Evaluation of Medicinal therapy in the Presence of Psychological factors in Individuals from 45 to 60 Years

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Abstract— *The psychological factors encompass a vast consumption of prolonged and continuous use drugs, whose purpose is to soften the clinical manifestations that comorbidities present. The concomitant use of more than five drugs may lead to a reduction in adherence to treatment and therefore the unsatisfactory drug effectiveness. The present article aims to evaluate individuals aged 45 to 60 years with some of these psychological factors: anxiety, depression and / or stress, as well as adherence to drug therapy. This is a descriptive, cross-sectional and quantitative approach, performed in the city of Vitória da Conquista, Bahia, Brazil. For obtaining the results, it was adopted the socioeconomic questionnaires, BAI, BDI, ISSL and Abuel. The sample was composed by 389 individuals of both genders. Individuals with anxiety reported a greater intake of natural drugs for pain, sleeping, and depression. Individuals with depression reported a higher intake of the drugs described above, plus anxiety. Individuals with stress reported a greater intake of the same drugs than those ones described by anxiety, plus the drug for anxiety.*
Keywords— Anxiety, chronic conditions, medication adherence, pharmacological treatment and quality of life.

I. INTRODUCTION

Drug adherence is a behavior that is difficult to comprehension and shows a connection with the processes of globalization that has been increasing the psychosocial suffering of the population due to its association with the decrease of mental health, physical and well-being, on the same proportion that generates the increase of socioeconomic inequalities, cultural disturbances, urbanization, substance abuse, conflicting coexistence, displacement of individual and collective identities. (FREDDO et al, 2018). These are factors that in balance are essential for enjoying quality health. Being lacking end up by causing serious disorders, because these factors cause changes in the way how the individual expresses himself (LABONTÉ, Ronald, 2018).

The use of polypharmacy in the therapy of various medical conditions has shown as a contribution marker in the increase of Problems Related to Medications (PRM) (MASNOON et al, 2017). Thus, it should be emphasize that patients who attend with the presence of psychological factors and use polypharmacy, trivially defined by the frequent use of at least five drugs, end up being exposed to the occurrence of PRMs. Studies show that the number of PRM per patient increases linearly with the increase in the number of drugs used (YIMAMA et al, 2018).

Prolonged consumption of drugs and even continuous / permanent by patients with chronic diseases tends to achieve beneficial results in relation to the survival of the individuals (FRITZEN et al, 2017). By making pleasant the damages caused by the incorrect intake of the drugs by the individuals, concomitantly increases the life quality of these ones (BASU et al, 2019) (PAGÈS-UIGDEMONT, N. et al, 2016).

Vitamin B_{12} is soluble in water and it is extremely important for the maintenance of the neuronal health and hematopoiesis (ABDULKHALEQ et al, 2018). The appearance of oxidative stress and diseases correlated with age have simultaneity with the deficiency of the same one, since there is a connection between Vit. B_{12} and markers of peripheral neuronal function and

increasing of oxidative stress, all of which are indispensable for prevention of the appearance of age related diseases (LAGEMAAT et al, 2019).

Anxiety disorder is one of the examples of these dysfunctions of the nervous system. The same one can be diagnosed through somatic and cognitive clinical manifestations (WILSON et al, 2018). The characteristic symptoms are increasing blood pressure, exacerbated worry of thoughts, feelings tension, derealization, perspiration and anticipation of future threats (CARLUTTI et al, 2018). Depression also fits on these neuronal changes, and it is characterized as a state where the human being is strenuous. In this context, there is an enormous difficulty for the individual to control his or her life due to mental and physical weakness (BALSAMO et al, 2018). Exacerbated worry, hypochondria, persistent sadness, melancholia, and insomnia are the personification of a depressive individual, considered a patron status, in which the individual becomes incapacitated (PARK et al, 2017). The exacerbated consumption of drugs with the consequent reduction of vitamin B_{12} levels, for example, may also increase stress levels, in which after a physical or psychological exhaustive stimulus, the organism starts producing a reaction against the object identified as a stressor (BITO et al, 2017) (PELUSO et al, 2018). From this, the brain processes the stimulus produced by the stressor, and it generates the answer that may result in psychological and / or physiological changes in the human being. This reaction can be diagnosed through signs and symptoms, such as tissue injury and increasing oxidative stress (KULLMANN et al, 2018). Knowing about the repercussions of polypharmacy use in the therapy of the individuals with anxiety, depression and stress and its effects in the long run, it is necessary to evaluate the use of medication, non adhesion and correlation with the presence of psychological factors in patients with the pathologies mentioned above.

