

ASSESSMENT OF PATIENT SATISFACTION WITH AUDITABLE PHARMACEUTICAL TRANSACTION AND SERVICES (APTS) AT HIWOT FANA SPECIALIZED UNIVERSITY HOSPITAL IN THE HARARI REGION, ETHIOPIA

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ABSTRACT

Background: Auditable pharmaceutical transaction and services was first piloted at DebraMarko's Hospital and then scaled up to other Hospitals in the Amhara region. It institutes transparency and accountability in the way medicines are managed at health facilities and improves the overall performance of pharmacy services, thereby enhancing the quality of services and minimizing the wastage of resources. **Objective:** To assess patient satisfaction with Auditable pharmaceutical transaction and services on the outpatient pharmacy of

Hiwotfana specialized university hospital Harar. **Methods:** cross-sectional study design was conducted in the Eastern part of Ethiopia at HararHiwotfana specialized University hospital on patient satisfaction with Auditable pharmaceutical transaction and services from May to June 2017 on patients, 323, who come to the out-patient pharmacy during the study period was included in the study. Data was collected using structured questionnaires measuring satisfaction of patients using a Likert scale of 1–5 through face-to-face interviews. The collected data was entered and analyzed using Statistical Packages for Social Sciences (SPSS) version 20. Descriptive statistical methods crosstab were used to analyze quantitative data. **Results:** Among the study population included in this study in Hiwotfana specialized university hospital 200(61.9%) were male and 123(38.1%) are females. Majority of the patients who served in this hospital during our study times were with age 27-37 years(47.4%) from this (45.8%) live in urban area and (54.2%) lived in rural areas. Availability of drug that is prescribed 37(11.5%) very satisfied, 114(35.3%) satisfied, 87(26.9%) neutral, 33(10.2%) dissatisfied and 52(16.1%) very dissatisfied. the overall pharmacy services 21(6.5%) very satisfied, 123(38.1%) satisfied, 145(44.9%) neutral and 34(10.5%) very dissatisfied.

Conclusion and Recommendation: On the basis of our studies we can conclude that the overall satisfaction with the Pharmaceutical services in Hiwotfana university specialized hospitals has to be improve the service and assures the Availability of drugs that are prescribed and also should be improved and periodic patient satisfaction survey should be done to provide feedback for the continuity of service improvement.

KEYWORDS: Auditable pharmaceutical Descriptivestasticalmethods improvement.

ABBREVIATIONS AND ACRONYMS

APTS	Auditable Pharmaceutical Transaction and Services
BPR	Business Process Reengineering
CPS	Clinical Pharmacy Services
FMOH	Federal Ministry of Health
GPP	Good pharmacy practice
GURH	Gonder university Referral Hospital
HFSUH	HiwotFana Specialized University Hospital
JUSH	Jimma University Specialized Hospital
PFSA	Pharmaceutical Fund and Supply Agency
RHBs	Regional Health Bureau
WHO	World Health Organization

INTRODUCTION

Background of the Study

An important component of the health system building block is ensuring availability of medicines and improving transparency and accountability in the practice of medicines transactions and provision of pharmaceutical services. The Federal Ministry of Health in collaboration with Regional Health Bureau and partners has launched the Auditable pharmaceutical transaction and services initiative. The initiative which is planned to be implemented nationally in all hospitals will prioritize hospitals with high volumes and federal hospitals. The main objective of the Auditable pharmaceutical transaction and service initiative are ensuring the availability of hospital specific essential drugs by 100% and specialty drugs by 70% and transparency, and accountability in the pharmaceutical services by implementing APTS. A recent baseline assessment done by Federal ministry of health in collaboration with relevant partners to start APTS implementation revealed that: Hospitals procurement refill rate from PFSA is only 45.2% (Number of Medicine Items Requested to number of Medicine Items received from PFSA) while it is 38.1% from private suppliers; Average counseling time was merely 43 second and exit interview on patient knowledge measured by assessing client knowledge of prescribed medicine concerning dose, route of

administration, frequency and duration showed that only 50.5% clients properly know all parameter. Auditable pharmaceutical transaction and services enables to establish a transparent and accountable medicines transaction and service provision system at health facilities that can be audited at any time.^[1]

Strategies for Interventions in Procurement of medicine through PFSA and other options Medicine Distributions to facilities, Performance monitoring and evaluation and for Auditable pharmaceutical transaction and services system implementation by Developing and supporting enactment of policy and legal framework related to pharmaceutical transaction and service.^[2]

