HIV/AIDS patient's satisfactory and their expectations with pharmacy service at specialist antiretroviral therapy (ART) units

K. KARUNAMOORTHI1,2, M. RAJALAKSHMI1, S. MAKESH BABU2, A. YOHANNES1

1Centralized School of Nursing, Faculty of Medicine, Addis Ababa University (Ethiopia)
2Faculty of Medical Sciences, Jimma University, P.O. Box No. 378, Jimma (Ethiopia)
3Research Scholar, Research and Development Centre, Bharathiar University, Coimbatore, Tamil Nadu (India)

Abstract. – A cross-sectional descriptive study was conducted to determine HIV/AIDS patient's level of satisfaction and their expectations with pharmacy service at specialist antiretroviral therapy (ART) unit's in the government hospitals of Addis Ababa, Ethiopia. The present investigation clearly revealed that 82.5% of HIV/AIDS patients indicated long waiting time was a major reason for their dissatisfaction with pharmacy service. Majority of patients indicated few more other issues are also responsible for their dissatisfaction with pharmacy service such as lack of description about antiretroviral therapy drugs (45.20%), staffs impoliteness (22.40%), and shortage of drugs (4.20%). 93.33% of the respondents prefer to get their pharmacy service within a shorter span, 18.02% wanted comfort waiting hall, 14.32% expecting staffs politeness, 5.18% insisted sufficient number of ART units, 8.88% adequate supply of ART drugs and 21.48% cleanliness. In addition, 20.98% of the patients call for personal interaction with their pharmacist and 4.44% ask for information on ARTs side effects. Chi-square test results showed that patient's level of satisfaction and length of waiting time to get pharmacy service was inter related and statistically significant (p<0.002). Therefore, the concern ART units must provide better pharmacy service within shorter span to enhance the patient's satisfaction. At the end of the day, improving health care services to persons living with HIV/AIDS in our community is all of our duty and responsibility too. Ultimately, increasing HIV/AIDS patient's level of satisfaction and fulfilling their expectations is extremely essential and inevitable to diminish the unbearable burden of HIV/AIDS pandemic in the near future.

Key Words: Patient satisfaction, HIV/AIDS patients, Antiretroviral therapy (ART), Pharmacy service, Patients expectations, Ethiopia.

Introduction

Virtually unheard of two decades ago, AIDS is, at the turn of the century, one of the best known and most talked about diseases on the globe. What had first appeared to be a disease confined to certain well-defined populations such as gay men and haemophiliacs became a disease that threatened everyone, everywhere. HIV has reached every corner of the globe1.

In spite of a promising effort to address the HIV/AIDS epidemic by increasing access to treatment and prevention programmes, a total of 39.5 million (34.1 million-47.1 million) people were living with HIV in 2006 – 2.6 million more than in 2004. Sub-Saharan Africa continues to bear the brunt of the global epidemic with 24.7 million (63%) of all adults and children with HIV globally live in Sub-Saharan Africa. Almost three quarter (72%) of all adult and child deaths due to AIDS in 2006 occurred in Sub-Saharan Africa. AIDS is now the leading killer in Sub-Saharan Africa2.

HIV infection affects residents of all countries of the world, but the greater majority of affected individuals reside in the developing world3. Since the reporting of Ethiopia's first HIV (1984) and AIDS cases (1986), its HIV epidemic has evolved into a generalised epidemic, and AIDS is now the leading cause of morbidity and mortality among adults in Ethiopia4. The HIV/AIDS epidemic continues to pose and it is a threat to the development of the country where 1.32 million people are living with HIV/AIDS, 744,100 are orphaned due to AIDS, and 277,800 are in need of antiretroviral therapy (ART)5.

The introduction of ARVs in 1996 was a turning point for hundreds of thousands of people
with access to sophisticated health care systems. At present ART is the only modality of treatment to prolong life and to improve the quality of life of people living with HIV/AIDS. Therefore, to be effective it has to be taken lifelong with 100% adherence. This is apparently the greatest challenge to the individual patient and determines the success of an ART program.

The government of Ethiopia launched the free ART program in January 2005 and the “Accelerating Access to HIV/AIDS Treatment in Ethiopia; Road Map 2004-2006” in June of 2005. By the end of July 2006, 45,595 patients (ART coverage 7%) had ever started on ART at 132 facilities across the country; of these 13,441 people are from Addis Ababa town of 32 ART centres.

