

ADHERENCE TO ANTIRETROVIRAL TREATMENT: COMPREHENSIVE CARE BASED ON THE CARE MODEL FOR CHRONIC CONDITIONS

Adesão ao tratamento antirretroviral: assistência integral baseada no modelo de atenção às condições crônicas

Adherencia al tratamiento antirretroviral: atención integral basada en el modelo de atención a las condiciones crónicas

Maria Luciana Teles Fiuza¹, Emeline Moura Lopes², Herta de Oliveira Alexandre³, Patrícia Bernardo Dantas⁴, Marli Teresinha Gimenez Galvão⁵, Ana Karina Bezerra Pinheiro⁶

Submitted on 04/13/2013, resubmitted on 06/28/2013 and accepted on 07/12/2013

ABSTRACT

Objective: To evaluate the adherence to antiretroviral therapy (ART), identifying possible interventions based on the Care Model for Chronic Conditions. **Methods:** Observational, quantitative, cross-sectional study, involving 215 people with HIV/aids using antiretroviral drugs, between March and June 2012, in Fortaleza, Ceará. From the specific adherence questionnaire, we used nine questions for discussion in the light of the Care Model for Chronic Conditions (MACC). **Results:** 35.4% failed to adhere to medication at least once. In view of the MACC, gaps were identified, such as the need for more professional intervention, showing possibilities to apply new strategies, such as self-care actions, motivational interviews, operative group and others. **Conclusion:** A significant percentage of non-adherence to ART was found, whose interventions are still incipient. Actions based on the MACC can favor comprehensive care for patients with HIV/aids.

Keywords: HIV; Medication Adherence; Comprehensive Health Care.

RESUMO

O objetivo deste estudo foi avaliar a adesão à terapia antirretroviral (TARV), identificando possibilidades de intervenções embasadas no modelo de atenção às condições crônicas. **Métodos:** Estudo observacional, quantitativo, transversal, desenvolvido com 215 pessoas com HIV/AIDS em uso de antirretrovirais, entre março e junho de 2012, em Fortaleza, Ceará. De um questionário específico para avaliar a adesão utilizaram-se nove quesitos para discussão à luz do Modelo de Atenção às Condições Crônicas (MACC). **Resultados:** 35,4% das pessoas estudadas deixaram de aderir ao tratamento pelo menos alguma vez, por se sentirem melhor/pior, ou tristes/deprimidas. Sob a luz do MACC, foram identificadas lacunas, como necessidade de mais intervenção profissional, evidenciando possibilidades de aplicar novas estratégias, como ações para o autocuidado, entrevista motivacional, grupo operativo, e outras. **Conclusão:** Constatou-se que há um percentual significativo de não adesão à TARV, cujas intervenções ainda são incipientes, e que ações baseadas no MACC podem favorecer uma assistência totalitária aos pacientes com HIV/AIDS.

Palavras-chave: HIV; Adesão à medicação; Assistência Integral à Saúde.

RESUMEN

Objetivo: Evaluar la adherencia a la terapia antirretroviral (TARV), identificando las posibles intervenciones basadas en el modelo de atención de las condiciones crónicas. **Métodos:** Estudio observacional, cuantitativo, transversal, desarrollado con 215 personas con VIH/SIDA con medicamentos antirretrovirales, entre marzo y junio de 2012, en Fortaleza, Ceará. De un cuestionario específico para valorar la adherencia, se utilizaron nueve preguntas para su discusión a la luz del Modelo de Atención a las Condiciones Crónicas (MACC). **Resultados:** Se observó que 35,4% de los pacientes dejaron de adherir a la medicación por lo menos una vez. A la luz del MACC, fueron identificadas deficiencias, como la necesidad de más intervención profesional, mostrando las posibilidades de implementar nuevas estrategias, como las acciones de autocuidado, entrevista motivacional, grupo operativo y otros. **Conclusión:** Se encontró un porcentaje significativo de no adherencia al tratamiento antirretroviral, cuyas intervenciones son aún incipientes y las acciones basadas en el MACC pueden.

Palabras-clave: VIH; Cumplimiento de la Medicación; Atención Integral de Salud.

¹ Universidade Federal do Ceará. Fortaleza - CE, Brazil.

² Universidade Federal do Ceará. Fortaleza - CE, Brazil.

³ Universidade Federal do Ceará. Fortaleza - CE, Brazil.

⁴ Universidade Federal do Ceará. Fortaleza - CE, Brazil.