Satisfaction refers to a state of pleasure or contentment with an action, event or service, especially one that was previously desired. When applied to medical care, patient satisfaction be considered in the context of patient appraisal of their desires and expectations of health care.^[3]

Patient satisfaction can be defined as a personal evaluation of the patient on the health care services and providers. Satisfaction reflects the realities of care as well as the preferences and expectations of the patient.^[4]

Patient's satisfaction is very difficult to measure because is multifactor concept. The main factors include communication (people with different languages), social class and education (better communication with people from high social classes and those who are educated), gender (women communicate better with women and vice versa), physically handicapped (e.g. Poor communication with the deaf), poor behavior from pharmacists, demographic factor and the structure of health care system in policy making.^[7,8]

1.1. Statement of the Problem

The challenge for implementation for Auditable pharmaceutical transaction and services: - Shortage of medicines and supplies; Some professionals resist to the change due to various reasons; Delay in some regions in implementing the Auditable pharmaceutical transaction and services; Delay in automating the system; Human resource requirements forcing regions to revise BPR and Unsuitable hospitals design and infrastructure for Auditable pharmaceutical transaction and services.^[1]

Inappropriate pharmaceutical services may lead to ineffective & unsafe treatment, exacerbation or prolongation of illness, distress & harm to patient, increase the cost of treatment. Irrational use of drugs adversely affects the health care of an individual and the community at large. So Counseling of patients by pharmacists is very important because they are responsible for Ensuring safe and effective use of medicine.^[9,10] Patient satisfaction is an integral component of the quality of health care. Improvements in communication, convenience, and courtesy can lead to better use of medical services and ultimately better outcomes. High satisfaction promotes positive health behaviors, such as compliance and continuity with providers.^[5]

Patient satisfaction can be used to Know about health care services from patient's viewpoint provides a key indicator of the quality of health care system. Patients' views of health services point to the sources of deficiencies in the system and direct health professionals and administrators to take corrective actions.^[6]

As evident from the scarce documentation of the opinion of patients towards pharmacy services in different parts of Ethiopia, conducting studies answering this question is important. The current study aimed at assessing the patient satisfaction with the services of the outpatient pharmacy and its variation with socio-demographic characteristics in Hiwotfana Specialized University Hospital (HFSUH) eastern Ethiopia and identifying the gaps in the pharmaceutical services satisfaction.

Workflow in pharmacy services is a problem in many African countries. Its inefficiency also has a negative impact in all over performance of the health facility. By the study made in Nigerian faculty of pharmaceutical sciences, the impact of rearrangement of workflow pattern on queue characteristics and discipline was measured. During the baseline of that study, the queue characteristics in the pharmacy service - patient flow modeling were "single server-multiple queue model". In this study what the researchers did was that they measured various models against the baseline. The comparison queue model types were: single server with single queue model, multiple servers with single queue model, and then multiple servers with multiple queue model. Finally, after staff re-orientation the streamline process, the best model that reduces waiting time from 167.0 to 55.1 minute which indicated a 67% reduction waiting time was adopted by consensus and practiced.^[28]

An article in Washington stated that “millions of dollars of donated ant malarial drugs have been stolen, most often by staff of recipient government medical stores. For this reason, Sweden and Germany have already suspended funding. The article recommended that the entire system needs to change.^[29] In the wall Street journal, a survey showed that ant malarial medicines are diverted from east to West Africa due to lack of transparency of medicines supply management system.^[30] Therefore, a system that can transparently show step by step flow of medicines until it reaches the intended patient is becoming mandatory. APTS is expected to do solve such problems and it will be proved or disproved when evaluated.

The quality of pharmaceutical services can be ensured if and only if there is adequate number of health professional (prescribers and dispensers) with the required qualification.^[31] The study conducted in the Gondar town with the client expectation from and satisfaction with medicine retail outlets a very high proportion of the participant agreed or strongly agreed with they have obtained pharmaceutical service with checking the completeness and accuracy of the prescription.^[4] From the study conducted in Jimma University Specialized Hospital (JUSH) revealed that lack of drugs and supplies in the hospital pharmacies was the major problem, where about 70% of the clients with prescription paper for drugs did not get some or all of the ordered drugs from the Hospital’s Pharmacy.^[32]

1.2. Significance of the Study

As a patient’s satisfaction is determinant of therapeutic outcomes and help full in improving quality and efficacy of health service in general and pharmaceutical service in particular. Therefore, the findings from this study will be helpful in identifying and improving specific areas of the service in patient satisfactions.

