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# **Differences of mentally ill patients' satisfaction degree during their involuntary or voluntary stay in a psychiatric clinic**

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**Authors' contributions:** GA and VM Supervised conceptualization and design the study, drafting the article and revising it critically for important intellectual content, preparation of the manuscript, final approval of the version to be published, SMA participated in the design of the statistical analyses, in data interpretation and preparation of the manuscript, in drafting the article and revising it, LD participated in data interpretation, in preparation of the manuscript and in drafting the article and revising it, GV participated data interpretation in preparation of the manuscript, in drafting the article and revising it.

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**Availability of data and material:** The data that support the findings of this study are available from the corresponding author upon reasonable request.

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## **Significance for Public Health**

The integration of tools for measuring patient satisfaction in the decision-making process is considered important to further improve the quality of services provided to users of public health services. The benefits that result from the evaluation of patient satisfaction concern both

patients themselves and health professionals. The satisfaction of involuntarily hospitalized mentally ill patients is not only a matter of clinical significance but mainly a matter of ethics, given that these patients are admitted for treatment without being able to terminate their treatment. The involuntarily hospitalized patients' satisfaction of provided health services is a particular challenge for the use of satisfaction measurement tools, as involuntary hospitalization is one of the most ethically challenging practices in medicine, which touches on the rights and freedoms of the patient.

## **Abstract**

*Background:* Mental health illness is not considered as a private matter, as it affects not only the mental patient's life and those who are considered his/her immediate family, but also the society as a whole. The involuntary examination and/or hospitalization in the field of mental health as the basic first-line therapeutic solution in Greece, calls for an immediate intervention, which is supposed to counterbalance the need for therapy and patient's rights of personal freedom and safety.

*Design and methods:* A research using questionnaire was realized, consisting of 100 hospitalized patients in psychiatric clinics (50 voluntarily and 50 involuntarily hospitalized) at the Psychiatric Hospital of Attica. The sampling scheme was the stratified sampling and the level of statistical significance was set to  $\alpha=0.05$ .

*Results:* The results have shown that involuntarily and voluntarily hospitalized mental patients did not differ significantly with almost the entirety of the questionnaire; however, the involuntarily patients were significantly more satisfied with the conditions of hospitalization as well as assessing the overall quality of the services provided during their hospitalization.

*Conclusions:* For mentally ill patients, greater importance and stronger correlation with gratification, does not constitute the admission procedure to the psychiatric clinic but the development of effective communication and therapeutic relationship with the staff, full knowledge and update about patient's health condition, medication, participation in therapeutic planning and hospitalization in a regime of autonomy and respect for their rights.

**Key words:** Mentally ill, voluntary hospitalization, involuntary hospitalization, psychiatric clinic.

## **Introduction**

The most neglected public health problem could be mental health disease. Discussing the obstacles that mental health presents to governments, families and in particular, to individuals

with mental health issues themselves, remains a taboo in most Member States. Stigma, racism and discrimination are pervasive and deeply rooted and can hinder any advancement towards meaningful change if not tackled. There are also major legal and policy-related obstacles to the complete encompassing of mental health issues people in society, and little attempt has been made to overcome them to date. There is little political support for change as many policymakers struggle to see the treatment of people, with mental health issues, as a matter of human rights.<sup>1</sup>

The term mental illness expresses, a large group of disorders that pose difficulties in thinking, feeling, and behaving, leading to patients' functional implications as well as communication disorders. Mental illness affects all population groups, regardless of social, economic, and educational levels.<sup>1</sup>

Their prevalence in the adult population is estimated at around 10%, with variations to the detriment of women, while it is estimated that approximately 20–25% of the population worldwide will be mentally ill at least once in their lifetime.<sup>1</sup> In particular, in the category over 60 years old, 20% suffers from a mental illness.<sup>2</sup> In terms of mortality, mental disorders are responsible for 8,000,000 deaths per year, a percentage that is 2.2 times higher than the general population or people without mental disorders.<sup>3</sup>

Neuropsychiatric disorders constitute the third major cause for loss of disability-adjusted life years (DALYs) in Europe at 15.2%, after cardiovascular disease (26.6%) and malignancies (15.4%).<sup>4</sup>

In Greece, the prevalence of psychiatric disorders is 16% of the general population.<sup>5</sup> Studies claim that 1 in 6 Greeks aged 18-70 years has developed clinically significant psychopathology and 1 in 12 serious psychopathology.<sup>6</sup> The monthly prevalence of major depression, from 3.3% in 2008, was found to escalate to 6.8% in 2009, 8.2% in 2011, and 12.3% in 2013.<sup>7</sup> The suicide rate increased from 3.58 suicides per 100,000 inhabitants in 2007 to 5.59 suicides in 2011.<sup>8</sup>

