IJPSR (2012), Vol. 3, Issue 12 **(Review Article)**

INTERNATIONAL JOURNAL OF PHARMACEUTICAL SCIENCES AND RESEARCH

Received on 26 August, 2012; received in revised form 14 October, 2012; accepted 20 November, 2012

PATIENT COUNSELING TOOLS FOR IMPROVING ADHERENCE TO ANTIRETROVIRAL THERAPY

B. Akshaya Srikanth *[1], K. Purushothama Reddy [1], K. Narotham Reddy [2], Aditya Hari [3] and A. Abhijeet [3]

Department of Clinical Pharmacy and Pharmacy Practice, P.R.R.M. College of Pharmacy [1], Kadapa, Andhra Pradesh, India

Department of Dermatology, Virology & Leprosy, RIMS Medical College [2], Kadapa, Andhra Pradesh, India

Gandhi Medical College [3], Hyderabad, Andhra Pradesh, India

Keywords:

Antiretroviral therapy, Adherence, Patient Counseling, quality of life, HIV, India

Correspondence to Author:

Dr. B. Akshaya Srikanth

Pharm. D, Department of Clinical Pharmacy and Pharmacy Practice, P.R.R.M. College of Pharmacy, Kadapa, Andhra Pradesh, India

Email: akshaypharmd@gmail.com

QUICK RESPONSE CODE

IJPSR:
ICV (2011)- 5.07

Website:
www.ijpsr.com

ABSTRACT

Patient counseling were intended to improve adherence and maintaining quality of life. Antiretroviral adherence is the second strongest predictor of progression to AIDS and death, after CD4 count. Incomplete adherence to ART is common in all groups of treating individuals. The commonest cause of ART failure is poor adherence. Several factors associated with poor adherence include a poor patient-clinician relationship, high pill burden, forgetfulness, mental depression, lack of patient education, inability of patients to identify their medications, drug toxicity, beliefs about treatment and the impression of being too ill for treatment. Counseling steps include establishing the rapport between the patient and pharmacist, developing individual treatment plan and using of information sheets, compliance aids, leaflets can be helpful in better understanding about the ART regimen they are taking. The key to successful is educating the patient before the initiation of therapy, supporting ART initiation as the patient first starts taking medications, and continuously monitoring and supporting adherence. Using of adherence devices like pill boxes, reminders and visual medication schedules can improve the adherence towards the antiretroviral drugs and can improve the outcome in HIV patient receiving ART.

INTRODUCTION: Patient counseling is a primary duty of modern pharmacists; therefore, patients counseling should be part of the pharmacists' training. Tailoring to the needs of the individual patient can help to optimize the participant needs [1]. Keys of effective patient counseling skills required include listening, questioning, empathy, respect, and negotiation. Based on the current knowledge, good patient counseling should be a two-way interactive communicating process, where participants are invited to respond and seek further information should they want it. The purpose of the patient counseling to the understand the needs of patients and problem solving skills of the patient for the purpose of improving adherence, maintaining quality of health and quality of life [2]. Clinicians and patients face many challenges associated with antiretroviral therapy (ART). Antiretroviral adherence is the second strongest predictor of progression to AIDS and death, after CD4 count. Incomplete adherence to ART is common in all groups of treating individuals. The commonest cause of ART failure is poor adherence [3]. Adherence should be assessed and routinely reinforced by everyone in the clinical team (Physician, counselors, nurses, pharmacists, peer educators, NGO workers etc) at each of the patient's visits to the clinic.

Studies indicate that 90-95% of the doses should be adhered to for optimal suppression [3,10]. Lesser degrees of adherence are often associated with virological failure. Maintaining the optimal level of adherence is difficult. Adherence clearly has been associated with CD4 count in a number of settings. The association between adherence and clinical progression is associated with the full suppression of the viral load.

Several factors associated with poor adherence include a poor patient-clinician relationship, high pill burden, forgetfulness, mental depression, lack of patient education, inability of patients to identify their medications, drug toxicity, cultural factors like religious fasting, beliefs about treatment and the impression of being too ill for treatment [4].

This article reviews the current understanding of antiretroviral adherence and counseling strategies for improving adherence.

