ward atmosphere and motivation to continue the treatment process. However, an abstract of a study indicated that depression and ward atmosphere affected the motivation of psychiatric patients (32). The results were not consistent with the present study. This discrepancy might be due to differences such as the use of the original version of the ward atmosphere questionnaire and the lack of measurement of patients' perceptions and attitudes toward treatment in the other study.

This study suggests that factors other than ward atmosphere might affect the motivation to continue the treatment process, indicating the need for further research. Since self-motivation is partly influenced by individuals' perceptions and attitudes toward treatment, which were affected by one or two subscales of the ward atmosphere, it was expected that subscales such as support or program clarity would affect patient motivation. However, the results did not confirm this expectation. Existing theories suggest that the feeling of need drives motivation. While a positive perception and attitude towards treatment can create more readiness to accept treatment, whether patients feel that the treatment is necessary or can be postponed can affect their motivation and behavior. The stress of unmet needs drives motivation (33). Understanding the extent to which patients' needs for treatment create stress, and what factors influence this stress, can better identify motivation factors. Reviewing factors such as threat assessment, compliance assessment, disease severity, volunteering, response cost, response efficiency, and internal and external rewards (34) is suggested to detect the most important determinants of motivation.

It is worth noting that the lack of a relationship between ward atmosphere and motivation to continue the treatment process could be due to the use of the short form of the questionnaire or, more likely, the low sample size and statistical power of the study. Given the results of the relationship between ward atmosphere and psychiatric patients' attitudes and perceptions toward continuing the treatment process, it is suggested to take necessary measures to optimize the ward atmosphere, especially in terms of staff support and treatment program clarity. Teaching nurses and other caregivers in psychiatric wards about effective interaction with patients and explaining treatment programs and procedures to them can help improve healthcare providers' support for patients with mental disorders. Regulating and formulating programs in psychiatric wards to ensure the transparency of treatment programs is part of the ward's rules, and more importantly, institutionalizing these rules and monitoring their implementation can help improve

patients' perceptions and attitudes toward treatment. It is also suggested to identify the determinants of patients' motivation and behavior toward treatment and then design motivation-enhancing programs.

5.1. Limitations

Given that the present study was quantitative and cross-sectional, the data should not be interpreted causally. Since several questionnaires were simultaneously given to the participants, there was a possibility of common method bias. To examine the existence of this bias, all items of the questionnaires were entered into factor analysis, which did not yield any factor that explained more than fifty percent of the variance, indicating the absence of such bias. Given that the present study was conducted in a specific part of Iranian society, its generalization to other societies should be approached with caution.

5.2. Conclusions

The results of the present study indicated that only two fields, "support" and "programme clarity," were correlated with patients' perceptions, and "support" was correlated with patients' attitudes. It appears that optimizing the ward atmosphere could affect patients' attitudes and perceptions, but the ward atmosphere in the present study was not correlated with patients' motivation. Hence, it seems that other variables, aside from the ward setting, affect patients' motivation to follow the treatment, which were not identified in the present study and should be investigated in future research.

Acknowledgements

Researchers are grateful to the nurses and hospitalized patients in psychiatric wards.

Footnotes

Authors' Contribution: Study concept and design, M.A, M.B, SH. P, and R.B; analysis and interpretation of data, R.B, and M.A; drafting of the manuscript, M.A, R.B.; critical revision of the manuscript for important intellectual content, M.A, M.B, SH. P, and R.B.; statistical analysis: R.B.

Conflict of Interests Statement: All four authors are members of the Faculty of Nursing of Bushehr University of Medical Sciences.

Data Availability: Data are available in the case of contact with the corresponding author and for a reasonable reason.

Ethical Approval: This study is approved under the ethical approval code of IR.BPUMS.REC.1398.080 .

Funding/Support: The present study was taken from a master's thesis on the Faculty of Nursing and Midwifery of Bushehr University of Medical Sciences (Mohammad Ali Abolhosseini) and it was funded by the research deputy of Bushehr University of Medical Sciences.

Informed Consent: Informed consent was obtained from all participants.

