

# Patient's Adherence and Personal Evaluations of Transitions in Treatment (PETiT)

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## Abstract:-

**Objectives:** The principal aim of the research is to present the results of PETiT research, as well as to make comprehensive analysis of patient's adherence from their perspective.

**Methods:** The PETiT test (Personal Evaluations of Transitions in Treatment) was used as research method and was distributed through online communication channels. A total of 479 surveys was satisfactory completed in accordance with authors' defined criteria.

**Results:** The research results are presented in a table with appropriate descriptions. According to the research results, the respondents are highly educated, display a positive attitude and view of life, and they do not have difficulties for daily activities and professional obligations. Simultaneously, a considerable number of respondents specified they were not adherent, although, they expressed a positive attitude regarding the impact of the drug.

**Conclusion:** The potential cause of the poor adherence level may be an inadequate level of awareness and education related to the adherence role and importance to the outcome of treatment. Increased research and analysis of the key factors influencing patient's non-adherence are needed, especially those under the influence of the patient.

**Keywords:-** Adherence, Non - Adherence, PETiT Measurement Methods, Adherence Dimensions.

## I. INTRODUCTION

Patient's adherence remains a crucial factor in the positive outcome of treatment and can be described as a mediator between medical practice and treatment outcome.<sup>1</sup> It is possible to find various definitions of adherence in the literature, but perhaps one of the simplest is the one that refers to the degree to which the patient adheres to the recommendations, regulations and advice received by medical professionals and physicians<sup>2</sup>. Numerous studies

reveal that approximate adherence patient level is about 50%<sup>3, 4</sup>. At the same moment, numerous studies show that a high adherence level is necessary for a positive treatment outcome, especially in chronic diseases<sup>5</sup>, meaning that, in certain diseases such as cancer, the percentage of adherence should be above 90%.

Inadequate level of patient's adherence can lead to poor treatment effects which can ultimately cause a change in treatment therapy, complicating the treatment process and reducing the chance of a positive outcome. In addition, a change in therapy does not necessarily indicate a positive outcome, primarily due to the fact that a non-adherent patient is likely to be non-adherent to the new treatment therapy as well.

Inadequate adherence level incorporates multiple negative aspects not only on the patient, but also on all participants in the process of providing health care, ultimately increasing the cost of treatment, unnecessarily overloading the health system, and may result with death outcome.

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Blackwell Publishing, UK.

<sup>3</sup> Benner JS, Glynn RJ, Mogun H, Neumann PJ, Weinstein MC, Avorn J (2002). Long-term persistence in use of statin therapy in elderly patients. *Jama*. 288(4):455–461.

<sup>4</sup> Haynes RB, McKibbon KA, Kanani R (1996). Systematic review of randomised trials of interventions to assist patients to follow prescriptions for medications. *Lancet*. ;348(9024):383–386.

<sup>5</sup> Empire HealthChoice HMO, Inc. Medication Adherence, pristupni link:  
[https://www11.empireblue.com/provider/noapplication/f1/s0/t0/pw\\_g262961.pdf?refer=empireculdesac&na=ep hc, pristupljeno 21.02.2021. godine](https://www11.empireblue.com/provider/noapplication/f1/s0/t0/pw_g262961.pdf?refer=empireculdesac&na=ep hc, pristupljeno 21.02.2021. godine).

<sup>1</sup> Kravitz RL, Melnikow J (2004). Medical adherence research: time for a change in direction. *Med Care*. 42; 197-199.

<sup>2</sup> Ward M. (2011). Addressing non-adherence to antipsychotic medication: a harm-reduction approach.

Low adherence level is the result of a number of factors or dimensions, i.e. adherence can be presented as a multidimensional phenomenon that does not depend exclusively on patients,<sup>6</sup> although they should play an active role in the treatment process. The basic adherence dimensions refer to these five dimensions: social/economic factors, factors of the health care provider - patient/health system, factors related to the condition, factors related to therapy, factors related to the patient.<sup>7</sup> These dimensions can then be divided into a number of sub-factors, one or more of which can affect the adherence at the individual level with different influence.

One of the relevant studies reveals the following key reasons and effects of non-adherence<sup>8</sup>: forgetfulness (24%), side effects of drugs (20%), drug costs (17%), the patient's opinion that prescribed drugs will not produce a positive effect on the disease (14%), and many other studies correlate with these presented results. Furthermore, a fundamental problem in increasing the adherence level represents the low level of awareness and education in the segment of adherence, as well as the lack of adequate methods for measuring the adherence level.