Counseling for Treatment Preparation and Adherence:

STEP 1: Establishing the rapport and relationship with the patients

1. Provide necessary information and guidance to the patient
2. Encouraging peer participation and help identify treatment support person
3. Developing an individual treatment plan, fitting ART into the patient's lifestyle, daily events and identifying treatment reminders.
4. Assess patient's readiness for and commitment to ART. Readiness to commence ART may be assessed by
    a) Past ability to attend clinic regularly and not miss appointments
    b) Past ability to attend clinic regularly and not miss appointments
    c) Co-trimoxazole past ability to complete a full course of TB therapy
5. Adherence to recommended regimens should be >95% to avoid development of ART drug resistance. This means missing >3 doses per month is associated with an increased risk to drug resistance and failure.
6. If patient have difficulty in adhering to regular doses, reinforce adherence counseling. List barriers to adherence and develop strategies overcome these barriers.
7. Treatment is lifelong
8. The timing of drug intake is crucial and missed doses can be taken up to 6 hours later in a twice-daily barriers. If >6 hours elapse, skip the dose and take next normal dose.
9. Counseling for the dietary requirements with ART drugs
10. Explaining the side-effects of the drugs have to be explained to and understood by the patient before commencing ART.
11. Using of information sheets, compliance aids, leaflets can be helpful in better understanding about the ART regimen they are taking.
12. People on ART need to continue to use condoms regularly and practice safe injecting drug use.
13. Other medications, including herbal/traditional products and dietary supplements may interact with ART. Patients need careful counseling about which medications are allowed and which are not with their ART medication.
14. Regular clinic attendance for monitoring of efficacy, side-effects and adherence is essential.
15. If patients can't keep the visiting the clinic on schedule, they should call or a home visit should be made by the social community workers.

STEP 2: Couselling-in one or more individual sessions

1. Help the patients explore his/her feelings. Many patients are preoccupied with problems related to family, job, relationships, etc. and cannot focus on strict adherence until negative feelings about these problems are sorted out.

2. Many have no private place to store their medicines and are not able to take them in privacy. Not wanting others to know their HIV status is by far the commonest reason for poor adherence by patients [5]. Patients must be realistic about who to confide in about their HIV status and how to tell them.

3. Check for any financial difficulties the patient may be experiencing. Some patients may not follow up if they do not have money to travel to the center, or their health may be affected by a poor diet. Help patients develop secondary support systems for themselves.

STEP 3: Solving practical problems and creating a treatment plan

Points to think before initiating the ART treatment

1. Where will the ART drugs be stored?
2. Number of doses missed since the last visit?
3. Whether doses are taken at correct time?
4. If correct dose is taken?
5. Reasons for missing/incorrect dosing/non-adherence
6. Estimated proportion of doses taken using a visual analogue scale

The key to successful is educating the patient before the initiation of therapy, supporting ART initiation as the patient first starts taking medications, and continuously monitoring and supporting adherence. The reinforcement of the principles of adherence by treatment supporters, relatives, friends and community support personnel is of great help [6].

Adherence is under the control of the patient, educating the patient is important aspect in encouraging self management of medications and to foster honest communication between provider and patient [7]. To respect patient choice and decision-making related to their HIV related medical care.

Keys words to share with the patient for improving the adherence:

1. Missing the doses can develop Drug Resistance.
2. Even missing 2 doses in a month can develop the resistance to ART.
3. If a dose is missed, patients should take the next dose as soon as possible. However, if a dose is skipped, the patients should not double the next dose.
4. No medicine should be consumed after the expiry date. Verify the expiry date of your medicine.
5. Drugs MUST NOT be shared with family and friends.
6. Any sort of difficulty while taking medication can be Discussed with the health workers.

Ask for support from Treatment supporter, family or friends.

Patient counseling intended not only increased knowledge and better compliance by the patients but also makes an improvement in the quality of care [8]. It has been established by various studies that in informed group of patients including knowledge of potential side effects, there was better compliance and safety.

Counseling facilitates rational and compliant behavior by the patient. The basic and most common cause of the non-compliance is that the patient does not fully understand what is expected. Helping the patient to understand what is expected is the prime motive of counseling. Facilitating characteristics for effective communication are empathy, respect and warmth [9, 10].