References

1. Chatrooz A, Goudarzi L, Roshani M, Hosseini SH, Nazari A, Rajabi Vasokolaee G. [Investigation of the safety management status in the selected hospitals, affiliated to Tehran University of Medical Sciences, 2012]. *J Payavard Salamat*. 2016;**10**(4):331-9. Persian.
2. Zarea K, Fereidooni-Moghadam M, Baraz S, Tahery N. Challenges Encountered by Nurses Working in Acute Psychiatric Wards: A Qualitative Study in Iran. *Issues Ment Health Nurs*. 2018;**39**(3):244-50. [PubMed ID: 29064747]. https://doi.org/10.1080/01612840.2017.1377327.
3. Robinson J, Craig LA, Tonkin M. Perceptions of Social Climate and Aggressive Behavior in Forensic Services: A Systematic Review. *Trauma Violence Abuse*. 2018;**19**(4):391-405. [PubMed ID: 27519992]. https://doi.org/10.1177/1524838016663936.
4. Gaab S, Brazil IA, de Vries MG, Bulten BH. The Relationship Between Treatment Alliance, Social Climate, and Treatment Readiness in Long-Term Forensic Psychiatric Care: An Explorative Study. *Int J Offender Ther Comp Criminol*. 2020;**64**(9):1013-26. [PubMed ID: 31984841]. https://doi.org/10.1177/0306624X19899609.
5. Banks C, Priebe S. Scales for assessing the therapeutic milieu in psychiatric inpatient settings: A systematic review. *Gen Hosp Psychiatry*. 2020;**66**:44-50. [PubMed ID: 32659464]. https://doi.org/10.1016/j.genhosppsych.2020.06.014.
6. Tuvesson H, Eklund M. Nursing Staff Stress and Individual Characteristics in Relation to the Ward Atmosphere in Psychiatric In-Patient Wards. *Issues Ment Health Nurs*. 2017;**38**(9):726-32. [PubMed ID: 28574800]. https://doi.org/10.1080/01612840.2017.1324929.
7. de Vries MG, Brazil IA, Tonkin M, Bulten BH. Ward Climate Within a High Secure Forensic Psychiatric Hospital: Perceptions of Patients and Nursing Staff and the Role of Patient Characteristics. *Arch Psychiatr Nurs*. 2016;**30**(3):342-9. [PubMed ID: 27256939]. https://doi.org/10.1016/j.apnu.2015.12.007.
8. Zamir SM, Beyraghi N, Pour YM, Farzaneh N. Perception and satisfaction of patients versus staffs in three psychiatric wards in Tehran in 2010 and 2011. *J Shiraz E-Med*. 2016;**17**(11). https://doi.org/10.17795/semj31829.
9. Efkemann SA, Bernard J, Kalagi J, Otte I, Ueberberg B, Assion HJ, et al. Ward Atmosphere and Patient Satisfaction in Psychiatric Hospitals With Different Ward Settings and Door Policies. Results From a Mixed Methods Study. *Front Psychiatry*. 2019;**10**:576. [PubMed ID: 31543830]. [PubMed Central ID: PMC6728825]. https://doi.org/10.3389/fpsyt.2019.00576.
10. Alexiou E, Degl' Innocenti A, Kullgren A, Wijk H. The impact of facility relocation on patients' perceptions of ward atmosphere and quality of received forensic psychiatric care. *J Forensic Leg Med*. 2016;**42**:1-7. [PubMed ID: 27213839]. https://doi.org/10.1016/j.jflm.2016.04.014.

