BRAIN. Broad Research in Artificial Intelligence and Neuroscience
ISSN: 2068-0473 | e-ISSN: 2067-3957
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2023, Volume 14, Issue 4, pages: 689-710 | https://doi.org/10.18662/brain/14.4/528

Mental Health and Environmental Coping Mechanisms of the Diabetic Patient and Implications on Hospitalization Duration

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Abstract: ***Introduction***
Mental health is a state of emotional, psychological and social well-being, where the individual manages to successfully manage daily life, valuing himself and others, while being socially integrated, happy and fulfilled.
Adaptability to the environment is the ability of the person or organism to adjust, to transform, according to the changes and demands of the environment. These skills require learning from experiences, finding creative solutions and developing the ability to cope with stressors. Integration into the environment requires constant personal development. Unfortunately, we live in times when the environment is changing at a speed that is difficult for the human body and psyche to manage and follow.
Material and method
In this study, part of a larger study, 80 diabetic patients aged between 19 and 70 years were included. The longitudinal research period was 2015-2022, following the number of days of hospitalization and the length of hospitalization for each hospitalization in "Sf. Ap. Andrei" Emergency Clinical Hospital Galati. The patients, in compliance with data protection and legislation in force, were administered a psychological questionnaire tracking their adaptability to the environment and their rational and irrational beliefs in relation to life. The data were centralized and analysed in the SPSS statistical software, looking for correlations between psychological aspects and hospitalization duration/frequency, assuming that patients with significant test results are patients suffering from diagnosed or not yet diagnosed psychosomatic disorders.
Conclusions
The results of the questionnaire and the anamnesis revealed that most of the patients had irrational beliefs and attitudes towards themselves, others and life, completely dysfunctional. Extrapolating that these patients also have psychosomatic disorders, we can state that the statistical results obtained predict that a person with psychosomatic disorders will have more frequent presentations to the doctor, while each hospitalization will be longer than that of patients with the same pathology, without associated psychosomatic disorders.
In this sense, both the correlations obtained and the linear regression with predictive value, force us to think in the long term and bring to light the need to implement a diagnostic tool at the disposal of the diabetologist, internist and emergency physician, for further collaboration with the psychiatric physician, all for the ultimate good of the patient.

Keywords: *diabetes, psychosomatic disorders, predictions, coping mechanisms.*

How to cite: Lescai, A.-M., Anghele, M., Voineag, C., Baltă, A. A. & Ciubara, A. (2023). Mental health and environmental coping mechanisms of the diabetic patient and implications on hospitalization duration. *BRAIN. Broad Research in Artificial Intelligence and Neuroscience, 14*(4), 689-710. https://doi.org/10.18662/brain/14.4/528

Introduction

The diabetic patient, unlike others, is not in pain. Diabetes does not hurt; it is a silent enemy. At most, the complications of the disease become painful.

Possibly because of the lack of pain, the patient sometimes finds it hard to understand his/her condition.

During the course of the research, I wanted to find out the diabetic patient's opinion about his disease. The diabetic is able to sustain a thorough anamnesis, is open in communication, willing to talk about himself, and is not tormented by pain. Particularly interesting were the discussions with diabetics. The questions asked to each one: *What is diabetes? Please explain to me, what disease do you suffer from? Why do you think you got sick?* received some of the most interesting, if not shocking answers. Overwhelmingly, patients explained that diabetes is a *disease of grief, stress, trauma*. They explained the onset of the disease in mystical ways: *I have diabetes because my neighbour cast spells on me, I have diabetes because God is angry, I've done a lot of wrong deeds*... Some put diabetes down to trauma: *I have diabetes since the year my mother died, etc.*

Patients' responses made me realize that I cannot clinically manage these beliefs. I consider patient involvement to be very important in treatment. Not medication alone and not the doctor is enough in healing. The role of the patient is overwhelming. Healing is a two-person dance at least, if we don't take into account here and now the environmental implications. Thus, we consider health education to be paramount in healing. The diabetic must understand what his disease is, what the pancreas is, what diet means and what the role of prophylaxis is in the occurrence of pathological decompensation.