The above mentioned findings in Greece are partly due to the financial crisis that the country went through over the last decade. Many studies show the link between financial hardships and depression,<sup>9,10</sup> as well as the increasing use of psychic services, focusing on psychotherapeutic treatment-psychological support. The population's financial problems and especially the affect of unemployment, as expected, the arrival of new cases and the evolution of the treatment of many of those served.<sup>11</sup> However, the usage rate of mental health services in Greece does not exceed 1/3 of the population suffering from mental disorders.<sup>6</sup>

The World Health Organization considers health systems not to have adequately met the burden of mental illness requirements and, consequently, the gap between the need for treatment and the provision of mental health services is wide worldwide. In low- and middle-income countries, 76% to 85% of people suffering from mental disorders do not receive treatment, when the corresponding percentage range in high-income countries ranges from 35% to 50%, while there is generally poor quality of care for many of those receiving treatment.<sup>2</sup>

Admission for treatment on behalf of a mentally ill person is considered necessary when his behavior poses a risk to himself or to others, when it comes to the application of a treatment regimen that requires constant medical supervision, as well as in the case where the patient's psychiatric condition is very serious, and his family is not able to take care of him on a 24-hour basis. The hospitalization is always voluntary, as the patient is informed and agrees with the proposed admission procedure to a psychiatric clinic. If the patient refuses to be admitted to a psychiatric clinic, then the involuntary hospitalization's procedure is applied.<sup>8</sup> Involuntary examination or hospitalization is an immediate, urgent therapeutic intervention, which differentiates the practice of Psychiatry from other medical specialties, as its decision has an impact on personal liberty deprivation. That's happens; because the law gives you the right to intervene to enforce the medicine for the patient's protection.<sup>12</sup> Essentially, it is a result of the refusal of patients with mental disorders to receive treatment due to denial of their illness.<sup>13</sup>

The 87.5% of patients under involuntary-examination ends up in involuntary hospitalization.<sup>14</sup> Involuntary hospitalization is considered acceptable if it is applied under certain conditions and as stipulated by country's law. Correctly applied treatments and procedures, which are not offensive, humiliating or inhuman are considered effective treatments<sup>13</sup> while sometimes short-term involuntary hospitalization is suggested as necessary to prevent the mentally ill patients from experiencing psychological decline or from actions that may harm themselves or others.<sup>15</sup> The most important for involuntary-hospitalized patients themselves is their own rights to be ensured during their hospitalization.<sup>16</sup>

An important indicator of the quality of a country's psychiatric services is the way whereby it handles the most severe mental health problems. Official involuntary care statistics provide a basis for comparison not only between countries, but also time periods as well. In Europe, legislation concerning involuntary care tends to be harmonized among Member States, with particular emphasis on the reliable collection of necessary statistics. Greece is the country with serious problems regarding the way the current legislation is applied. Due to the lack of statistics, there is a light possibility to have exact information concerning the human rights of involuntarily hospitalized patients, and the exercise of their right of objection against

confinement; which makes impossible to compare directly Greece with other European countries.<sup>17</sup> Studies investigating the epidemiology of involuntary hospitalization are extremely limited,<sup>18</sup> while the non-systematic, reliable and nationally recording of relevant data, result mainly in the absence of proposals and interventions to address the problem.<sup>18</sup> In Greece, according to WHO data in the Mental Health Atlas 2014, the percentage of involuntary hospitalizations amounts to 58% of total imports, when the corresponding percentage of European countries is 7-8%,<sup>19</sup> presenting the highest emphatic way that involuntary hospitalization is the main first-line treatment solution for the country.<sup>18</sup> This occurs firstly because there is insufficient law enforcement and secondly because there are no other organizations (primary care) than psychiatric hospitals that can be alternatives to confinement.

19

The integration of tools for measuring patient satisfaction in the decision-making process is considered important to further improve the quality of services provided to users of health services. The benefits that result from the evaluation of patient satisfaction concern both patients themselves (health, psychological, financial) and health professionals (rewarding their work, respect, and trust from patients).<sup>20</sup>

In Greece, a large number of surveys are conducted and published every year in relation to patient satisfaction, but only few concern the mentally ill patients, while the research that has been carried out over time involving the involuntary or voluntary hospitalization of people with mental health problems is extremely limited, even at the level of recording-processing statistical data.

