IOSUD - ”DUNĂREA DE JOS” UNIVERSITY OF GALATI
DOCTORAL SCHOOL OF BIOMEDICAL SCIENCES

SUMMARY
DOCTORAL THESIS

Impact of Psychological Disorders in Patients with Polymorphic pathology and implications on the average hospitalisation duration

PhD Candidate:
ALINA-MARIA LESCAI (HÎNCU)

PhD supervisor:
PROF. UNIV. HABIL. DR. AURELIA ROMILA

SERIES M NO 3

GALATI 2024

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Introduction

"In the beginning was the word, and the word was with God, and the word was God."

John 1:1-14

What makes us human is the word. Language defines us as people. The word is the gateway to the soul, it is the mirror of feeling, it is the proof of evolution. Through the word, man approaches divinity. The word is both a prayer and a curse, verbalization is the pure human desire from birth.

At the heart of anamnesis is the word. Dialogue creates the link between doctor and patient, pertinent questions establish a stage diagnosis very close to certainty.

This paper started from the observations collected during the patient's history in the emergency room as an internal medicine physician. In many cases, although preliminary tests and paraclinical examinations did not bring to light any emergency diagnosis justifying the patient's condition, anamnestically, the patient declared great suffering. At the time of consultation, despite paraclinical tests within normal limits, the patient was in real pain and had an altered general condition.

Ann Scot draws our attention to the importance the patient attaches to their own illness. The doctor must detect this in the first minutes of contact with the patient and must understand, both he and the patient, that certain disorders cannot be cured, although there may be a change in symptoms. In terms of the medical act, both the patient and the doctor have a subjective experience. The deep psychological and physical intimacy that is established between doctor and patient makes the medical act an art.

The international Balint movement, little known in Romania but widely used in Europe and America, talks about the importance of this connection. Michael Balint (1896-1970) said "*In a world of coding towards turning every medical act into income, let us reflect on unlocking the code of kindness, of empathy, of love, in our minds, towards the comfort of our neighbour's soul*."

The Balint Society, established in 1969 in the UK, is a medical organisation for clinician support, combating professional burn-out, and working together to understand the importance of emotion in healing and the therapeutic potential of the doctor-patient relationship. In a small group of about ten clinicians, clinical cases are discussed to find the most beneficial approach for the patient. The group is managed by two leaders who help with presentation, and question and answer. The major benefits are the creation of a safe place for discussion, professional empathy, combating burnout, and understanding the emotional aspects generated and integrated into the medical act.

Starting from the aspects observed in the relationship with the patient, from the question "Why are some patients more compliant with treatment and medical acts than others with the same pathology?", from the direct observation of doctor-patient relationships and the so different results, the present research was conceived. The desire we set out on this path was to improve the medical act, to correlate the costs of hospitalisation with the real need, to demonstrate once again the need for collaboration between doctors and clinical psychologists, to show that the hospitalisation duration is closely linked to the presence or absence of somatoform/psychosomatic disorders, with major implications for the related costs.

Notations and abbreviations

ABSs - Attitudes and Beliefs Scale short form
ADHD - Attention Deficit Hyperactivity Disorder
ADO - Oral Antidiabetic
AMDP - Arbeitsgemeinschaft für Methodik und Dokumentation in der Psychiatrie - Manual for the assessment and documentation of psychopathology in psychiatry
Stroke - Cerebrovascular accident
BF - Biofeedback
BPOC – (COPD) Chronic obstructive pulmonary disease
DMS - Average Hospitalisation Period

DOI - Digital object identifier
DSM V - Diagnostic and Statistical Manual of Mental Disorders V
DSM-IV-TR - Diagnostic and Statistical Manual of Mental Disorders IV
DM - Diabetes mellitus
EKG - Electrocardiogram
F45 - Neurotic, stress and somatoform disorders
HRSD - Hamilton Depression Scale
HTA - Hypertension
HTAE - Essential hypertension
ICD 10 - International Statistical Classification of Diseases and Related Health Problems
IMA - Acute myocardial infarction
MBPS - Bio-psycho-social medicine
OMS - World Health Organization
PDA - Affective Distress Profile
PTSD - Post-traumatic Stress Disorder
S.C.J.U. Galati – “Sf. Apostol Andrei” Emergency Clinical Hospital Galati
SEC - Clinical Evaluation System
SPSS - Statistical Package for the Social Sciences
SRGS - Post Traumatic Development Scale
SS - Self-esteem scale
CBT - Cognitive Behavioural Therapies
UPU – (ER) Emergency Room
USAQ - Unconditional Self-Acceptance Questionnaire
DV - Dependent variable
VI - Independent variable
WBSI - White Bear Suppression Inventory

PART I

Chapter I. EVOLUTION OF PSYCHOSOMATIC MEDICINE

Peter Shoenberg, in his book Psychosomatics (Shoenberg, 2017), summarizes the three theories of the causes of disease that predate Greco-Roman civilizations:

- Mystical cause theory where illness was caused by an act of rule breaking.
- The animistic cause theory, which considers that disease is generated by a supernatural force.
- The magical theory, which considers that disease was caused by a witch (Porter, 1997) [1].

Greco-Roman medicine, the first based on somatic evaluation, begins with the texts of Hippocrates (400-500 BC) who states that "*men consider a disease to be of divine cause, out of ignorance and astonishment, and continue to support this idea only because of their inability to understand it.*" Hippocrates is the proponent of the theory of the four humours whose balance is responsible for health. The theory of the four goes on to catalogue the four decades of life-childhood, youth, maturity, and old age and then the four elements earth, fire, air, and water culminating in the assignment of four temperamental typologies: choleric, sanguine, melancholic, phlegmatic (Porter, 1997). Hippocrates is also the first to argue that emotion, feeling, and temperamental typology will lead to the occurrence of a certain disease, with the damage of a certain type of organ.

The 18th-19th centuries completely changed the course of medical history. Starting from phantasmagorical ideas where health and illness were attributed to external supreme forces, then to witchcraft, then strictly to emotions, we reach the point where the psyche, emotion, feeling and sensibility are completely abandoned, limiting medicine to the organ and the physical body.

19th-century medicine in France, the international centre at the time (Schneider, 1964) of this speciality, came to apply anamnesis.

In the 19th century, the concept of family medicine or social medicine emerged in England (Shoenberg, 2017). At that time, doctors were divided into surgeons, clinicians and pharmacists. Pharmacists (apothecaries) at that time, managed, between 1815-1834, to gain competence in giving both medical advice and medicines, and are considered the fathers of today's family doctors.

Looking at things from a more simplistic perspective, the history of psychosomatics can be categorised into three distinct parts: the cultural stage, the pre-scientific stage and the scientific stage. (Enachescu C. E., 2008)

As a result, the term *psychosomatic* is first used by Johan Heinroth, professor of psychiatry at the University of Leipzig. He was only a representative of his colleagues, many doctors already observing at that time that they could not cure every disease, that man is more than anatomy, and that social environment and emotion have a major impact on the cure or improvement of an identical pathology in two different individuals. In 1818, Heinroth used the term in his tendency to describe the causes of hypnic disorders. It was not until a hundred years later, in 1922, that Felix Deutsch introduced the term *psychosomatic medicine* (Lipsitt, 2001). Coleridge's tone describes the annoyance of some physicians at the time with their very anatomically and physiologically oriented colleagues: they "imagine that the whole system is nothing but body and entrails" (Nemiah, 1987)

Chapter II. BIO-PSYCHO-SOCIAL MEDICINE, THE PSYCHE-SOMA BINDER

What is psychosomatic illness? It is a disease that affects both the mental and somatic spheres. (Enachescu C. E., 2008) In this sense, a pathology must meet certain criteria: suffering caused by emotion, risk factors related to the person's gender, a certain personality type with weak coping mechanisms, personal and hereditary history of psychosomatic disorders, and periodic or seasonal evolution of the disease. Thus, the person concerned will experience the disease either in the absence of somatic distress demonstrated paraclinically or in its presence. *Organic lesional* disorder may or may not be demonstrated, and is not a mandatory factor in the definition of psychosomatic illness. A latent neurotic structure (Enachescu C. E., 2008) can lead to a somatic aspect of psychological phenomena, but also vice versa, to a psychological aspect of somatic phenomena. In other words, for a certain person, an organic pathology may trigger emotional disorders, while another, with more solid coping mechanisms, may not develop this type of suffering. At the same time, the susceptible personality - the neurotic type - may develop somatic illness from the psychological.

The changes between DSM IV and DSM V are intended to clarify one point, namely that the term *somatoform disorders* has been replaced by the term *somatic symptom disorder and related disorders* (American Psychiatric Association, 2016). This aspect comes to the aid of the clinician, given that a psychosomatic disorder may accompany a diagnosed organic disorder.

ICD 10 catalogues and codes stress-related neurotic disorders and somatoform disorders between F40-F48. Thus, F40-anxiety-phobic disorders, F41-other anxiety disorders, F42-obsessive-compulsive disorder, F43-severe stress reaction and adjustment disorders, F44-dissociative (converse) disorders, F45-somatoform disorders. As these codes are used in the medical field as a way of diagnosis, it should be borne in mind that anxiety is often a sister to depression, which is particularly important in the act of healing.

Even more important, however, is the psychosomatic limitation, in the sense that, yes, the doctor accepts the psychological component involved in the exacerbation or onset of the disease and stops there. The present paper aims to explore this aspect further. There is no organic disease that does not also affect psychological well-being, just as there is no psychological disorder without an organic manifestation (at least the appearance of a digestive, cardiovascular, endocrine disorder, etc.).

Chapter III. PSYCHOSOMATICS OF THE 21ST CENTURY

In the current psychosomatic approach, the focus is on the chronically ill and those with severe pathologies. Considering severe or chronic illness as a stress factor, current medicine tends to limit psychosomatics to these two directions.

Many other aspects are wrongly ignored - acute illnesses, physical trauma, chronic illnesses that do not affect the quality of life, but through therapeutic abandonment (linked to a certain pattern of behaviour towards the disease) lead to disability.

It is difficult, but not impossible, for the doctor to approach the patient both medically and psychologically. But beware, the psychological approach is not diagnosis or treatment, just *empathy*. The doctor can, anamnestically, detect a certain pattern of at-risk behaviour, a certain personality trait, or certain poor coping mechanisms, and guide the patient towards a complete cure, in collaboration with his psychiatric and psychotherapeutic colleagues.

The psychosomatic approach requires a new mindset. (Iorgulescu, 2013) Out of respect and love for man, the doctor is obliged to approach the patient psychosomatically. The

latter, by the oath taken, must provide, by all accessible and possible means, optimal care. Quality in health is not an option, but a conduct to be followed. But quality is not just about hygiene and state-of-the-art medication, it is also about training the doctor in a holistic approach to the patient.