Since the attitude of the diabetic patient towards the disease is a key element in the present study, I chose to find out whether dysfunctional attitudes can have an impact on glycemic elevations from the perspective of diet and treatment compliance.

At the same time, could rational or irrational beliefs have an impact on the average hospitalization duration or frequency?

Material and method

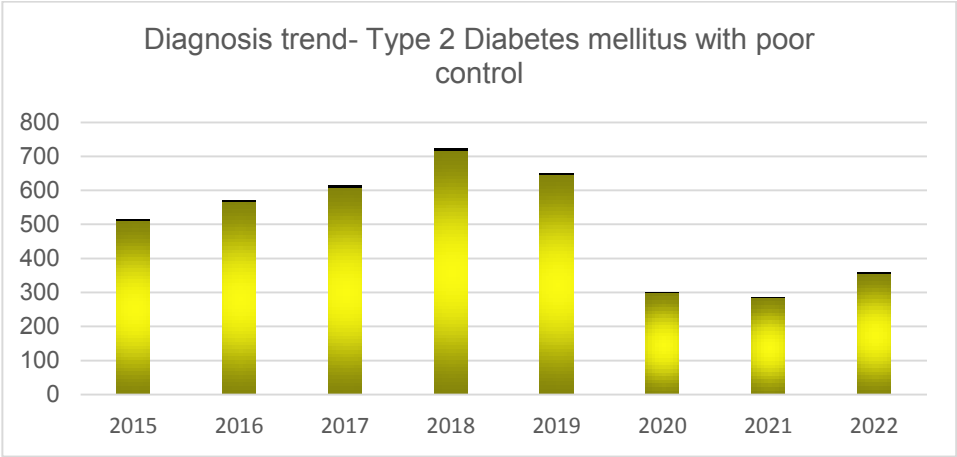

Figure 1 – Diagnosis trend – Type 2 Diabetes mellitus with poor control
Source: The computer database of the hospital "Sf. Ap. Andrei" Galati County Emergency Clinical Hospital

The presented research is an integral part of a larger study, started within the PhD thesis entitled *Impact of psychological disorders in patients with polymorphic pathology and implications on the average hospitalization duration*, *author Hincu Lescai Alina-Maria.*

The doctoral thesis was not yet publicly defended at the time of writing the article. The author of the PhD thesis is also the main author of this article.

The research group consisted of 80 patients diagnosed with type I or type II diabetes, aged between 19 and 70 years. Of these, 40 subjects were female and 40 male. The follow-up period of the cases (number of hospitalization days, hospitalization frequency, associated diagnoses) was 2015-2022. The data collected in Excel software were further processed in SPSS statistical software.

The data are provided by the computer program of the health unit "Sf. Ap. Andrei" Galati County Emergency Clinical Hospital

Research hypotheses formulated:

- H0= Null hypothesis - no correlation between psychosomatic disorder (possibly generated by dysfunctional attitudes, irrational beliefs) and hospitalization frequency or number of hospitalization days added together.

- H1= Research hypothesis - there are correlations between psychosomatic disorder and the number of hospitalization days or increased hospitalization frequency.

The participants were administered a questionnaire from the Clinical Assessment System, coordinated by Prof. Aaron T. Beck univ. dr. Daniel David, for which a license for use was purchased, series AB no. 0724 in the name of Hincu (Lescai) Alina-Maria. The *Attitudes and Beliefs Scale Short Form (ABSs)* questionnaire was selected.

The ABSs questionnaire is based on the theories of A. Ellis who studied individual behaviours and cognitions of making rigid and absolutist evaluations of life, leading to irrational beliefs and dysfunctional behaviours by studying the person's adaptive behaviour.

The scale has eight items measuring four rational beliefs and four irrational beliefs, scoring from 0-4 straight and 4-0 reversed, with a possible minimum score of 0 and a maximum of 32.

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

- Non-disclosure agreement
- Agreement of the health facility management to use the computer database
- Agreement of the management of the health facility to apply accredited psychological questionnaires to inpatients for research purposes
- Ethics Committee Opinion obtained
- Patient's informed consent

Results

Descriptive statistics of the group will be performed on the following variables: age, gender, diagnostic type and associated diagnoses.