⁵ Universidade Federal do Ceará. Fortaleza - CE, Brazil.

⁶ Universidade Federal do Ceará. Fortaleza - CE, Brazil.

Corresponding Author: Emeline Moura Lopes E-mail: emelinepet@yahoo.com.br

INTRODUCTION

AIDS cases in Brazil have been showing a dynamic distribution across the population groups in which HIV infections are notified. Due to its characteristics and the damage it causes, AIDS is considered a large-scale global epidemic, turning into an international public health problem¹.

As a result of antiretroviral therapy (ART), the length of life and, consequently, the expected improvements in health-related quality of life considerably increased¹. Adherence to ART leads to a progress in the quality of life of the people living with HIV/AIDS, such as a better immunological status, reduced viral load and the consequent reduction in the mortality rates due to AIDS. It is known that a successful treatment is directly related with the extent of adherence, besides the efficacy of the drug and the characteristics of the patient and the disease².

Nevertheless, appropriate adherence to antiretroviral treatment represents one of the challenges in the control of the disease, for patients as well as for the health team. The presence of side effects of the treatment counteracts its benefits.

In this perspective, new health care modalities are being developed in response to a failed curative system. In this perspective, the Care Model for Chronic Conditions (MACC) emerges as a new intervention possibility and aims for comprehensive care delivery.

The MACC is ranked in five levels. At level 1, the living and work conditions are considered: education, employment, income, housing, sanitation, availability of food, infrastructure and social services. At this level, the interventions depart from public policies. At level 2, individual aspects like behavior are assessed. Up to the second level, the diseases are not evidenced yet; the actions serve to prevent changes in the health conditions, focusing on lifestyle, for people to adopt healthy life habits³. As from the third level, the health changes are identified. At levels 3 and 4, focused on in this study, the interventions become clinical and reveal the possibilities of a new form of intervention, in which health professionals have the opportunity to act within a distinguished and comprehensive perspective, and patients turn into active subjects of their care process. Level 5 relates to individualized care for patients in critical conditions³.

Thus, the professionals involved in HIV patient treatment need to understand that the interventions need to be complex to favor patients' control of their health and the extent to which they are responsible for a successful treatment. It is important for professionals to perceive whether their clients understood and the extent to which they take the information into account, besides provoking reflections on the positive consequences of treatment, and negative consequences in case of non-adherence.

Keeping in mind that countless factors are directly related with the efficacy of ART, the interaction among patient, professional, health system and society is fundamental.

Therefore, the goal in this study is to assess the adherence to antiretroviral treatment, identifying the possibilities for comprehensive care based on the MACC.

METHOD

This observational, quantitative and cross-sectional study was undertaken at the infectology outpatient clinic of the University Hospital at Universidade Federal do Ceará, in Fortaleza, Brazil, which attends to adult patients living with HIV/AIDS. The infectology outpatient clinic develops a series of projects, as a teaching and research hospital. This study is an excerpt from the project entitled "Assessment of health and social parameters of HIV patients under outpatient follow-up", with a designed protocol that was developed at the same institution.

The population was defined based on the total number of patients attended at the outpatient clinic in December 2011, 478. A sample was calculated, using the simple random sampling technique without replacement. HIV/AIDS patients were included who were under antiretroviral treatment and monitored at the service, over 18 years of age and male and female. People under ART who were monitored at a private service or use the service to receive ART medication only were excluded, as they do not receive systematic care or their records are not maintained in the service files. People who refused to participate were also excluded, totaling 215 participants. Data were collected between March and June 2012.

The study variables were categorized as sociodemographic and clinical related to HIV/AIDS, besides the assessment of HIV/AIDS patients' adherence to ART.

The following sociodemographic characteristics were used:

- **Gender:** both the male and the female gender were used;
- **Age group:** this item was presented in ten-year intervals, ranging between ≤ 29 and ≥ 60 ;
- **Sexual Orientation:** in this variable, the following orientations were used: heterosexual, homosexual and bisexual.
- **Years of education:** in this item, the years of education were coded in intervals: 0 to 5, 6 to 10, 11 to 15 and 16 to 20;
- **Marital situation:** the following options were evaluated: single, married/fix partner, other;
- **Employment situation:** the options for this item were: employed, unemployed, other;
- **Per capita family income:** the family income was considered divided by the number of people living in the house, categorized in Minimum Wages (MW), which

corresponded to R\$ 545 at the time. Then, intervals were established: No income/< 1 MW, 1 to 2 MW, 2 MW.