Techniques which assist in compliance are:

(i) Maintain a friendly, caring (rather than a brisque or impersonal) relationship with the patient, for which prerequisites are rapport building, assured confidentiality, privacy, easy accessibility and empathy;

(ii) Emphasize the key points

(iii) Give reasons for key advice

(iv) Give definite, concrete and explicit instructions

(v) Supplement and reinforce the spoken words with written information

(vi) Ensure feedback

Before initiating antiretroviral therapy, it is essential to discuss and clarify the following points with the patient:

- AIDS is not an immediate death warrant. Induce and encourage hope [1, 6, 10].
- Therapy available today is suppressive, and not curative. But treatment helps the patient to lead a more productive life. The treatment would not only add years to the life but also a quality of life to the years. The patient may continue to acquire other illnesses associated with AIDS, including opportunistic infections. Therefore, patients should always remain under physician's care during the therapy. Periodic lab test monitoring from a reliable lab is also necessary.
- The duration of therapy is lifelong, HIV may be regarded as a chronic illness, just like diabetes or hypertension.
- Although treatment is expensive, the prices of antiretrovirals have now been reduced.
- Long term adverse events may occur, but there are drugs to manage these side effects.
- There is a potential for drug interactions with other concomitant medications.
- There may be a number of pills to be swallowed per day, depending on the antiretroviral regimen chosen. However, some of the new regimens entail taking a total of only 4-6 tablets per day [11].
- Adherence is critical, else the virus quickly develops resistance. This is especially important with respect to antiretroviral drugs.
- It is important to inform the patients that even if they are receiving therapy they should not donate blood and should practice protected sex, since the patient is still capable of infecting others.
- Maintenance of a regular life, exercise, personal hygiene and avoidance of infections is very important. The patient must have nutritious food, regular exercise, proper rest and sleep and avoid smoking, tension, alcohol and intoxicating drugs and contact with pets. If possible woman patients may avoid pregnancy [12].

Assessment Of The Adherence:

1. **Introductory Statement**: Make a statement acknowledging that difficulties taking antiretrovirals are common and inevitable at some point in treatment. State that one role of the clinician is to help identify these difficulties and try to make it easier for the patient to take the medication. The following is one example among many that can be used:

   Taking pills every day is really hard. Most people have problems taking their pills at some point during treatment [13]. I am going to ask you about problems that you have had taking your pills. Please feel comfortable telling me about pills you may have missed or taken late; I am asking because I want to make it easier for you to take them.

2. **Confirm Understanding of Regimen:** Using a visual aid, such as a chart that shows color images of the available antiretroviral pills, ask the patients which medications they are taking. For each of the indicated pills, ask how many and exactly how often they are taking them. Ask if they have special instructions for any of the pills, such as dietary restrictions or extra fluid requirements. If any answers are incorrect, it is important at this time to focus on clarifying the regimen prior to completing the adherence assessment [14].

3. **Assess Adherence:** Ask the patients about their adherence over the past 3 days, 1 day at a time. Start with the day prior to the interview (i.e., yesterday) and ask them how many of their pills they had missed or taken late that day. Then ask about the 2 days prior to that, addressing each day separately. Next, ask about how many doses they had missed or taken late over the past 7 days and 30 days. If they report no missing doses, ask them how long it has been since a dose was missed.

Alternatively, a VAS can be used to assess recent adherence using a more simple visual scale [15, 22, 25].

4. **Ask About Reasons for Missing Doses**
   For patients that report missing any dose, ask them if they know the reasons why. Prompt them if they cannot offer an explanation. Common reasons why people miss medications include simply forgetting, being away from home, being too busy with other things, a schedule change, too many side effects, feeling sick or depressed, and running out of pills [16].

5. **Ask About Medication Side Effects or Other Problems**
   Ask the patients about medication side effects or other problems that they may be experiencing [17]. Prompts can be offered, such as asking about nausea, diarrhea, difficulty swallowing the pills, headaches, fatigue, depression, or any other physical or emotional complaints.