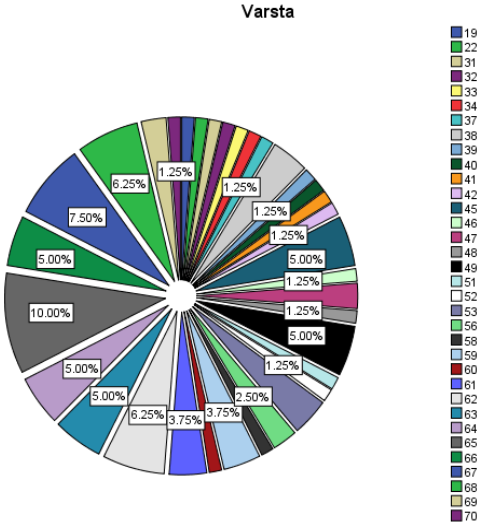

Figure 21 - Batch distribution by age
Authors' own conception

The frequencies of the *age* variable show an increase of the share in the sample for ages 62-68, which could be explained by the stages of human psychosocial development.

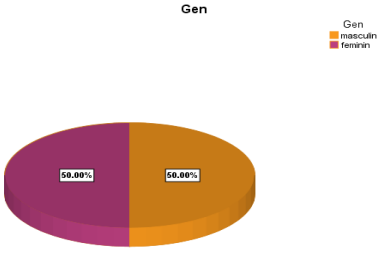

Figure 3 - Sample distribution by gender
Authors' own conception

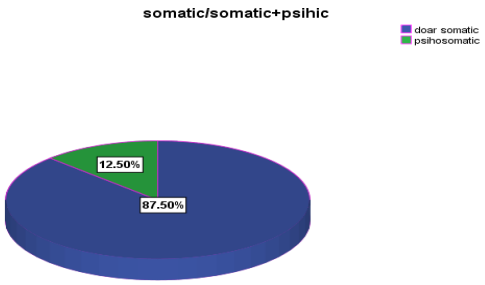

Figure 4 - Sample distribution by diagnosis
Authors' own conception

According to the statistical data shown in Figure 4, only 12.5% of the group surveyed were diagnosed with a psychosomatic disorder.

Of the diagnoses associated with diabetes mellitus in the researched group, there is a clear association with the pathology of hypertension, 58.8% (according to Table 1 and Figure 5).

Table 1 - Distribution of reported frequencies of associated diagnoses
Authors' own conception

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	WITHOUT ASSOCIATED DG	17	21.3	21.3	21.3
	HTN	47	58.8	58.8	80.0
	CHF (Congestive heart failure)	6	7.5	7.5	87.5
	DERMATOLOGICAL	1	1.3	1.3	88.8
	COPD	1	1.3	1.3	90.0
	ASTHMA	1	1.3	1.3	91.3
	BRC	1	1.3	1.3	92.5
	LIVER CIRRHOSIS	2	2.5	2.5	95.0
	OBESITY	2	2.5	2.5	97.5
	ANAEMIA	1	1.3	1.3	98.8
	HYPERCHOLESTEROLEMIA	1	1.3	1.3	100.0
	Total	80	100.0	100.0	

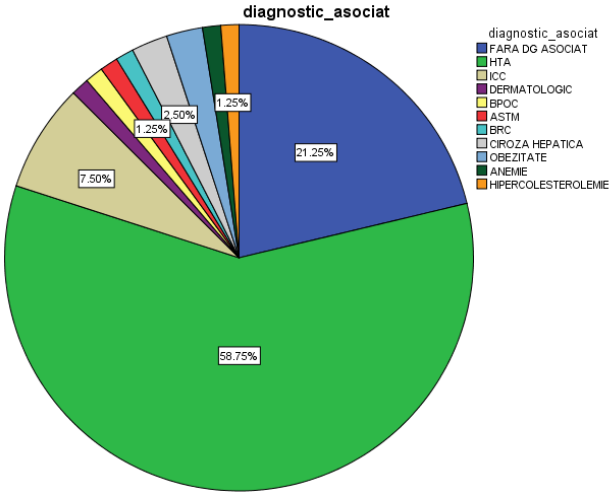

Figure 5 - Chart of diagnoses associated with diabetes mellitus
Authors' own conception

Database checking and calculation of basic statistical indicators

Statistical indicators such as mean, median, standard deviation, Skewness and Kurtosis will be generated using SPSS in order to identify data distribution and possible associations between variables.