When we talk about adherence measuring methods, then we can say it is a complex problem. Primarily due to the fact that there is no easy to use method, applicable to a considerable number of respondents, with low measurement costs, and which ultimately provides accurate and precise information. Adherence measuring methods are divided into two groups<sup>9, 10</sup>: direct (direct observation, examination of biological markers) and indirect (questionnaire, tablet counting, evaluation of clinical response, electronic monitors, patient diary, etc.).

There are different questionnaires for analyzing adherence level and the influence of diverse factors on adherence level, some of which are standardized, while

others are still in development. Increasing awareness about the role and importance of adherence will lead to the improvement of existing questionnaires and the creation of new ones. A Personal evaluation of transitions in treatment (PETiT) questionnaire was used for the purpose of this scientific research paper, whose questions are presented in Table 1, together with research results. PETiT represents a scale that includes the following domains<sup>11</sup>: psychological wellbeing, mood, energy level and activities, biological functions, self-esteem, coping abilities, cognition, communication, stigma, social functioning.

## II. RESULTS

The research was conducted in January 2021, with online PETiT questionnaire distributed through various social networks and other communication channels. The questionnaire contained a total of 24 questions and six questions about medication. The questionnaire was designed in such a way that all the questions were mandatory, meaning the questionnaire could not be completed, if all the questions were not answered. The total number of completed questionnaires was 479. The results of the research are presented below and are divided into two parts: PETiT questionnaire and Questions about medication. Respondents were able to express their views on the questions in such a way that each question could be answered with one of the following answers:

- Often - if you frequently feel or act on the way described in the sentence
- Sometimes - if you only feel or act that way occasionally
- Never - if you had not felt or acted that way during the past week

From the aspect of gender structure of the respondents, the majority were female (92.7%), and regarding the aspect of age structure, the largest number of respondents belonged to the group from 30 to 50 years (less than 30 years - 17.7%; from 31 to 40 years 38, 4%, from 41 to 50 years - 30.9%, from 51 to 60 years - 9.6%, over 61 years - 3.3%). Analyzing the educational structure, the largest number of the respondents had a university degree (Primary - 0%; medium education - 22.8%; Bachelor / Bachelor - 37%; Master / Doctorate - 40.3%). Additionally, the largest number of the respondents were employed (Employed - 74.1%; Retired - 3.3%; Student - 4.2%; Unemployed - 18.4%).

<sup>6</sup> World Health Organization (2003). Adherence to long-term therapies: Evidence for action, pristupni link: [http://www.who.int/chp/knowledge/publications/adherence\\_full\\_report.pdf](http://www.who.int/chp/knowledge/publications/adherence_full_report.pdf), pristupljeno 10.01.2021. godine, str. 28

<sup>7</sup> ACPM. Medication adherence time tool: improving health outcomes: A Resource from the American College of Preventive Medicine

<sup>8</sup> Boston Consulting Group. The hidden epidemic: finding a cure for unfilled prescriptions and missed doses. 2003. Link: <http://www.bcg.com/documents/file14265.pdf>, pristupljeno 15.10.2020. godine.

<sup>9</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5472434/table/t1-ppa-11-1009/>, pristupljeno 10.04.2021. godine

<sup>10</sup> Lehmann A., Aslani P., Ahmed R. i ostali (2013). Assessing medication adherence: options to consider. *Int J Clin Pharm*, Springer, DOI 10.1007/s11096-013-9865-x.

<sup>11</sup> Voruganti LN, Awad AG (2002). Personal evaluation of transitions in treatment (PETiT): a scale to measure subjective aspects of antipsychotic drug therapy in schizophrenia. *Schizophr Res.* 56(1-2):37-46. doi: 10.1016/S0920-9964(01)00161-x. PMID: 12084418.

Analyzing the research results, most respondents believe they are clear-minded, sometimes worried about their health and sometimes feeling tired and exhausted. Nevertheless, they believe other people feel comfortable in their company. The respondents admitted they sometimes felt extremely tired to perform required activities, they sometimes found it difficult to come up with new ideas, and that sometimes they couldn't trust people. Most of the respondents stated they were satisfied with their lives, highly concentrated when reading or watching TV programs. A significant number of the respondents

expressed they were not unhappy, while a certain number of them specified they were occasionally unhappy. Most respondents stated they had a family and friends who understand them, but there is room for improvement in the communication with people. Most respondents expressed they had no problem remembering certain things and that they were eager to socialize with a high degree of confidence. Most of the respondents expressed the opinion that they are positive, they have a positive opinion of themselves and they do not have a problem meeting new people.

