

Non-Specific Factors Involved in the Treatment: Its Influence on Treatment Adherence

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Abstract: Introduction: The effectiveness of treatment depends on the efficacy of the therapy and the level of compliance of the patient. NF (non-specific factors) involved in treatment are all those effects that do not depend on the pharmacological properties of the drug. Materials and Methods: The job lasted a year. The sample consisted of patients with mental health disorders and was divided into two groups. Treatment compliance was measured with the Morisky-Green Test. Results were compared using the chi square test and relative risk. Results and Discussion: Group A had 23 patients ending 91.3% of them and group B of 22 patients, ending the 77.27%. At the beginning of the study, we found in the group A 0.86 NF/patients while in the group B 0.82 NF/patient. At the end of the study there was a 54.65% decrease in group A while in group B the proportion remained. At the beginning of the study both groups had approximately 40% of compliant patients. Data that remained in the control group rose to 80.95% in group A at the end of the study. Conclusions: The work demonstrates the negative influence of these factors on adherence to treatment.

Key words: Adhesion to treatment, nonspecific factors influencing treatment, health professional, patient, family, environment.

1. Introduction

The effectiveness of the treatment is based on two factors: the effectiveness of the therapy and the degree of compliance of the patient with the medical indications. Often the desired effect of a drug does not occur because it is misused [1].

Compliance with treatment is defined as the degree to which people's behavior in regard to medication intake, dieting follow-up, or lifestyle changes is in accordance with therapeutic prescribing [2, 3]. The word "adherence" is now preferred because "compliance" suggests adherence to instructions passively without the therapeutic alliance necessary to achieve the health goal [4].

Likewise, the noncompliance is any transgression of the patient to the indications of the pharmacological treatment, prescribed diet or lifestyle guidelines made by the attending physician [1, 5]. Everett Koop has already said, "Medications do not work in patients who do not take them" [4]. Poor adherence to

treatment is common and contributes substantially to the worsening of pathologies, death and increased public health expenditure [4].

The probability of noncompliance is highest in outpatients because less treatment is monitored and most studies of these problems were performed in this group of patients [2, 6]. Several studies have shown that the degree of therapeutic noncompliance of any treatment is between 30 to 50% in the United States and Great Britain and in France it reaches up to 65% [7, 8].

The objective of the present work is to demonstrate the negative effects that the Nonspecific Factors Involved in the Treatment have on the therapeutic noncompliance. As a corollary, their approach and solution will lead to greater adherence to the therapeutic guidelines.

2. Nonspecific Factors Involved in Treatment (NF)

Dr. Julio Moizeszowics defines "nonspecific factors of treatment" as "all those effects that do not depend on the pharmacological properties of the

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psychotropic substance and can modify the therapeutic response” [9]. These factors are the patient, the doctor, the family and the sociocultural environment [9, 10].

These factors have to do with the relationship between the physician and the pharmacist, as well as with the patient and his/her environment, and may interfere with the expected health outcomes, especially in adherence to treatment, as observed by certain studies [11, 12]. They are equivalent to what is known in Spain as “Pharmacotherapeutic Experience”, as defined by Dr. Machuca [13]. This is why we classify them for their better approach and understanding in the following way [14, 15].

2.1 Patient Referral: What the Patient Expects from Medication Is the Reduction of Symptoms that Are a Measure of Their Suffering

Excessive expectations of pharmacotherapy: Drug therapy will fail if the patient deposits expectations that exceed the actual medication.

Poor past experiences: If the patient failed previous treatments, it will be more difficult to obtain good results, especially if the drug prescribed in previous therapeutic approaches is the one indicated, regardless of whether the failure was due to non-compliance.

Leaflet and other promotional literature on drugs: The content of the drug must be clarified.

Distrust in the professional: This phenomenon is given by the so-called “placebo effect of the drug”. When the patient does not have sufficient empathy with the health professional, he doubts his knowledge and therefore the answer may not be as expected.

Drug mistrust: It also has to do with the placebo effect of the drug. Here the mistrust lies in the medicine and not in the health professional.