The variables of the database are: hospitalization_days, admission frequency, irrationality and rationality.

Table 2 - Descriptive indicators of variables, irrationality, rationality, hospitalization days and hospitalization frequency
Authors' own conception

		Irrationality (max. 16)	Rationality (max. 16)	Hospitalization_days	Hospitalization frequency
N	Valid	80	80	80	80
	Missing	0	0	0	0
Mean		5.23	5.23	18.19	3.21
Median		5.00	5.00	16.00	3.00
Mode		6	6	16	2
Std. Deviation		2.756	2.756	11.511	1.860
Variance		7.594	7.594	132.509	3.461
Skewness		.217	.217	.414	1.024
Std. Error of Skewness		.269	.269	.269	.269
Kurtosis		-.685	-.685	-.885	.768
Std. Error of Kurtosis		.532	.532	.532	.532
Minimum		0	0	1	1
Maximum		11	11	42	9

As we can see in Table 2 all 4 variables have the assumption of normal distributions of the data, the Skewness and Kurtosis indicators are close to 1 and -1 respectively which shows a symmetric skewness of the data.

Statistical hypothesis testing

The objective of identifying an underdiagnosis of a patient with a psychosomatic disorder can be achieved using statistical testing with two-way hypotheses, with homogeneity of data as a condition.

We will establish the following statistical hypotheses:

- H0: There is no correlation between hospitalization frequency/hospitalization days and psychosomatic disorders for patients with diabetes;
- H1: There is a correlation between patients with diabetes-related psychosomatic disorders and hospitalization frequency and/or number of hospitalization days

We set the significance threshold at 0.05.

Testing the normality of the collected data distribution

The Kolmogorov-Smirnov test will check the normality of the data distribution of the variables *hospitalization days* and *hospitalization frequency*.

Table 3 - Kolmogorov-Smirnov test results for the variable Hospitalization days

		Hospitalization_days
N		80
Normal Parameters[a,b]	Mean	18.19
	Std. Deviation	11.511
Most Extreme Differences	Absolute	.088
	Positive	.088
	Negative	-.073
Kolmogorov-Smirnov Z		.786
Asymp. Sig. (2-tailed)		.567

a. Test distribution is Normal.
b. Calculated from data.

Authors' own conception

Table 4 - Kolmogorov-Smirnov test results for the variable Hospitalization frequency

		Hospitalization frequency
N		80
Normal Parameters[a,b]	Mean	3.21
	Std. Deviation	1.860
Most Extreme Differences	Absolute	.180
	Positive	.180
	Negative	-.117
Kolmogorov-Smirnov Z		1.612
Asymp. Sig. (2-tailed)		.0611

a. Test distribution is Normal.
b. Calculated from data.

Authors' own conception

Table 5 - Kolmogorov-Smirnov test results for irrationality, rationality

		Irrationality (max. 16)	Rationality (max. 16)
N		80	80
Normal Parameters[a,b]	Mean	5.23	5.23
	Std. Deviation	2.756	2.756
Most Extreme Differences	Absolute	.098	.098
	Positive	.097	.097
	Negative	-.098	-.098
Kolmogorov-Smirnov Z		.879	.879
Asymp. Sig. (2-tailed)		.423	.423

Authors' own conception

According to tables 3, 4 and 5 we can conclude the following:

- Hospitalization days: p=0.567>0.05, normally distributed variable;
- Hospitalization frequency: p=0.611>0.05, normally distributed variable;
- Irrationality: p=0.423>0.05, normally distributed variable;
- Rationality: p=0.423>0.05, normally distributed variable.

Correlational analysis

In order to identify and quantify the size of the link effect for normally distributed variables we use the Pearson correlation coefficient (r).