II. METHODOLOGY

This is a descriptive, profile and quantitative approach, performed in the city of Vitória da Conquista, Bahia, Brazil (Latitude: 14 ° 51 '58 "S; Longitude: 40 ° 50' 22" W), located on 518.8 km from the capital. The study is a fraction of a project entitled "Systemic Evaluation of Chronic Diseases in the population of southwestern Bahia" and this one has as objective to evaluate drug therapy in the presence of psychological factors in individuals of both genders, from 45 to 60 years old. It is worth noting that the age range was chosen due to the hormonal constancy in the individuals who belong to the same one and that the sample was composed by

389 individuals. For obtaining the results, the participants were invited to answer the following questionnaires:

a) Socioeconomic Questionnaire: it aims to evaluate the socioeconomic profile of individuals that are, on several times, associated with the appearance of diseases. The sociodemographic variables (age, schooling, marital status, family arrangement, employment status, family income, contribution in family income) were collected through an own questionaire, by following the standards of the Brazilian Institute of Geography and Statistics (IBGE) (DUARTE, S. F. P. et al, 2019).

b) BAI (Beck AnxietyInventory) - Beck Anxiety Inventory: Self-report scale, constituted by 21 items, that measures the intensity of anxiety and contains descriptive affirmations of anxiety symptoms. The items must be evaluated by the subject with reference to themselves, in a scale of 4 points, by according to the Portuguese Manual of the Beck Scales, that reflect severity levels of each symptom as: 1) "Absolutely not"; 2) "Lightly: it did not bother me so much"; 3 "Moderately: It was very unpleasant, but I could afford it"; 4) "Severely: I could hardly afford it" (DUARTE, S. F. P. et al, 2019).

c) BDI (Beck Depression Inventory): a self-report scale by 21 items, each one with four alternatives, by implying increasing degrees of severity depression, with scores ranging from 0 to 3. Items were selected based on observations and reports of symptoms and attitudes more frequent in psychiatric patients with depressive disorders, and they were not chosen to reflect any theory of depression in particular (DUARTE et al, 2019).

d) Lipp Adult Stress Symptom Inventory (ISSL): The symptoms listed on ISSL are typical of each stage. In the first chart, composed by twelve physical and three psychological symptoms, the patient signals with F1 or P1 the physical or psychological symptoms that they have experienced in the last twenty four hours. The second chart is composed by ten physical and five psychological symptoms, the patient scores with F2 or P2 the symptoms that they have experienced in the last week. The last chart is composed by twelve physical and eleven psychological symptoms, in which the patient must signal with F3 or P3 the symptoms that he has experienced in the last month. In total, the ISSL presents 37 somatic nature items and 19 psychological items, with symptoms often repeated (DUARTE et al, 2019). e) ABUEL: It is a multidimensional instrument that provides indicators of pre-existing diseases degree, whose questions aim to evaluate the cognitive capacity of the interviewees, personal relationships, well-being, eating habits, mental health and their behavior and after indicates the pathological profile, quantifies the use of medications, in

order to verify if the same one makes use of polypharmacy and the regularity intake of the same one (SOUZA, 2014).

After obtaining the data, these ones were tabulated and processed by the Excel program and after imported into the SPSS scientific software in version 20.0. The analysis was performed by considering a level of significance of p <0.05, in which the Chi-square test was applied. The project was approved by the Ethics and Research Committee (CEP) of Esau Matos Hospital. The participants were clarified about the methods to be used and signed the Free and Informed Consent Term (TCLE), according to Resolution 466/2012.

III.   RESULTS AND DISCUSSION

In this study 389 individuals of both genders were integrated, 280 of the female gender (72.0%) and 109 of the male gender (28.0%). Some individuals chose to hide information as answering items during the application of the questionnaires, therefore, the study presents some incomplete variables. Most of the interviewees were classified in a significant way in class D, and composed in its majority by working class (76.9%) the schooling of these ones is medium in its totality, with 29.6% presenting the complete high degree, 22.4% have complete higher education, and only 5.4% are illiterate, of which 15.2% studied in a private education network and 78.7% studied in the public education network, 67.1% were married. The other particularities of the sample are described in table 1, below.

Table 1 – Description of the samples of the participants of the stufy in question.

		n	%	Total
Gender	Female	280	72	389
	Male	109	28	
Social Class	A	1	0,3	329
	B	23	7	
	C	88	26,7	
	D	154	46,8	
	E	63	19,1	
Work	Yes	112	36,6	306
	No	194	63,4	
Schooling	Incomplete elementary school	89	22,9	381
	Complete primary education	20	5,1	
	Incomplete high school	21	5,4	
	Complete high school	115	29,6	
	Incomplete higher education	28	7,2	
	Complete higher education	87	22,4	
	No schooling	21	5,4	
Marital Status	Single	73	18,8	386
	Married	261	67,1	
	Divorced	43	11,1	
	Widow	9	2,3	
Type of Education	Public	306	78,7	365
	Private	59	15,2	

Own Research, 2018.