Patient satisfaction has been considered an important component when measuring health outcomes and quality of care; furthermore; a satisfied patient is more likely to develop a deeper and longer lasting relationship with their medical provider, leading to improved compliance, continuity of care, and ultimately better health outcomes. An individual that fails to take the ART due to dissatisfaction will end up in developing resistant strains to the drugs in a matter of a few minutes. Consequently, patient satisfaction is undoubtedly a useful measure, and to the extent that it is based on patients’ accurate assessments, it may provide a direct indicator of quality care.

In recent years the World Bank and other donors have been advising developing countries to ensure that limited resources not only have an optimal impact on the population’s health at affordable cost but also that health services are patient-oriented. Patients’ satisfaction is essentially an important issue in Africa particularly country like Ethiopia, where there is a dearth of adequate resources and skilled human capital to provide efficient health care services to the HIV/AIDS patients. Therefore, the aim of the present investigation was to determine the HIV/AIDS patient’s satisfaction and their expectations with pharmacy service at specialist antiretroviral therapy units in the government hospital of Addis Ababa, Ethiopia and to identify the various factors associated with patient’s dissatisfaction.

**Material and Methods**

**Study Area**

The present investigation was conducted in Addis Ababa, capital city of Ethiopia as well as the country’s commercial, political and cultural centre. Its projected population of 2006 was estimated to be 2,887,615 and density of 5,291/km² with an average household size of 5.1 family size. During the survey the city had 25 hospitals, 27 health centres, 78 health posts and 319 private clinics. In addition, the city has 10 government hospitals and 32 ART units.

**Source Population and Study Population**

All people living with HIV/AIDS (PLWHA) in Addis Ababa town (nearly 207,270 adults) are regarded as the source population. The total numbers of adult HIV/AIDS patients who are currently on ART units (13,441) in Addis Ababa town at different health institutions are taken as a study population.

**Data Collection Instruments**

Standardized structured interview questionnaire (Patient Satisfaction Questionnaire [CSQ-8 and 18] which was developed by Greenfield and Attkisson (1989); Verona Service Satisfaction Scale [VSSA] by Tansella (1991); and Ryan White Patient Satisfaction survey questionnaire) was used based on the variables. The questionnaire has two component which focus on patient’s socio-demographic characteristics, and pharmacy service satisfaction and expectation aspect.

**Interview and Data Collection**

The interview was undertaken by applying exit interview techniques in sampled hospitals. The pre-tested questionnaire was administered by eight trained data collectors (4 male and 4 females). To minimize bias informations and variables the questionnaire prepared in English language translated into native local language Amharic to make it easy to understand and to administer for interviewer and interviewee. Interviewer collected socio-demographic, patient’s level of satisfaction and expectations with pharmacy service at the ART units in the government hospitals of Addis Ababa. Investigator revisits the patients, if any mistake in the previously filled questionnaires.

**Pre-Test**

In order to evaluate the clarity of the questionnaire, validity of the instrument, and reactions of the respondents to the questionnaire a pre-test was conducted on 10% of the study population, i.e. about 42 patients by the enumerators, in an area different from the study area, but with the
similar demographic pattern. At most care was taken not to include the pre-tested subjects in the final study.

**Study Design**

A cross-sectional descriptive study was conducted to determine the HIV/AIDS patient’s satisfaction level and expectations with pharmacy service provided in the specialist ART units of government hospitals, Addis Ababa, Ethiopia. The assessment survey was carried out during the period between September 2008 and November 2008. Stratified, systematic random sampling was used for selection of four hospitals from the total of ten hospitals.

**Data Processing and Analysis**

Each collected data was cleaned, checked for completeness, coded and analyzed with an IBM compatible micro computer using the statistical package for the Social Science (SPSS) (Window version 16.0, Chicago, IL USA) for computing statistics and frequency distributions. Relevant tables and figures are used to display results. Range and mean were analysed and appropriate tables, graphs and percentage were displayed. Level of significance also determined by using 95% of confidence intervals and \( p \)-value.