We generate correlations between dependent variables (days of hospitalization, hospitalization frequency) and independent variables (irrationality and rationality scale) using SPSS.

Table 6 - Pearson correlation coefficient between the variables hospitalization days, rationality, irrationality
Authors' own conception

		Hospitalization_days	Rationality	Irrationality
Hospitalization_days	Pearson Correlation	1	-.848**	.854**
	Sig. (2-tailed)		.000	.000
	N	80	80	80
Rationality	Pearson Correlation	-.848**	1	-.847**
	Sig. (2-tailed)	.000		.000
	N	80	80	80
Irrationality	Pearson Correlation	.854**	-.847**	1
	Sig. (2-tailed)	.000	.000	
	N	80	80	80

Table 7 - Pearson correlation coefficient between the variables hospitalization frequency, irrationality, rationality

		Rationality	Irrationality	Hospitalization_frequency
Rationality	Pearson Correlation	1	-.847**	-.765**
	Sig. (2-tailed)		.000	.000
	N	80	80	80
Irrationality	Pearson Correlation	-.847**	1	.766**
	Sig. (2-tailed)	.000		.000
	N	80	80	80
Hospitalization frequency	Pearson Correlation	-.765**	.766**	1
	Sig. (2-tailed)	.000	.000	
	N	80	80	80

Authors' own conception

Statistical processing revealed the following:

- High negative correlation r = -0.848, statistically significant p=0.001<0.05 between hospitalization_days and rationality;
- high positive correlation r = 0.854, statistically significant p=0.001<0.05 between hospitalization_days and irrationality;
- high negative correlation r = -0.765, statistically significant p=0.001<0.05 between hospitalization frequency and rationality;
- high positive correlation r = 0.755, statistically significant p=0.001<0.05 between hospitalization frequency and irrationality.

Conclusions:

The number of hospitalization days increases as the irrationality score is higher in the diabetic patient.

The number of hospitalization days decreases as the rationality score is higher for the patient with diabetes.

The hospitalization frequency of patients with diabetes increases when the irrationality score is high.

The frequency of diabetes patient hospitalizations increases when the rationality score is high.

Analysing the data, we can say that in the case of patients with diabetes, it would be desirable to give importance to the way they think and the impact on somatization.

Simple linear regression

Simple linear regression, an extension of Pearson correlation, is optional in research with predictive value.

The intention is to predict the number of hospitalization days/frequency of physician attendance based on the value of scores obtained in psychological testing.

Linear regression with dependent variable - *hospitalization days* and independent variables - *ABSs test values rationality scale, irrationality scale* respectively

Table 8 - Linear regression of the variable number of hospitalization days depending 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: Hospitalization_days

Authors' own conception

R=0.848 - high correlation between number of hospitalization days and rationality scale.

R^2=0.720 - 72% of subjects surveyed have a low number of hospitalization days if at baseline diagnosis they show no signs of associated psychosomatic pathology.

Adjusted R^2 =0.716 – the rationality score has a 71.6% influence on the number of hospitalization days.

Table 9 - Linear regression of the variable number of hospitalization days depending on irrationality

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.854[a]	.730	.726	6.024

a. Predictors: (Constant), Irrationality (max. 16)
b. Dependent Variable: Hospitalization_days

Authors' own conception

R=0.854 - high correlation between number of hospitalization days and irrationality scale.

R^2=0.730 - 73% of subjects surveyed have an increased number of hospitalization days if at baseline diagnosis they show signs of an associated psychosomatic pathology.

Adjusted R^2 =0.726 – the irrationality score has a 72.6% influence on the number of hospitalization days.

Table 10 - Anova test results (rationality)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7536.412	1	7536.412	200.507	.000[b]
	Residual	2931.775	78	37.587		
	Total	10468.188	79			

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

Authors' own conception

F(1, 78)=200.507, statistically significant p<0.001, the chance of the prediction being coincidental is very low.

Table 11 - Anova test results (irrationality)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7637.762	1	7637.762	210.479	.000[b]
	Residual	2830.425	78	36.288		
	Total	10468.188	79			

a. Dependent Variable: Hospitalization_days
b. Predictors: (Constant), Irrationality (max. 16)

Authors' own conception

F(1, 78) =210.479, statistically significant p<0.001, the chance of the prediction being coincidental is very low.