6. **Collaborate with the Patient to Facilitate Adherence:** Reassure the patients again that problems with adherence are common. Explain that your concern is based on the fact that missing more than 5-10% of the doses in a month (eg, more than 3-6 doses a month in a twice-daily regimen) can lead to the medications not working well anymore, and that missing less than this would be a good goal [18]. Take seriously all complaints about side effects or other physical or emotional problems and address them concretely.

   Offer suggestions to overcome specific obstacles the patients may have mentioned, such as the use of a watch alarm, medication organizer, extra packages of pills at work or in the car, or an unmarked bottle for enhanced privacy [19]. Ask the patients if they have any ideas of their own to make it easier to take the medications. Finally, do not worry if the problem cannot be solved immediately; uncovering a problem with adherence is an important accomplishment and solutions to it can evolve in subsequent visits [20].

Using Adherence Devices: A variety of devices that may help patients adhere to their treatment regimens are available. Most of them are simple, inexpensive, and easy to integrate into the routine care of patients on ART. Because these devices are often provided free of charge by pharmacies or pharmaceutical companies, it is usually possible for clinicians to provide these devices or for patients to obtain them on their own. The following are examples of commonly used adherence devices [21, 23].

Medication Organizers: Medication organizers (eg, pillboxes, medisets) are readily available and come in many different shapes and sizes appropriate to the needs of individual patients [16, 22]. They allow patients to organize their weekly doses of medication in 1 convenient location instead of carrying multiple pill bottles, and to verify whether they have taken a given dose.

Patients taking pillboxes to appointments helps clinicians monitor for recent nonadherence [23, 24]. When a new regimen is prescribed, clinicians commonly supervise patients as they set up their first medication organizer. Some pharmacies also provide medications prefilled into weekly organizers. Medication organizers are a staple of adherence case-management programs for HIV and other diseases.

Reminders: Reminders are particularly important given that patents cite "simply forgot" as the primary reason for missed doses [24]. Common devices include alarms on watches, beepers, or other electronic items that allow for multiple daily reminders. Calendars, paper or electronic, allow patients to document scheduled doses and note when they have been taken.

Visual Medication Schedules: A visual medication schedule (VMS) shows pictures of prescribed medications superimposed upon a weekly calendar. Images of many prescribed medications are available in sticker sets provided by drug makers or in computer programs [25].

It is also possible to create a VMS by affixing actual pills to a paper calendar. A VMS can help ensure that the patient understands the prescribed regimen and can help other caregivers assist in medication adherence [26].

A VMS provided at each clinic visit has been shown to improve outcomes in patients receiving anticoagulation therapy, another situation requiring chronic treatment and exact adherence.

CONCLUSION: The success of the treatment depends on the patient compliance, the key factor for the therapeutic success of HIV positive patients. Educating the patient before the initiation of therapy, supporting ART initiation as the patient first starts taking medications, and continuously monitoring and supporting adherence. Pharmacists, being active members involving in the ART treatment can play an important role in providing patient counseling to improve the adherence and compliance. Moreover the patient counseling by pharmacist can improve the quality of patient care and can reduce the burden of the doctor to spend more time on examination and diagnosis of patient.

REFERENCES:

1. Chesney MA, Ickovics JR, Chambers DB, Gifford AL, et al. Self-reported adherence to antiretroviral medications among participants in HIV clinical trials: the AACTG adherence instruments. Patient Care Committee & Adherence Working Group of the Outcomes Committee of the Adult AIDS Clinical Trials Group (AACTG). AIDS Care 2000; 12:255-66.
2. Schillinger D, Machtinger E, Wang F, Win K, Chen L, et al. Are pictures worth a thousand words? Communication regarding medications in a public hospital anticoagulation clinic. J Gen Intern Med 2003;18(suppl 1):187.
3. Garcia de Olalla P, Knobel H, Carmona A, Guelar A, et al. Impact of adherence and highly active antiretroviral therapy on survival in HIV-infected patients. J Acquir Immune Defic Syndr 2002; 30:105-10.
4. Apisarnthanarak A, Mundy LM. Long-term outcomes of HIV-infected patients with <95% rates of adherence to nonnucleoside reverse transcriptase inhibitors. Clin Infect Dis. 2010;51(1):115-117.
5. DiMatteo MR, Giordani PJ, Lepper HS, Croghan TW. Patient adherence and medical treatment outcomes: a meta-analysis. Med Care 2002; 40:794-811.
6. Fogarty L, Roter D, Larson S, Burke J, Gillespie J et al. Patient adherence to HIV medication regimens: a review of published and abstract reports. Patient Educ Couns 2002; 46:93-108.
7. Kobin AB, Sheth NU. Levels of adherence required for virological suppression among newer antiretroviral medication. Ann Pharmacother. 2011;45(3):372-379.
8. Chesney M. Adherence to HAART regimens. AIDS Patient Care STDS 2003; 17:169-77.
9. Turner BJ. Adherence to antiretroviral therapy by human immunodeficiency virus-infected patients. J Infect Dis 2002;185 (Suppl 2):S143-51.
10. Mills EJ, Nachega JB, Bangsberg DR, et al. Adherence to HAART: a systematic review of developed and developing nation patients-reported barriers and facilitators. PLoS Med. 2006; 3(11):e438.
11. Ware NC, Idoko J, Kaaya S, et al. Explaining adherence success n sub-Saharan Africa; an ethnographic study. PLoS Med.2009;6(1):e100011.
12. Sabete E. Adherence to long-term Therapies: Evidence for Action. Geneva: World Health Organization; 2003. Available from: http://whqlibdoc.who.int/publications/2003/9241545992.pdf. Accessed April 22, 2012.
13. New England Healthcare Institute. Thinking Outside the Pillbox: A System-wide Approach to improve patient medication adherence for chronic diseases. Canbridge, MA: New England Healthcare Institution; 2009. Available from: http://www.nehi.net/uploads/full_report/pa_issue_brief_final.pdf. Accessed May 4, 2012.
14. Gellad WF, Grenard J, Mc Glynn EA. A Review of Barrier to medication adherence: A framework for driving policy options. Santa Monica, CA: RAND Heakth; 2009.
15. Kripalani S, Yao X, Haynes RB. Interventions to enhance medication adherence in chronic medical conditions: a systematic review. Arch Intern Med. 2007;167(6); 540-550.
16. Osterberg L, Blaschke T. Adherence to Medication. N Engl J Med. 2005;353(5):487-497.
17. Rasheed A, Ramesh A and Nagavi BG. Improving quality of life through patient counseling. Pharmatimes. 2002;34:9-14.
18. Festa RS, Tamaroff MH, Chasalow F, Lanzkowsky P. Therapeutic adherence to oral medication regimens by adolescents with cancer. Laboratory assessment. J Pediatr 1992;120;807-11.
19. Jay S, Litt IF, Durant RH. Compliance with therapeutic regimens. J Adolesc Health Care 1984;5:124-136.
20. Bangsberg DR. Optimizing HIV therapy for patients with comorbidities: depression treatment to improve HIV treatment outcome. Available at http://www.aafmed.com/comor/depression.html. Accessed April 24, 2012.
21. Medication compliance aids. Available at: http://www.lifeclinic.com/focus/blood/supply_aids.asp. Accessed May 4,2012.
22. Cipolle RJ, Strand LM, Morley PC. Pharmaceutical Care Practice .New York, NY: McGraw-Hill Co;1998.
23. Airoldi M, Zaccarelli M, Bisi L, et al. One-Pill once-a-day HAART: a simplification strategy that improves adherence and quality of life of HIV-infected subjects. Patient Prefer Adherence. 2010;4:115-125.
24. Fleming.W. Pharmacy management strategies for improving drug adherence. JMCP 2008;14(6b);S16-S20.
25. Gelland WF, Grenard J, McGlynn EA. A Review of Barriers to medication adherence: a framework for driving policy options. Santa Monica, CA:RAND Health;2009.
26. Kripalani S, Yao X, Haynes RB. Interventions to enhance medication adherence in chronic medication conditions: a systemic review. Arch Intern Med. 2007;167(6):540-550.

How to cite this article:
Srikanth BA, Reddy KP, Reddy KN, Hari A and Abhijeet A: Patient Counseling Tools for improving adherence to Antiretroviral Therapy. *Int J Pharm Sci Res*. 3(12); 4634-4639.