The variables related to the clinical aspects employed in the study were organized as follows:

- **Exposure category:** the following exposure categories were considered: sexual, blood/transfusion, accident involving piercing-cutting material.

- **Length of HIV diagnosis:** this variable was categorized in years and divided in the following intervals: < 1 year, 1 to 5 years, 6 to 10 years, 11 to 15, 16 to 20, > 20 years;

- **Length of ART use:** was calculated in years, in the following intervals: < 1 year, 1 to 4, 5 to 8, 9 to 12, 12 to 16 years;

- **Number of pills taken per day:** in this item, the following groups were established: 1 to 4 pills; 5 to 8 pills; 9 to 12 pills;

- **Dosage:** the number of daily doses of the combined medication were considered, distributed in the following groups: once, twice, thrice;

- **Number of hospitalizations due to HIV complications:** hospitalizations after being diagnosed were considered, divided in the following categories: 0 to 6 times, 7 to 12 times.

To identify the HIV patients' level of adherence to the ART, the Brazilian version of the "Questionnaire to Assess Adherence to Antiretroviral Treatment (CEAT-HIV)^{4,5} was used. This specific instrument for HIV/AIDS populations has been validated for the Brazilian context and consists of 20 items, aimed at identifying the level of adherence to antiretroviral treatment. The author and other researchers developed the Brazilian version in 2006, which demonstrated its reliability for application in Portuguese, considering internal consistency, external criterion validity, sensitivity and specificity, showing appropriate reliability, sensitivity and specificity levels⁵. To respond to the study objectives, nine questionnaire items were used to assess factors that can modulate the treatment adherence behavior from the MACC perspective.

The following items of the CEAT-HIV questionnaire were used:

- Have you ever not taken your medication?
- If you felt better, did you not take your medication?
- If you felt worse after taking your medication, did you stop taking it?
- If you felt sad or depressed, did you stop taking your medication?

The participants answered each of the items above on a five-point Likert scale, using the following frequency descriptors: always; in more than half of the times; in approximately half of the times; sometimes; never.

- How is your relation with your doctor?
- How much effort do you make to follow (comply with) your treatment?

- How much information do you have about the drugs you take for HIV?

For these items, the participants chose one of the following descriptors: bad, rather bad, regular, could get better, good.

- When the test results are good, does your doctor tend to use them to cheer you up and motivate you to keep up the treatment?

For this item, the following descriptors were used: never, sometimes, in approximately half of the times, often, always.

- How do you assess your HIV medication intake behavior?

This questionnaire item was answered on a scale with the following descriptors: not at all complying, hardly complying, regular, a lot, very complying.

To analyze the CEAT-HIV data, the percentage distribution of the answers was verified, that, how many times the options indicating non-adherence were marked. Based on this verification, each item was individually analyzed, showing the gaps in client monitoring, which interfere in treatment adherence, and to identify the intervention possibilities according to the MACC.

Approval for the study was obtained from the Research Ethics Committee at the University Hospital of *Universidade Federal do Ceará*, under protocol 040.06.12. All participants were informed about the research objective, accepted to participate and signed the Free and Informed Consent Form.

RESULTS AND DISCUSSION

In this study, the results are presented in a sequence for the sake of an easier understanding of the data and to clarify the proposed objectives.

Initially, the sociodemographic profile was analyzed, showing that most patients, 144 (67%), were male. Although the feminization of HIV is a known phenomenon, the data confirm studies in other Brazilian regions, in which male patients are predominant^{6,7}.

The patients' age ranged between 15 and 79 years, and the most prevalent age range was between 30 and 39 years, with 74 (34.4%) people, followed by the group between 40 and 49 years with 69 (32.1%) people. Similar data were found in other studies, showing that there are more HIV patients among young adults of reproductive age, between 15 and 49 years^{6,7}.

As regards the sexual orientation, most participants, 139 (64.7%), characterized themselves as heterosexual. This finding relates to the fact that, nowadays, the heterosexualization of the epidemic has significantly increased, as evidenced in the literature^{6,7}.

As regards the years of education, 86 (40%) patients possess between 11 and 15 years of education, followed by 67 (31.2%) with six to ten years of education. This fact is also evidenced in Brazil through the proportional

growth in the number of AIDS cases in the population with eight to 11 years of education, from 16% in 1999 to 29% in 2007⁸. Authors affirm that education is a risk factor related to the treatment of people living with HIV. This was observed in a study in which individuals with less years of education presented inappropriate adherence⁹.