Targeting the satisfaction of involuntarily hospitalized mentally ill patients is not only a matter of clinical significance but mainly a matter of ethics, given that these patients are admitted for treatment without being able to terminate their treatment.<sup>21</sup> Examining patients' attitudes toward involuntary hospitalization is vital to making the appropriate clinical decisions needed to manage the quality of patient care.<sup>16</sup>

The provision of mental health services is an area that is increasingly associated with issues related to the quality of care, its evaluation but also its assurance and improvement as well.<sup>18</sup> In particular, the category of involuntarily hospitalized patients is a particular challenge for the use of satisfaction measurement tools, as involuntary examination and / or hospitalization is one of the most ethically challenging practices in medicine, which concerns the rights and freedoms of patients.<sup>16</sup> These are extremely vulnerable patients who, in addition to their illness, will have to follow, several times their inadvertent and compulsive admission procedure to their psychiatric clinic.

Aim of this study is to record the degree of mentally ill patients' satisfaction during their voluntary or involuntary hospitalization at a psychiatric clinic and to investigate the existing differences in satisfaction degree between the two groups (voluntary or involuntary hospitalization).

## **Design and methods**

### ***Participants and procedure***

The research was carried out at the Psychiatric Hospital of Attica, which is the largest psychiatric hospital in the country. The conduct of the study begun upon approval of the scientific council and the research and ethics committee of the hospital. The sampling scheme was the stratified sampling. The stratification process was based on the way patients were admitted to the hospital, so, the population was divided into mutually exclusive sub-groups (voluntary and involuntary patients) and then a simple random sampling was applied in each stratum in order to select a random sample of each subgroup. The objective of the selected method was to improve the precision of the sample by reducing the sampling error. A written consent form was filled in by each one of the respondents and they were informed that all the information was confidential and would be used for research purposes only.

At this point it should be noted that the questionnaire was given to patients on the day they were discharged from the hospital. There were two reasons for this action. Firstly, because at that time, the patients had a better picture of all the provided health services and secondly, because at that time, had sufficient cognitive ability to participate in the study.

Since the questionnaire was Greek, the basic criterion for the patients' participation in the research was to read and understand Greek fluently. Questionnaires were distributed to 187 patients and 100 valid questionnaires were returned (this corresponds to a response rate of 53.5%). The remaining 87 questionnaires were not included in the analysis as 53 of them had a very high item non response-rate (>50%) and the rest 34 were not filled in due to refusals. The study was carried out from 2018 September 01 to 2019 January 05.

### ***Development of the research instrument***

The development of a new questionnaire was deemed necessary since the scales used in the already available questionnaires were attempting to measure certain dimensions of user satisfaction based on a few characteristics, with the risk of losing potentially important information.<sup>22</sup> Moreover, despite the abundance of scales which measure the satisfaction of

mentally ill patients there are still doubts about their methodological validity<sup>23</sup> as well as their sensitivity to change.<sup>24</sup>

The questionnaire is composed of two sections of questions which are based on relevant literature review: the first one concerns the demographic characteristics of the patients whereas the second includes 37 patient satisfaction questions on a five-point Likert scale. Specifically, the 37 questions concerned the provided quality of medical care (5 questions), the provided quality of nursing care (4 questions), the quality of medical staff interventions (5 questions), the quality of the environment and hospital facilities (6 questions), the quality of hospital conditions (4 questions), medical confidentiality and patients rights (4 questions), participation in treatment planning and information about medication (2 questions), their perception of the progress of their mental health (5 questions) and the overall quality of services provided during hospitalization (2 questions). The questionnaire's face validity was thoroughly examined by leading experts of the Psychiatric Hospital of Attica, namely: the Director of the Medical Service, the Director Psychiatrist & Chairman of the Scientific Council, the Head of the Social Service, the Head of the Patient Occupational Therapy Department, the Head of the Nursing Service and as well as a Psychologist and a member of the Patients' Rights Committee. These experts evaluated the questionnaire and they found that it is characterized by high face validity.

As regards as the reliability analysis of the questionnaire, Cronbach's alpha coefficient was used. A scale, demonstrates internal consistency when Cronbach's alpha coefficient is greater than 0.7.<sup>25</sup> In this case the value of Cronbach's alpha coefficient was 0.918, a result that proves questionnaire's internal consistency, meaning that the questionnaire is reliable.