In emergencies, the "flash technique" developed by Luban Plozza and collaborators in 1996 can be used, linked to the medical safety we convey to the patient, empathy and the assurance that the doctor will do everything he can for the patient's wellbeing, while in chronic pathology, several methods can be implemented. There is a need for a tool that would make the clinician's work much easier, which is why, at the end of this paper, I will submit this tool to my colleagues. In its absence, however, we have several useful elements at our disposal:

- Brief psychological assessment: eye contact, assessment of emotional state, detection of dominant personality traits (Luban Plozza divides them into *dependent, aggressive, apathetic, shy and psychasthenic*), how the patient presents their illness and symptoms (hysterics will present theatrically, depressives will present hopelessly, neurotics will exaggerate their symptoms compared to the severity of the illness) (Iorgulescu, 2013)
- Mandatory clinical and paraclinical assessment
- Brief analysis of the patient's biography: who he lives with, what he has lost in the last year, behavioural risk factors, how he feels in his family, and at work, what makes him unhappy or anxious and what makes him happy.
- Do you think his symptoms may be triggered or exacerbated by psychological stress?
- Are the symptoms persistent or do they fluctuate? Does the treatment work? Does the psychotropic medication administered (unconsciously) have a beneficial effect?
- Initiate a form of psychological support through open and empathetic questions: what is bothering you? What makes you unhappy? What are you missing? (Iorgulescu, 2013)

II. SPECIAL PART

Chapter IV. THE IMPORTANCE OF PSYCHOSOMATICS IN CLINICAL MEDICINE

The reason I chose this topic is perhaps the same reason I chose to be a doctor: for people. I care about people, humanity, and life.

Being a doctor is as noble a profession as being a priest or a teacher. What could be more beautiful than a life in the service of life?

The first college I graduated from was in the field of communication - Journalism. As first love is never forgotten, the *word* found its place in the life of a doctor. How to help a man in pain without a kind word? If it weren't for love, empathy, the word, comfort, medicine would perhaps have long been a profession of artificial intelligence. But just as neither the priest nor the teacher could be a robot, neither could the doctor be anything but a MAN.

Human suffering is conveyed through non-verbal and verbal language. Healing comes through language, through kind words, through a smile offered to the sick, through encouragement, through care and attention, and only then through the pill offered. If these lines are going to stir up controversy, I ask the doctor who does not share my opinion, to be honest with oneself: if they were suffering, would they want an empathetic, interested doctor, or would they just want the pill and the scalpel? In illness, an intimate relationship is created between doctor and patient through the patient’s vulnerability. Everything they hold most

precious, their life, they put in the doctor's hands, they put their hope in the white coat. The responsibility is enormous.

For this reason, any good, no matter how small, is an enormous help. Any research is welcome. Man is bound to find out, to research, to learn, to learn and to improve. I have given four more years of my life to this study. I have given four years to humanity, always with the hope that a drop in the ocean is important.

Ever since my first year of internal medicine residency, I was fascinated by anamnesis, the way some doctors asked questions: What does it hurt? How long have you been in pain? while other doctors asked about pain, but also about the human being: Who do you live with? Who takes care of you? How many children do you have? Where are they? What do you live on?

I asked then, like any college graduate, what the relevance of these questions was. I was answered like this: "*it is very important to create a bond with your patient, to make them feel that you care about them, about their life, and to know that a cirrhosis can go wrong or right, depending on what the person has at home. Does he still have something to live for? Does he have someone to care for him? Does he still want to live?* " (Dr. Iacob Maria - primary internal medicine)

I then wanted to find out the impact of the psyche on the disease. There are many studies on this subject, there is research that shows that psychosomatics is too little elucidated, studied, and brought to light. Only by being honest with ourselves do we see the truth. One or two psychologists work in a hospital. On thousands of patients. This is the importance that the Romanian medical system attaches to a patient's psyche. Hours of psychotherapy would save lives, but no one goes to a psychotherapist because the sessions are not covered by health insurance in the first place, and only in the second place, because of the lack of health education. Only in our country is the psychologist associated with the psychiatrist in the broad public perception.

My sister, Ioanina Prisăcaru is now a clinical psychologist in Germany. She worked for several years as a psychologist for patients with psychosomatic disorders. I asked about psychosomatic medicine and found out that in Europe, there are very large centres treating these patients.

Thus, I wanted to find out more, to understand, to see if psychosomatics has relevance in my daily practice and if the patient's psyche can help in healing. However, I was faced with the impossibility of diagnosing. Even if a doctor anamnestically detects a problem-addiction, grief reaction, depression, anxiety, very low self-esteem, risky behaviours, irrational thoughts, etc., he/she has no tool. You can't call the psychologist for an assessment whenever you have a suspicion. You can't recommend consultation in a hospital because you know as a doctor that the patient won't end up there. Then, as an internist, all you have left is the word, the history, and the frustration that your patient is not well, but you can do no more.

For this reason, we started research on patients whose anamnestic needs we detected that would require psychotherapy.

I first wanted to find out if there was a link between the number of days spent in hospital and psychosomatic disorders, or between the frequency with which a patient comes to hospital and the psychosomatic disorder. Unfortunately, however, very few patients are diagnosed with psychosomatic disorders, although medical practice shows that the number is overwhelming. But the doctor has no tool. The analysis laboratory cannot detect psychological pathology, even if, when asked what he thinks is the cause of his diabetes, the patient replies confidently: *the neighbour cast a spell on me, that's why I have diabetes (irrational belief)*. Will this patient control his blood sugar? Will he go on a diet? Will he be compliant with treatment? Health education is a utopia at this point. We still live anchored in mysticism, given the fact that Romania's cultural level is on average VII class.

Unless we can raise the cultural level of the country, remove the mystique from the countryside, and provide health education to all our patients, we can help ourselves as physicians by accepting the need for a tool to diagnose psychosomatic disorders and the need to collaborate with fellow psychiatrists, psychotherapists and clinical psychologists.

General research methodology

This longitudinal research is based on a retrospective study, over 8 years, between 2015 and 2022, but also cross-sectional, in that all possible data (at the time of the questionnaire) were collected from a given patient at a given time.

Given the depth of the research, we initially started from descriptive research, with no intention of establishing causality or the effects of one phenomenon on another.

The second step was explanatory research, which sought to find out why a particular event was happening. Considering that one dependent variable is the number of hospital days or another is the frequency of hospitalization of a patient, while the independent variable is the psychosomatic disorder, we investigated the causal relationship between DV and VI, the linearity and correlations between them, culminating in the prospective study generated by applying simple linear regression where data allowed.

The study was conducted on 299,847 discharges and **196,709** patients in the retrospective part, in “Sf. Apostol Andrei” Emergency Clinical Hospital Galati, as follows:

- 2015 - 42,982 discharges
- 2016 - 43,103 discharges
- 2017 - 41,626 discharges
- 2018 - 40,509 discharges
- 2019 - 41,035 discharges
- 2020 - 28,593 discharges
- 2021 - 28,674 discharges
- 2022 - 33,325 discharges

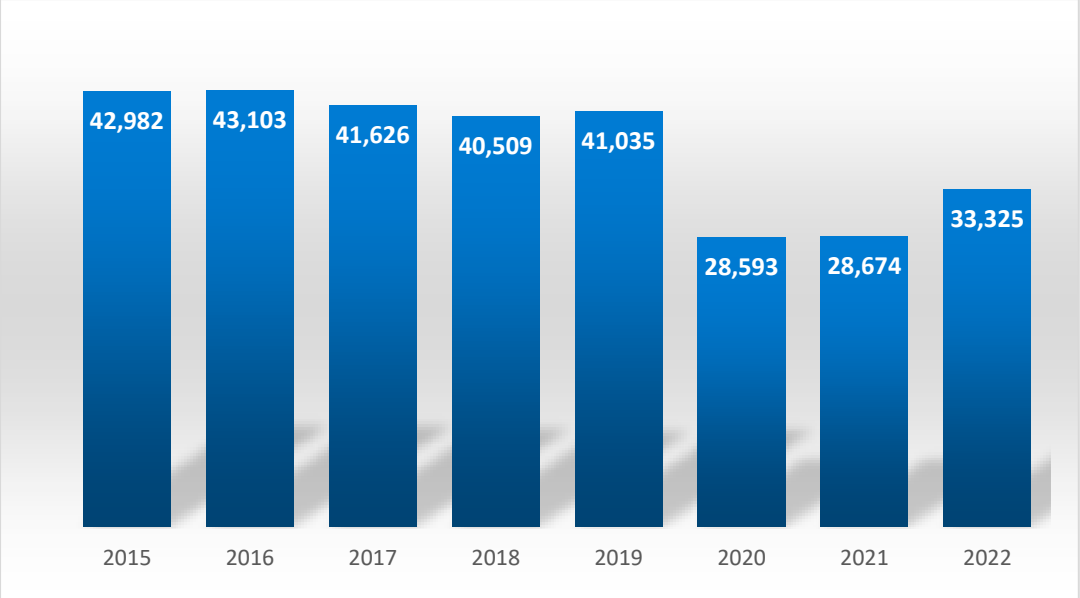

Figure 1 - Number of discharges per year

To find out which of the diagnoses with the highest incidence are associated with psychosomatic disorders, it was of interest to highlight the top ten pathologies out of the total number of diagnoses encountered in patients admitted to this health unit.

Table 1 - Top 10 diagnoses per year

Discharge diagnosis	2015	2016	2017	2018	2019	2020	2021	2022	Total
Breast malignancy, unspecified	2,144	2,168	1,888	1,567	1,551	1,576	1,681	1,695	14,270
Congestive heart failure	1,433	1,338	1,027	1,040	1,192	819	746	636	8,231
Other secondary pulmonary hypertension	949	936	1,014	1,096	1,144	377	427	880	6,823
Malignant tumour of the prostate	613	764	889	753	732	828	885	834	6,298
Malignant tumour of the bronchus and lung, unspecified	803	809	745	683	682	712	695	774	5,903
Malignant tumour of the rectum	740	907	731	613	661	722	727	709	5,810
Cerebral infarction due to cerebral artery thrombosis	619	382	573	533	707	616	574	578	4,582
Other cirrhosis of the liver and unspecified	567	629	673	639	687	388	301	403	4,287
Type 2 diabetes mellitus with poor control	515	571	614	724	651	301	287	359	4,022
Tumour with unpredictable and unknown evolution other specified locations	540	391	493	679	695	227	245	476	3,746
Subtotal	8,923	8,895	8,647	8,327	8,702	6,566	6,568	7,344	63,972
Percentage of total	20.8%	20.6%	20.8%	20.6%	21.2%	23.0%	22.9%	22.0%	21.3%
Other diagnoses	34,059	34,208	32,979	32,182	32,333	22,027	22,106	25,981	235,875
Total	42,982	43,103	41,626	40,509	41,035	28,593	28,674	33,325	299,847

The data were obtained from the health unit's computer system, centralized in Microsoft Excel and then in the statistics program SPSS.

Of the 299,847 centralized and studied discharges, 38,037 were diagnosed with a psychosomatic disorder at discharge, representing **12.7%**.

Of these, 4,636 were diagnosed with a psychosomatic disorder as their main diagnosis at discharge.

Since we do not have a tool for diagnosing psychosomatic disorders, I had to use the Clinical Assessment System (SEC) coordinated by Prof. "Aaron T. Beck" Dr Daniel David.

The aim of applying these questionnaires was to find out whether the patients admitted to the hospital needed psychological support, whether they suffered from psychosomatic disorders, whether there was a phenomenon of under-diagnosis of psychosomatic disorders and, if so, what the impact on the health system was, calculated in number of days of hospitalisation or Admission frequency.