What the marital status is concerned, it is observed that most interviewees, 119 (55.4%), are single. Nevertheless, 78 (36.3%) were married or lived with a fixed partner. It was evidenced in other studies that the presence of a partner in the disease process positively influences the treatment, improving adherence to ART^{9,10}.

About the employment status, 132 (61.4%) people are economically active and 58 (27%) are unemployed. In the assessment of the socioeconomic situation, more than half of the subjects (57%) live on less than one minimum wage. As regards AIDS and poverty, prevalence levels are higher among poor individuals, although this prevalence appears in populations from higher economic classes in some contexts¹¹.

Although levels 1 and 2 of the MACC are related to conditions in which the diseases are not visible yet, based on these results, it is highlighted that the range of interventions at the first level involves the articulation among political sectors with a focus on health service actions, employment and income generation, educational improvements, among others, contributing to include the intervention in factors that go beyond the disease into care practice for HIV patients.

The health sector, comprising the social context and the way of life, can be part of the treatment of HIV patients under antiretroviral treatment. The sector needs to articulate with other social and political segment to enhance the efficacy of the therapeutics. In addition, articulation with the community is needed, considering that countless improvements result from the activation of resources within the context³.

The clinical characteristics of the people living with HIV/AIDS under analysis were verified and are described next.

As regards the category of exposure, the main transmission route of the virus was sexual, cited by 176 (81.9%). The length of the diagnosis ranged between one month and 21 years, and most patients (57.6%) received the diagnosis between one and five years earlier. Concerning the length of the ART, the majority (53.5%) has been in treatment for one to four years, and this length ranged between one month and 16 years.

What the length of the diagnosis is concerned, no significant differences were observed in the study, with a predominant interval between 1 and 5 years for 124 (57.6%). When observing the literature, however, it is evidenced that the groups with a shorter length of the

diagnosis present better adherence to the ART. The length of the ART, then, represents an important determinant in the adherence to ART and support to keep up the treatment. People who start the HIV treatment tend to change their daily routine, considering the associated visits for medical monitoring, material collection for tests and, mainly, the use of medication¹⁰.

About the number of pills taken per day, 187 (87%) patients take between one and four; the largest number of pills taken per day was 12. The total number of pills can increase inappropriate adherence rates by 12% for every 10 pills¹². As regards the dosage, this ranged between one and three times per day, with a prevalence of patients who need to take the medication twice a day, corresponding to 163 (75.8%). When associating the adherence with the number of pills taken per day, the use of simple and appropriate therapeutic schemes, taken into account the individual's biopsychosocial profile and routines, is very significant to minimize inappropriate adherence. Another important aspect that tends to favor appropriate adherence is the simplification and adaptation of the selected scheme to each patient's routine whenever possible¹³.

Concerning hospitalizations due to HIV, the number ranged from zero to 12 hospitalizations, with most patients having been hospitalized up to six times, corresponding to 210 (97.7%). It is highlighted that none of the patients mentioned having been hospitalized four, five, nine, 10 and 11 times.

Adherence to the ART involves not only the intake of medication, but mainly involves social support, psychological factors like depression, motivation and anxiety and other influences. The identification of the difficulties faced in treatment, like the length of treatment and the number of pills per day, facilitates reflections on the intervention mode.

When the professionals are confronted with situations that involve conflicting values and social standards, it is difficult to give answers based on protocols only or to use another initial resource to direct their actions. Therefore, professionals need more than technical competencies; they frequently need practical knowledge, prudently orienting their actions, combining ethical correctness with technical excellence¹⁴.

To address not only the physical and biological aspects, among the interventions suggested in the MACC, the motivational interview is considered as an important tool in the treatment adherence process, as it is focused on behavioral change and covers situations of ambivalence between changing or not changing. This technique permits the establishment of a collaborative relationship between professional and patient, besides the increase of the patient's motivation and autonomy³.

It is highlighted that assistance with a view to adherence to ART was identified as one of the main situations in which the efficacy of the motivational interview was demonstrated¹⁵.

The patients' adherence to the antiretroviral treatment was assessed, using nine items from the questionnaire. This will be discussed and the intervention possibilities will be identified based on the MACC (Table 1).