Finally, this study will be used as source document for further similar studies and will be helpful for the planners in this Hiwotfana specialized university hospitals mainly drugs and therapeutic committee, drug supply managers and health workers in the planning and implementation of APTS service.

2. Objectives of the Study

2.1. General objective

To assess the patient satisfaction on Auditable pharmaceutical transaction and services (APTS) at the outpatient pharmacy of Hiwotfana specialized university Hospital Harar from May 15to June 1, 2017.

2.2. Specific objectives

1.To assess level of patient satisfaction with APTS at the outpatient pharmacy of HFSUH from May to June, 2017.

2.To assess patient satisfaction with the availability of prescribed medications at HFSUH from May to Jun, 2017.

4. MATERIALS AND METHOD

4.1. Study Area

The study was conducted in Hiwotfana specialized hospitals located 526 km to the East of Addis Ababa, Ethiopia, Harari region, Harar city from May to June 2017. The region is divided into nine woreda. The estimated total population is 183,344.^[36] There are six hospitals [Four governmental (two public, two military) and two private hospitals]. There are eight Health centers. The hospitals have different units in it: internal medicine, gynecology/obstetrics, surgery, dentistry, ANC, ophthalmology, hospital pharmacy, dermatology, ART clinic and others. The study was performed at out-patient hospital pharmacy.

4.2. Study Design and Period

In this work, cross sectional institution based study was conducted on patient satisfaction with auditable pharmaceutical transaction service in Hiwotfana specialized university hospital by interviewing each patient coming to outpatient pharmacy service from May 15 to June 1,2017. Required information was collected using a structured data collection sheet.

4.3. Study Variables

4.3.1. Dependent variables

- patient satisfaction on APTS
- availability of prescribed medications.

4.3.2. Independent variables

- Age
- Sex
- Waiting time
- Marital status
- Ethnicity
- Income

- Religion
- Educational status (year of enrollment)
- occupational status
- Language

4.4. Population

4.4.1. Source population

The source population for this study was all patients who were entering at out-patient pharmacy of Hiwotfana specialized university hospital from May 15 to June 1, 2017.

4.4.2. Study population

The study population for this study was patients who were entering at out-patient pharmacy of Hiwotfana specialized university hospitals from May 15 to June 1, 2017.

4.5. Inclusion Criteria and Exclusion Criteria

4.5.1. Inclusion criteria

Patients entering to the out-patient pharmacy during data collection period.

4.5.2. Exclusion criteria

- Any patient less than 18 years old and patients who are non-volunteer;
- Sever sick patient and age greater than 80 years old.

4.6. Sample Size and Sample Technique

4.6.1. Sample Size Determination

The sample size was determined by using a single population proportion formula:

$$n = \frac{z^2 p(1-p)}{d^2}$$

where n is the sample size required; d, marginal error of 5% (d=0.05); Z is the degree of accuracy required at 95% confidence level =1.96; and p= 0.744 (P= Level of satisfaction)

Level of patient satisfaction have taken from previously done research studies with systems improved Access to pharmaceutical services (SIAPS) funded with (USAID) in 2016 Debra Markos hospital.

Using the mentioned formula, the sample size was calculated as follows

$$n = \frac{1.96^2 0.744(1-0.744)}{0.05^2} = 293$$

After adding 10% of the calculated sample size for possible non-response, the final sample size will be $30+293=323$.

4.6.2. Sampling Techniquel

In this study random sampling techniques was used since patients who need pharmaceutical service adequately available. The average number of patients who get this service per day in HFSUH outpatient pharmacy was 70 and for 15 days' data collection time we have got about 1050 patients the value of K was determined by this way. And the result of k value become 3.

4.7. Data Collection Tools and Technique

4.7.1. Data collection tools

Structured and pre-tested interview questionnaire was used for the purpose this survey. The questionnaire consisted of both closed- and open-ended questions. In addition to questions on socio demographic information, the questionnaire was include questions on patient satisfaction with APTS (Appendix B).

4.7.2. Data collection technique

The data was collected by using interview questionnaires, about patient satisfaction with APTS translated to Amharic and Oromifa languages and given to the data collector.

4.8. Plan for Data collection and Quality Control

Data collecting materials: The materials used was the following during the collection. This includes pen, pencil, paper, bag, binder, marker, rubber, note book, sharper, questionnaire and observational check list and scientific calculator. and to keep the quality of our data the following activities was used: Informing the respondents to answer the questionnaire based on the information listed on the questionnaire.