2.2 Referred to Health Professionals

Lack of sensitivity: The health professional should show empathy with the patient, otherwise the patient may not follow the instructions and not even return to the consultation or pharmacy.

Lack of necessary authority: The health professional should have assertiveness, which is based on respect for the patient’s opinion but impose that which is based on scientific-academic preparation. The patient should not be allowed to do what he wants with his treatment, because there is a high probability of failure.

Overestimation/Underestimation: Poor perception about other health professionals, or placing too much confidence or not attributing deserved capacity and knowledge to them. It is what Dr. Moizeszowicz calls the “feeling of omnipotence”, which leads to making sometimes wrong decisions. With regard to this aspect, Dr. David Viscott makes a detailed description regarding this type of therapist with the serious consequences that he has for the treatment [16]

Limited consultation time: The modern pace of care often does not allow time spending in an interview.

Interdisciplinary non-communication: the advantages of interdiscipline among health professionals have already been mentioned. They would be lost if you do not esteem it and harm the patient.

2.3 Referred to the Patient’s Family

Lack of collaboration: It is common for the family to form a vicious circle around a patient, which is why they attempt against any kind of treatment.

Excessive treatment expectations: Expectations are perhaps the most difficult to meet. The “magic power of healing” attributed to medication is a fallacy, idealized by the family, which leads to the non-enhancement of other measures tending to alleviate pathology.

Excuses of failures: The patient becomes the excuses of his inner circle before his failures.

2.4 Referred to the Society

Social pressure: In modern society having a pathology is a sign of weakness. On the other hand, absenteeism has negative consequences.

Myths: Many pathologies are surrounded by false beliefs and legends, which cause the sufferers to hide them and not consult. The mental pathologies are between these.

We have also classified the resolutions of the FN as follows [14, 15]:

- Health Education.
- Fluid communication with other health professionals.
- Family involvement in treatment.
- Correct interview time.

3. Materials and Methods

The present work was carried out in the course of a year. The sample consisted of patients with mental health disorders and was divided into two groups, the first or Group A, was the intervention one and the second or Group B, the control one.

Each patient was fully instructed in the guidelines of the work, as they were made to sign voluntary informed consent, giving them the possibility to leave the study at any time without any consequences. We used the form template used in another work [15].

Group A patients were sought, detected and resolved NF, while those in the control group were given care according to the current professional practice.

The work was carried out at the Corrientes Pharmacy in the city of Corrientes. It has all the qualifications and certifications in which a specialized environment was designed to carry out the proposed work.

3.1 Methods of Measuring Compliance

Methods available to measure adherence to treatment may be classified as direct, when laboratory measures are used to determine the levels of drugs, metabolites or associated markers in body fluids (plasma, urine, saliva) or in expired air, or indirect that are those used in primary care and in other works [15]. Each has its advantages and disadvantages, but none is considered gold-standard [4].

3.2 The Morisky-Green Test [1, 17, 18, 19]

It is an indirect method of measuring compliance with treatment and usually identifies 20 to 50% of noncompliers, but it has the advantage that it is an inexpensive and reliable method if the patient claims not to comply, being able to ask him the causes of it and look for solutions. Three or four correct answers would indicate that the patient complies with the treatment:

Do you ever forget to take the medications?

Do you take the drugs at the indicated time?

When you are well, do you ever stop taking them?

If you ever feel bad, stop taking them?

3.3 Analysis Techniques

The variables between the intervention group and the control group [18] will be compared at the beginning and the final part of the work. The statistical method selected is the Fisher's test, as other studies have used it [15, 20].

Risk assessment can be performed by comparing facts that occur in sets of individuals, where the factor is present, with those occurring in sets where it is not [15].

In order to evaluate the relative risk, two groups of individuals are formed according to the presence or not of the possible new factor that may be risky or beneficial, that is protection [15]. The new factor will be the search and resolution of NF, in addition to the evaluation of compliance with the treatment through the Morisky-Green Test [15].

A 1 (one) value in relative risk indicates that the new factor does not constitute a risk for compliance with treatment. A value greater than 1, indicates that it is a risk factor and a value less than 1 would indicate that it could be beneficial in decreasing the possibility of non-compliance with treatment [15].