It was verified that 35.4% of the patients under analysis did not take their ART medication at least once, considering the answers always, more than half of the times, approximately half of the times and sometimes. In addition, 13.5% did not take their medication at least once because they felt better, 18.7% because

they felt worse after taking the medication and 18.1% because of psychological factors like sadness or feeling depressed.

Since the implementation of ART, efforts have been made to improve HIV treatment with a view to furthering adherence, considering the importance of maintaining the efficacy of the patient's immunological status and of preventing associated complications. Therefore, the correct use of ART is the main focus in the treatment of HIV patients, so that they can benefit from the systematic use of the treatment¹⁶.

ART offered the possibility for HIV patients to live with and not for the disease, which was the case at the start of the epidemic. It is known, however, that treatment adherence represents a possible obstacle, as it involves

Table 1. Assessment of ART adherence of HIV/AIDS patients (N=215). Fortaleza - CE, 2012.

CEAT-VIH items	Descriptors (%)				
	Always	In more than half of the times	In approximately half of the times	Sometimes	Never
Have you ever not taken your medication?	1.9	1.9	2.3	29.3	64.7
If you felt better, did you not take your medication?	0.9	1.9	2.3	8.4	86.5
If you felt worse after taking your medication, did you stop taking it?	1.4	0.5	1.9	14.9	81.4
If you felt sad or depressed, did you stop taking your medication?	2.3	1.4	1.4	13	81.9
	Bad	Rather bad	Regular	Could get better	Good
How is your relation with your doctor?	0.5	-	1.9	16.3	81.3
How much effort do you make to follow (comply with) your treatment?	8.8	11.2	15.3	23.3	41.4
How much information do you have about the drugs you take for HIV?	9.8	14.9	22.3	28	24.2
	Never	Sometimes	In approximately half of the times	Often	Always
When the test results are good, does your doctor tend to use them to cheer you up and motivate you to keep up the treatment?	0.9	3.7	4.2	31.2	60
	Not complying	Hardly complying	Regular	A lot	Very complying
How do you assess your HIV medication intake behavior?	0.9	3.7	12.1	31.2	52.1

a context of requirements and constant reconstruction in daily life, in view of the chronic nature of the illness¹⁷.

Hence, it is important for patients to adhere to and maintain the prescription of the ART. The relevance of the professionals involved is highlighted, who need to arouse the clients' own responsibility for their health, as non-adherence to ART implies the possibility of complications. The professionals are responsible for effectively orienting the patients.

Various factors can negatively interfere in treatment adherence, such as aspects related to the changed routine, beliefs and drugs¹⁵. Exactly in cases of HIV-positive patients, several factors, including motivation, depression, maternity, religiosity, lifestyle, among others, are determinant for the way of coping with the health situation. And, as recommended among the proposals of the MACC, the identification of all barriers that influence adherence to ART should be part of the professional routine.

It is beneficial for health professionals to get to know peculiarities in the patients' routine, so that they identify gaps that can interfere in treatment adherence and, together with the patients and other health team members, develop solutions for the difficulties, that is, so that they can propose effective interventions.

The MACC, considered not as a specific intervention but as a way of acting, focuses on the person instead of the disease. Thus, the construction of a bond of trust, respect and empathy as expected between the team and the patient, in which there exists a common goal and health information and decisions are exchanged. When this occurs, treatment adherence improves.

In the context of the patients' inclusion in the accountability for their health, one of the main objectives of the intervention proposals in the MACC is supported self-care, a concept that includes the idea of empowering the population in terms of health control and self-management ability, acknowledging users as core figures. To achieve the self-care objectives, professionals need to work to strengthen the patients, so as to be able to plan and act within a care plan that contains targets and methods, knowing that difficulties can emerge as barriers³.

These study data show that patients did not adhere to the medication at some time during the treatment because they felt better (13.5%) or worse (18.7%) after taking the medicines. Another factor mentioned was the state of sadness or the feeling of being depressed (18.1%).

As the virus alters the patients' routine, who need to take part in frequent consultations and reserve a time of the day to take their medication, treatment ends up being considered as a prison¹⁷.

This aspect involves knowledge about the disease and acceptance of the situation of being an HIV patient. This

reality indicates the need for professional intervention as, in view of a mean treatment length of four years, patients are considered to have some knowledge about ART and the consequences of non-adherence. Nevertheless, in view of the difficulties identified, some patients did not take the treatment at least once.