Before starting the investigation, the steps of the legislation in force were followed:

- I have signed the Confidentiality Agreement in which I have undertaken to strictly comply with my obligations regarding the recording, handling and preservation of confidential information, data and documents to which I have had access through the computer system, including after the termination of activities involving access to such information;
- I have requested the permission of the health unit management to use the computer database;
- I have requested the consent of the management of the health unit to apply psychological questionnaires from the SEC to some inpatients to carry out research;
- the opinion of the Ethics Committee - Favourable - of the health unit was obtained;
- Informed consent was obtained before the application of the psychological questionnaire from each patient interviewed, noting that the purpose of the research was explained to the patient:
    - collection of data for personal processing for statistical purposes;
    - conducting psychological testing by answering psychological tests for statistical purposes;
- I note that this Consent didn't need to be signed by the guardian or legal representative, as the research batches were specifically delimited to persons capable of answering on their own behalf.

The SEC contains scales and questionnaires to assess the clinical picture and scales and questionnaires to assess the etiopathogenetic mechanisms. To have the right to apply these questionnaires, a License of Use series AB number 0724 was purchased from SC RTS Romanian Psychological Testing Services, the authorized distributor of the Clinical Assessment System, together with the necessary test batteries.

They were psychologically interviewed:

- 81 patients diagnosed with toxic-nutritional liver cirrhosis;
- 80 patients diagnosed with diabetes on ADO or insulin-dependent;
- 77 patients with polymorphic pathology;
- 58 patients diagnosed with psoriasis;
- 80 patients presented in ER;
- 145 patients presented with polytrauma and were questioned for distress;
- 187 patients presented with polytrauma and surveyed with WBSI and SRGS ;
- 122 patients with cardiovascular symptoms;
- 50 patients during the pandemic period - 30 who had COVID and 20 who had not yet contracted the virus.

Given that diagnosis means distinction and knowledge, from an etymological point of view, the doctor has the necessary training to distinguish and know a psychological pathology. The fact that I see that a disorder exists, distinguish it from normality, and know it theoretically, does not mean that I also have the competence to treat it.

Diagnosis without a tool, without evidence, without paraclinical support, becomes in 21st-century medicine, at least risky.

According to its purpose, this research is applied, since it aims to discover whether there are positive correlations between psychosomatic disorders and the number of hospital

days or the frequency of hospitalization and then to propose solutions in diagnosis and case management.

In terms of variables, the research is non-experimental, given that the variables studied were not controlled, subsequently looking for correlations between DV and VI, qualitative and quantitative data.

The method used was a hypothetical-deductive one, used in science, in the sense that a hypothesis was generated by observing a phenomenon, and then the hypothesis was tested to see if it was valid or not. (PortCetate)

Given that we wanted this research to be scientific, all types of research were necessary at some point along the way.

Statistical methods used in data analysis

The databases were initially centralised in Microsoft Excel. Certain categories of patients, considered irrelevant for the present research, were sorted and excluded: neonatal patients, paediatric patients, and people who suffered burns of the body over large areas (the motivation was the very high number of hospital days, which we considered may affect the accuracy of the statistical data-outliers).

Initially, the period 2015-2019 was included in the retrospective study. Subsequently, given the pandemic situation generated by the SARS-CoV-2 virus, we decided to extend the period to 2022, purely out of statistical curiosity. I wanted to find out if there were any notable differences between pre-pandemic and post-pandemic discharges with psychosomatic illness codes. The data will be presented in the chapter on general statistics. Also in the pandemic year 2020, I decided to investigate the level of anxiety generated by the media regarding COVID, and the patient's addressability to the doctor under those conditions.

During 2019-2022, a series of psychological questionnaires were administered to highlight the under-diagnosis of psychosomatic disorders or at least psychological disorders that would benefit from a psychotherapy plan.

For data accuracy, a clear distinction has been made between the 299,847 discharges and **196,709** patients. Thus, separate databases were created to avoid confusion or overlap. Initially, data were sorted by Personal number to identify the number of patients. Subsequently, to preserve the confidentiality of the data, patients were numbered, thus avoiding any risk of identification.

After centralizing and sorting the data in Microsoft Excel, the data were imported into the statistical software SPSS 20.

The statistical steps were then followed for each batch:

- The 196,709 patients created the retrospective database, from which discharged patients with psychosomatic disorder codes were sorted
- The 880 patients to whom the psychological questionnaires were administered, were in turn divided according to the underlying somatic pathology or according to the ward where the questionnaire was administered, the aim being still the clear evidence, uniqueness, and accuracy of the data collected.

After the description of the researched batches, the databases were checked according to statistical requirements:

- Batch composition

- Checking the database
- Calculation of statistical indicators
- Formulating and explaining hypotheses
- Data normality testing
- Checking the linearity of variables
- Correlational analysis
- Checking and generating the effect size
- Statistical prediction - outcome estimates for future events/effects

Of real interest for this research is the hospitalisation duration of the patient with psychosomatic disorder. We will subsequently compare the hospitalisation duration of a patient with organic pathology without an associated diagnosis of psychosomatic disorder, with the hospitalisation duration of a patient with the same organic pathology, with an associated psychosomatic disorder.

Specifically, I was interested in whether a patient with diabetes, for example, stays longer in hospital compared to a patient who also has a psychosomatic disorder associated with diabetes.

Table 2 - Average hospitalisation duration - mental and behavioural disorders

		2015	2016	2017	2018	2019	2020	2021	2022	TOTAL
Organic mental disorders, including symptomatic disorders F00-09_primary diagnosis	Without	6.74	6.79	6.75	6.50	6.27	6.53	6.36	6.14	6.53
	With	6.72	6.52	7.48	7.25	7.43	10.20	12.80	10.17	7.71
Organic mental disorders, including symptomatic disorders F00-09_Secondary diagnosis	Without	6.69	6.75	6.72	6.44	6.21	6.51	6.33	6.09	6.48
	With	8.23	7.95	7.79	7.92	7.71	7.74	7.84	7.60	7.84
Mental and behavioural disorders due to the use of psychoactive substances F10-19_main diagnosis	Without	6.74	6.79	6.76	6.51	6.29	6.56	6.40	6.16	6.54
	With	2.52	3.09	2.58	3.89	3.72	5.92	2.57	3.00	3.36
Mental and behavioural disorders due to the use of psychoactive substances F10-19_Secondary diagnosis	Without	6.71	6.76	6.74	6.47	6.22	6.50	6.34	6.09	6.50
	With	7.70	7.79	7.64	7.80	8.48	9.13	8.66	8.85	8.18

Schizophrenia, schizotypal and delusional disorders F20-29_main diagnosis	Without	6.74	6.79	6.76	6.51	6.28	6.56	6.40	6.16	6.54
	With	5.50	2.40	5.75	6.25	1.67	3.00	0.00	0.00	4.33
Schizophrenia, schizotypal and delusional disorders F20-29_Secondary diagnosis	Without	6.73	6.79	6.76	6.51	6.28	6.56	6.39	6.16	6.54
	With	12.35	7.69	6.52	6.20	8.01	9.19	7.59	8.42	8.26
Mood disorders (affective) F30-F39_main diagnosis	Without	6.74	6.79	6.76	6.51	6.28	6.56	6.40	6.16	6.54
	With	4.57	5.94	5.51	5.01	5.76	6.46	4.23	6.19	5.34
Mood disorders (affective) F30-F39_secondary diagnosis	Without	6.73	6.78	6.75	6.50	6.28	6.55	6.38	6.15	6.53
	With	7.88	7.59	7.34	7.10	6.81	8.37	8.88	7.22	7.48
Neurotic, stress and somatoform disorders F40-48_main diagnosis	Without	6.74	6.79	6.76	6.51	6.28	6.56	6.39	6.16	6.54
	With	6.10	7.17	7.98	6.86	7.17	8.00	8.52	7.82	7.19
Neurotic, stress and somatoform disorders F40-48_Secondary diagnosis	Without	6.71	6.73	6.72	6.47	6.25	6.51	6.37	6.14	6.51
	With	8.19	9.20	8.09	7.54	7.14	8.37	7.34	6.93	7.81
Behavioural syndromes associated with physiological disturbances and physical factors F50-59_main diagnosis	Without	6.74	6.79	6.76	6.51	6.28	6.56	6.40	6.16	6.54
	With	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Behavioural syndromes associated with physiological disturbances and physical factors F50-59_Secondary diagnosis	Without	6.74	6.79	6.76	6.51	6.28	6.57	6.40	6.17	6.54
	With	8.33	8.56	6.40	6.48	6.18	5.91	6.05	4.57	5.97
Personality and behaviour disorders in adults F60-69_main diagnosis	Without	6.74	6.79	6.76	6.51	6.28	6.56	6.40	6.16	6.54
	With	6.00	2.00	2.00	4.50	0.00	0.00	0.00	12.00	5.17

Personality and behavioural disorders in adults F60-69_Secondary diagnosis	Without	6.74	6.79	6.76	6.51	6.28	6.56	6.39	6.16	6.54
	With	4.08	6.00	5.08	7.46	7.71	7.60	7.36	6.00	6.37
Mental retardation F70-79_main diagnosis	Without	6.74	6.79	6.76	6.51	6.28	6.56	6.40	6.16	6.54
	With	2.89	4.40	4.29	3.00	6.50	6.50	0.00	0.00	3.97
Mental retardation F70-79_secondary diagnosis	Without	6.74	6.79	6.76	6.50	6.28	6.56	6.39	6.16	6.54
	With	7.28	6.43	6.28	7.80	7.74	6.70	7.22	7.95	7.23
Developmental psychological disorders F80-F89_primary diagnosis	Without	6.74	6.79	6.76	6.51	6.28	6.56	6.40	6.16	6.54
	With	0.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00
Developmental psychological disorders F80-F89_Secondary diagnosis	Without	6.74	6.79	6.76	6.51	6.28	6.56	6.39	6.16	6.54
	With	3.71	3.69	4.62	2.87	3.00	5.00	6.57	2.36	3.69
Behavioural and emotional disorders with onset usually in childhood and adolescence - Mental disorder not otherwise specified F90-F99_primary diagnosis	Without	6.74	6.79	6.76	6.51	6.28	6.56	6.40	6.16	6.54
	With	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Behavioural and emotional disorders with onset usually in childhood and adolescence - Mental disorder not otherwise specified F90-F99_secondary diagnosis	Without	6.74	6.79	6.76	6.51	6.28	6.56	6.39	6.16	6.54
	With	7.71	5.14	7.57	5.28	6.36	9.20	8.86	7.00	6.81

