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ESSAY ON THERAPEUTIC ADHERENCE. A STATISCAL OVERVIEW

Dr. Gilberto Quinonez Palacio[1]*, Dr. Jorge A. Alvealis Palacios[2], Dr. A. Lucresia R. Arzamendi Cepeda[3] and M. A. Brenda Melissa Quiñonez Martínez[4]

*[1]Professor – Researcher, Universidad Autónoma de Baja California School of Health Sciences Unit Academic Valley of the Palms Blvd. Universitario No.1000 Tijuana B.C.

[2]Universidad Autónoma de Baja California, School of Health Sciences, Academic Unit Valle de Las Palmas, Blvd. Universitario No.1000, Tijuana B.C.

[3]Universidad Autónoma de Baja California, School of Health Sciences, Academic Unit Valle de Las Palmas, Blvd. Universitario No.1000, Tijuana B.C.

[4]Universidad Autónoma de Baja California, School of Health Sciences, Academic Unit Valle de Las Palmas, Blvd. Universitario No.1000, Tijuana B.C.

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***Corresponding Author**
Dr. Gilberto Quinonez Palacio
Professor – Researcher, Universidad Autónoma de Baja California School of Health Sciences Unit academic Valley of the Palms Blvd. Universitario No. 1000 Tijuana B.C.

ABSTRACT

An analysis was done of the different definitions that appear in the medical and psychological literature to refer to the phenomenon of adherence to medical treatment. There are a set of terms, such as: compliance, collaboration, Alliance, accession and adherence, among others, to address the same aspect; issue which may lead to confusion among professionals, researchers, and patients. We discussed the way these terms are designed and used, especially: compliance with treatment and adherence. Measurement of adherence to treatment is required, however although the tools for this purpose are different, most of them do not meet its mission perfectly. Adhesion encompasses two concepts: compliance with dose and way of management and persistence in the duration of the prescribed treatment. One of the instruments of adhesion measurement is the pharmacy databases. A very useful self-administered questionnaire is the Morisky-Green questionnaire, validated in its Spanish version by Val Jimenez et al. This questionnaire consists of four simple and short questions. Recently electronic methods have been introduced that allow knowing when and at what time the patient takes the medication.

Measurement of adhesion is not easy and it is necessary to use several methods at the same time to avoid the overestimation.

KEYWORDS: Adhesion, Measurement tools, Treatment.

INTRODUCTION

An analysis of the different definitions that appear in the medical and psychological literature to refer to the phenomenon of adherence to medical treatment. Recognizes a set of terms such as: compliance, collaboration, Alliance, accession and adherence, among others, to address the same aspect; issue which may lead to confusion among professionals, researchers, and patients. Discussed the way they are designed and used these terms, especially: compliance with treatment and adherence.

Measurement of adherence to treatment is required, however although the tools for this purpose are different, most of them do not meet its mission perfectly. Adhesion encompasses two concepts: compliance with dose and way of management and persistence in the duration of the prescribed treatment. One of the instruments of adhesion measurement is the pharmacy databases. A very useful self-administered questionnaire is a questionnaire validated in its Spanish version by Val Jimenez et al. Morisky-Green. This questionnaire consists of four simple and short questions. Recently been introduced the electronic methods that allow to know when and at what time the patient takes the medication. Measurement of adhesion is not easy and it is necessary to use several methods at the same time to avoid the overestimation.

The use of new technologies and pharmacological treatments based on innovative pharmaceutical presentations has made it possible to have better and more varied prescriptions every day. This, in turn, should mean one increase in the effectiveness of the treatments, as well as also directly influence the quality of life of patients. However, to make it happen should there be at least two conditions: a proper prescription by a medical team and a correct fulfillment of the same. Both circumstances related to therapeutic adherence.

Adhesion is defined when the behavior of a person (in terms of intake of medications, diets, or changes in lifestyle) coincides with medical indications or health[1] according to the World Health Organization, non-adherence to the treatment is considered as an issue of public health due to the negative impact on patients, diagnostic and therapeutic advances do not imply any

improvement since the patient takes its own decision on the basis of your need to take the drug and according to his knowledge and concern of the disease.