Table 12 - B coefficients depending on rationality

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	36.706	1.477		24.859	.000
	Rationality (max. 16)	-3.544	.250	-.848	-14.160	.000

a. Dependent Variable: Hospitalization_days

Authors' own conception

Y=a+b·X=36.706+(-0.3544)·X =36.706-0.3544·10 = 33.162 hospitalization days for a patient with diabetes and somatization disorder (high rationality =10) in 8 years.

Beta = -0.848 - correlation coefficient between rationality and number of hospitalization days.

Table 13 - B coefficients depending on irrationality

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.455	1.451		-.314	.754
	Irrationality (max. 16)	3.568	.246	.854	14.508	.000

a. Dependent Variable: Hospitalization_days

Authors' own conception

Y=a+b·X=-0.455+(3.568)·X=-0.455+3.568·11=-0.455+39.24= 38.793 hospitalization days for a patient with diabetes and somatization disorder (high irrationality = 11) in 8 years .

Beta = 0.854 - correlation coefficient between irrationality and number of hospitalization days.

Table 14 - Rationality residual values

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-2.28	36.71	18.19	9.767	80
Std. Predicted Value	-2.096	1.896	.000	1.000	80
Standard Error of Predicted Value	.688	1.600	.937	.249	80
Adjusted Predicted Value	-2.67	36.44	18.16	9.773	80
Residual	-17.618	10.104	.000	6.092	80
Std. Residual	-2.874	1.648	.000	.994	80
Stud. Residual	-2.917	1.663	.002	1.005	80
Deleted Residual	-18.160	10.286	.025	6.232	80
Stud. Deleted Residual	-3.071	1.682	-.001	1.016	80
Mahal. Distance	.007	4.392	.987	1.125	80
Cook's Distance	.000	.131	.012	.017	80
Centered Leverage Value	.000	.056	.013	.014	80

Authors' own conception

Std.Residual and Stud. Residual between -3 and +3, there are no extreme cases for rationality.

Cook distance=0.131<1 maximum value, no influential cases for rationality.

Table 15 - Residual irrationality values

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.46	38.79	18.19	9.833	80
Std. Predicted Value	-1.896	2.096	.000	1.000	80
Standard Error of Predicted Value	.676	1.572	.921	.245	80
Adjusted Predicted Value	-.61	38.92	18.18	9.822	80
Residual	-13.521	14.615	.000	5.986	80
Std. Residual	-2.245	2.426	.000	.994	80
Stud. Residual	-2.265	2.442	.001	1.004	80
Deleted Residual	-13.765	14.802	.011	6.108	80
Stud. Deleted Residual	-2.328	2.524	.001	1.015	80
Mahal. Distance	.007	4.392	.987	1.125	80
Cook's Distance	.000	.090	.010	.014	80
Centered Leverage Value	.000	.056	.013	.014	80

a. Dependent Variable: Hospitalization_days

Authors' own conception

Std.Residual and Stud. Residual between -3 and +3, there are no extreme cases for irrationality.

Cook distance=0.09<1 maximum value, no influential cases for irrationality.

Table 16 - Results obtained from regression analysis aimed at estimating the number of hospitalization days according to rationality, irrationality scores

	R	R^2	ß	b	SE b
Rationality	0.848	0.720	-0.848*	-0.3544*	0.250
Irrationality	0.854	0.730	0.854*	0.3568*	0.246

Note. Dependent variable: number of hospitalization days; * p<0,001

Authors' own conception

Conclusion: simple linear regression results indicate that predictive models can be created between the independent variables: rationality, irrationality and the dependent variable: hospitalization days.

Linear regression with dependent variable *hospitalization frequency* and independent variables *ABSs test values rationality scale, irrationality scale* respectively.