**Ethical Clearance**

Before the survey and data collection the objective of the study was clearly explained and permission was obtained from concerned authorities of each ART units. The study protocol was submitted to the Ethical Clearance Committee of Addis Ababa University, Ethiopia and ethical clearance obtained. Ahead of data collection, the aim of the study was clearly explained at each HIV/AIDS patient and informed consent was obtained from chosen participant. Beliefs and cul-
Socio-Demographic Characteristics of HIV/AIDS Patients

Of the total 405 HIV/AIDS patients aged 18 years and above were included in the present survey from the ART units providing pharmacy service with a response rate of 100%. There were 181 (44.70%) males and 224 (55.30%) females. Age of the respondents was ranging from 18 to >50 year. The majority 140 (43.60%) of the patients were belongs to 26-33 years age group followed by 126 (34.60%) from 34-41 age group. Just 24 (5.90%) of the respondents were illiterate and remaining were categorized into can able to read and write, 1-6th grade, 7-12th grade and >12th grade represent (4.00%), (11.60%), (56.30%) and (22.20%) were respectively (Table I). As many as 316 (78.00%) of the respondents were Orthodox Christians followed by Protestants 56 (13.80%), Muslim 27 (6.7%) and Catholic 6 (1.50%). In relation to average monthly income concern 155 (38.30%), 96 (23.70%), 66 (16.30%) and 88 (21.70%) were <100 Eth. birr, 101-300 Eth. Birr, 301-500 Eth Birr and >501 Eth. Birr (Table I) (1$ = 9.98 Eth. Birr).

Pharmacy Service

HIV/AIDS Patient’s Satisfaction Level

Out of 156 respondents, 114 (73.1%) of the respondents very satisfied to get their pharmacy service within 1-10 min, remain 31 (19.9%) satisfied, 8 (5.1%) dissatisfied and 3 (1.9%) very dissatisfied. Similarly, among the 116 participants, 53 (45.7%) point out that they are very satisfied, 50 (43.1) satisfied, 9 (7.8%) dissatisfied and 4 (3.4%) very dissatisfied when the service is provided within 11-30 min. Again, when the pharmacy service provided within 30-90 min, out of 83 HIV/AIDS patients 20 (24.1%) very satisfied, 33 (39.8) satisfied, 27 (32.5%) dissatisfied and 3 (3.6%) very dissatisfied. Among 28 respondents, 6 (21.4%) very satisfied, 7 (25%) satisfied, 5 (17.8%) dissatisfied and 12 (42.9%) very dissatisfied between 91-150 minutes, (Table II and Figure 1).

There was no single respondent was very satisfied when the pharmacy service provided between 151-240 min and ≥4 h. Chi-square test was performed to test significance between HIV/AIDS patient’s level of satisfaction and length of waiting time to get pharmacy service at the ART. The chi-square test result revealed that HIV/AIDS patient’s level of satisfaction and length of waiting time to get pharmacy services are inter related and statistically significant (p<0.002; $\chi^2 = 35.7$ & CI 5%). No relationship has been observed between level of satisfaction and age, educational status, sex and monthly income of the patients.

In general, increase of waiting time to get pharmacy service decreases the level of satisfaction among HIV/AIDS patients (Table II and Figure 1). HIV/AIDS patients point out various factors is responsible for their dissatisfaction with pharmacy service. 82.5% of the participants indi-
Table II. HIV/AIDS patients level of satisfaction with pharmacy service.

<table>
<thead>
<tr>
<th>Duration of pharmacy service</th>
<th>Very satisfied</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>1-10 min</td>
<td>114</td>
<td>73.1</td>
<td>31</td>
<td>19.9</td>
<td>8</td>
<td>5.1</td>
<td>3</td>
<td>1.9</td>
</tr>
<tr>
<td>11-30 min</td>
<td>53</td>
<td>45.7</td>
<td>50</td>
<td>43.1</td>
<td>9</td>
<td>7.8</td>
<td>4</td>
<td>3.4</td>
</tr>
<tr>
<td>30-90 min</td>
<td>20</td>
<td>24.1</td>
<td>33</td>
<td>39.8</td>
<td>27</td>
<td>32.5</td>
<td>3</td>
<td>3.6</td>
</tr>
<tr>
<td>91-150 min</td>
<td>6</td>
<td>21.4</td>
<td>7</td>
<td>25.0</td>
<td>5</td>
<td>17.8</td>
<td>12</td>
<td>42.9</td>
</tr>
<tr>
<td>151-240 min</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>11.1</td>
<td>2</td>
<td>22.2</td>
<td>6</td>
<td>66.7</td>
</tr>
<tr>
<td>&gt; 4 h</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>9.0</td>
<td>10</td>
<td>91.0</td>
</tr>
<tr>
<td>Total</td>
<td>193</td>
<td></td>
<td>122</td>
<td></td>
<td>52</td>
<td></td>
<td>38</td>
<td></td>
</tr>
</tbody>
</table>