There are several reasons why studying this situation. First, much of the therapeutic indications may not be monitored on a daily basis by a foreign patient agent and on the contrary, are under its direct responsibility, then, is the patient who ultimately decides if comply or not. Indeed, low rates of adherence interconnecting, seem to support the idea that the patient mostly does not comply with the treatment. For example, the National Heart, Lung and Blood Institute.[2,3]

points out that between 30% and 70% of the patients does not comply with the advice made by their doctors. Martín and Grau[3,4] report that, overall, 40% of patients do not meet therapeutic recommendations; in the case of acute diseases this percentage reaches 20%, while in chronic non-compliance would reach 45%. When treatments generate changes in life habits and invade several areas (employment, social and family), the percentages of non adherence significantly increase.[4] For example, for the treatment of diabetes mellitus type 1, they found rates of close to 50% non-adherence[5,6] and in addition, it has been reported a relative independence between the elements pillars of therapy, which means that in part Type 1 diabetic adolescents tend to adhere more or less well to diet, exercise or the insulinterapy[7] without implying the fulfillment of one of the others.

On the other hand, if a patient does not meet the medical indications is impossible to estimate the effect of the treatment, which in turn can contribute to prolonged therapy and perpetuate diseases or health problems and even lead to death, with the consequent economical for the State, both in matters relating to loss of productivity and costs associated with rehabilitation and invalidity pensions (for example, the cost associated with the treatment of hypertension and its complications represented 12.6% of the total expenditure of health care in the United States of North America in 1998).[8]

Therapeutic adherence or compliance is defined as the context in which the person's behavior coincides with the health-related recommendations and include the ability of the patient to attend scheduled appointments, take the drugs as shown, make changes in lifestyle recommended and finally to complete the studies of laboratory or chosen tests.[9]

Numerous studies confirm that half of patients do not adequately follow drug treatment and less than 30% change their habits or lifestyles.[10]

In Spain, the 60-year-old population represents 17% of 42.7 million people which are responsible for 30% of the total consumption of medicines and 75% of them consumes them chronically; it is estimated that consumption per day varies between two and three drugs by elderly; considering self-medication, the number of drugs increased to 5. Therefore, no therapeutic adherence, also called therapeutic non-compliance, has become a public health problem.[11,12]

Numerous studies indicate that approximately half of the treated elderly does not properly follow prescribing indications and more than 90% are taking lower doses of those prescribed by their doctor, which conditions unfavorable results and therefore unnecessary expenses for the health sector.

WHO considers the lack of adherence to the chronic treatments and their clinical and economic consequences is a priority in public health issue.[13]

It is estimated that 40% of patients do not comply with the therapeutic recommendations; in the case of acute diseases, the default rate reached approximately 20% whereas in chronic diseases they reach 45% when the treatment regimens consist of changes in habits or lifestyles, the compliance rate is even more elevated.[14]

Patients make decisions about their medication, whereas by personal factors relating to their beliefs, on the perception of the cause of their illness or the way that he must cope with it.

The term adhesion gives an active aspect of commitment by the patient and makes responsible the doctor to create a context in which the patient better understand his health problem, the consequences of treatment, and facilitate decision-making. Which in terms result improving the effectiveness of pharmacological treatments.

The term compliance directly blames the patient either way intentional, unintentional, due to ignorance or forgetfulness.[15,16]

Most of the studies carried out so far on adherence to treatment are chronic diseases that have a cost for the patient, for the health sector and, as such, to Governments. Will has studied in patients with hypertension, with Dyslipidemia, tuberculosis, diabetes mellitus and HIV.[17,18]

The fundamental objectives of the health care professional are: encouraging the patient to express their concerns, help them to be more active in the consultation, provide the information that her she requires, give more power in decision-making and reaching joint decisions. It is essential to highlight: the seriousness of the disease, the condition is essentially automanejable that they have the option and change is possible.

To achieve these objectives the professional needs to be able to offer support and backup, paying particular attention to reinforce self-esteem and self-efficacy, and provide a wide, humble and caring attitude. A long term treatment is primarily a backup process. The decision to engage with the treatment in many occasions lies in the assessment that the patient makes of the professional ability of the physician for identifying the changes in him.

The qualities of the doctor who attends these patients include: hold a non-judgmental attitude, not to reinforce the feelings of guilt and failure, encourage, be honest, sincere and optimistic while[19], listening in active and reflexive form, building a bridge between what the patient says and what we understand is much more than being kind.

The therapeutic alliance is not a simple prerequisite, but the essence of the process[20,21] In the heart of this concept is the notion of collaboration of Horvath, or working partnership[22,23] This means: working "with" and "together" the patient where this is an active participant, valued and respected[24], integrate it as an essential part of the treatment and encourage him to hold it day by day, months and years.