Table 3 - Main diagnostic DMS differences: mental and behavioural disorders

		2015	2016	2017	2018	2019	2020	2021	2022	TOTAL
Organic mental disorders, including symptomatic disorders F00-09	Main diagnosis	-0.02	-0.28	0.73	0.76	1.16	3.66	6.44	4.04	1.18
	Secondary diagnosis	1.54	1.20	1.07	1.48	1.50	1.23	1.51	1.51	1.36
Mental and behavioural disorders due to the use of psychoactive substances F10-19	Main diagnosis	-4.22	-3.70	-4.18	-2.61	-2.56	-0.64	-3.82	-3.16	-3.18
	Secondary diagnosis	0.98	1.03	0.90	1.33	2.26	2.63	2.31	2.75	1.68
Schizophrenia, schizotypal and delusional disorders F20-29	Main diagnosis	-1.24	-4.39	-1.01	-0.26	-4.62	-3.56	-6.40	-6.16	-2.21
	Secondary diagnosis	5.62	0.90	-0.23	-0.31	1.73	2.63	1.19	2.26	1.73
Mood disorders (affective) F30-F39	Main diagnosis	-2.18	-0.85	-1.25	-1.50	-0.53	-0.10	-2.17	0.03	-1.20
	Secondary diagnosis	1.15	0.81	0.59	0.60	0.53	1.83	2.51	1.07	0.95
Neurotic, stress and somatoform disorders F40-48	Main diagnosis	-0.64	0.39	1.23	0.36	0.88	1.44	2.13	1.66	0.65
	Secondary diagnosis	1.48	2.47	1.37	1.07	0.89	1.86	0.97	0.79	1.30
Behavioural syndromes secondary to physiological disturbances and physical factors F50-59	Main diagnosis	1.60	1.77	-0.36	-0.03	-0.11	-0.66	-0.35	-1.60	-0.57
Personality and behaviour disorders in adults F60-69	Secondary diagnosis	-0.74	-4.79	-4.76	-2.01				5.84	-1.37
	Main diagnosis	-2.66	-0.79	-1.67	0.96	1.43	1.04	0.96	-0.16	-0.17
Mental retardation F70-79	Secondary diagnosis	-3.85	-2.39	-2.47	-3.51	0.22	-0.06	-6.40	-6.16	-2.57
	Main diagnosis	0.54	-0.36	-0.48	1.30	1.46	0.13	0.83	1.80	0.69
Developmental psychological disorders F80-F89	Secondary diagnosis		-2.79							-2.54
	Main diagnosis	-3.03	-3.10	-2.14	-3.64	-3.28	-1.56	0.18	-3.80	-2.85
Behavioural and emotional disorders with onset usually in	Secondary diagnosis	0.98	-1.65	0.81	-1.23	0.08	2.64	2.46	0.84	0.27

childhood and adolescence - Mental disorder not otherwise specified F90-F99								

It can be seen from the above table that a person who associates organic pathology with a psychosomatic disorder, being discharged with the main diagnosis F40-48, will stay in hospital **1.30 days longer** than another person who does not associate this disorder.

Table 4 - Differences in secondary diagnostic DMS: mental and behavioural disorders

	2015	2016	2017	2018	2019	2020	2021	2022
Organic mental disorders, including symptomatic disorders F00-09	1.54	1.20	1.07	1.48	1.50	1.23	1.51	1.51
Mental and behavioural disorders due to the use of psychoactive substances F10-19	0.98	1.03	0.90	1.33	2.26	2.63	2.31	2.75
Schizophrenia, schizotypal and delusional disorders F20-29	5.62	0.90	-0.23	-0.31	1.73	2.63	1.19	2.26
Mood disorders (affective) F30-F39	1.15	0.81	0.59	0.60	0.53	1.83	2.51	1.07
Neurotic, stress and somatoform disorders F40-48	1.48	2.47	1.37	1.07	0.89	1.86	0.97	0.79
Behavioural syndromes secondary to physiological disturbances and physical factors F50-59	1.60	1.77	-0.36	-0.03	-0.11	-0.66	-0.35	-1.60
Personality and behaviour disorders in adults F60-69	-2.66	-0.79	-1.67	0.96	1.43	1.04	0.96	-0.16
Mental retardation F70-79	0.54	-0.36	-0.48	1.30	1.46	0.13	0.83	1.80
Developmental psychological disorders F80-F89	-3.03	-3.10	-2.14	-3.64	-3.28	-1.56	0.18	-3.80
Behavioural and emotional disorders with onset usually in childhood and adolescence - Mental disorder not otherwise specified F90-F99	0.98	-1.65	0.81	-1.23	0.08	2.64	2.46	0.84

It can be seen from the above table that a person with an added psychosomatic disorder to an organic pathology, being discharged with a secondary diagnosis F40-48, will stay in hospital **0.79 days longer** than another person who does not associate this disorder.

Given the relatively low proportion of patients with psychosomatic disorders in the total number of patients, as can be seen in the table below, I decided to continue the research based on the idea that many more people suffer from F40-F48 disorders, but are not

diagnosed, for various reasons: lack of diagnostic tool, lack of tangible justification by the clinician in this direction, perhaps.

Table 5 - Mental and behavioural disorders - associated diagnoses

Mental and behavioural disorders	2015	2016	2017	2018	2019	2020	2021	2022	Total
Organic mental disorders, including symptomatic disorders F00-09	1,425	1,440	1,596	1,864	1,939	1,287	1,261	1,553	12,365
Mental and behavioural disorders due to the use of psychoactive substances F10-19	1,018	990	1,013	1,134	1,136	723	630	823	7,467
Schizophrenia, schizotypal and delusional disorders F20-29	72	70	61	65	68	43	70	74	523
Mood disorders (affective) F30-F39	374	372	498	497	560	247	214	303	3,065
Neurotic, stress and somatoform disorders F40-48	904	1,005	1,113	1,259	1,426	763	728	949	8,147
Behavioural syndromes associated with physiological disturbances and physical factors F50-59	27	34	63	88	107	111	85	175	690
Personality and behaviour disorders in adults F60-69	13	11	12	13	14	5	14	9	91
Mental retardation F70-79	108	113	100	115	144	69	59	105	813
Developmental psychological disorders F80-F89	28	29	21	31	11	6	7	11	144
Behavioural and emotional disorders with onset usually in childhood and adolescence - Mental disorder	14	14	21	18	11	5	7	7	97

not otherwise specified F90-F99									
TOTAL	**3,983**	**4,078**	**4,498**	**5,084**	**5,416**	**3,259**	**3,075**	**4,009**	**33,402**

Later, I will try to find out whether a statistical regression can be performed only on data obtained from the health unit's computer program, disregarding the idea that psychosomatic disorders are most certainly underdiagnosed.

CHAPTER V. PARTICULARITIES OF THE PSYCHOSOMATIC PATIENT

Psychosomatic disorders of the patient with addictions

In this paper, the addictions referred to are strictly related to alcohol consumption. Before the 2020 pandemic year, the WHO was supposed to have launched a study on global alcohol consumption, but this was postponed and the latest official data refer to 2016. At that time, Romania ranked sixth in Europe in terms of alcohol consumption per capita.

According to the same studies, 35.4% of Romanians reported drinking alcohol in the last month and 9.3% reported drinking alcohol frequently (at least weekly) throughout their lives.

Worryingly, Romania has been ranked by the European Union as the top country for binge drinking, with 8.2% of Romanians reporting drinking five or more alcoholic drinks on a single occasion at least once a month.

It is important to note that data and statistics may vary depending on the data collection models and the period in which they were collected.

Chronic alcohol consumption in Romania is a major public health problem. In terms of the cost of treatment and hospitalisation of pathologies caused by this abuse, the amounts cannot be correctly estimated.

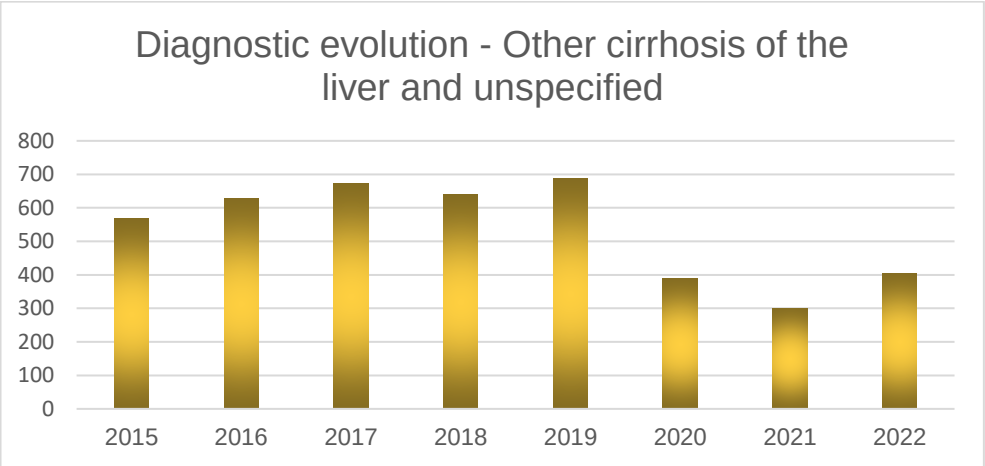

Figure 2 - Diagnosis of liver cirrhosis/year

It is also impossible at a national level to estimate the degree of financial, psychological and relational damage to families where at least one member is a chronic drinker.

Based on the idea that anamnestically, alcohol consumption tends to be underdiagnosed, that alcohol dependence is almost a normality in rural areas, doctors often find themselves in the situation of detecting nutritional toxic liver cirrhosis in advanced stages. People put their lives at risk out of a desire to make the moment worth living. Nothing persuades them to give up: not illness, not love and sacrificed relationships, not loss of material possessions, not their shattered dignity, not fear of death. Addictions are always rooted in pain, whether overt or hidden in the unconscious. Addictions are emotional anaesthetics. People are susceptible to the process of addiction if they have a constant need to find physical or emotional relief in external sources for their mind and body.

Personality prone to alcohol abuse is driven by the absence of the element of differentiation. *Differentiation* is the ability to be in emotional contact with others, yet *autonomous* in emotional functioning. It is the ability to be aware of ourselves while interacting with others. Persons with poor differentiation are easily overwhelmed by their emotions, absorb anxiety from others and generate a significant amount of anxiety within themselves. Lack of differentiation and poor self-regulation reflect a lack of emotional *maturity*. Emotional processes dictate the addict's perspective: whatever he or she is feeling at the time, that something tends to define the addict's view of the world and controls his or her actions.

81 patients with a diagnosis of nutritional toxic liver cirrhosis were included in this study. People with a history of hepatic encephalopathy and people over 70 years of age were excluded from the study.

These patients were administered three questionnaires from the SEC group:

- Attitudes and Beliefs Scale short form (ABSs);
- Unconditional Self-Acceptance Questionnaire (USAQ);
- Self-esteem scale (SS).

From the SEC the 3 questionnaires were chosen, given that anamnestically, we observed that addicts exhibit either irrational beliefs or low self-esteem, but mostly a very low unconditional acceptance of self and environment, often used as an *excuse* for their addiction.

Once all the necessary and mandatory statistical steps had been completed, it was possible to perform simple linear regression.

Statistical hypothesis testing

In this research, we have formulated, as described in Chapter 3-Research scope and objectives, two hypotheses: H0 and H1.

The chosen group of patients with addictions and a diagnosis of toxic-nutritional liver cirrhosis supports both hypotheses, but more importantly, it aims to investigate whether there is an underdiagnosis of the patient with a psychosomatic disorder or disease.

- **H0=no relationship between days of hospitalisation/frequency of hospitalisation and psychological test results (demonstrative of psychosomatic disorder)**
- **H1=there is a correlation between people with psychosomatic disorders and frequency of hospitalization and/or number of days of hospitalisation.**

The research hypothesis is bi-directional, specifically, I do not know at this time whether psychosomatic disorders are underdiagnosed and whether they impact hospitalisation duration or frequency.