Data quality assurance

To assure the data quality during the data collection, the study participants was well oriented about the study topic focusing on its main objectives, significance, the advantage of answering the questions honestly, and confidentiality matters.

Training was given to the data collectors and questionnaire was pre-tested on jugol hospital and consistent supervision of data collector was carried out.

4.9. Plan for Data Processing and Analysis

MS-Excel and statistical package for social sciences (SPSS) version 20.0 programs was used for quantitative data entry and analysis, respectively. All the collected data was checked for accuracy and completeness prior to entry in to the data base. After the data entry, the data base information cross-checked with the data collection forms before commencement of analysis. data will be presented in the form of table and figure. Frequencies, means and standard deviations (SD) was computed to summarize the data. Measurement of relationship between different variables was performed with Chi-square test for categorical data.

4.10. Operational Definition

APTS: is a service delivery arrangement that enables to establish a transparent and accountable medicines transaction and service provision system at health facilities that can be audited at any time.^[13]

Patient satisfaction

The extent to which an individual's needs and wants are met.^[13]

Clinical pharmacy services (CPS)

Are patient oriented services developed to promote the rational use of medicines and more specifically to maximize therapeutic effect, minimize risk, minimize cost and respect patient choice.^[13]

Reliable information

Generate timely, reliable and consistent information on products, finance and services using daily summary and monthly reports formats.^[13]

Satisfied

Those who scored mean and above the mean satisfaction score.^[14,22]

Dissatisfied

Those who score below the mean satisfaction score.^[14,22]

4.11. Ethical Consideration

Approval request paper was submitted to HFSUH to undertake the study. Informed consent was obtained from each study subject prior to the interview after the purpose of the study is explained to respondent. Confidentiality of the information was assured and privacy of the

respondents was maintained. Information was provided that as procedure does not cause any harm to the study subject.

4.12. Plan for Report Dissemination

After completion of the study, the result was compiled and given to Harar health science college, HFSUH and other concerned bodies.

5. RESULTS

5.1 socio demographic characteristics of respondents

As shown in the table below, among the study pupation included in this study in Hiwotfana specialized university hospital specialized 200(61.9%) were male and 123(38.1%) are females and majority of the patients who served in this hospital during our study times was (54.2%) lived in rural areas. And the majority was Muslim and farmer, and also the majorities are Oromo. (Table 1).

Table. 1: Socio-Demographic Characteristics of Respondents in HUSU, 2017(N=323).

Variables	Category	Frequency	Percent
Sex	Male	200	61.9%
	Female	123	38.1%
Current resident	Urban	148	45.8%
	Rural	175	54.2%
Occupation	Farmer	108	33.4%
	Merchant	92	28.5%
	Government employee	81	25.1%
	Student	33	10.2%
	Daily labor	9	2.8%
Ethnicity	Oromo	193	59.8%
	Amahar	90	27.9%
	Harari	31	9.6%
	Tigre	9	2.8%

5.2 Level of interaction of patients with pharmacists at HSUH

As shown in tables below among the study populations in HSUH 112(34.7%) were new contact and good interaction rate with pharmacy personnel. And the majority of peoples communicate with oromifa language. And when we see the pharmacy personnel clarity of voice is good and when we see the comfort and cleanliness of outpatient pharmacy majority of respondents satisfied and lastly when we see the number of outpatient staffs in the perception of our respondents it is enough. (Table 2).

Table. 2: Level of interaction of patients with pharmacy personnel at HFSUH.

Variable	Category	Frequency	Percentage
Ever visited outpatient pharmacy	Frist time	112	34.7%
	Second time	127	39.3%
	>2	84	26.0%
How do you state interaction with pharmacy personnel	Poor	80	24.8%
	Moderate	109	33.7%
	Good	103	31.9%
	Excellent	31	9.6%
Language of communication with the pharmacy personnel	Amharic	152	47.1%
	Harari	10	3.1%
	Afaan Oromo	158	48.9%
	Tirgigna	3	0.9%
Clarity of the voice and tone of the pharmacy personnel	Clear	272	84.2%
	Not clear	51	15.8%
Perception about the comfort and cleanness of the outpatient pharmacy	Very uncomfortable	31	9.6%
	Uncomfortable	33	10.2%
	Neutral	49	15.2%
	Comfortable	183	56.7%
	Very comfortable	27	8.4%

5.3. Respondent's satisfaction with outpatient pharmacy service

As shown from table below satisfaction with suitability of dispensing area the majority of respondents were satisfied and the satisfaction level with the amount of time spend and also the majority were satisfied with the given advice and when we see the availability of drug that is prescribed the majority of respondents was not satisfied but when we see the fairness of cost the majority was satisfied. on the overall APTSparmacy services the majority was notsatisfied.