It is very difficult to assess the real extent of non-compliance. In general, it is considered that this is high, although the results of the different published studies vary greatly. This difficulty of assessment is the result of many factors that influence the assessment of the degree of compliance; They include.[24,25,26]

1.-Methodology.

2.-Type of disease study.

3.-Type of treatment evaluated: drug class, number of shots daily, occurrence of side effects, and effectiveness of the drug to alleviate the symptoms of the disease, etc.

4.-Time it takes the patient under therapy.

5.-Size and characteristics of the sample and the population studied.

6.-Duration of the study.

7.-Form of select patients.

8.-Place where the study was carried out

More than 200 factors related to non-compliance are noted. Among these the most studied have been grouped as follows:

Characteristics of the patient.

Characteristics of the therapeutic regimen.

Features of the disease.

Characteristics of the family and social environment.

Characteristics of health structure.

Characteristics of the healthcare: physician and/or pharmacist.

In tables 1A, 1B and 1 c are presented the most documented factors in the consulted literature.[8,9,15,16]

Table 1 A Breach-related factors and variables.

1.Characteristics of the patient
Attitude carefree towards disease or treatment
Low level of awareness of disease
Confidence in the efficacy of the treatment
Insufficient motivation to regain health
Extreme ages: children and the elderly
Low economic status
Low educational level
Emotional instability, depression, hypochondriac personality
Disease perceived little serious
Ignorance of the consequences
2.Features of the therapeutic regimen
Combination therapy
Complex or inconvenient dosing
Lack of understanding of the therapeutic regimen
Chronic or recurrent treatments
Preventive and prophylactic treatments
Occurrence of side effects
Features organoleptic unpleasant
Pharmaceutical forms and/or packaging of complex use

Table 1 B Breach-related factors and variables.

3. features of the disease. 'Silent' or little symptomatic disease Chronic, recurrent or relapsing disease Mild illness or absence of complications Coexistence of other associated pathologies **4. characteristics of the family and social environment** Existence of family or social communication problems Scant oversight of taking the medication High degree of conflict between family/social norms and behavior to follow There is no history of the disease within the family or friends Children attending the consultations without the company of a responsible adult Living alone

Table 1 C Breach-related factors and variables.

5.Characteristics of the sanitary structure Bureaucracy health care Changes of physician Difficulty of access to health care Cost of care Outpatient treatment from the hospital **6.Characteristics of the health professional** Distrust or little cooperation between the patient and the health professional Professional with skills and attitudes negative for presenting the information: Clumsiness, lack of empathy, motivation, etc. Absence of written instructions Too much technical language Little or no cooperation from the doctor

MATERIAL AND METHODS

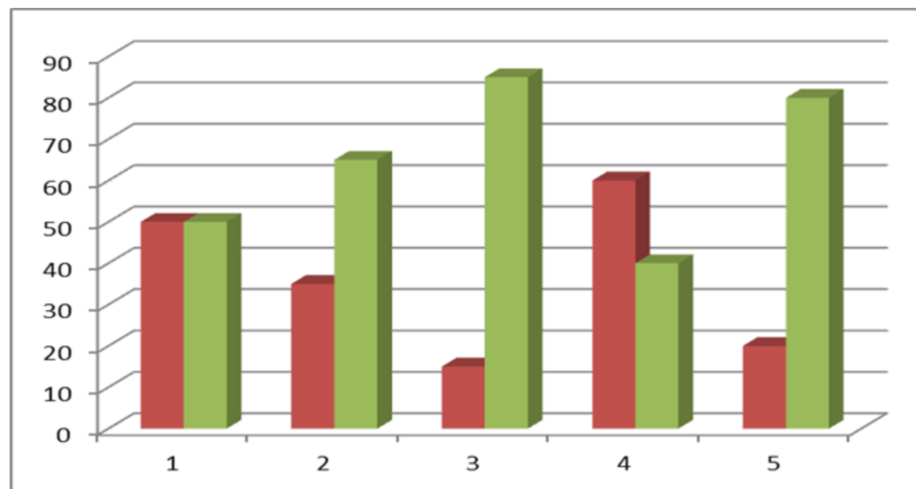
Applies the Ad-Tx1 survey 100 people who are being subjected to medical treatment during the 20 August 2015 20 February 2016 of different institutions in the health sector in the city of Tijuana B.C.

This survey is shown in table 2.

Table 2.Adherence to treatment
1. Was the doctor was clear when prescribing treatment indicating time, dose and way of taking the /those drugs?
2. Did the doctor mention the side effects that you could present when taking or stopping the treatment?
3. Due to economic difficulties ¿have you discontinue the treatment?