It is important to establish the type of hypotheses because of *the significance threshold p.* This is a measure of the probability of obtaining a result or difference between groups if there is no real difference or effect between groups in the population from which the sample was drawn.

This significance threshold is 0.05 (or 5%). If $p<0.05$ it means that there is a significant difference between groups or an association between variables.

The significance threshold p, does not demonstrate the magnitude of the difference or relationship between groups or variables. It is only a measure of the probability of observed or extreme results in the absence of a real difference or effect. So even at p-values<0.0001, it does not always mean that the observed difference or association is significant in a practical or theoretical sense.

To avoid as much as possible both type I and type II errors, we tried to make the selected group homogeneous, considering a patient as a patient, without major differences between liver cirrhosis and chronic kidney disease for example. The measurement instruments have increased fidelity and validity, being the Clinical Assessment System instruments used in medicine and psychology. Finally, the sample of 81 subjects is considered sufficient to generate linear regression.

Simple linear regression

Simple linear regression is useful and mandatory in research because it helps to predict future values of the dependent variable based on known values of the independent variable. It is an extension of the Pearson correlation.

Thus, we will be able to predict the VD score-number of hospital days/frequency of hospitalization (increase of this number, proportional to the increase of the VI score) according to the VI.

In simple linear regression VD=criterion and VI=predictor, being a regression with predictive purpose.

Since the independent variables cannot be transformed into dichotomous, with values of 0 or 1 = dummy variables, we use linear regression for one DV and one IV at a time = bivariate linear regression for accuracy.

Linear regression with VD *Hospital days* and VI *USAQ* test values

Table 6 - Model Summary - Hospital days/Unconditional Acceptance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.982[a]	.964	.964	2.465

a. Predictors: (Constant), Unconditional Acceptance
b. Dependent Variable: Hospital days (full data)

The table provides important data on the efficiency of the regression model. R=0.982, which means a very strong correlation between the number of hospital days and USAQ test results.

In conclusion, the results of the simple linear regression between the influence of low unconditional self-acceptance and increased hospital days are significant.

Linear regression with VD *Hospital days* and VI *ABSs* test values *irrationality scale*

Table 7 - Model Summary – Hospital days/Irrationality Score

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.813[a]	.660	.656	7.625

a. Predictors: (Constant), Score irrationality
b. Dependent Variable: Hospital days (full data)

The table provides important data on the efficiency of the regression model. R=0.813, which means a very strong correlation between the number of hospital days and the ABSs test results.
R^2 =0.660 which means that 66% of the variance in DV can be explained by the variance in VI. We can state that 66% of the subjects have an increased number of hospital days due to psychosomatic pathology associated with the underlying disease.

In conclusion, the results of the simple linear regression between the influence of an increase in irrationality and an increase in hospital days are significant.

Linear regression with VD *Hospital days* and VI *ABSs* test values *rationality scale*

Table 8 - Model Summary - Hospital days/Rationality Score

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.824[a]	.679	.675	7.412

a. Predictors: (Constant), Rationality Score
b. Dependent Variable: Hospital days (full data)

The table provides important data on the efficiency of the regression model. R=0.824, which means a very strong correlation between the number of hospital days and the ABSs test results.

R^2 =0.679 which means that 67.9% of the variance in DV can be explained by the variance in VI. We can state that 67.9% of the subjects have an increased number of hospital days due to psychosomatic pathology associated with the underlying disease.

In conclusion, the results of the simple linear regression between the influence of low rationality and increased hospital days are significant.

Linear regression with VD *Hospital days* and VI *SS* test values

Table 9 - Model Summary - Hospital days/Self-esteem

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.982[a]	.964	.964	2.465

a. Predictors: (Constant), Self-esteem
b. Dependent Variable: Hospital days (full data)

The table provides important data on the efficiency of the regression model. R=0.982, which means a very strong correlation between the number of days of hospitalisation and the SS test results.

R^2 =0.964 which means that 96.4% of the variance in DV can be explained by the variance in VI. We can state that 96% of the subjects have an increased number of hospital days due to psychosomatic pathology associated with the underlying disease.

In conclusion, the results of the simple linear regression between the influence of low self-esteem and increased hospital days are highly significant.

Linear regression with VD *Admission frequency and* VI *USAQ* test values

Table 10 - Model Summary - Admission frequency/Unconditional acceptance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.712[a]	.507	.500	1.821

a. Predictors: (Constant), Unconditional Acceptance
b. Dependent Variable: Admission frequency

The table gives us important data on the efficiency of the regression model. R=0.712, which means a strong correlation between the number of days of hospitalisation and USAQ test results.

R^2 =0.507 which means that 50.7% of the variance in DV can be explained by the variance in VI. We can state that 50.7% of the subjects, have an increased number of hospital days due to psychosomatic pathology associated with the underlying disease.

In conclusion, the results of the simple linear regression between the influence of low unconditional self-acceptance and admission frequency are significant.

Linear regression with VD *Inpatient frequency* and VI test values *ABSs irrationality scale*

Table 11 - Model Summary - Admission frequency/Shortness Irrationality

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,625[a]	,391	,383	2,023

a. Predictors: (Constant), Score irrationality
b. Dependent Variable: Admission frequency

The table provides important data on the efficiency of the regression model. R=0.625, which means an average correlation between the number of hospital days and the USAQ test results.

R^2 =0.391 which means that 39.1% of the variance in DV can be explained by the variance in VI. We can state that 39.1% of the subjects have an increased number of hospital days due to psychosomatic pathology associated with the underlying disease.

In conclusion, the results of the simple linear regression between the influence of increased irrationality and increased hospitalization frequency are average.

Linear regression with VD *Admission frequency and* VI *ABSs* test values *rationality scale*

Table 12 - Model Summary - Admission frequency/ Rationality Score

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.572[a]	.327	.318	2.126

a. Predictors: (Constant), Rationality Score
b. Dependent Variable: Admission frequency

The table provides important data on the efficiency of the regression model. R=0.572, which means an average correlation between hospitalisation frequency and ABSs test results.

R^2 =0.327 which means that 32.7% of the variance in DV can be explained by the variance in VI. We can state that 32.7% of the subjects have an increased number of admissions due to psychosomatic pathology associated with the underlying disease.

In conclusion, the results of the simple linear regression between the influence of low rationality and increased hospitalization frequency are average.

Linear regression with VD *Admission frequency and* VI *SS* test values

Table 13 - Model Summary - Admission frequency/Self-esteem

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.712[a]	.507	.500	1.821

a. Predictors: (Constant), Self-esteem
b. Dependent Variable: Admission frequency

The table provides important data on the efficiency of the regression model. R=0.712, which means a strong correlation between hospitalisation frequency and SS test results.

R^2 =0.507 which means that 50.7% of the variance in DV can be explained by the variance in VI. We can state that 50.7% of the subjects have an increased number of hospital days due to psychosomatic pathology associated with the underlying disease.

In conclusion, the results of the simple linear regression between the influence of low self-esteem and increased frequency of hospitalization are significant.

In conclusion, the adjusted R^2 values are:

- 0.96-linear regression between VD hospital days and VI USAQ test results
- 0.96-linear regression between VD hospital days and VI SS test results
- 0.67-linear regression between VD hospital days and VI ABSs test results, rationality scale
- 0.65-linear regression between VD hospital days and VI ABSs test results, irrationality scale
- 0.50-linear regression between VD admission frequency and VI SS test results
- 0.50-linear regression between VD admission frequency and VI USAQ test results
- 0.38-linear regression between VD admission frequency and VI ABSs test results, irrationality scale
- 0.31-linear regression between VD admission frequency and VI ABSs test results, rationality scale

Following the above data, we can state that there is a strong, highly predictive relationship between Hospital days and USAQ and SS test results. Thus, the lower the USAQ and SS test scores, the higher the number of hospital days.

For the VD-inpatient variable, according to the adjusted R^2 value, the USAQ and SS tests still have the highest prediction.

Research results were published in the journal Brain. Broad Research in Artificial Intelligence and Neuroscience DOI https://doi.org/10.18662/brain/15.1/540

Diabetic patient's environmental adaptation mechanisms

This research batch consists of 80 patients with a primary diagnosis of diabetes mellitus, aged 19-70 years, 40 women and 40 men, followed up between 2015 and 2022 and selected based on diabetes diagnosis only. The data are provided by the computer program of the health unit and it was of interest at the end of the research the presence of the frequency of hospitalizations and the number of hospital days summed, as well as the associated secondary diagnoses. The two hypotheses formulated at the beginning of the research were:

- Null hypothesis - no relationship between psychosomatic disorder and frequency of hospitalization or number of total days hospitalized.
- Research hypothesis - psychosomatic disorder leads to increased days of hospitalisation or increased frequency of hospitalisation.

Participants were administered the following two SEC questionnaires:

- Attitudes and Beliefs Short Form Scale (ABSs);
- Unconditional Self-Acceptance Questionnaire (USAQ).

After going through the necessary statistical steps: batch description, database verification and calculation of basic statistical indicators, statistical hypothesis testing, normality testing of the collected data, linearity testing of two quantitative variables against a third qualitative variable and correlational analysis, it was possible to calculate linear regression.

Statistical processing highlights the following:

- Significant, high negative correlation, r(80)= -0.765 p= 0.001<0.05, confirming that a high rationality score leads to fewer admissions ;
- Significant, high positive correlation, r(80)= 0.755 p= 0.001<0.05, concluding that the number of admissions increases with the score of the irrationality variable;
- Significant, moderate negative correlation, r(80)= -0.503 p= .001<0.05, indicating that high unconditional acceptance scores lead to fewer admissions.

Analysing the data we can conclude that in patients with diabetes, it would be necessary to give importance to the way they think and its effect on the somatization of the disease.

The research data were published in the journal Brain. Broad Research in Artificial Intelligence and Neuroscience https://doi.org/10.18662/brain/14.4/528

Linear regression with VD *hospital days* and VI *USAQ* test values

Table 14 - Linear regression of the variable number of hospital days on unconditional acceptance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.622[a]	.387	.379	9.071

a. Predictors: (Constant), Unconditional Acceptance (max 140)
b. Dependent Variable: hospital_days

The table gives us important information about the efficiency of the regression model. R=0.622, represents a moderate correlation between the number of hospital days and USAQ scores.

R^2 =0.387 shows that 38.7% of the DV variance can be explained by the VI variance. We can state that 39% of the subjects have an increased number of hospital days due to psychosomatic pathology associated with the underlying disease.

Adjusted R^2 =0.379. Since we are interested in the generalizability of the results, the adjusted R^2 will be the value under consideration and as a result, we consider that unconditional acceptance influences 37.9% of hospital days.

In conclusion, the influence of unconditional self-acceptance on the number of hospital days is medium.

Linear regression with VD *hospital days* and VI *ABSs* test values *rationality scale, irrationality scale*

Table 15 - Linear regression of the variable number of hospital days on rationality

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.848[a]	.720	.716	6.131

a. Predictors: (Constant), Rationality (max. 16)
b. Dependent Variable: hospital days

R=0.848, indicates a high correlation between the number of hospital days and the rationality scale.

R^2 =0.720, shows that 72% of the variance of the DV can be explained by the variance of the VI. We can state that 72% of subjects have a low number of hospital days if they do not show signs of psychosomatic pathology associated with the underlying disease.