In that sense, reference is made to a concept defended in the MACC, which is health literacy, indicating the patients' ability to obtain, develop, process and understand basic information so as to make health decisions. In the framework of the difficulties with the ART, health literacy intervenes in the co-participation ability of health care, of self-care, of understanding and adherence to the prescribed treatments, mainly involving drugs³.

Based on MACC proposals, within a self-care perspective, the importance of multiprofessional activities is highlighted to manage adverse reactions, as well as the encouragement of adherence, although patients may suppose that, at some moment, they will not need treatment. Therefore, multiprofessional activities, in which professionals' roles are well explained, are fundamental. Programmed consultations with different health professionals, individually or in group, and studies of the cases under their responsibility may result in interventions that together achieve a macro-objective focused on the patient's wellbeing, based on targets and their monitoring. This idea refers to an old but still valid and effective care tool, the establishment of a care plan.

The establishment of a multiprofessional team, including task distribution, is considered a true solution to reorganize the health model³. Nevertheless, the system in force is mentioned as an impeditive factor for interventions that permit a further approximation between the multiprofessional team and the clients; it is based on productivity, with inappropriate structure and insufficient professionals.

In view of some patients' non-adherence at some time during the treatment (35.4%), there is an immediate need for professional intervention, considering that patients, due to reasons like lack of knowledge, psychological aspects or other difficulties, are unable to manage their health related to the HIV infection.

Among new health intervention possibilities, telecare is cited. Using mobile phones, audiotapes and other interventions, and offering timely, appropriate, reliable, safe and relevant information, this complements the orientations received from the health team in the care context³. The combination of new technologies, innovation, health system adjustment and appropriate staff dimensioning are fundamental to execute new interventions.

As an additional support tool for this treatment adherence process, the possibility of applying the Transtheoretical Model of Change (TMC) is indicated,

a technology whose efficacy has been evidenced for behavioral changes. The TMC reveals sequential phases of psychological and behavioral conditions that range from lack of motivation to a new sustained behavior, and is therefore a strategy for use in the context of treatment adherence. Another support the TMC offers is its intervention according to the motivation, an extremely relevant item in the reality of adherence to the ART and which should guide the approach in the course of the treatment³.

The study participants were asked about how they consider the relation with the assistant physician; one patient (0.5%) characterized it as bad; four (1.9%) as regular; and 35 (16.3%) affirmed that the relation could get better. These data are a source of concern, as treatment adherence depends directly on the relation established between professional and patient. In this relation, adherence is encouraged, orientations are provided and, mainly, the patient trusts the professional and is sensitized to the importance of adherence.

In the context of the MACC, the bonding between the community and the health services is recommended as a core aspect for comprehensive health care³.

In the monitoring of patients with chronic conditions, in which a long relation tends to be created with the team or attending professional, it is essential to prioritize the establishment of bonding, which relates to the importance of empathy, with positive results for client satisfaction and treatment efficacy, as well as people-centered instead of disease-centered care.

When asked how much information they have about HIV drugs, the answers of 47% of the participants ranged between none and a regular amount of information.

Providing health orientations does not mean simply telling people what to do. The users play a central role in determining their health care and develop a sense of responsibility. This does not mean taking responsibility away from health professionals in care, but it is important for people to gain empowerment with regard to their health, for their own health³. In order to practice self-care, which also means being proactive, the clients need to possess a good level of information about their health.

In the reality of HIV, not just knowledge, but countless factors can interfere in self-care attitudes, such as discouragement, stigma, lack of confidence in self-care ability, the ambivalence in wanting care but without putting in practice the actions that result in it and, mainly, the emotional factors that are so closely linked with the disease, such as discouragement and depression.

Strategies that help people to share information, in which similar situations are mentioned and the way they were coped with, can be one of the options health professionals have at their disposal for this moment in

health care. The organization of operative groups is indicated as an effective strategy to create and establish a close relationship with the patients as well as to orient the clients. Their benefits include: reduction of individual, face-to-face attendance; active participation of people in the change process; greater involvement of professionals with users and encouragement of people's autonomy in the production of health; improvement of welcoming; strengthening of the links between users and health professionals; increased solidarity; improvement in information processes; improvement in the appropriation of problems; greater awareness of rights and duties; improvement in verbalization ability and greater group integration¹⁸.

Considering that the social and family support received is relevant in the reality of HIV patients' routine, the operative group strategy is important, as it can involve family members, work groups, parental groups and others.