Table. 3: Respondants satisfaction with allover Auditable pharmaceutical services at outpatient pharmacy of Hiwotfana specialized university hospitals.

No	Variable	VD (%)	D (%)	N (%)	S (%)	VS (%)
1	Satisfied with dispensing area and suitability of counters for services	15 (4.6)	52(16.1)	54(16.7)	17(54.2)	27(8.4)
2	Satisfaction with the privacy of the outpatient pharmacy	76(23.5)	63(19.5)	62(19.2)	103(31.9)	19(5.9)
3	Satisfaction with the amount of time the pharmacy service providers spent with them	30(9.3)	106(32.8)	31(9.8)	138(42.7)	18(5.6)
4	Satisfaction with the advice given by pharmacy service providers	7(2.2)	42(13.0)	78(24.1)	167(51.7)	29(9.0)
5	Satisfaction with the availability of prescribed medicines	52(16.1)	33(10.2)	84(26.9)	114(35.3)	37(11.5)
6	Satisfaction with the fairness of costs of medicines in the outpatient pharmacy	9(2.8)	21(6.5)	99(30.7)	112(37.8)	72(22.3)

7	Satisfaction with respect shown by the staff members	0(0)	34(10.5)	143(44.3)	113(35.0)	33(10.2)
8	Satisfaction with the location of outpatient pharmacy relative to other service areas	0(0)	34(10.5)	137(42.2)	98(30.3)	51(15.8)
9	Satisfaction with the amount of time spent in waiting for the prescription till to be filled	0(0)	34(10.5)	146(45.2)	116(35.9)	27(8.4)
10	How do you state the satisfaction with the overall APTS pharmacy services	0(0)	34(10.5)	145(4.9)	123(38.1)	21(6.5)

NB: Where VD-very dissatisfied, D-dissatisfied, N-neutral, S-satisfied, VS-very satisfied Satisfied is the sum of very satisfied and satisfied Whereas dissatisfied is the sum of very dissatisfied, dissatisfied and neutral and their values are obtained by calculating the mean of each that is mean and above the mean is taken as satisfied and below the mean is taken as dissatisfied.

Table. 4: which shows the mean of each listed variables of outpatient pharmacy of HFSUH.

No	Variable	Dissatisfied (%)	Satisfied (%)	Above the mean/mean
1	Satisfied with dispensing area and suitability of counters for services	36	63.5	
2	Satisfaction with the privacy of the outpatient pharmacy	63.8	36.2	
3	Satisfaction with the amount of time the pharmacy service providers spent with them	51.1	48.9	
4	Satisfaction with the advice given by pharmacy service providers	40.6	59.4	
5	Satisfaction with the availability of prescribed medicines	54.2	45.8	
6	Satisfaction with the fairness of costs of medicines in the outpatient pharmacy	41.5	58.5	
7	Satisfaction with respect shown by the staff members	55.7	44.3	
8	Satisfaction with the location of outpatient pharmacy relative to other service areas	55.7	44.3	
9	Satisfaction with the amount of time spent in waiting for the prescription till to be filled	57	43	
10	How do you state the satisfaction with the overall APTS pharmacy services	56.3	43.7	
	Total summation of values	520	480	
	Mean=4.92			

NB-mean =4.92 and satisfied refers to mean and greater to mean whereas dissatisfied were less than the mean with all the listed variables the mean was calculated and the satisfied number of respondents 174 and the dissatisfied was 149 on the activities with the allover outpatient pharmacy services. From this we can get the percentage dissatisfied (46.1%) and the satisfied become (53.9%) from the total of 323 respondents.