Adjusted R^2 =0.716. We aim to generalize the results, thus the adjusted R^2 will be the value under consideration and as a result, we consider that rationality influences 71.6% of the number of hospital days.

We conclude that:

Simple linear regression results between the influence of low rationality and increased hospital days are significant.

Simple linear regression results between the influence of increased irrationality and increased hospital days are significant.

Linear regression with VD admission frequency and VI *USAQ* test scores

To determine whether there is a relationship between admission frequency and unconditional acceptance, we follow the same steps as for the dependent variable Hospital days.

Simple linear regression results show the following (Table 96):

- R=0.503, represents an average correlation between admission frequency and unconditional acceptance;
- R^2 =0.253, so that 25.3% of the variance of DV can be explained by the variance of VI. We claim that 25.3% of subjects have a low number of admissions if they do not show signs of psychosomatic pathology associated with the underlying disease;
- Adjusted R^2 =0.243. Adjusted R^2 will be the value under consideration and according to it, we conclude that unconditional acceptance influences 24.3% of admission frequency.
- Standard error of the estimate =1.618.

Table 16 - Linear regression of the variable admission frequency on unconditional acceptance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.503[a]	.253	.243	1.618

a. Predictors: (Constant), Unconditional Acceptance (max 140)
a. Dependent Variable: Admission frequency

Table 17 - Regression analysis results estimating admission frequency by unconditional acceptance scores, rationality, irrationality

	R	R^2	ß	b	SE	b
Unconditional acceptance	0.503	0.253	-0.503*	-0.047*	0.009	
Rationality	0.765	0.585	-0.765*	-0.516*	0.049	
Irrationality	0.766	0.587	0.766*	0.517*	0.049	

Note. Dependent variable: admission frequency; * p<0.001

We conclude as follows:

- **The influence of unconditional acceptance on admission frequency is statistically low.**
- **The existence of a high level of irrationality influences the increased Admission frequency;**
- **The lower the rationality score, the higher the admission frequency.**

Depression of the Inpatient with polymorphic pathology

The research batch consists of 77 patients, 24 men and 53 women, aged 20-72 years. The variables that interested me at the end of the research, the hospital days and the frequency with which these patients were admitted to the health unit, were obtained from the computer program, for the period 2015-2022.

The questionnaire used was part of the Clinical Rating System- Hamilton Depression Scale (HRSD).

The objective of this research is to highlight the existence of a phenomenon of underdiagnosis of the patient presenting with psychosomatic disorder and we achieve it by testing the following bidirectional hypotheses:

- **H0: There is no relationship between hospital days/admission frequency and psychological test results (demonstrative of psychosomatic disorder).**
- **H1: There is a significant correlation between people with psychosomatic disorders and the frequency of hospitalization and/or a number of hospital days.**

Thus, a significance threshold value of $p<0.05$ indicates that there is a significant difference, an association between variables. We also believe that the batch of 77 participants is sufficient to use Spearman correlation statistical processing. The psychological instrument measuring depression shows high fidelity and validity coefficients.

Statistical processing resulted in the following:

- $\rho(75)=0.585$, $p<0.001$, moderate significant positive correlation, meaning that patients with a high depression score have a high hospitalization frequency and vice versa.
- $\rho(75)=0.916$, $p<0.001$, a very high significant positive correlation, which highlights that patients with high levels of depression require a high number of hospital days.

We conclude that patients with a high depression score require a high number of hospital days and have an increased number of admissions.

Patient's anxiety in the emergency room

Anxiety is fear. Man's greatest fear is death. Sometimes it's not our death that frightens us, but the loss of a loved one that can be the greatest trigger for phobias. This phobia can sometimes be the reason why relatives' reactions to the treatment received and the condition of the sick relative generate so much conflict between the doctor and the family outside.

For a group of 80 patients who in the period 2018-2020 came to the ER of Galati County "Sf. Ap. Andrei" Emergency Hospital, consent was obtained to complete a psychological questionnaire from the SEC - Hamilton Anxiety Scale (HRSA). (Hamilton, 2007). The scale has 14 items, 7 of which measure psychological anxiety and 7 measure somatic anxiety.

Scores on each scale range from 0 to 28 points. Scores greater than 20 points are found in people diagnosed with clinical anxiety disorders. For details of the number of presentations and Admission frequency, the health unit's computer database was used.

I have formulated two hypotheses:

1. H0: Null hypothesis - there is no relationship between mental or somatic anxiety and the number of presentations of a patient in the emergency room (ER).
2. H1: Research hypothesis - the patient with a high degree of mental anxiety will have fewer presentations in the ER compared to the patient with a high degree of somatic anxiety. Specifically, mental anxiety keeps the patient away from the *white coat*, whereas in the phase when psychosomatic disorders appear, the patient will present more often to the doctor, but since these are subjective allegations that cannot be initially proven paraclinically, the number of admissions will be relatively reduced.

Given that Sig. Shapiro-Wilk is less than 0.05, we cannot say that the data are normally distributed. Thus, in the following, for statistical analysis, we will choose non-parametric tests (for abnormally distributed data).

To determine the correlation between two variables whose data are not normally distributed, we will use the correlation coefficient R (Spearman). The advantage of non-parametric tests is that they use fewer assumptions and are considered more robust. (Rotenștein, no year)

The Spearman test is a statistical method used to assess the correlation between two variables ranked in an ordered way (since they measure only monotonic relationships). This test is based on Spearman's rank coefficient, which quantifies the extent to which there is a linear relationship between the two ordered variables.

We will thus determine below whether two variables exhibit a monotonic association, meaning that changes in the independent variable will lead to changes in the dependent variable, but not necessarily in a direct linear relationship, in the sense that the changes can be both positive and negative. This test can be used to analyse correlations between test scores, performance ratings or other ordered variables.

If Spearman`s rho=0, there is no correlation between variables. If >0 positively, the correlation is positive, if <0, there is a negative correlation.

Table 18 - Correlations between the number of presentations in the ER without admission and the results of the mental anxiety test

			Outpatient ER presentations	Category mental anxiety
Spearman's rho	Outpatient ER presentations	Correlation Coefficient	1.000	.595**
		Mr (2-tailed)	.	.000
		N	80	80
	Mental anxiety category	Correlation Coefficient	.595**	1.000
		Mr (2-tailed)	.000	.
		N	80	80

**. Correlation is significant at the 0.01 level (2-tailed).

Correlation Coefficient<1.
Correlation Coefficient=0.595.

The correlation between the number of presentations in the ER without the patient being admitted and the category of mental anxiety test score is 59.5%.

In other words, mental anxiety does not change the paraclinical tests, the patient only has specific symptoms, and often comes to the emergency room, but does not require hospitalization.

Given that the average number of presentations in the ER without admission is 7.95 times, mental anxiety increases the chances of an anxious patient returning to the ER by almost 60%.

Table 19 - Correlations between the number of presentations in the ER without hospitalization and somatic anxiety test results

			Outpatient ER presentations	Somatic anxiety category
Spearman's rho	Outpatient ER presentations	Correlation Coefficient	1.000	.183
		Mr (2-tailed)	.	.103
		N	80	80
	Somatic anxiety category	Correlation Coefficient	.183	1.000
		Mr (2-tailed)	.103	.
		N	80	80

Correlation Coefficient<1.
Correlation Coefficient=0.183

The correlation exists, but it is very weak. We can conclude that somatic anxiety does not positively influence presentations in the *outpatient* ER.

Table 20 - Correlations between the number of presentations in the ER with hospitalization and somatic anxiety test results

			Inpatient ER presentations	Somatic anxiety category
Spearman's rho	Inpatient ER presentations	Correlation Coefficient	1.000	.684**
		Mr (2-tailed)	.	.000
		N	80	80
	Somatic anxiety category	Correlation Coefficient	.684**	1.000
		Mr (2-tailed)	.000	.
		N	80	80

**. Correlation is significant at the 0.01 level (2-tailed).

Correlation Coefficient<1.
Correlation Coefficient=0.684.

The correlation between the number of presentations in the UPU *with admission* (completed with admission of the patient) and somatic anxiety is 68.4%. The patient with clinical somatic anxiety will require hospitalization, given that both signs and symptoms and the values of the paraclinical evaluation point to a diagnosis that needs to be elucidated and/or treated.

Table 21 - Correlations between the number of presentations in the ER with hospitalization and the results of the mental anxiety test

			Inpatient ER presentations	Mental anxiety category
Spearman's rho	Inpatient ER presentations	Correlation Coefficient	1.000	.162
		Mr (2-tailed)	.	.152
		N	80	80
	Mental anxiety category	Correlation Coefficient	.162	1.000
		Mr (2-tailed)	.152	.
		N	80	80

Correlation Coefficient<1.
Correlation Coefficient=0.162

The correlation between ER presentations requiring admission and the category of mental anxiety is very weak.

We can conclude from the data that mental anxiety brings the patient to hospital. Once the anxiety goes beyond the psychic degree and becomes somatic, clinically evident (with respiratory, cardiac, gastric manifestations, etc.), the patient continues to come to the doctor, but the presentations will end up in hospitalisation. Probably, after repeated admissions and assurances from doctors that the risk of death or serious illness is minimal, the patient continues treatment at home, with outpatient presentations.

Regardless of whether the patient is admitted or not, the correlation between the degree of very high anxiety and referral to the doctor is very strong (over 60%).

Anxiety is initially psychological, but untreated, it ends up having somatic manifestations. Unfortunately, however, from the onset (from the point at which the degree of anxiety is very high), the patient begins to visit the ER. Initially, the patient has a large number of presentations, without being admitted. Later, when the anxiety reaches somatic heights, the patient will also be admitted for detailed investigations. Thus, the pressure on the health care system remains high, as does the patient's level of anxiety.

Friedman Test (equivalent to ANOVA of normally distributed data)

The Friedman test is the non-parametric statistical method used to compare differences between groups of sagittal measures for a single set of subjects. It is a non-parametric variant of ANOVA, used when the data do not meet the assumption of normality or independence of variables. The results indicate whether at least two groups are different from each other.

Table 22 - Significance of VI on DV

	Mean Rank
Outpatient ER presentations	2.90
Inpatient ER presentations	1.18
Somatic anxiety score	2.64
Mental anxiety score	3.28

Table 23 - Chi-square value

N	80
Chi-Square	130.912
df	3
Asymp. Sig.	.000

a. Friedman Test

The chi-square value shows whether there are significant differences between groups in the dependent variable. The large chi-square value indicates a significant difference, in our case 130.912.

The degree of freedom df indicates a high power of the test to detect significant differences.

Asymp. Sig is less than 0.05, which means that we can reject the null hypothesis formulated at the beginning. We can conclude that there is a very large influence of the independent variable VI-category of anxiety on the dependent variable VD- presentations in the ER.

In conclusion, the interpretation of the Friedman test is based on the chi-square value, degree of freedom and sigma <0.05 to support the stated research hypothesis.

Thus, the number of presentations in the ER is increased in the patient with somatic anxiety, while the number of presentations in the ER is lower in the patient with high mental anxiety.

Anxiety disorders of the post-SARS-COV2 infection patient

In 2020, the research of this thesis was not completed. I found myself then faced with a medical event that many of us had never even thought of. I had read in the literature about epidemics and pandemics, but it was hard to conceive that such a thing could happen to us in the 21st century.