Self-perception of health differs between genders, since most men, even after receiving a diagnostic of a chronic disease, they strive in a decelerated manner for seeking medical attention, possibly due to the lack of severe symptoms or more difficulty by accessing health services than women, due to the greater care taken with their health condition, they make with higher frequency their health / disease. This fact, the calculation of the chronic diseases diagnosis and complications in the female genus are presented as super (ROSSANÉIS et al., 2016.)

The social factors affect health and well-being, especially in low socioeconomic environments, because it is a multifactorial mechanism that may be on the basis of unfavorable health outcomes. In this study, there is a greater number of people allocated to social classes C and D, and it can finally prevent that the individual could have adequate life habits for the purpose of preventing comorbidities (HILL et al, 2019).

The ingestion of diabetes medications in anxious, depressed, and stressed individuals was low, since only 17 interviewed reported to intake daily, compared with non-anxious, non-depressed, and non-stressed individuals. Stressors ones were more likely to report diabetes medication intake, since stress is a biological marker in the development of diabetes, and the answer generated through it is an indispensable factor for in order that the patient understand the process of adaptation and adherence to the medication use (VICTORIO, 2016).

It is important to emphasize that patients who present with the clinical condition of diabetes associated with anxiety or depression adhere in a low proportion to the drug therapy, lifestyle, by generating an unsatisfactory prognosis for the presented comorbidities (KNYCHALA et al, 2015) (ELAMOSHY et al. al, 2018).

There are several factors that correlate so that the individual can follow with the correct drug therapy, among these ones the professional counseling so that the patient can know the disease and understand the need of the following appropriate therapeutic against their situation, easy access to the medication and favorable social factors (CARDOSO et al, 2019).

The description of the drug therapy related to the anxious, depressed and stressed patients of the study sample are detailed in table 2.

Table 2. Description of the drug therapy of the study of participants based on anxiety, depression and stress.

Variables	Use	Anxiety				Depression				Stress			
		Without	With	Total	p - value	Without	With	Total	p - value	With	Without	Total	p - value
Med. For Diabets	Daily	9	3			11	3			5	8		
	Weekly	0	1	272	0,208	1	1	297	0,323	1	1	286	0,953
	Never	197	62			239	42			108	163		
Med. Naturals	Daily	11	3			11	3			2	12		
	Regurlarly	17	5	272	0,907	22	2	297	0.329	8	14	287	0,083
	Weekly	24	10			29	9			12	27		
	Never	153	49			189	32			93	119		
Med. For pain	Daily	9	8			9	8			3	14		
	Regurlarly	27	12	275	0	35	7	299	0,001	13	26	290	0,003
	Weekly	74	33			92	18			37	74		
	Never	99	13			117	13			64	59		
Med. For Sleeping	Daily	4	6			5	5			1	9		
	Regularly	1	2	275	0,011	2	1	300	0,013	0	3	289	0.044
	Weekly	8	1			8	2			2	8		
	Never	196	57			239	38			113	153		
Med. For Depression	Daily	6	7			8	4			4	9		
	Regularly	0	1	274	0,006	1	0	299	0,331	0	1	288	0,447
	Weekly	-	-			1	0			1	0		
	Never	203	57			243	42			111	162		
Med. For Anxiety	Daily	6	6			11	3			2	12		
	Regularly	2	0	272	0,164	22	2	46	0,005	8	14	287	0,796
	Weekly	3	1			20	9			12	27		
	Never	195	59			189	32			93	119		

Source: Own Research, 2018

Significance Level on p<0,95.

In the described findings, it was verified that the anxious individuals were more likely to report higher intakes of natural drugs for pain, sleep and depression, but the consumption of these drugs by non-anxious occurred more significantly. Depressants individuals were more likely to report higher intakes of natural drugs for pain, sleep and anxiety, but the consumption of non-depressants occurred more significantly. Stressed individuals were more likely to report higher intakes of drugs for diabetes, natural, pain, sleep, depression and anxiety compared to non-stressed individuals. The use of several drugs is a risk factor for intensifying the effects caused by therapy, and such conduct is justified due to the multiple complications caused by the diseases and the need of treating these ones. Polypharmacy has high probability of increasing the risk factors associated with pharmacological interactions (SANTANA et al, 2017). Our results indicated that 18 anxious, 14 depressed and 53 stressed claimed to accomplish the intake of natural medicines. Natural medicines can be used through a combination of existing drugs against a specific chronic disease, whose behavioral intervention is specific and so that pre-clinical studies prove their efficacy and safety of the same ones, by aiming to improve the clinical results of the patients, since there is an expressive decline in adherence by industrialized drugs (BULAJ, G. et al, 2016).