Table 17 - Linear regression of the variable hospitalization frequency against rationality

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.765[a]	.585	.580	1.206

a. Predictors: (Constant), Rationality (max. 16)
b. Dependent Variable: Hospitalization frequency

Authors' own conception

R=0,765 - high correlation between hospitalization frequency and rationality;

R^2 =0.585 - 58.5% of subjects, have a low number of hospitalizations if they do not show signs of psychosomatic pathology associated with the underlying disease;

Adjusted R^2 =0,58 - 58% of the hospitalization frequency is influenced by rationality.

Standard error of estimate =1.206.

Table 18 - Anova test indicators of the hospitalization frequency against rationality

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	159.999	1	159.999	110.064	.000[b]
	Residual	113.388	78	1.454		
	Total	273.388	79			

a. Dependent Variable: Hospitalization frequency
b. Predictors: (Constant), Rationality (max. 16)

F (1, 78)=110.064 - the chance that the prediction is random is very low.

Authors' own conception

Table 19 - Beta indicators of the variable hospitalization frequency relative to rationality

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.911	.290		20.355	.000
	Rationality (max. 16)	-.516	.049	-.765	-10.491	.000

a. Dependent Variable: Hospitalization frequency

Authors' own conception

$Y=a+b\cdot X=5.911+(-0.516)\cdot X=5.911+(-0.516)\cdot 10=5.911-5.16=$ 0.751 times a patient with diabetes and somatization disorder (high rationality = 10) will be hospitalized in 8 years .

Beta = -0,765 - correlation coefficient between rationality and hospitalization frequency.

Table 20 - Residual values of hospitalization frequency relative to rationality

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.23	5.91	3.21	1.423	80
Std. Predicted Value	-2.096	1.896	.000	1.000	80
Standard Error of Predicted Value	.135	.315	.184	.049	80
Adjusted Predicted Value	.17	5.78	3.21	1.424	80
Residual	-2.878	3.606	.000	1.198	80
Std. Residual	-2.387	2.991	.000	.994	80
Stud. Residual	-2.423	2.956	.003	1.008	80
Deleted Residual	-2.966	3.765	.006	1.232	80
Stud. Deleted Residual	-2.504	3.236	.006	1.024	80
Mahal. Distance	.007	4.392	.987	1.125	80
Cook's Distance	.000	.206	.014	.030	80
Centered Leverage Value	.000	.056	.013	.014	80

Authors' own conception

Std.Residual and Stud. Residual falls in the range -3 and +3, there are no extreme cases.

Cook distance=0.206<1 no influential cases.

Table 21 - Linear regression of the variable hospitalization frequency relative to irrationality

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.766[a]	.587	.581	1.204

a. Predictors: (Constant), Irrationality (max. 16)
b. Dependent Variable: Hospitalization frequency

Authors' own conception

R=0,766 - high correlation between *hospitalization frequency* and *unconditional acceptance*;

R^2 =0.587- 58.7% of subjects, have an increased number of hospitalizations if they show signs of psychosomatic pathology associated with the underlying disease;

Adjusted R^2 =0.581 - irrationality has a 58.1% influence on hospitalization frequency.

Standard error of estimate =1.204.

Table 22 - Anova test indicators of hospitalization frequency relative to irrationality

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	160.361	1	160.361	110.666	.000[b]
	Residual	113.027	78	1.449		
	Total	273.388	79			

a. Dependent Variable: Hospitalization frequency
b. Predictors: (Constant), Irrationality (max. 16)

Authors' own conception

F(1, 78)= 110.666 - the chance of the prediction being coincidental is very low.

Table 23 - Beta indicators of the variable hospitalization frequency relative to irrationality

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.511	.290		1.763	.082
	Irrationality (max. 16)	.517	.049	.766	10.520	.000

a. Dependent Variable: Hospitalization frequency

Authors' own conception

Y=a+b·X=0.511+0.517·X=0.511+0.517·10=0.511+5.17= 5.681 times a patient with diabetes and somatization disorder (high irrationality = 10) will be hospitalized in 8 years .

Beta =0,766- correlation coefficient between irrationality and hospitalization frequency.