4. Results and Discussion

Group A is composed of 23 patients, of whom 15 were women, while group B is composed of 22

patients, of whom 14 were female. The predominance of female patients in outpatients with mental health pathologies was also found by other authors [21-38].

In group A the majority (17 patients) were in the range of 40 to 50 years, 3 patients were between 30 to 40 years, 2 patients between 20 to 30, 1 between 50 to 60 and the rest had 76 years.

Patients aged between 40 and 50 years (15 patients) are predominated in group B, like the previous one, followed by 4 patients aged 30 to 40 years, 1 patient between the ages of 30 and 30 years and 2 patients who were over 60 years old.

The most frequent diagnoses in group A patients were anxieties (14 patients), depressive disorders (6 patients), 2 patients with psychosis and the rest with bipolar disorder. While in group B, patients with anxiety disorders were also predominant (14 patients), followed by depressives (7 patients) and the rest had a diagnosis of psychosis. The proportions of the diagnoses coincide with that found by other authors [21, 26, 28, 36, 39].

Group A completed 21 patients, that is a 91.3%, while group B ended 17 patients, or 77.27%. We can observe that there was a higher rate of abandonment of treatment in group B, that is, control, as other authors have shown [15].

Table 1 shows that at the beginning of the study we found 0.86 NF per patient, as was obtained in another study [15]. While at the end of the study, these patients showed 0.47 NF for each other, which means a reduction of 54.65% as seen in other studies [14, 15].

As we can observe that the predominant NF is the one referred to previous bad experiences, followed by the excessive expectations in the treatment and the prospect, all in the scope of the patient, the least found ones are those related to family environment and myths, data that are consistent with other studies [14, 15].

When we compared the results obtained in the two measurements using the Fisher's test, we found $p = 0.008809$ or $p < 0.05$, so the difference between both measurements is statistically significant.

Table 2 shows the NF of group B in its two measurements.

Here we observe in the first measurement that there is 0.82 NF for each patient similar to that found in another study [15] and what was found in the first measurement of group A. While at the end of the study the ratio of 0.82 NF per patient was maintained, unlike in group A, but similar to what happened in other studies with the control groups [14, 15].

Table 1 NF in Group A patients.

		First measurement	Second measurement
Patients	Excessive expectations	3	2
	Poor past experiences	4	2
	Leaflet	3	1
	Distrust in the professional	1	0
	Drug mistrust	1	0
Health	Lack of sensitivity	2	2
Professional	Lack of necessary authority	0	0
	Overestimation/Underestimation	2	1
	Limited consultation time	1	1
	Interdisciplinary non-communication	1	0
Family	Lack of collaboration	0	0
Environment	Excessive treatment expectations	1	0
	Excuses of failures	0	0
Society	Social pressure	0	0
	Myth	1	1

Table 2 NF in Group B patients.

		First measurement	Second measurement
Patients	Excessive expectations	2	1
	Poor past experiences	4	3
	Leaflet	3	3
	Distrust in the professional	0	0
	Drug mistrust	1	0
Health	Lack of sensitivity	2	2
Professional	Lack of necessary authority	1	1
	Overestimation/Underestimation	1	1
	Limited consultation time	1	0
	Interdisciplinary non-communication	1	1
Family	Lack of collaboration	1	1
Environment	Excessive treatment expectations	1	1
	Excuses of failures	0	0
Society	Social pressure	0	0
	Myth	0	0

As we can see in this table, the NFs of the patient's domain also predominate, with previous bad experiences in the first place, followed by the prospect. Also, like the previous table and other studies [14, 15], the least found ones are those related to family environment and myths.

When comparing the results of both measurements found in group B, using the Fisher's test, now the $p = 1$, so there is no statistically significant difference.

While the comparison between the second measurements of both groups using the same test, yielded a result of $p = 0.04319$, so $p < 0.05$ gives that among those measurements the difference is statistically significant.

Fig. 1 shows the different types of NF found in both groups throughout the study and their evolution within the study.