Our results indicated that 53 anxious, 33 depressed and 114 stressed subjects reported on realizing to intake pain medication. Chronic pain is subjective, since the same one belongs to the individual consciousness domains and it varies according to cognitive factors (SOUZA et al, 2017). The anxious ones are selective to the painful stimuli due to their of hypervigilance state, by propitiating a considerable decrease on the distraction against the stimulus and consequently the perception of the pain is increased, by having the potential to chain the anticipation of this one (CHAYADE et al, 20190) (BURSTON et al, 2019).

Depressive individuals have a two-way association with chronic pain due to take the stricken for the social isolation, by aggravating the symptoms of this comorbidity. In this case the drug therapy shows a marked ineffectiveness, due to the complaints of physical pain predominate the diagnosis. The pain symptom usually presents with more frequency in individuals who simultaneously cope with anxiety and depression, since the pain is capable of generating anxiety feelings, increasing the perception of pain, possibly it will bring on the pain catastrophization (HUNG et al, 2018) (HEER et al, 2014).

Stressed individuals generate a physiological answer to chronic pain, that is able to increase respiration, heart rate and blood pressure, triggered by the release of catecholamines and glucocorticoids. Pain may be triggered by stress, just as stress may be triggered by pain, however, pain sensitivity is an individual adaptive and physiological process, a virtue of adapting of the situation in which the individual is allocated (TIMMERS et al, 2018). It was investigated that 9 anxious, 8 depressed and 20 stressed claimed to realize the intake of medicines for sleeping. It is indispensable that the human being enjoy a quality sleep for maintaining a vigil adequate to the necessary and essential standards (GAO et al, 2018). Insomnia is viscerally linked to anxiety, the same one causes an abrupt decrease in sleep quality, since anxious arouses with more frequency during the night and morning rest. The drugs prescribed to induce sleep cause a significant decrease in the cognition of the anxious due to its sedative effect, thus increasing the risk of adverse effects in these patients (HARRIS et al, 2017). Insomnia is a source for triggering the signs and symptoms of depression, the depressed person maintains a waking state and stays awake all night and stays sleepy by yourself during the day, so it becomes necessary the drug therapy for helping the patient who suffers with the suppression effect caused on a large scale by medications to treat comorbidity (STEIGER, 2019). Insomnia is related to the stress against some causative agent, usually caused by negative events. The stressed individual presents a decrease on the overcoming capacity, and be able to negatively influence on the regulation of excitation and emotion, by maintaining insomnia (PALAGINI et al, 2018) (DRAKE et al, 2014). Our results indicated that 7 anxious, 4 depressed and 10 stressed patients claimed to take medication for depression. For anxiety and stress patients who suffers with anxiety and stress, the intake of medication for depression was greater compared to patients who did not present the psychological factors, as for depressive patients, the use of this medication was lower compared to patients who did not attend with psychological factors. Anxiety patients are commonly treated with benzodiazepine and antidepressants medications because of the effective answer that the same one produces, but these drugs cause side effects that are similar to the anxiety symptoms, and thus anxious people interrupt their medication intake, by increasing their non-adherence to the treatment and consequently the worsening of the anxiety condition (GOMEZ et al, 2018).

It was noted that depressives do not adhere to drug therapy for depression, by causing to non-efficacy of the treatment. There are evidences that patients who go on

with depression in a maintaining state of the improvement of condition is the stage in which more patients withdraw from the treatment, in view of the side effects caused by the drugs, and this is correlated with the decrease on beneficial effects and its correlation with non-adherence (PINO-SEDEÑO et al, 2019). Patients with chronic stress are more likely to trigger the depressive condition, because a stressed individual is considered as an imminent factor for developing depression, to the detriment of the exacerbated release of noradrenaline due to the exhaustive neurons activity, soon arises a greater need to use drugs to treat the depression (SEKI et al, 2018).

Our results indicated that 7 anxious, 8 depressed and 13 stressed individuals claimed to realize the intake of medication for anxiety. For anxiety and depression patients who make the intake of medications for anxiety was lower compared to patients who did not present psychological factors, while patients who were stressed the use of these medications was greater compared to patients who did not attend with the psychological factors.

IV. FINAL CONSIDERATIONS

The present study performed by the Nucleus of Extension and Research of Chronic Diseases (NEPEdc) has made viable a superior comprehension of the theoretical-practical character, so that it would allow the interpretation of therapy and drug adherence in patients with the anxiety psychological factors, depression and stress, as well as the characteristics of the sample in what refers to the gender, social class, work, schooling, marital status and kind of education.

Moreover, it was identified that the patients use several medicines and in their great majority have difficulties in following the prescribed therapy correctly, therefore it is necessary to perform following up pharmacotherapeutic with these patients, by intending to increase the quality of life and health, so that the therapy becomes accessible, safe, effective, and correct.

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