Table 24 - Residual values of the hospitalization frequency relative to irrationality

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.51	6.20	3.21	1.425	80
Std. Predicted Value	-1.896	2.096	.000	1.000	80
Standard Error of Predicted Value	.135	.314	.184	.049	80
Adjusted Predicted Value	.48	6.21	3.21	1.418	80
Residual	-2.130	3.387	.000	1.196	80
Std. Residual	-1.770	2.814	.000	.994	80
Stud. Residual	-1.786	2.833	.002	1.007	80
Deleted Residual	-2.169	3.433	.005	1.228	80
Stud. Deleted Residual	-1.811	2.971	.006	1.020	80
Mahal. Distance	.007	4.392	.987	1.125	80
Cook's Distance	.000	.212	.013	.028	80
Centered Leverage Value	.000	.056	.013	.014	80

a. Dependent Variable: Hospitalization frequency

Authors' own conception

Std.Residual and Stud. Residual fall in the range -3 and +3, there are no extreme cases.

Cook distance=0.212<1 maximum value, no influential cases.

Table 25 - Results obtained from regression analysis aimed at estimating the hospitalization frequency according to rationality, irrationality scores

	R	R^2	ß	b	SE b
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: hospitalization frequency; * p<0.001

Authors' own conception

Conclusion: simple linear regression results indicate that predictive models can be created between the independent variables: rationality, irrationality and the dependent variable: hospitalization frequency.

Discussions and conclusions

Medicine can never be replaced by artificial intelligence. A robot will never be able to truly and deeply empathise, to comfort, to connect with humans. Medicine is of man, about man. It is not about sickness, it is about the sick. Looking at it from this angle, the doctor's aim is not limited to treatment, but the scope of interests must extend to the whole of life. To take an interest in the patient's emotions, in the patient's feelings and experiences is an integral part of bio-psycho-social medicine. It is not only if a wound hurts that interests us, it is not only the analysis report that attracts our attention, but also the patient's look from the bed, his present or absent smile, his desire to heal and to live.

Medicine is about evolution, curiosity and research. Limiting it to what is known is dangerous. The medical act must always be integrated into the context of the patient both biologically and emotionally.

- Given the results obtained in this research, we can state that psychosomatic disorders are underdiagnosed. Given that the results of the applied instrument reveal a very low level of unconditional self-acceptance and the presence of irrational beliefs, we can consider that diabetes, at least in the studied group, is aggravated by irrational beliefs, beliefs that can prevent compliance with a diet, a lifestyle or compliance with treatment. If my patient is convinced that the disease has been generated by spells or curses, can we hope that he will comply with a diet?
- Psychosomatic disorders will lead to an increase in the number of hospitalization days
- Psychosomatic disorders will result in the patient presenting to the doctor more frequently, given the lack of compliance with treatment and lack of understanding of their own illness.
- The implementation of a tool to assist the clinician in the assessment of psychosomatic disorders is desirable - a tool that can be applied or self-applied and help the diabetologist, emergency physician, internal medicine physician, to raise the suspicion of psychosomatic disorder for further collaboration with the psychiatrist or clinical psychologist.

Just as an organ will generate disease throughout the body, so will the soul generate disease, because yes....*the soul speaks through the body*. (Sator, 2016)

Unfortunately, the psychosomatic disorder does not appear on the test report. The term itself is almost unknown to the clinician, belonging only to psychiatry and psychology. But this therapeutic approach is profoundly mistaken, given that this type of disorder almost exclusively ends up in the emergency room or in the office of the diabetologist or internist. The diabetic patient arrives at the diabetologist without knowing or accepting that his pathology has a psychological component.

Going even further with clinical thinking and based on the research of the famous doctor Gabor Mate, we can ask ourselves if trauma or irrational beliefs or low self-acceptance led to the development of this pathology or vice versa? Answering this question does not bring any benefit now.

In fact, Prof. Daniel David has also so graphically described this impossibility and futility of determining whether it was the chicken or the egg first.

Medicine is based on the obligation to paraclinically prove any diagnosis. Perhaps this is precisely why the incidence of psychosomatic disorders is so rarely diagnosed in non-psychiatric hospitals. In this regard, we once again highlight the need to implement a diagnostic tool at the fingertips of the internal medicine physician, diabetologist or emergency physician, in the current situation where the patient can easily question the medical act or the diagnosis, with accusations of malpractice.

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