## **Results**

### ***Statistical Analysis***

Data analysis was carried out with SPSS 25. Independent samples t-test was used, in order to determine statistically significant differences of satisfaction degree between two independent groups (voluntary and involuntary patients and first hospitalization of a patient or not) and One-Way Analysis of Variances (ANOVA) was used to determine whether there are statistically significant differences of patient's satisfaction degree between more than two groups (times of hospitalization). The level of statistical significance was set to  $\alpha=0.05$ .

### ***Descriptive analysis***

Regarding the sampling frame, 49% and 51% are males and females. Relating to their age distribution, most of them (27.1%) belong to the age group of (41-50) and 22.9% to the age



group of (51-60). It is worth noting that the majority (43.5%) of the participants is university graduates and they also hold a postgraduate title (a M.Sc. and/or a Ph.D.). Concerning nationality, 89.9% are Greek and the 76% has an insurance coverage. Referring to the length of hospital stay, 76.8% are in the psychiatric hospital until 30 days, 50% is their first hospitalization in the hospital under study, while the majority (42.3%) has been hospitalized in a psychiatric clinic for more than 4 times in their lifetime. Additionally, 30.9% of the patients has been hospitalized 2-3 times and 26.8% only once. Regarding the diagnosis of the disease on admission day to the hospital, 14% were admitted due to mental and behavioral disorders due to use of alcohol, 14% due to mental and behavioral disorders due to psychoactive substance use, 13% due to bipolar affective disorder, 13% due to unspecified mood disorder and 10% due to recurrent depressive disorder. The rest 36% of patients, were admitted to the hospital due to other psychiatric diagnosis. (Table 1).

It is worth noting that 29.2% of the patients aged 18-30 have involuntary hospitalization, while 37.5% of the patients aged 41-50 were hospitalized voluntarily.

In addition, as shown in Figure 1, involuntary patients are slightly more satisfied than voluntary ones in almost all the dimensions of the questionnaire. It is also highlighted that the dimensions of the questionnaire on which both groups had the higher scores were “medical confidentiality and respect to patients’ rights”, “medical care”, “nursing care” and “medical staff interventions” (Figure 1).

### ***Inferential statistics of the individual characteristics of the questionnaire***

A chi-square test of independence, or a Fisher’s exact test (where the assumptions of the chi-square test were not met - small expected cell counts) was used to compare the basic socio-demographic characteristics of participants who were involuntarily hospitalized and those who voluntarily hospitalized. The tests were not statistically significant, a result which shows that there is no impact of the basic characteristics on the hospitalization type. (Table 1).

Independent samples t-test was used in order to check for statistically significant differences of the satisfaction degree between voluntary and involuntary stay of a patient in the psychiatric hospital under study. The test was statistically significant only for “Hospital Conditions” dimension, (involuntary hospitalization: mean=4,33 sd=0,66, voluntary hospitalization: mean=3,98 sd=1,06,  $t(98)=2,00$ ,  $p=0,048$ ). This result shows that a patient’s hospitalization type in a psychiatric clinic, affects the degree of satisfaction regarding

hospitalization conditions (privacy, security, autonomous space, and utilization of personal time) (Table 2).

Statistical analysis with independent samples t-test, showed statistically significant differences in the degree of satisfaction between patients who were hospitalized for the first time in the Psychiatric Hospital of Attica and those who had previous hospitalizations, for all the dimensions of the questionnaire except for “Medical confidentiality and respect to patients’ rights”, “Participation in treatment planning” and “Perception of the progress of their mental health”. It is pointed out that the patients who had previous hospitalizations at the Psychiatric Hospital of Attica, had higher satisfaction scores for all the dimensions of the questionnaire (Table 3).

Statistical analysis with One-Way Analysis of Variances (One-Way ANOVA) did not reveal statistically significant differences in the degree of satisfaction among the "times a patient has been hospitalized," for any of the dimensions of the questionnaire ( $p > 0.05$ ), a result which shows that "Times of Hospitalization" does not appear to affect mentally ill patient's satisfaction (Table 4).

## **Discussion**

In order to enhance further the quality of care offered to consumers of health services, the incorporation of tools for evaluating patient satisfaction in the decision-making process is considered essential. In Greece, a large number of patient satisfaction surveys are completed and released every year but only a few involve mentally ill patients, whereas studies conducted over time concerning the involuntary or voluntary hospitalization of people with mental health concerns are extremely limited.