\( P < 0.05; * \text{Significant.} \)
cated long waiting time, 45.20% lack of description about ART drugs, 22.40% impoliteness of staffs, and 4.20% shortage of drugs (Figure 2).

**HIV/AIDS Patient’s Expectations**

Besides, to determine the patient’s level of satisfaction the present survey identified the HIV/AIDS patient’s various expectations. Most of the study participants provided multiple responses about their expectations regarding pharmacy service.

The great majority 378 (93.33%) of the respondents wish to get the pharmacy service within a shorter span. Similarly, 73 (18.02%) of the study subjects want comfort waiting hall to collect their prescribed ART drugs, 58 (14.32%) of the participants point out the politeness of the care givers (staffs), just 21 (5.18%) of the patients insist sufficient number of ART units to deliver ART drugs and 36 (8.88%) suggested adequate supply of ART drugs. In addition, 85 (20.98%) of the participants ask for personal interaction with their pharmacist, merely 18 (4.44%) of patients want information on side effects of ART drugs, 113 (27.90%) desire to obtain specific medication regimen and 87 (21.48%) of the patients particularly concern about cleanliness (Table III and Figure 3).

**Table III.** HIV/AIDS patients’ expectations with pharmacy service.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shorter service span</td>
<td>378</td>
<td>93.33</td>
</tr>
<tr>
<td>Comfort of the waiting hall</td>
<td>73</td>
<td>18.02</td>
</tr>
<tr>
<td>Politeness of staffs</td>
<td>58</td>
<td>14.32</td>
</tr>
<tr>
<td>Sufficient number of ART units</td>
<td>21</td>
<td>5.18</td>
</tr>
<tr>
<td>Adequate supply of drugs</td>
<td>36</td>
<td>8.88</td>
</tr>
<tr>
<td>Personal interaction with pharmacist</td>
<td>85</td>
<td>20.98</td>
</tr>
<tr>
<td>Information on side effects</td>
<td>18</td>
<td>4.44</td>
</tr>
<tr>
<td>Specific medication regimen</td>
<td>113</td>
<td>27.90</td>
</tr>
<tr>
<td>Cleanliness</td>
<td>87</td>
<td>21.48</td>
</tr>
</tbody>
</table>

*Note: Percentages do not add up to 100, because of multiple responses.*
Discussion

HIV/AIDS patient’s satisfaction has been studied from various vantage points. The Table II clearly revealed that the length of the time to get ART services is reducing the patient’s level of satisfaction. Organizational factors, particularly patient waiting time, have been studied and, as expected, longer waiting times result in lower patient satisfaction. Satisfied patients as compared to unsatisfied patients are more likely to cooperate and maintain relationships with their health care providers, continue using health care services, as well as adhere to their medication regimens. In general, the majority of the patients were satisfied with pharmacy service. Similar result has been observed by Marshal et al more than 85% indicated satisfaction with pharmacy services.

The chi-square test result revealed that HIV/AIDS patient’s satisfaction level and length of waiting time to get pharmacy services are statistically related and significant (Table II and Figure 1). Satisfaction decreased with increase in length of waiting time and this result was almost similar with the study findings in rural Bangladesh that is 30 ± 2.5 minutes. In general, shorter waiting time less than 30 minutes or between 30-90 minutes is highly associated with satisfaction level of the HIV/AIDS patients (p<0.002; χ²= 35.7 & CI 5%). Similar study was carried out in Mozambique indicated that the majority of the ART patients waited for 120 minutes before getting service from the unit.