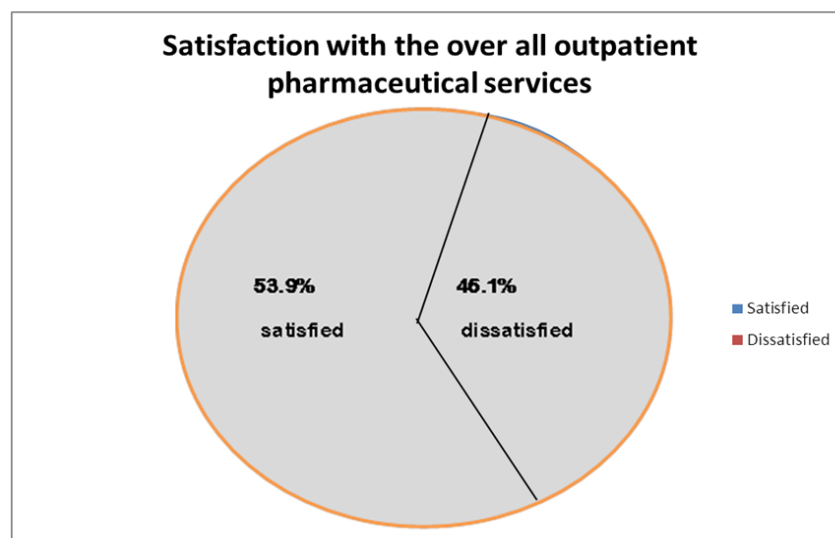


Fig. 1: satisfaction level of patients with the overall outpatient pharmacy services in HFSUH 2017.

6. DISCUSSION

In our studies that is concerning to the level of patient satisfaction with the service given at Hiwotfana specialized university hospitals the satisfaction levels are different on different site of pharmacy services. Based on the result of this studies unavailability of certain drugs dissatisfaction Only 169(53.2%) but the studies done in Nigeria shows that 56%.^[3] these shows that there is problem on the utilization of budgets.

This study revealed that 196(60.7%) of respondents in Hiwotfana specialized university hospitals are understands what the pharmacy service providers instructed them. this shows that it is not comparable with the studies done in Sudan that is 82% of respondents understand what the pharmacy service providers Instructed so the hospital has to be work greatly on instruction services which was given for the patients at the outpatient pharmacy services.^[7]

This our studies shows that 156(48.3%) of respondents in Hiwotfana specialized university hospitals were satisfied with the amount of time that the pharmacy professionals spend with them for providing the appropriate medications information. However, the study done in Gonder university referral hospitals shows that only 9.2% of the respondents were satisfied with amount of time spent with the pharmacy professionals.^[22] this may be due to there is a variation in pharmacy professionals approach to the respondents.

Based on the findings of this studies on Hiwotfana specialized university hospitals 151(46.8%) of respondents were satisfied while 172(53.2%) dissatisfied with the availability of Prescribed medications in hospitals. However, studies conducted in jimmauniversity Specialized hospitals shows that 70% of the clients were dissatisfied with the availability of prescribed drug in hospitals pharmacy.^[31] this may be due to the implementation APTS was improve the appropriate delivery and availability of prescribed drugs on the hospitals.

On the basis of the findings of our studies on satisfaction with the privacy of outpatient pharmacy is 122(37.8%) respondents were satisfied. But when we see the baseline assessment did at Fedral, Adisabeba&teaching hospitals shows that 54.9% of respondents were satisfied with the privacy in dispensary area which is shows our finding is lower than Adisabeba this may be due to not having proper and well organized premises or infrastructures.^[32]

7. CONCLUSION AND RECOMENDATION

On the basis of our studies we can conclude that the overall satisfaction with the outpatient Pharmaceutical services in Hiwotfanaspecialized university hospitals was 48% and from this our studies it has to be improve the service delivery and proper assurances of the Availability of drugs that are mostly prescribed should be improved and periodic patient satisfaction survey should be done to provide feedback for the continuity of service improvement. and lastly we recommend that Hiwotfana specialized University hospitals have to be provide better pharmaceutical services with the proper implementation of APTS in order to meet good patient satisfactions with ensuring the availability of drugs prescribed in this hospitals and should be periodic checking and correcting any errors with this service program for better effort. and Harar health science college department of pharmacy to do further researches on periodic assessment of patient's satisfaction with the pharmaceutical services in Hiwotfana specialized university specialized hospitals.

8. LIMITATION OF THE STUDY

The problem we encounter wasdifferent like some clients do not have willing to be interviewed additionally shortage of budgets to some extent and shortage of time.

The study was done only at Hiwotfana specialized university specialized hospitals and this studies may not represent the patient satisfaction with the pharmaceutical services in all governmental and private hospitals in Harar. And the minimum sample used to show the

general states of the pharmacy services at Hiwotfana specialized university hospital may not adequately represent since it should be done on another governmental and private hospitals to assure uniform utilization of auditable pharmaceutical transaction services.

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