For many decades, the opinion of the mentally ill patients regarding their satisfaction with health care services was ignored due to the general perception that mentally ill patients do not have an evaluate criterion<sup>26</sup> as well as due to the perception that psychopathological disorders may affect responses.<sup>27</sup>

Recently, there is a shift in this attitude and mentally ill patients' satisfaction is increasingly respected and considered as an important criterion for service assessment. Additionally, studies indicated that self-reported satisfaction ratings in this patient population have consistently proved to be reliable and valuable measures.<sup>27-29</sup>

The purpose of this research is to document the degree of satisfaction of mentally ill patients during their voluntary or involuntary hospitalization in a psychiatric facility and to examine the existing variations in the degree of satisfaction between the two classes.

A new questionnaire was developed and distributed to the patients on the day they were discharged from the hospital in order for their answers to be as accurate as possible.

The present research recorded a high degree of satisfaction of the voluntary and involuntary patients from the Psychiatric Hospital of Attica. This result is consistent with similar studies conducted by other researchers internationally.<sup>30-35</sup>

The psychiatric patients in the study expressed great satisfaction with the medical, nursing and treatment staff. They are very satisfied with their cooperation with the scientific staff, which has a beneficial impact on the progress of their mental health. The above results are in line with other researches<sup>28,30,22,36</sup> and demonstrate how important the relationship and cooperation with hospital staff is for mentally ill patients. Overall, patients were highly satisfied with the hospital environment and facilities, their involvement in treatment planning, and hospital conditions.

The percentage of patients who were hospitalized voluntarily was higher in the older age groups. One possible explanation is that as people get older, they become more aware of their problem and therefore they seek professional help themselves. Alternatively, they may have already been re-admitted to a psychiatric clinic and as such it is easier for them to seek treatment on a voluntary basis as opposed to younger people. This result is in line with previous research outcomes, which showed that older users of services may have received institutionalized treatment before, which may influence their perception of future admissions.<sup>26</sup>

Regarding the two groups of mentally ill patients, the involuntary patients tend to be, even marginally, more satisfied in all the dimensions of the questionnaire except for their “information and participation in the treatment planning” compared to the voluntary patients. In addition, involuntary patients stated (albeit marginally) that they were more satisfied, with the treatment conditions than the voluntary patients.

The above results of the study converge with those of others studies<sup>37-40</sup> according to which there is no statistically significant difference in the degree of satisfaction between involuntarily or voluntarily hospitalized mentally ill patients. Involuntary hospitalization is not entirely identified with negative views, as reducing the feeling of compulsion in the mentally ill patients through treatment leads to greater satisfaction. Thus, involuntarily hospitalized mental patients show higher levels of satisfaction as their involvement in treatment planning increases and effective communication with hospital personnel improves.<sup>38</sup> This correlation is stronger than the compulsory medical examination and hospitalization process through justice.<sup>41</sup>

Otherwise, patients who perceive their compulsory hospitalization as forced, enjoy lower levels of satisfaction by the provided care, in every aspect.<sup>42,43,26</sup> Combining the results of all

the above research, we find that a crucial factor for the satisfaction of involuntarily hospitalized patients is the reduction of the feeling of compulsion, mainly through their participation in the treatment planning and their effective communication with the staff of the psychiatric hospital. Based on the experiences of patients who have recently undergone compulsory hospitalization and measures restricting their freedom, as well as the mental pain and social stigma caused by these restrictive psychiatric practices<sup>44</sup> and as a result they believe that their problems could be treated with less coercive intervention methods, claiming to have been severely challenged for their autonomy and independence.

Concerning the clinical diagnoses, this study has found no impact on the lever of satisfaction for both voluntary and involuntary mentally ill patients. This result is similar to other studies that found no major association between satisfaction and clinical diagnosis.<sup>28</sup> According to the researchers; this indicates that patients with mental ill disorders do not generally view psychiatric treatment as negative or positive due to their clinical problem. Role, in determining the patient satisfaction with treatment, may play the patient expectation and previous experience with health care services<sup>28</sup> or personality-related variables rather than psychopathological symptoms.<sup>29</sup>

Regarding the demographic characteristics of mentally ill patients, we found that they do not have an impact neither on the overall satisfaction of the patients nor on the type of hospitalization. This result is in line with other research findings, which showed that there is no consistent association between mentally ill patients' socio-demographic characteristics and satisfaction with health care services,<sup>28</sup> and is in contrast to the outcome of studies which found that level of education, men and older patients were the most satisfied.<sup>26,29</sup> However, there were studies on the subject that lacked information regarding the role of such variables on the overall satisfaction.<sup>29</sup>

The results also revealed that the existence of previous hospitalization in Psychiatric Hospital of Attica increases the overall satisfaction of a mentally ill patient in all dimensions of the questionnaire. Regarding the research of the differentiation of the degree of satisfaction of mentally ill patients in relation the number of hospitalizations in psychiatric clinics, the present study did not show a significant differentiation. In contrast, results of international research <sup>31,35</sup> found that patients who are admitted to a psychiatric clinic for the first time feel "shocked" when they come in contact with other mentally ill people, especially when they suffer from severe disorders. They wonder if their illness is as severe as that of others, while they keep having negative perceptions even on issues of comfort and cleanliness.