Here, the decrease in these types of problems can be evaluated in group A compared to group B. In the intervention group, the low in these problems suffered a marked decrease, while in another group, the decrease seen is compensated by the number of patients who abandoned treatment. This depreciation was similar to that found in other studies where there was an intervention group and a control group addressing the NF [14, 15].

Fig. 2 shows us the different types of solution used

to solve the NF found in the study.

As can we observe that the most used solution to solve these problems was Health Education, which had mostly beneficial effects, followed by family inclusion and improved communication with the attending physician, the correct consultation time was not used in view that no patient referred to the issue as a problem.

Table 3 shows the results of the Morisky-Green test in group A throughout the study, considering the values found in the two measurements. It evaluates compliance with the treatment according to the positive responses provided.

Here we can observe that in the first measurement, at the beginning of the study, only 39.13% of patients met the treatment, a fact similar to that found by other authors [4, 40-45]. At the end of the study, the compliant patients increased to 80.95%, higher than that found in other studies [7, 46].

While Table 4 shows the values found for the aforementioned treatment compliance test in the patients in Group B.

In this table, like the previous one, the values of the first measurement are similar, so the complaints of the treatment are 40.91%, as found by other authors [4, 7, 40-45]. The difference is on the second measurement, at the end of the study, and the results were found in

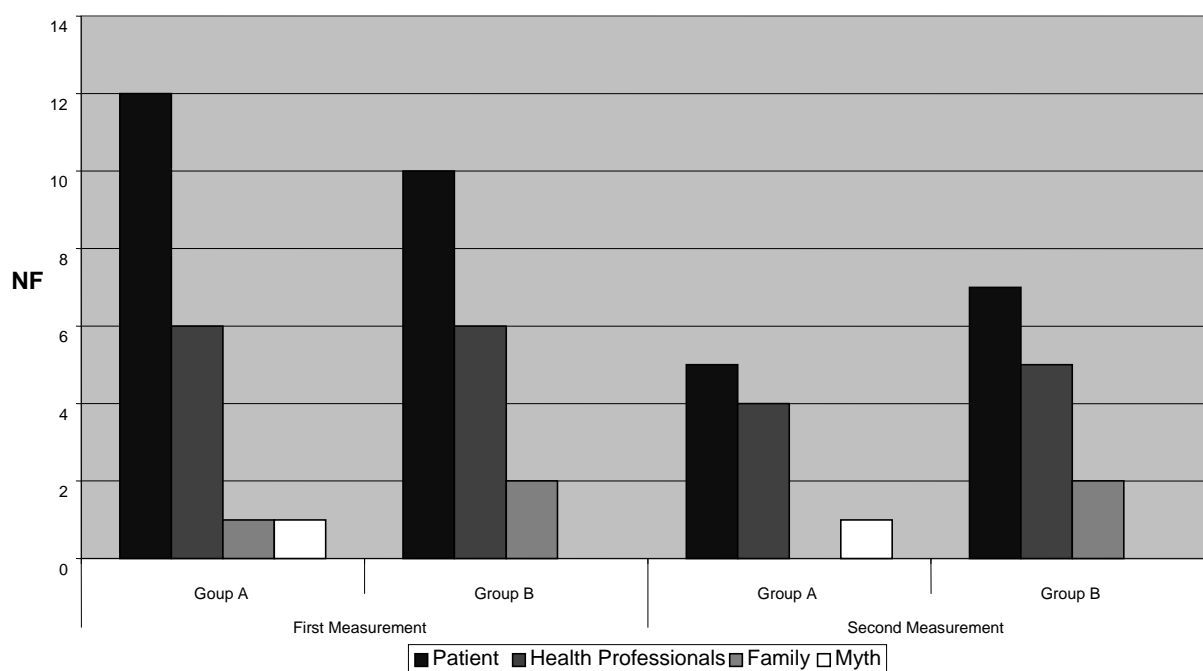


Fig. 1 Comparison of NF found between both groups.