I thought at the time that psychosomatic pathologies would take hold, that the trauma would leave marks as deep as the pulmonary fibrosis generated by the respiratory disease we were fighting.

Living in isolation, we all used virtual means of communication more than ever. Anxiety was at alarming levels in both small and large social circles.

Starting from the idea that the media contributed to health education that year more than ever before, from the idea that people are informed by TV and the internet and that the social domain has become almost entirely virtual, I started a linear research study together with medical colleagues whom I thank for their support and academic curiosity. The research results were subsequently published in the journal Brain-Broad Research in Artificial Intelligence and Neuroscience (DOI: https://doi.org/10.18662/brain/13.1Sup1/306).

In 2021, a series of questionnaires were administered to a group of 30 people who *had been* infected with SARS-COV2 and to a group of 20 people who *had not been infected with* the virus at that time. We mainly wanted to find out whether the degree of anxiety correlated with the degree of media dependence, whether what scared us was the disease itself, or the news provided by the media. Was the abusive information about the tragedy surrounding us helping us at that time? Were anxious people more prone to severe forms of illness, or were they less likely to go to the doctor because of their anxiety?

I used:

- Coronavirus Anxiety Questionnaire www.researchcentral.ro
- Media Addiction Questionnaire www.researchcentral.ro

- SRGS Post-Traumatic Development Scale; Crystal Park, Lawrence Cohen and Renee Murch-applied only to people who have experienced illness (COVID 19)

Results

Out of 50 people surveyed, 30 had the disease and 20 did not. Of the first category, 7 had been vaccinated against flu, and of the second category, 11. At that time, the flu vaccine was of great importance, as the human body could hardly cope with both influenza and SARS-COV2 infection.

Table 24 - Distribution of lots

	Number of persons	Flu Vaccine
Batch 1 - people who have been infected with SARS COV2	30	7
Batch 2 - people who have not been infected with SARS COV2	20	11

Table 25 - Coronavirus Anxiety Questionnaire

	Score		
	Maxim	Environment	Minim
Batch 1 - 30 persons	17	12	1
Batch 2 - 20 persons	10	10	0

Table 26 - Media Addiction Questionnaire

	Score		
	Maxim	Environment	Minim
Batch 1 - 30 persons	4	9	17
Batch 2 - 20 persons	2	6	12

Table 27 -Posttraumatic development scale SRGS

	Score		
	Maxim	Environment	Minim
Batch 1 - 30 persons	15	8	7

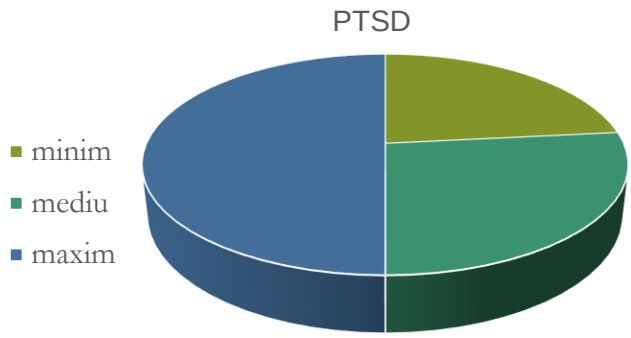

Figure 3- Distribution of the degree of PTSD of subjects

Considering SARS-COV2 infection as a trauma, this questionnaire was only administered to people who had experienced the disease at that time.

Conclusions:

1. Anxiety among COVID-19 sufferers was similar to the degree of anxiety among people who had not experienced the disease.
2. 100% of the interviewed subjects stated that in terms of media addiction, they considered themselves addicted in 2020, although today they may declare themselves oversaturated. They said they wanted to reduce their use of audio-visual technology as much as possible. It is worth noting that only 4 and 2 people respectively out of the two batches obtained notable scores on this questionnaire.
3. When asked about their social life online, subjects said they preferred to stick to conversations with family, although prior to 2020, social media was used as a method of recreation.
4. Mental overload for about 1 year with anxiety-inducing media material resulted in absolute refusal to be informed by TV, reduced time spent online for socialising and alienation from extended family.

In terms of the post-traumatic development scale, I concluded:

1. Based on the assumption that COVID-19 could be classified as *trauma, as* stated by the interviewed subjects, this questionnaire was applied only to those who had experienced the disease and quarantine. Given that 50% of them scored maximum and 30% scored average, the percentages can be positively correlated with the severity of the symptoms presented.
2. 70% of patients say they would have preferred not to go through the illness, while 30% say that going through the illness has considerably reduced their anxiety and they feel happy and relieved to have overcome the illness.
3. 100% of the subjects who experienced the disease said that *anxiety* and the *media played* a major role in the progression of the disease.

I was waiting for the day when I started feeling worse and worse. Every new symptom that appeared scared me. I knew from the TV that day 9 was the worst. I knew from the news that there was no cure. I didn't dare to go to the hospital. I didn't dare to stay home. I thought I'd never see my family again. The thought of death was near, even though I was fine.

These are some of the additional accounts from those who have experienced the disease.

The limitations of the study are strictly numerical. The groups of subjects were small, ranging in age from 20 to 55 years, with 80% of the subjects being female. As this is a sample of 50 people, it cannot reflect public opinion.

Based on the premise that patients who have experienced COVID-19 as a trauma, with the possibility of the subsequent development of a psychosomatic disorder (trauma-psychosomatic disorder causal relationship, already demonstrated in the literature), the following hypotheses emerge:

- Patients with psychosomatic disorders often show signs of depression, anxiety, and personality disorders. Are people with the highest score on the Trauma Development Questionnaire future patients with such disorders?
- Were coping mechanisms already impaired among people who categorized this illness as a trauma? Or did functional coping mechanisms help them to maintain the disease in a mild-medium form?

Three years on from the pandemic, most of us are living a distant dream. It seems so long ago, we don't even want to remember, to talk about it. We want to forget such a mass, war-like trauma.

After the war, people only talk about peace, and bury deep memories and wounds. After the pandemic, doctors - witnessing death more abjectly than ever, and those of us who have lost loved ones, just want to forget, to deny everything they have experienced. This denial is actually also a manifestation of trauma. It is just one of its stages.

Correlations between discharge diagnoses F40-F48 and average hospitalisation duration from the health facility computer data

Introduction

Problem definition

Repeated hospitalization with a diagnosis of neurotic, stress and somatoform disorders and longer than average hospitalisation duration is the premise of statistical research, knowing the influence of these factors is very important in making decisions to improve the quality of health care.

We used information and data about patients admitted to the Galati Emergency Clinical Hospital in different wards, they were extracted from the Hippocrates program.

The codes used for observation and analysis, as specified by the Diagnostic Related Groups (DRG) classification system, fall into two categories:

A. Somatic diagnoses (main and secondary):
    1. Cirrhosis of the liver (K70.0, K70.3, K74.6);
    2. Diabetes mellitus (E11, E12);
    3. Hypertension (I10);
    4. Heart Failure e (I50);
    5. Psoriasis (L40);
    6. Chronic obstructive pulmonary disease (J44);
    7. Asthma (J45);
    8. Rheumatoid arthritis (M13);
    9. Chronic kidney disease (N18);
    10. Obesity (E66.9);
    11. Iron deficiency anaemia (D50.9);
    12. Hypercholesterolaemia (E78);

B. Psychosomatic diagnoses (main and secondary):
    1. Organic mental disorders, including symptomatic disorders (F00-09);
    2. Mental and behavioural disorders due to the use of psychoactive substances (F10-19);
    3. Schizophrenia, schizotypal and delusional disorders (F20-29);
    4. Mood (affective) disorders (F30-F39);
    5. Neurotic, stress and somatoform disorders (F40-48);
    6. Behavioural syndromes secondary to physiological disturbances and physical factors (F50-59);
    7. Personality and behaviour disorders in adults (F60-69);
    8. Mental retardation (F70-79);
    9. Developmental psychological disorders (F80-F89);
    10. Behavioural and emotional disorders with onset usually in childhood and adolescence (F90-F98)
    11. Unspecified mental disorder (F99).

As this is an extremely laborious analysis, I have chosen to include in the study 12 somatic diagnoses that are of interest in terms of incidence in the field of internal medicine.

I have chosen the period *2015 to 2022* inclusive as the period of analysis, as I intend to create as realistic a picture as possible before and after the pandemic.

Objective of the study

In this study, I aim to analyze the chosen statistical variables to gain insight into the influence of psychosomatic and somatic diagnoses on hospitalisation duration. Thus, the aim is a dimensional analysis of the correlation between diagnoses and the possibility of creating statistical prediction models: of the hospitalisation duration, and the existence of a psychosomatic diagnosis in patients with certain somatic diagnoses with long hospitalisation duration using Microsoft SPSS software.

We will establish two research hypotheses:

- Psychosomatic diagnosis increases hospitalisation duration;
- the high number of hospital days is due to the existence of an associated psychosomatic diagnosis.

Building the database

Choice of variables analysed

The database was created from reports extracted from the Hipocrate software, processed in a tabular form, summing up the discharges from the Galati Emergency Clinical Hospital from 2015 to 2022; the discharge diagnoses (main) and secondary diagnoses were included.

To carry out the statistical analysis, we set the following variables according to the table below:

Table 28 - Database variables - discharges

No.	Variable identification	Variable name	Variable measure	Comments
1	IDExt	Discharge identification	Nominal	Numeric
2	Vârsta	Patient age	Scale	Numeric
3	Gen	Patient gender	Nominal	1-Male; 2-Female;
4	ZS	Hospitalisation days	Scale	Numeric
5	ZS_binar	Hospitalisation duration - categorical	Nominal	0-Under 7 days 1-In 7 days
6	Luna_Ext	Discharge month	Nominal	1-12 - Jan - Dec
7	An_Ext	Discharge year	Nominal	1-8 - 2015 - 2022
8	Sect_Ext	Discharge ward	Nominal	1-30 Sections
9	TMentOrganSimpt	Organic mental disorders, including symptomatic disorders (F00-09)	Nominal	0-Nu; 1-Da;
10	TMentCompSA	Mental and behavioural disorders due to psychoactive substance use (F10-19)	Nominal	0-Nu; 1-Da
12	SchizoTulbDel	Schizophrenia, schizotypal and delusional disorders (F20-29)	Nominal	0-Nu; 1-Da
13	TDisp	Mood (affective) disorders (F30-39)	Nominal	0-Nu; 1-Da
14	TStressSomat	Neurotic, stress and somatoform disorders (F40-48)	Nominal	0-Nu; 1-Da
15	SCompPertFizio	Behavioural syndromes secondary to physiological disturbances and physical factors (F50-59)	Nominal	0-Nu; 1-Da
16	TPersCompA	Personality and behaviour disorders in adults (F60-69)	Nominal	0-Nu; 1-Da
17	RMental	Mental retardation (F70-79)	Nominal	0-Nu; 1-Da
18	TDezvPsi	Psychological developmental disorders (F80-89)	Nominal	0-Nu; 1-Da
19	TCompCopil	Behavioural and emotional disorders with onset usually in childhood and adolescence (F90-F98) and unspecified mental disorder (F99)	Nominal	0-Nu; 1-Da
20	CH	Cirrhosis of the liver (K70.0, K70.3, K74.6)	Nominal	0-Nu; 1-Da
21	DZ	Diabetes mellitus (E11, E13)	Nominal	0-Nu; 1-Da
22	HTA	Hypertension (I10)	Nominal	0-Nu; 1-Da
23	InsCard	Heart failure (I50)	Nominal	0-Nu; 1-Da
24	Psor	Psoriasis (L40)	Nominal	0-Nu; 1-Da
25	BPOC	Chronic obstructive pulmonary disease (J44)	Nominal	0-Nu; 1-Da
26	Astm	Asthma (J45)	Nominal	0-Nu; 1-Da
27	PoliReum	Rheumatoid arthritis (M13)	Nominal	0-Nu; 1-Da
28	BRC	Chronic kidney disease	Nominal	0-Nu; 1-Da
29	Obez	Obesity (E66.9);	Nominal	0-Nu; 1-Da
30	Anemie	Iron deficiency anaemia (D50.9)	Nominal	0-Nu; 1-Da
31	HiperCole	Hypercholesterolemia (E78)	Nominal	0-Nu; 1-Da

The database includes 299,847 records representing discharges from 2015 to 2022. Discharges from:

- Chronic Premature Ward;
- Neonatology ward;

- Burns Department;
- Patients of other nationalities.