Additionally, as regards the length of hospitalization, studies have showed that it may be related to dissatisfaction. Specifically, patients who were longer hospitalized and patients who had a higher degree of disability were the most dissatisfied.<sup>28</sup>

As it is already mentioned, mentally ill patients' satisfaction, due to their vulnerability, is not only a matter of treatment but mainly a matter of ethics. For that reason, in order to establish patients' satisfaction, psychiatric hospitals should provide a safe and secure environment supported by compassionate, accessible and communicative staff<sup>26</sup>, while at the same time to combine innovative medical practices and protect patients' rights.

### **Limitations**

With regard to the limitations of the research, we should take into account that the sample comes from mentally ill patients of the Psychiatric Hospital of Attica and assessed the satisfaction with the overall care provided by the hospital, and not with specific interventions. Therefore, the greater representativeness of the sample is considered necessary, not only through the collection of more questionnaires from the hospital itself, but also mainly from other psychiatric hospitals and psychiatric clinics of general hospitals in urban centers and the region. In this way, it will be possible for us to have a more representative sample, as well as a study-evaluation of the case-by-case hospital conditions per mental health services provider. Additionally, future qualitative research that will examine thoroughly the role of socio-demographic characteristics or personality-related variables in determining satisfaction would benefit for more accurate results.

### **Conclusions**

Mental illness and the significant change that bring to patients' psychosocial status and daily lives do not differentiate their expectations from the psychiatric context in which they are treated. Mentally ill patients, regardless of whether their medical examination or hospitalization in a psychiatric clinic was performed either voluntarily, or through justice or even as a result of an urgent or even a compulsory therapeutic intervention, they perceive satisfaction based on their special needs and expectations. The most important factors with the strongest correlation with the satisfaction of mentally ill patients are the development of an effective communication and a therapeutic relationship with staff, complete knowledge and information about their health and medication, their participation in the therapeutic planning, as well as their

hospitalization in a regiment of autonomy and respect for their rights. On the other hand their admission process to the psychiatric clinic has a minor correlation with their satisfaction.

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**Table 1.** Demographic characteristics of the respondents (n=100) and evaluation of the effect of the basic characteristics on the type of hospitalization.

		Total		Involuntary hospitalization		Voluntary hospitalization		Test p-value
		Frequency	Percent	Frequency	Percent	Frequency	Percent	
<b>Gender</b>	Male	51	51.0	28	56.0	23	46.0	$\chi^2(1)=1.00$ p=0.317
	Female	49	49.0	22	44.0	27	54.0	
<b>Age group</b>	18-30	21	21.9	14	29.2	7	14.6	Fisher's exact=0.86 p=0.104
	31-40	19	19.8	10	20.8	19	18.8	
	41-50	26	27.1	8	16.7	18	37.5	
	51-60	22	22.9	12	25.0	10	20.8	
	61-70	6	6.3	2	4.2	4	8.3	
	71+	2	2.1	2	4.2	0	0.0	
<b>Nationality</b>	Greek	89	89.9	47	94.0	42	85.7	Fisher's exact=5.21 p=0.433
	Other	11	10.1	3	6.0	7	14.3	
<b>Education level</b>	Primary education	11	11.1	7	14.0	4	8.2	$\chi^2(4)=6.84$ p=0.145
	Secondary education	45	45.4	18	36.0	27	55.1	
	University	36	36.4	19	38.0	17	34.7	
	MSc.- Ph.D	7	7.1	6	12.0	1	2.0	
<b>Insurance coverage</b>	Yes	76	76.0	38	76.0	38	76.0	$\chi^2(1)=0.00$ p=1.00*
	No	24	24.0	12	24.0	12	24.0	
<b>Length of hospital stay</b>	$\geq 30$ days	76	76.8	37	74.0	39	79.6	Fisher's exact=0.55 p=0.809
	1-3 months	18	18.2	10	20.0	8	16.3	
	4 months +	5	5.1	3	6.0	2	4.1	
<b>Hospitalization for the first time</b>	Yes	50	50.0	28	56.0	22	44.0	$\chi^2(1)=1.44$ p=0.230
	No	50	50.0	22	44.0	28	56.0	
	Once	26	26.8	14	28.6	12	25.0	