Centering on the person, the professional actions incorporated patients' private aspects into the therapeutic program, in which relations and life contexts are identified, which are related to social standards, principles and values¹⁴.

It was verified that 0.9%, 3.7% and 4.2% of the patients answered that, when the test results are good, the physician never, sometimes and approximately half of the times, respectively, uses them to encourage and motivate towards the continuation of treatment.

Using strategies that favor treatment adherence is fundamental for treatment success. This relates to the discussion about the bond between patient and professional, as patients themselves should be responsible for managing their health but, without knowledge, this management is not possible. It is in this relationship of trust that patients or professionals should perceive and solve the gaps.

When a bond is established between professional and client, trust permeates this relation. And it is in this context that the opportunities that lead to the success of ART need to be used. The search for supported self-care underlies this act and should take place through action strategies that involve clients individually or in group (of HIV-positive patients or family members). This perspective also includes multiprofessional action, in which professionals with their skills use interventions to develop knowledge about the disease and the meaning of its clinical condition, as evidenced by tests; self-motivation to keep up or adhere to the ART, looking for social or family bonds to enhance this adherence, among others.

When asked about their assessment of their medication intake, most patients (52.1%) affirmed they were highly compliant with the prescription. Nevertheless, 12.1%, 3.7% and 0.9% indicated that they regularly, hardly

or never complied, respectively. Also, 6% indicated regular difficulties with the medication intake, 2.3% much difficulty and 0.9% great difficulty.

Self-assessment in the care process is part of the people-centered care mode. It goes beyond the clinical and biological aspects and includes issues that interfere in the way people see themselves in a self-care perspective, such as communication, information access, family environment, spirituality and others. The assessment of self-care should be part of routine in the context of chronic illnesses, to assess patients' initial condition as well as their evolution over time³. In that context, a care plan should be used as a support tool in this assessment.

This represents a challenge for the patients, as it demands efforts in their attitudes, as well as for professionals, considering that, to be able to make changes in people, the patients' personal context and motivation to become and perceive themselves as autonomous need to be taken into account. Changing the lifestyle is a personal decision and, to intervene in that decision, professionals and the entire health team need to be well prepared.

The way people cope with a chronic condition ranges from an active attitude of coexistence with constraints to a more reactive attitude. And it is not the chronic condition that will define this difference, but the extent to which people are capable of managing it³.

Thus, care related to adherence to ART represents an opportunity to put in practice comprehensive care delivery, ranging from the clinical to the psychological and social aspects.

Regarding the CEAT-HIV tool, as well as other needs to study AIDS and adherence to ART, this study is not final, but evidences the importance of research aiming for comprehensive health care and the assessment of other factors related to ART adherence.

One study limitation is the lack of scientific journal articles and few references that explore the MACC method, reason why the reality of the application of this model in different situation or distinct realities cannot be presented, so as to confront the results found. The researchers hope that this model be applied in other health care circumstances and that these experiences be disseminated.

FINAL CONSIDERATIONS

In this study, it was observed that a significant number of patients, 35.4%, did not adhere to the antiretroviral treatment at some point, demonstrating

difficulties to maintain the medication use, due to psychological reasons like a depressed mood, or because of side effects, like feeling worse after taking the medication.

Because of these flaws in the medication use, professional intervention is needed, considering that the quality of life of people living with HIV/AIDS is related to good treatment adherence. These gaps represent an important care focus in the promotion of self-care and comprehensive health care.

It is important for professionals who work with HIV patients to know that transmitting information is not sufficient to guarantee self-care, as countless factors exist that can negatively influence the success of treatment and this is a condition in which the immune system needs to be efficient to fight against opportunistic infections, with possible complications. Appropriate treatment monitoring is therefore essential.

Health professionals who attend to HIV-positive patients need to use a care plan and get familiar with possible intervention strategies to achieve the objectives proposed in that plan. Also, the approach of the patient will define the professional's intervention. This means that it is fundamental for professionals to be aware of the fears, desires and everything that benefits the patients and to influence their treatment positively, so as to conduct comprehensive care and health promotion in an effective manner.

Thus, the context of HIV treatment represents an intervention opportunity from the perspective of the MACC, considering that this model offers proposals that aim for a more complete care to these chronic patients.

The actions proposed by the MACC are a care method that needs to be included in all professionals and health institutions' routine, considering that intervention possibilities this model suggests were identified in different situations.