**Table 1: Personal Evaluations of Transitions in Treatment - research results**

General questions		Often		Sometimes		Never	
		n	%	n	%	n	%
<b>PETiT questionnaire</b>							
1	My mind is sharp and clear	359	74,90%	117	24,40%	3	0,70%
2	I am worried about what is happening to my health	85	17,70%	344	71,80%	50	10,50%
3	I feel dull and sluggish	140	29,20%	311	64,90%	28	5,90%
4	I believe that people feel comfortable around me	375	78,30%	102	21,30%	2	0,40%
5	I feel too tired to do things that I should do	105	21,90%	312	65,10%	62	13,00%
6	I find it hard to come up with new ideas	78	16,30%	232	48,40%	169	35,30%
7	I am unable to trust people	141	29,40%	294	61,40%	44	9,20%
8	I am satisfied with my life	364	76,00%	106	22,10%	9	1,90%
9	I am able to concentrate on reading or television	346	72,20%	125	26,10%	8	1,70%
10	I am unhappy	39	8,10%	240	50,10%	200	41,80%
11	I have family or friends who really understand me	354	73,90%	117	24,40%	8	1,70%
12	My sex drive is weak	108	22,50%	245	51,10%	126	26,40%
13	I am able to communicate better with people	241	50,30%	230	48,00%	8	1,70%
14	Chores such as cleaning, washing and shopping are too much for me	77	16,10%	281	58,70%	121	25,30%
15	I am able to remember things easily	293	61,20%	170	35,50%	16	3,30%
16	I feel ready to work either as a volunteer or for pay	343	71,60%	117	24,40%	19	4,00%
17	I feel good about myself	313	65,30%	150	31,30%	16	3,40%
18	My future seems gloomy	40	8,40%	191	39,90%	248	51,70%
19	I avoid meeting new people	42	8,80%	186	38,80%	251	52,40%
20	I feel weird and strange	47	9,80%	257	53,70%	175	36,50%
21	I can handle the daily hassles of life	309	64,50%	165	34,40%	5	1,10%
22	I dislike the way I look	79	16,50%	287	59,90%	113	23,60%
23	I am not sleeping well	124	25,90%	249	52,00%	106	22,10%
24	I am able to do things as well as other people	363	75,80%	113	23,60%	3	0,60%
<b>Questions about medication</b>							
1	I forget to take my medication	51	10,60%	211	44,10%	217	45,30%
2	My medication is helping me	223	46,60%	222	46,30%	34	7,10%
3	I dislike my current medication	27	5,60%	144	30,10%	308	64,30%
4	Friends and family believe that my current medication is good for me	204	42,60%	152	31,70%	123	25,70%
5	Taking medication is unpleasant	44	9,20%	170	35,50%	265	55,30%
6	I feel that the good things about taking medication outweigh the bad	277	57,80%	163	34,00%	39	8,20%

Izvor: CERP. Adherence rating scales, pristupni link: <https://easacommunity.org/files/Medication%20Adherence%20Scale.pdf>, Last Access: 10.11.2020

The respondents also confirmed they can cope with ordinary problems. They hold a positive opinion about their appearance, and most of them do not have sleep problems. The respondents stated they were capable of doing things like other people.

Based on the presented research results and interpretation comments by the authors, it is possible to conclude the respondents are primarily educated, in mature age, with clearly defined opinions and attitudes, without any difficulties in ordinary work and activities. However, analyzing the additional research result, it can be concluded that 45.3% of respondents never forget to take medication, correlated with many other studies, some of which presented in the paper, meaning that 50% of respondents are not adherent.

According to the research results, over 10% of the respondents stated they frequently forget to take medication. At the same moment, almost half of the respondents believe medications help them. The respondents also confirmed they have no problems with current medications/therapies. However, opinions are divided related to their friends' and families' beliefs whether the current medications are good for the respondents.

Most of the respondents stated they did not feel uncomfortable consuming medication. However, there is also a significant number of respondents who are affected by discomfort when consuming medication. Although a significant number of respondents believe that drug consumption has multiple positive aspects and outweighs the bad, there is equally a significant number of respondents who think otherwise.

### III. DISCUSSION & CONCLUSION

Based on the presented research results, it is possible to conclude that respondents who have a high degree of education, who are in most cases employed, capable and have a positive opinion about themselves and their ability, are not adherent, i.e. there is a high degree of non-adherent respondents. Some of the key reasons relate to inadequate level of education and awareness of the role and importance of adherence for a positive treatment outcome, as well as certain impacts of different dimensions of adherence.

The results of the research are correlated with other research conducted by the authors, but also by other authors worldwide. These research results can serve as the basis for further research, especially in the segment of the relationship of different dimensions and factors influencing the adherence level. The question that needs to be answered is how to increase the adherence level, considering the factors influenced by the respondents.

### DECLARATION OF INTEREST

The authors declare that there are no conflicts of interest.

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