		Total		Involuntary hospitalization		Voluntary hospitalization		Test p-value
		Frequency	Percent	Frequency	Percent	Frequency	Percent	
<b>Total hospitalizations in psychiatric clinics</b>	2-3 times	30	30.9	15	30.6	15	31.3	p=0,919
	4 times +	41	42.3	20	40.8	21	43.8	
<b>ICD-10</b>	F10 -Mental and behavioral disorders due to use of alcohol	14	14.0	6	12.0	8	16.0	Fisher's exact=12.46 p=0,391
	F19 -Mental and behavioral disorders due to psychoactive substance use	14	14.0	8	16.0	6	12.0	
	F25 -Schizoaffective disorders	2	2.0	2	4.0	0	0.0	
	F28 -Other nonorganic psychotic disorders	3	3.0	2	4.0	1	2.0	
	F29 -Unspecified nonorganic psychosis	1	1.0	1	2.0	0	0.0	
	F30 -Manic episode	2	2.0	2	4.0	0	0.0	
	F31 -Mood [affective] disorders	13	13.0	8	16.0	5	10.0	
	F32 -Depressive episode	7	7.0	2	4.0	5	10.0	
	F33 -Mood [affective] disorders	10	10.0	6	12.0	4	8.0	
	F39 -Unspecified mood [affective] disorder	13	13.0	7	14.0	6	12.0	
	F41 -Other anxiety disorders	7	7.0	3	6.0	4	8.0	

	Total		Involuntary hospitalization		Voluntary hospitalization		Test p-value
	Frequency	Percent	Frequency	Percent	Frequency	Percent	
F43 -Neurotic, stress-related and somatoform disorders	7	7.0	1	2.0	6	12.0	
F61 -Mixed and other personality disorders	7	7.0	2	4.0	5	10.0	

\* The frequencies of the 2x2 table are exactly the same.

**Table 2.** Results of independent samples *t*-test for the evaluation of the effect of hospitalization type on the satisfaction degree the mentally ill patients.

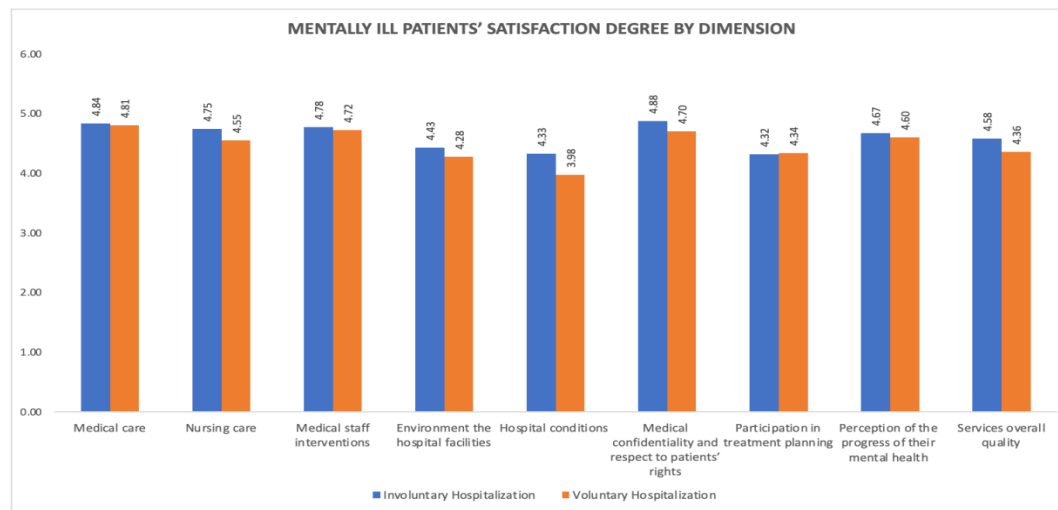
<b>Questionnaire dimension</b>	<b>Hospitalization Type</b>	<b>N</b>	<b>Mean</b>	<b>Sd</b>	<b>t</b>	<b>df</b>	<b>p</b>
<b>Medical care</b>	Involuntary Hospitalization	50	4.84	0.37	0.38	98	0.70
	Voluntary Hospitalization	50	4.81	0.42			
<b>Nursing care</b>	Involuntary Hospitalization	50	4.75	0.56	1.54	98	0.13
	Voluntary Hospitalization	50	4.55	0.73			
<b>Medical staff interventions</b>	Involuntary Hospitalization	50	4.78	0.47	0.71	97	0.48
	Voluntary Hospitalization	50	4.72	0.49			
<b>Environment and hospital facilities</b>	Involuntary Hospitalization	50	4.43	0.59	1.07	98	0.29
	Voluntary Hospitalization	50	4.28	0.73			
<b>Hospital conditions</b>	Involuntary Hospitalization	50	4.33	0.66	2.00	98	<b>0.048</b>
	Voluntary Hospitalization	50	3.98	1.06			
<b>Medical confidentiality and respect to patients' rights</b>	Involuntary Hospitalization	50	4.88	0.39	1.53	95	0.13
	Voluntary Hospitalization	47	4.70	0.72			
<b>Participation in treatment planning</b>	Involuntary Hospitalization	50	4.32	0.79	-0.11	97	0.92
	Voluntary Hospitalization	49	4.34	0.79			
<b>Perception of the progress of their mental health</b>	Involuntary Hospitalization	50	4.67	0.59	0.64	98	0.52
	Voluntary Hospitalization	50	4.60	0.52			
<b>Services overall quality</b>	Involuntary Hospitalization	50	4.62	0.390	1.64	98	0.10
	Voluntary Hospitalization	50	4.48	0.48			