In the present investigation, 82.5% of the HIV/AIDS patients are dissatisfied due to long waiting time to get their pharmacy service. A study carried out by Probst et al. (1997) found that patient waiting time, have been studied and, as expected, longer waiting times result in lower patient satisfaction. Other than waiting time, 45.20% of participants indicated lack of description about ART drugs. A study was conducted to describe the pharmacy needs of a group of males infected with human immunodeficiency virus (HIV) and to determine whether those needs were being met. Most (72.6%) wanted both written and oral information.

22.40% of the respondents emphasized that the staff impoliteness causing dissatisfaction among the patients. A study has been conducted in rural Bangladesh to assess the patient satisfaction and quality of health care and found that almost all patients expected respect and politeness from the provider, irrespective of whether they used fixed facilities or outreach services. In addition, just merely 4.20% of the patients mentioned that the shortage of drugs is also one of the factors for dissatisfaction. Satisfaction with health care was found to have a significant association with waiting time, and the availability of drugs.

The present survey identified HIV/AIDS patient’s various expectations with pharmacy service. 378 (93.33%) of the respondents were keen to get their pharmacy service within a shorter period of time. The result of the present investigation is comparable with a study carried out in a Nigerian teaching hospital, about one-third of the respondents rated promptness of prescription service as poor. Furthermore, reducing waiting times (to 30 min at most) was more important for the patients.

73 (18.02%) of the study subjects want comfort of the waiting hall to collect their prescribed ART drugs and 58 (14.32%) of the participants point out the politeness of staffs. Almost all patients expected respect and politeness from the provider, irrespective of whether they used fixed facilities or outreach services. 21 (5.18%) of the patients insist sufficient number of ART units, 36 (8.88%) suggested adequate supply of ART drugs and 87 (21.48%) cleanliness. At the moment, the government of Ethiopia strongly committed to increase adequate number of ART units around the country.

In addition, 85 (20.98%) of the participants need personal interaction with their pharmacist, merely 18 (4.44%) of patients want information on side effects of ART drugs and 113 (27.9%)
desire to obtain specific medication information (Table III and Figure 3). Nearly half of the patients (46%) rated the amount of time the pharmacist offered to spend with them as poor. About one-third rated promptness of prescription service as poor. Only 49% felt satisfied with the pharmaceutical services\textsuperscript{26}. The result of the present survey was consistent with an earlier report that HIV-positive males have certain expectations for pharmacy services, such as the provision of written and oral information, specific medication information, and personal interaction with the pharmacist\textsuperscript{24}. In general, HIV/AIDS patients are satisfied to varying degrees with different aspects of pharmaceutical care. However, the patients are greatly concern regarding the waiting time to get pharmacy service. It is currently admitted that patients’ opinion should supplement the usual indicators of quality in health care\textsuperscript{27,28}.

Patient’s satisfaction is one of the imperative crucial components for the great success of any healthcare services. Principally, it is extremely more important and significant key issue in the ART units because of their vital role in the lives of hundreds of thousands of HIV/AIDS patient’s. The factors associated with dissatisfaction of patients should be addressed immediately and effectively in order to enhance hundred percent adherences of ART drugs, otherwise if patients neglect to take the ART as a result of dissatisfaction may possibly lead to develop resistant strains. Therefore, the concern responsible authorities should insist to reduce the pharmacy service time in order to increase the patient’s satisfaction level. Certainly, increasing HIV/AIDS patient’s level of satisfaction and fulfilling their expectations may possibly pave the way to diminish the intolerable burden of HIV/AIDS pandemic in the near future.

References

19) GREENFIELD TX, ATTRISSON CC. Steps toward a multifactorial satisfaction scale for primary care and mental health services. Eval Prog Plan 1989; 12: 271-278.

22) AHARONY L, STRASSER S. Patient satisfaction: what we know about and what we still need to explore. Med Care Rev 1993; 50: 49-79.


Acknowledgements

The Authors would like to acknowledge Addis Ababa University Student Research Programme (SRP) for pursuing this research work by providing fund. We would like to express our deepest gratitude to our study participants for their responses and constructive comments and to carry out this investigation. Without their contribution, this study would have been impossible. Our last but not least heartfelt thanks to our colleagues, School of Nursing, Faculty of Medical Sciences, Addis Ababa University, Ethiopia, for their kind support and cooperation.