Regression analysis applied to the whole database

Although the degree of association or correlation is insignificant, we will attempt in the remainder of the study to develop two prediction models. Since the variables are dichotomous, we apply binary logistic regression from the nonparametric test.

We generate two binary logistic regression models in SPSS as follows:

Model 1: **Hospitalisation duration predicted by 8 independent variables**

Dependent variable: **Hospitalisation duration - categorical;**

Independent variable:

- patient age;
- patient gender;
- neurotic, stress and somatoform disorders (secondary diagnoses);
- hypertension (secondary diagnoses);
- heart failure (secondary diagnoses);
- diabetes (secondary diagnoses);
- chronic obstructive pulmonary disease (secondary diagnoses);
- chronic kidney disease (secondary diagnoses).

Model 2: **Neurotic, stress and somatoform disorders predicted by 8 independent variables**

Dependent variable: **neurotic, stress and somatoform disorders (secondary diagnoses)**

Independent variable:

- patient age;
- hospitalisation duration - categorical;
- patient gender;
- hypertension (secondary diagnoses);
- heart failure (secondary diagnoses);
- diabetes (secondary diagnoses);
- chronic obstructive pulmonary disease (secondary diagnoses);
- chronic kidney disease (secondary diagnoses).

The data obtained reveal the following conclusions:

Logistic regression **model 1** is statistically significant but lacks predictive power because:

- the number of psychosomatic diagnoses is low (possible underdiagnosis)

- The incidence of somatic diagnoses established as predictors is low in liver cirrhosis as shown in Table 195.

Logistic regression **model 2** is statistically significant but lacks predictive power because:

- the number of psychosomatic diagnoses is low (possible underdiagnosis)

- the incidence of somatic diagnoses established as predictors is low in liver cirrhosis.

Comparing with the regression models generated for the whole sample we can say the following:

- The proposed regression models for liver cirrhosis are statistically significant compared to the baseline sample;

- The degree of correlation between the predictors and the dependent variable increased when we reduced the sample by filtering out patients with cirrhosis.

Chapter VI

Conclusions

Throughout the entire period of study and research, I convinced myself that my work was worth the effort. I established early on that being a doctor means always looking for added value for the patient. Being a doctor does not mean following a route, a treaty, or a pre-determined treatment to a diagnosis provided by paraclinical evidence. If we limit ourselves to that, we might as well limit ourselves to artificial intelligence.

At best, you can follow your colleagues to see what they have researched, discovered, demonstrated and put into practice, always being an informed and evolving doctor.

Ideally, however, you become a researcher yourself with each consultation, at the bedside of each patient and in conversation with each person whose soul you have at your side.

Just out of a desire to do good, I set out on this road. I had read very little in the field of bio-psycho-social medicine, I knew that anamnesis and empathy were important, but that was about it. If the patient were my mother, if it were me… what would I want? I want to be that doctor I would want to be close to when I am sick. I want a doctor who is attentive to me, to the person, not just to my illness. I want my doctor to ease my suffering but also to give me courage. I want my doctor to make me feel that I am not alone, that he knows me, that he is there for me. Many times, I have heard patients talk about doctors as being *very nice,* saying with astonishment: my doctor *explained to me, listened to me, and smiled at me*. But never in practice have I ever heard a patient judge or quantify their doctor by medical training. The patient doesn't know how much medicine the doctor at his bedside knows. The patient only knows that next to him is a man in whose hand lies healing. Too often, however, a kind word does more than a medicine.

I then began to study psychosomatics, to wonder why it wasn't taught in college, and why we don't have clinics that deal with patients with psychosomatic disorders. Why do some patients need to return to the hospital so often just to be reassured that the illness is well controlled? Why do some patients have whole bags of medication, which they may or may not take, depending on their symptoms throughout the day? Why do some patients get seen by so many doctors, receive medication for their symptoms and yet still feel sick and scared? Are we such a sick population? Are we a nation without health education and are health behaviours a utopia?

Four years of research and subsequent centralisation have led me to the following conclusions:

1. **Psychosomatic disorders are underdiagnosed.**

2. **Depression, anxiety, low self-esteem, irrational beliefs, rumination, trauma of any kind, and distress certainly lead to a form of psychosomatic disorder, followed by psychosomatic illness if no form of therapy is followed in this direction.**
3. **Patients who associate a psychosomatic disorder with a somatic diagnosis will have a longer length of hospital stay than those who do not.**
4. **Patients who associate a psychosomatic disorder with a somatic diagnosis will have more presentations to a doctor (ER, family doctor or specialist in any field) than those who do not.**
5. **Psychosomatic disorders are underdiagnosed due to a lack of a helpful tool.**
6. **Psychosomatic disorders cannot be diagnosed by the clinical psychologist, since the number of patients to be tested is enormous, making this therapeutic approach impossible even if there were a clinical psychologist in every ward.**
7. **There is a clear need for the population to see a psychologist at least annually for assessment and therapy, as well as having a set of baseline tests carried out prophylactically every year.**
8. **A clinician must implement a tool to assist in the diagnosis of somatoform disorders - applied or self-applied.**
9. **It is desirable to start the development of bio-psycho-social medicine by creating a patient-psychologist relationship framework in the hospital, of course through collaboration and legislative changes that allow a psychologist in the hospital for a maximum of 50 patients. Only in this way will the psychologist be able to intervene with a form of therapy from the time of admission, where appropriate, thus succeeding in changing an erroneous image, an unhealthy mentality towards the work of a psychologist and especially towards the pathology of those who require specialist help.**
10. **Just as an organ will generate disease in the whole body, so will the soul generate disease, because yes....suffering *speaks through the body*. (Sator, 2016)**

Chapter VII

Contributions

Given that the main and simplified aims of the present work were:

- to observe whether psychosomatic disorders have a high incidence;
- whether they have an impact on the number of hospital days and the frequency with which a patient comes to the doctor;
- whether psychosomatic disorders are actually underdiagnosed;
- if it is statistically proven that they are underdiagnosed, the doctor certainly lacks the tool.

Given that sclero-tegumental pallor can be a sign of anaemia, spots can be a sign of thrombocytopenia, bronchial rales can indicate pneumonia, dysuria a urinary tract infection, and the examples could go on for hundreds of pages, it goes without saying that for a diagnosis, the doctor uses an instrument. Even in psychiatry, the doctor uses accredited questionnaires to help support the diagnosis.

The internal medicine doctor, gastroenterologist, haematologist, cardiologist, etc., cannot support the diagnosis of psychosomatic disorder paraclinically. The diagnosis occurs quite rarely in practice for two reasons: the lack of a tool to justify the doctor's conclusion, the patient's denial that he or she is suffering from trauma, grief reactions, anxiety, depression, etc.

When the patient vehemently denies the psychological component of his pathology, the doctor is almost afraid to diagnose pathology in the psychological sphere. After all, is the internal medicine doctor competent to diagnose an anxiety-depressive disorder following the course of psychiatry in college? If a patient discharged with a diagnosis of F43 or F45 charges me in court for this diagnosis, do I have a provable instrument that at that time, the patient was showing signs and symptoms of acute stress reaction or somatization disorder?

The answer is NO.

Consequently, is it a solution to ignore psychosomatic disorders? Again, NO. This type of diagnosis has major implications for my patient's quality of life. To see and choose not to diagnose, not to counsel, is at the very least a lack of quality in the medical act if not malpractice. In addition, psychosomatic disorders have already been shown to be underdiagnosed and to have a major impact on hospitalisation duration and frequency of presentation to the doctor.

So, both the patient and the health facility, and implicitly the Romanian state, suffer financially from psychosomatic disorders.

If the doctor diagnoses, he does so without proof, without an instrument. If he doesn't, he is indifferent, he is actually breaking his oath, and he is unethical and moral in his carelessness.

You will ask me now: And what is to be done?

DALI MED score

1. ***Do you have the same interest in the things you like as you used to?***

2. Do you feel the urge to cry more often than usual?

(the affirmative answer falls under diagnosis F32)

3. Do you have nightmares or vivid dreams frequently? Do they have the same content?

4. Do you feel hypervigilant even when you don't have to?

(the affirmative answer falls under diagnosis F43)

5. Do you feel unsafe or uncomfortable when there are too many people around you?

6. Do you find it difficult to leave the house alone and/or travel alone?

(the affirmative answer falls under diagnosis F40)

7. Do your thoughts sometimes become disturbing, or catch your voice? Do you hear your thoughts as an outside voice?

8. Do people around you often talk about you in a negative way?

9. Do those around you wish you harm?

(the affirmative answer falls under diagnosis F20)

10. Do you often have: tummy ache, nausea, vomiting, chest pain, feeling of suffocation, frequent urination, unpleasant sensation in the genital area, pain in the extremities (hands, feet), numbness of the hands or feet, feeling of intense heat, constipation, diarrhoea?

(If you tick 6 of the above symptoms, if you have a history of admission for the above symptoms, without diagnosis and home treatment you fall under diagnosis F45)

The proposed tool is based on the collaboration with *Clinical Psychologist and Therapist in training Ioanina Prisăcaru, from Klinik für Psychiatrie und Psychosomatik, Reutlingen, Germany.*

The DALI MED score can be applied by the doctor on admission or afterwards, by the mid-level medical staff or by the patient himself if his mental and physical condition allows it.

Perspective

Prospects are wishes. They are dreams. The prospects of this work can be described as too bold, and utopian at least for the next period.

I want the best for myself, for my family, for man and for humanity. Life could be changed for the better if we stopped being content with being mediocre or average. I want excellence in medicine, I want excellence in treatment, and excellence in wellness. If the patient can be very well, why should we settle for well?

If I can choose between excellent and good, I will choose superlative. On this premise, the patient is the duty of medical care. Feeding them, giving them respect, holistic treatment, attention to detail, and attention to their *psychological* well-being, never just physical. Even surgery should not have the luxury of limiting the medical act to the surgical act.

With love for God and creation, I will continue to wonder and search for answers.

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