**Table 3.** Results of independent samples *t*-test for the evaluation of the effect of previous hospitalization on the satisfaction of mentally ill patients.

Questionnaire dimension	Previous Hospitalization	N	Mean	Sd	t	df	p
Medical care	Yes	50	4.74	0.41	-2.21	98	<b>0.029</b>
	No	50	4.91	0.37			
Nursing care	Yes	50	4.52	0.66	2.01	98	<b>0.038</b>
	No	50	4.79	0.61			
Medical staff interventions	Yes	49	4.61	0.52	-3.01	97	<b>0.003</b>
	No	50	4.88	0.31			
Environment and hospital facilities	Yes	50	4.19	0.69	-2.53	98	<b>0.013</b>
	No	50	4.52	0.61			
Hospital conditions	Yes	50	3.96	1.04	-2.24	98	<b>0.027</b>
	No	50	4.35	0.67			
Medical confidentiality and respect to patients rights	Yes	48	4.73	0.50	-1.01	95	0.28
	No	49	4.86	0.65			
Participation in treatment planning	Yes	49	4.24	0.71	-1.05	97	0.29
	No	49	4.41	0.84			
Perception of the progress of their mental health	Yes	50	4.55	0.58	-1.52	98	0.13
	No	50	4.72	0.52			
Services overall quality	Yes	50	4.42	0.48	-2.92	98	<b>0.004</b>
	No	50	4.67	0.37			

**Table 4.** One way ANOVA results for the evaluation of the impact of the times of hospitalization on mentally ill patients' satisfaction.

Questionnaire dimension	Times of Hospitalization	Mean	Sd	p
Medical care	Once	4.83	0.45	0.26
	2-3 times	4.90	0.30	
	4 times and more	4.84	0.39	
Nursing care	Once	4.50	0.78	0.37
	2-3 times	4.67	0.57	
	4 times and more	4.73	0.64	
Medical staff interventions	Once	4.60	0.54	0.11
	2-3 times	4.79	0.38	
	4 times and more	4.82	0.38	
Environment and hospital facilities	Once	4.25	0.66	0.24
	2-3 times	4.29	0.71	
	4 times and more	4.50	0.62	
Hospital conditions	Once	3.99	1.28	0.38
	2-3 times	4.14	0.91	
	4 times and more	4.30	0.77	
Medical confidentiality and respect to patients' rights	Once	4.81	0.40	0.92
	2-3 times	4.83	0.47	
	4 times and more	4.77	0.74	
Participation in treatment planning	Once	4.26	0.78	0.84
	2-3 times	4.38	0.75	
	4 times and more	4.34	0.82	
Perception of the progress of their mental health	Once	4.52	0.64	0.22
	2-3 times	4.78	0.41	
	4 times and more	4.61	0.58	
Services overall quality	Once	4.43	0.51	0.19
	2-3 times	4.58	0.41	
	4 times and more	4.62	0.39	



**Figure 1.** Mean values of satisfaction degree of mentally ill patients by Dimension.