Practices to hold patients themselves accountable for their management in treatment adherence are fundamental. With a view to effective coping with the infection, the implementation of these new practices and care methods should be more evident. Therefore, it is considered that the MACC contributes towards comprehensive and effective care, as it proposes a set of actions that take into account the patient's self-care potential and the interaction between the health team and the patient.

REFERENCES

1. Geocze L. Qualidade de vida e adesão ao tratamento antirretroviral de pacientes portadores de HIV. *Rev. saúde pública.* 2010;44(4):743-9.

2. Ministério da Saúde (BR). Manual de adesão ao tratamento para pessoas vivendo com HIV e Aids. Brasília(DF): Ministério da Saúde; 2008.
3. Mendes EV. O cuidado as condições crônicas na atenção primária à saúde: o imperativo da consolidação da estratégia saúde da família. Brasília(DF): Organização Pan-Americana da Saúde; 2012.
4. Remor E. Cuestionario para la evaluación de la adhesión al tratamiento antirretroviral (CEAT-VIH): estudio internacional. Rev. Humanitas. 2006;3:80-1.
5. Remor E, Milner-Moskovics J, Preussler G. Adaptação brasileira do "Cuestionario para la Evaluación de la Adhesión al Tratamiento Antiretroviral". Rev. saúde pública. 2007;41(5):685-94
6. Reis RK, Santos CB, Dantas RAS, Gir E. Qualidade de vida, aspectos sociodemográficos e de sexualidade de pessoas vivendo com HIV/AIDS. Texto & contexto enferm. 2010;20(3):565-75.
7. Simon D, Béria JU, Tietzmann DC, Carli R, Stein AT, Lunge VR. Prevalência de subtipos do HIV-1 em amostra de pacientes de um centro urbano no sul do Brasil. Rev. saúde pública. 2010;44(6):1094-101.
8. Ministério da Saúde (Brasil). Boletim epidemiológico de DST e Aids. Ano VII, nº 1. Jul a Dez 2009 e Jan a Jul 2010. Brasília (DF): Ministério da Saúde; 2011.
9. Harris J, Pillinger M, Fromstein D, Gomez B, Garris I, Kanetsky PA, et al. Risk factors for medication non-adherence in an infected population in the Dominican Republic. AIDS Behav. 2011;15(7):1410-5.
10. Ferreira BE, Oliveira IM, Paniago AMM. Qualidade de vida de portadores de HIV/AIDS e sua relação com linfócitos CD4+, carga viral e tempo de diagnóstico. Rev. bras. epidemiol. 2012;15(1):75-84.
11. Gupta GR, Parkhurst JO, Ogden JA, Aggleton P, Mahal A. Structural approaches to HIV prevention. Lancet, 2008;372(9640):764-75.
12. Colombrini MRC, Coleta MFD, Lopes MHBM. Fatores de risco para a não adesão ao tratamento com terapia antiretroviral altamente eficaz. Rev. Esc. Enferm. USP. 2008;42(3):490-5.
13. Carvalho CV, Merchán-Hamann E, Matsushita R. Determinants of antiretroviral treatment adherence in Brasília, Federal District: a case-control study. Rev. Soc. Bras. Med. Trop. 2007;40(5):555-65.
14. Oliveira LA, Ayres JRCM, Zoboli ELCP. Conflitos morais e atenção à saúde em Aids: aportes conceituais para uma ética discursiva do cuidado. Interface comun. saúde educ. 2011;15(37):363-75.
15. Rollnick S, Miller WR, Butler CC. Entrevista motivacional no cuidado da saúde: ajudando pacientes a mudar comportamentos. Porto Alegre: Artmed; 2009.
16. Rüütel K, Pisarev H, Loit HM, Uusküla A. Factors influencing quality of life people living with HIV in Estonia: a cross-sectional survey. J Int AIDS Soc. [periódico na internet] . 2009 jul; [cited 2012 fev 13]; 12(13): [aprox. 14 telas]. Disponível em: <<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2717916/>>.
17. Santos WJ, Drumond EF, Gomes AS, Corrêa CM, Freitas MIF. Barreiras e aspectos facilitadores da adesão à terapia antirretroviral em Belo Horizonte-MG. REBEN. 2011;64(6):1028-37.
18. Soares SM, Ferraz AF. Grupos operativos de aprendizagem nos serviços de saúde: sistematização de fundamentos e metodologias. Esc Anna Nery. 2007;11(1):52-7.