4. When you present an improvement in your health ¿have you suspended the medication even if the doctor has not indicated that?
5. ¿Have you complied with the treatment as indicated it by the doctor?

RESULTS AND DISCUSSION



Graph 1 presents the percentage of answers the 5 questions on the survey AdhTx1

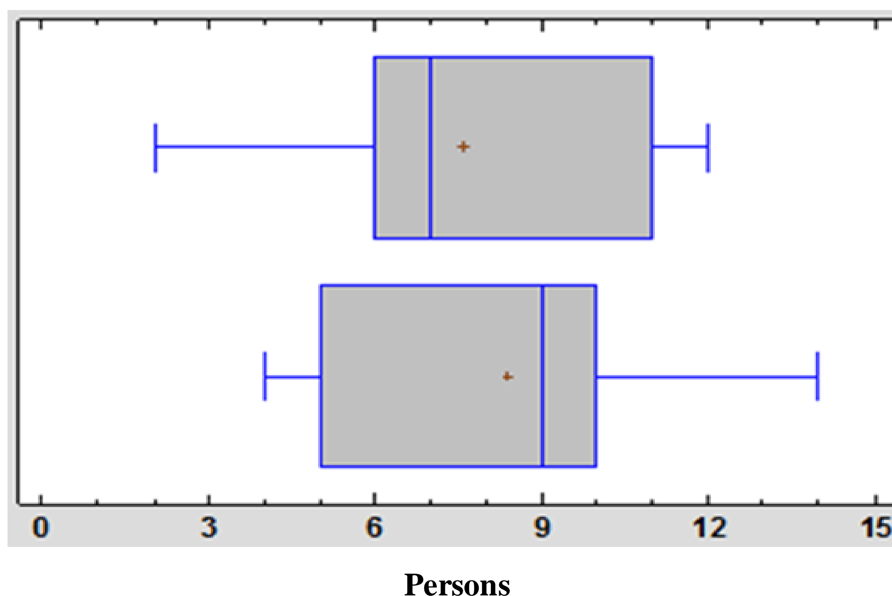
Graph1. Percentage of answers.

Information: Yes / No

In graph 2, we present 2 graphs of box and whiskers, one for each level of YES/NO are presented. The rectangular part of the graph extends from the bottom quartile to the upper quartile, covering the central half of each sample. The center line within each box indicates the location of the median of each sample. The plus sign indicates the location of the mean of each sample. Whiskers extend from the box to the minimum and maximum values of each sample, except for any point remote or very remote, which is graphed individually. Distant points are those that are more than 1.5 times the inter-quartile above or below the box range and are displayed as small squares. Very distant points are those that are more than 3.0 times the interquartile above or below range box, and are displayed as small squares with a plus in its interior. In this case, there are no distant points or very large distant points.

Graph 2 Box and whiskers

No/Yes



Persons

In tables 3 and 4 are the ANOVA for questions.

Table 3: ANOVA for Yes questions.

Source	Sum of squares	GL	Square medium	Reason-f	P
Between groups	9.5	3	3.16667	6.33	0.2784
Intra group	0.5	1	0.5		
Total (Corr.)	10.0	4			

Table 4: Anova for No questions.

Source	Sum of square	GL	Square medium	Reason-f	P
Between groups	9.5	3	3.16667	6.33	0.2784
Intra group	0.5	1	0.5		
Total (Corr.)	10.0	4			

Anova decomposes the variance of questions into two components: a between component and a component inside-of-groups. The Reason-f, which in this case is equal to 6.33333, is the ratio between the estimated between and the estimated in-of-groups. Since the disagreement of the Reason-f is greater or equal to 0.05, there is no statistically significant difference between the mean of questions between a level of Yes, NO and another, with a 5% significance level.

Those 100 respondents are classified by groups of age obtaining the following table.

Table 5: Classification of groups.

Group	Age (years)	Number	M	F
1	18-35	17	5	12
2	36-53	32	9	23
3	54-70	35	15	20
4	71-99	16	7	9

CONCLUSIONS

In this questionnaire we cover both sides of the issue dividing the responsibility between the physician and the patient, we identified one main problem is the poor communication either by the doctor, not giving or not explaining in an explicit manner the indication of the drug, on the part of the patient is not asking, not adhering to the treatment by the same doubts that he have to understand the use of the drug. Based on this and other investigations that we reviewed, we can infer that the factors that really cause problems to the adherence to the treatment are social factors, cultural factors, and with greater impact socio-economic factor.

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