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Review Article

The Problem of Compliance in Persons with a Transitor Ischemic Attack

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Abstract

This short article is devoted to the pilot phase of the empirical study concerning a problem of compliance in patients who have undergone TIA (transient ischemic attack). The difficulty with these patients is that, having learned that they do not have a real stroke, they show an anosognosic type of attitude towards their disease. Although the number of patients with this diagnosis is small, this does not reduce the significance of the problem. On a sample of 18 patients (9 men and 9 women), aged from 35 to 60 a moderate positive correlation was noted between the level of anxiety and adherence to treatment (prophylactic monitoring of one's own condition) in patients after TIA (r = .605). Moderate positive correlation was also noted between the recognition of the value of "health" and "material well-being" and adherence to treatment (r = .512). Further deployment of research requires the provision of a larger sample of patients and involvement, of medical workers and paramedics to understand the most optimal ways to ensure compliance, as well as the reasons, preventing its formation.

Keywords: *Pilot Study; Compliance; Transient Ischemic Attack; Attitude towards Disease*

Formulation of the Problem

It is well known that people who have suffered a transient ischemic attack (TIA) for the first time, even in the case of forced hospitalization, are not fully aware of the degree of danger of this attack, taking into account its long-term consequences [2-6,10,11]. As a rule, false anosognosic arguments in this case are: the statement of the absence of a diagnosis of stroke, the short stay in the hospital (from five to 8 days). Additional optimistic factors are the unconfirmed arterial hypertension, more or less favorable clinical tests, etc. And auxiliary considerations, reflecting the action of the protective mechanism of rationalization, are presented in the form of the following reasoning: "overtired", "overnervous", "there was a tense situation", etc.

Meanwhile, TIA does not occur in a vacuum. It is preceded by vascular changes that may cause minor, but unpleasant sensations, including provoking certain hemodynamic and metabolic parameters, in particular, increased levels of platelets and cholesterol, etc. Excessive body weight, smoking, malnutrition, alcohol abuse, etc. only exacerbate the overall picture of vascular pathology. That is why the problem of achieving compliance between the patient and the doctor is of particular importance, i.e. patients' adherence to preventive

measures to monitor their condition and prevent the development of vascular pathology that could lead to a real stroke is highly desirable. Preventive compliance involves following the doctor's recommendations, following certain rules of conduct, taking recommended drugs, monitoring blood pressure, controlling lipid profile, etc.

In this pilot study, an attempt was made, as a first approximation, to test the hypothesis that compliance with a patient who survived a TIA correlates, firstly, with the level of personal anxiety, and, secondly, with the hierarchy of the patient's value meanings, characterizing the degree of his/her personal well-being, the level of which may well motivate the patient to adhere to medical recommendations and a lifestyle that prevents the provocation of vascular disease.

Materials and Methods

For the pilot study, 24 patients were selected who were hospitalized from March to September 2021 in the neurological department of the Kyiv City Clinical Hospital No. 3 with a diagnosis after discharge of "transient ischemic attack" or "cerebrovascular crisis" (G-45). All patients underwent a standard comprehensive examination, including anamnesis, blood pressure registration, biochemical blood analysis, and MRI. Patients were also asked to fill out questionnaires for rapid anxiety level diagnostics (HADS) and value scales (A. Ambrumova's method) [1,9,12]. At the same time, an agreement was concluded with patients on a voluntary basis for a control telephone interview two months after discharge, the content of which (interview) was a modified version of the scales of the Morisky-Green questionnaire, which measures the degree of adherence to treatment.

Design research

Upon discharge from the hospital, the doctor conducted a preventive conversation, which included the following items of obligations: 1) purchase of a tonometer and periodic regular measurement of blood pressure during the first 12 days after discharge and within 12 days, starting from the second month after discharge; 2) systematic intake of the recommended drug (usually from the category of statins) in the prescribed dosage; 3) conducting a lipid profile in the last week of the second month after discharge; and 4) agreeing to conduct a follow-up telephone interview based on the results of the implementation of these recommendations. Compliance was taken as given in the case of an overall score of 5 on the scales. Indicators below 5 were assessed as a lack of real adherence to treatment (in this case, prevention and medical recommendations). As a result, 18 patients agreed to conduct a delayed (two months after discharge) follow-up interview.

Data analysis

The empirical data was subjected to the coding procedure that enabled its further processing using statistical methods. The descriptive statistics, Spearman Rank Correlation Coefficient and Mann-Whitney U Test were used. The significance level was set to 0.05 or 5%.

All statistical calculations were performed using SPSS (PASW) Statistics 23.0.