11. Dickens GL, Johnson A, Steel K, Everett B, Tonkin M. Interventions to Improve Social Climate in Acute Mental Health Inpatient Settings: Systematic Review of Content and Outcomes. *SAGE Open Nurs*. 2022;**8**:23779608221124300. [PubMed ID: 36533258]. [PubMed Central ID: PMC9749049]. https://doi.org/10.1177/23779608221124291.
12. Tonkin M. A Review of Questionnaire Measures for Assessing the Social Climate in Prisons and Forensic Psychiatric Hospitals. *Int J Offender Ther Comp Criminol*. 2016;**60**(12):1376-405. [PubMed ID: 25850103]. https://doi.org/10.1177/0306624X15578834.
13. Woodward S, Berry K, Bucci S. A systematic review of factors associated with service user satisfaction with psychiatric inpatient services. *J Psychiatr Res*. 2017;**92**:81-93. [PubMed ID: 28412601]. https://doi.org/10.1016/j.jpsychires.2017.03.020.
14. Jaeckel D, Baumgardt J, Helber-Boehlen H, Stiehm N, Morgenstern K, Voigt A, et al. Changes on Ward Atmosphere and Job Satisfaction after Implementation of the Safewards Model in Two Locked Acute Psychiatric Wards-A Multi-Perspective Evaluation. *J Psychiatrische Praxis*. 2019;**46**(7):369-75.
15. Yang Y, Perkins DR, Stearns AE. Barriers and Facilitators to Treatment Engagement Among Clients in Inpatient Substance Abuse Treatment. *Qual Health Res*. 2018;**28**(9):1474-85. [PubMed ID: 29683040]. https://doi.org/10.1177/1049732318771005.
16. Dixon LB, Holoshitz Y, Nossel I. Treatment engagement of individuals experiencing mental illness: review and update. *World Psychiatry*. 2016;**15**(1):13-20. [PubMed ID: 26833597]. [PubMed Central ID: PMC4780300]. https://doi.org/10.1002/wps.20306.
17. Hozhabrnya Z, Navaee SA, Alinejad GR, Goudini R. The Effect of Eight weeks of core stability training on intrinsic motivation in Parkinson's disease. *J Neuropsychol*. 2017;**3**(9):53-66.
18. Alfonsson S, Olsson E, Hursti T. Motivation and Treatment Credibility Predicts Dropout, Treatment Adherence, and Clinical Outcomes in an Internet-Based Cognitive Behavioral Relaxation Program: A Randomized Controlled Trial. *J Med Internet Res*. 2016;**18**(3). e52. [PubMed ID: 26957354]. [PubMed Central ID: PMC4804106]. https://doi.org/10.2196/jmir.5352.
19. Firth J, Rosenbaum S, Stubbs B, Gorczynski P, Yung AR, Vancampfort D. Motivating factors and barriers towards exercise in severe mental illness: a systematic review and meta-analysis. *Psychol Med*. 2016;**46**(14):2869-81. [PubMed ID: 27502153]. [PubMed Central ID: PMC5080671]. https://doi.org/10.1017/S0033291716001732.
20. Sazvar SA, Nouri R, Saei R, Hatami M. Impact of acceptance and commitment-based psychoeducation on the adjustment of expressed emotion in families of patients with bipolar disorder. *J Kashan Univ Med Sci--Feyz*. 2017;**21**(3):265-271.
21. Noordraven EL, Wierdsma AI, Blanken P, Bloemendaal AF, Mulder CL. Depot-medication compliance for patients with psychotic disorders: the importance of illness insight and treatment motivation. *Neuropsychiatr Dis Treat*. 2016;**12**:269-74. [PubMed ID: 26893565]. [PubMed Central ID: PMC4745949]. https://doi.org/10.2147/NDT.S97883.
22. Sansone RA, Sansone LA. Antidepressant adherence: are patients taking their medications? *J Innov Clinical Neurosci*. 2012;**9**(5-6):41.
23. Khattak S, Faheem M, Nawaz B, Khan M, Khan NH, Ullah N, et al. Knowledge, Attitude, and Perception of Cancer Patients towards COVID-19 in Pakistan: A Cross-Sectional Study. *Int J Environ Res Public Health*. 2022;**19**(13). [PubMed ID: 35805584]. [PubMed Central ID: PMC9265320]. https://doi.org/10.3390/ijerph19137926.
24. Kim-Soon N, Abdulmaged AI, Mostafa SA, Mohammed MA, Musbah FA, Ali RR, et al. A framework for analyzing the relationships between cancer patient satisfaction, nurse care, patient attitude, and nurse attitude in healthcare systems. *J Ambient Intelligence Humanized Computing*. 2022:1-18. https://doi.org/10.1007/s12652-020-02888-x.
25. Ranjbar Ezatabadi M, Arab M, Zeraati H, Akbari Sari A, Dargahi H. Stress factors and the effect of stress on performance of managers in hospitals affiliated to Tehran University of Medical Sciences. *J School of Public Health Institute of Public Health Res*. 2009;**7**(3). https://doi.org/10.18502/jebhpme.v5i2.6556.
26. Hatami M. The study of effective factors on stress in personel and none personel maternals in terms of features and the effect of therapeutic waysin stress reduce. *The fourth Congress on stress, Iran University of Medical Sciences*. 1999. 1999.
27. Gudjonsson GH, Young S, Yates M. Motivating mentally disordered offenders to change: instruments for measuring patients' perception and motivation. *J Forensic Psychiatry Psychol*. 2007;**18**(1):74-89. https://doi.org/10.1080/14789940601063261.
28. Dickens GL, Suesse M, Snyman P, Picchioni M. Associations between ward climate and patient characteristics in a secure forensic mental health service. *J Forensic Psychiatry Psychol*. 2014;**25**(2):195-211. https://doi.org/10.1080/14789949.2014.903505.
29. Squier RW. The relationship between ward atmosphere and staff attitude to treatment in psychiatric in-patient units. *Br J Med Psychol*. 1994;**67 (Pt 4)**:319-31. [PubMed ID: 7888395]. https://doi.org/10.1111/j.2044-8341.1994.tb01800.x.
30. Bultman DC, Svarstad BL. Effects of physician communication style on client medication beliefs and adherence with antidepressant treatment. *Patient Educ Couns*. 2000;**40**(2):173-85. [PubMed ID: 10771371]. https://doi.org/10.1016/s0738-3991(99)00083-x.
31. Thompson L, McCabe R. The effect of clinician-patient alliance and communication on treatment adherence in mental health care: a systematic review. *BMC Psychiatry*. 2012;**12**:87. [PubMed ID: 22828119]. [PubMed Central ID: PMC3528426]. https://doi.org/10.1186/1471-244X-12-87.
32. Beazley P, Gudjonsson G. Motivating inpatients to engage with treatment: the role of depression and ward atmosphere. *Nord J Psychiatry*. 2011;**65**(2):95-100. [PubMed ID: 20608772]. https://doi.org/10.3109/08039488.2010.502244.
33. Neli MA. [Motivation in Organizations]. *Chamran Univ Ahvaz*. 1994:176. Persian.
34. Conner M, Norman P. Predicting health behaviour: a social cognition approach. *J Predicting Health Behav*. 2005;**2**:1-27.