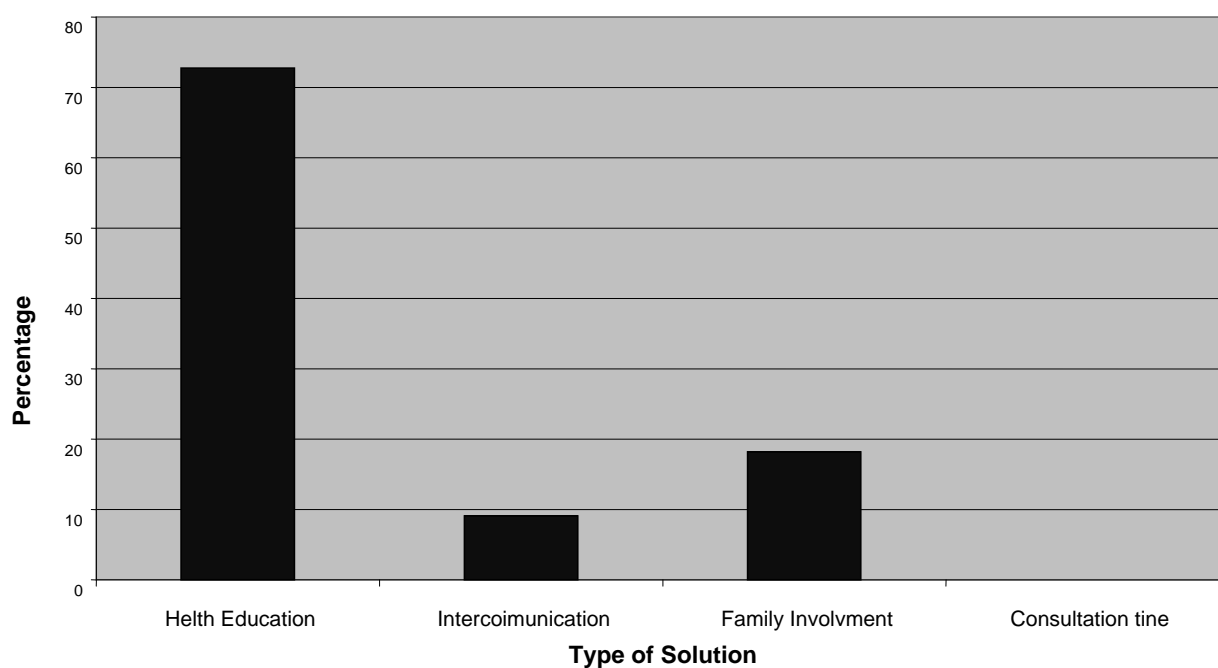


Fig. 2 Solution used to solve the NF.

Table 3 Group A. Positive Answer.

	First measurement	Second measurement
Up to 2	14	4
More than 2	9	17

Table 4 Group B. Positive Answer.

	First measurement	Second measurement
Up to 2	13	9
More than 2	9	8

Table 5 Morisky-Green test: Comparison at the end of the study between both groups.

	Up to 2	More than 2	Total		
Group A	4	17	21	Intervention risk	0.1905
Group B	9	8	17	Control risk	0.5294
				RR	0.5398

somewhat higher achievers, 47.06%, but much lower than in the second measurement of the intervention group.

Table 5 compares the results of the application of the Morisky-Green Test in the last measurement, that is, at the end of the study between both groups.

Here we can see that the RR is less than 1, so that it can be induced that the decrease in the occurrence of the NF works as a factor of improvement of the adherence to the treatment, as it was expressed in another study of similar characteristics [15].

5. Conclusions

In the present study we observed marked clinical and statistically significant differences between the intervention group and the control group.

In the first, almost 20% more patients arrived at the end of the study. Also in that group a reduction of more than 50% of the NFs was achieved, contrary to what happened in the control group, where the reduction was not achieved.

Regarding adherence to treatment, there was a marked improvement in that aspect in the intervention group regarding control, which is shown by the RR found to be much lower than the unit.

In view of the fact that the only factor that we address in this study are the NF and that its decrease achieved a substantial improvement in the adherence of the treatment, it allows us to maintain that these factors act in a negative way for the patient to follow the medical instructions and recommendations Pharmaceutical in the therapeutic approach and that

the search and resolution of these will lead to an improvement in compliance and consequently the quality of life of the patient.

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