		Frequency		Percent	Valid Percent	Cumulative Percent
Gender	Male	9		50,0	50,0	50,0
	Female	9		50,0	50,0	100,0
	Total	18		100,0	100,0	
		N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Age		18	35,00	60,00	51,0000	8,01469
Valid N (listwise)		18				

Table 1: *Demographic characteristics of sample members (gender, age).*

The study involved 18 patients (9 male and 9 female), aged 35 to 60. As shown in table 1, the mean age of the respondents was 51 years (SD = 8,01469).

Based on research tasks, a special algorithm was formed for data processing. The first purpose was to test the possible correlation between general anxiety level and adherence to further cure. Since the sample is rather small and the variables showed a non-normal distribution, Spearman's correlation analysis was used to identify the correlation between the variables "anxiety level" and "compliance". Results of the analysis are reported in table 2.

			Anxiety	Compliance
Spearman's rho	Anxiety	Correlation Coefficient	1,000	,605**
		Sig. (2-tailed)	.	,008
		N	18	18
	Compliance	Correlation Coefficient	,605**	1,000
		Sig. (2-tailed)	,008	.
		N	18	18
**: Correlation is significant at the 0.01 level (2-tailed).				

Table 2: *Spearman's correlation analysis.*

Table 2 shows that Spearman's rho (r) was found to be 0.605. This value indicates moderate positive relationship between analyzed variables. Sig.(2-tailed) = 0.008 indicating that the relationship is statistically significant.

The second stage of revealing the possible dependence of compliance effectiveness on the patient's personality was to correlate the medical compliance effectiveness and conflict areas of life values (according to A.G. Ambrumova's Test). The analysis showed that there were no statistically significant correlations between the level of the problem area in values and the compliance effectiveness.

At the third stage of data processing an attempt of detecting the possible relationships between value meanings (according to the A. Ambrumova Test) and the degree of adherence to medical recommendations was made.

		Health	Wealth	Career	Family	Friendship	Love	Children
Compliance	Correlation Coefficient	,512*	,468	-,106	-,461	-,221	-,084	-,188
	Sig. (2-tailed)	,030	,050	,676	,054	,379	,740	,456
	N	18	18	18	18	18	18	18

Table 3: *Spearman's correlation analysis.*

As one can see from the table 3, there is statistically significant moderate positive correlation between variables "compliance" and "health" (r = 0,512, p = 0,03); moderate inverse positive relationship between "compliance" and "wealth" (r = 0,468, p = 0,05). In the first case, the result is very predictable, since the patient's subjective value of health, as a rule, contributes to a high degree of adherence to medical recommendations.

The non-parametric Mann-Whitney U Test was run for the purpose to compare the subgroups of male and female patients on the compliance criterion.

	Gender	N	Mean Rank	Sum of Ranks
Compliance	Male	9	9,72	87,50
	Female	9	9,28	83,50
	Total	18		
Test Statistics[a]				
	Compliance			
Mann-Whitney U	38,50			
Wilcoxon W	83,50			
Z	-,190			
Asymp. Sig. (2-tailed)	,850			
Exact Sig. [2*(1-tailed Sig.)]	,863			

Table 4: *Mann-Whitney U-test.*

The table above indicates that both gender groups can be considered as having almost the same mean ranks. Here we see that actual Sig.(2-tailed) is 0.85. We therefore have significant evidence to argue that the difference between the medians of two subgroups is not statistically significant. The research results, therefore, showed no statistically significant differences in compliance effectiveness between male and female subgroups of patients.

Conclusion

1. In the pilot study undertaken, the hypothesis put forward was partially confirmed. A moderate positive correlation was noted between the level of anxiety and adherence to treatment (prophylactic monitoring of one's own condition) in patients after TIA.

2. A moderate positive correlation was also noted between the recognition of the importance of the value of "health" and "material well-being" and adherence to treatment (taking care of one's own health). The most acceptable interpretation of the data obtained can be the assertion that people who attach high importance to such a value as health and do not experience financial difficulties are more willing to cooperate with a doctor regarding their health.

3. At the same time, attention is drawn to the fact that in the pilot study there is practically no difference in compliance between men and women. In this regard, in our opinion, attention should be paid to the fact that the forcedly small sample of the pilot study, due to both a relatively rare diagnosis (TIA) and the limited possibilities of the study itself (one hospital, reduction of hospital beds due to the transfer of medical institutions to increased intake of patients with SARS-Cov-2) only outlined the problem.

4. Further deployment of research in terms of studying the post-hospital compliance of patients who have undergone TIA requires, of course, the provision of a larger sample of patients and the involvement, if possible, of medical workers and paramedics (for example, clinical psychologists) to understand the most optimal ways to ensure compliance, as well as the reasons, preventing its formation.

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