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MASTERS OF HOSPITAL AND HEALTH CARE ADMINISTRATION

IMPROVING PATIENT SATISFACTION RATE THROUGH THE REDUCTION OF WAITING TIME IN OPD SERVICES AT INKURUNZIZA ORTHOPEDIC SPECIALIZED HOSPITAL

A capstone thesis to be submitted in partial fulfillment of the requirements for Master of Hospital and Healthcare Administration (MHA)

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Kigali, November 2022

STUDENT'S DECLARATION

I hereby declare that "**Improving patient's satisfaction rate through the reduction of waiting time among patients attending OPD services at Inkuru Nziza Orthopedic Specialized Hospital"** is my own work, that it has not been submitted for any degree or examination at any other University, and that all the resources used or quoted have been indicated and acknowledged by complete references.

Murenzi Augustin

Signature …….. November 2022.

SUPERVISOR'S DECLARATION

We confirm that, to the best of my knowledge:

- The study was carried out and the dissertation was prepared under our direct supervision;
- The study was conducted in accordance with the degree regulations;
- The capstone dissertation represents the original work of the candidate;
- The contribution made to the study by the supervisory team and other staff members of the University was consistent with normal supervisory practice;
- External contributions in the research are acknowledged.

Signature……Date……

Assoc. Prof. SAGAHUTU Jean Baptiste

Signature……Date……

Mr. Rubega Lauben

Signature……Date……

Mulindwa Venuste

DEDICATION

I dedicate this capstone to Almighty Lord for granting me the strength. Also to my lovely wife HABINSHUTI Marianne and my daughter GAJU MURENZI Marie Inessa for their unconditional love, support and encouragement during my studies and making this capstone work.

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Most important, I am grateful to my family members especially my wife HABINSHUTI Marianne and our daughter GAJU MURENZI Marie Inessa and other family members not mentioned. I highly recognize your encouragement and patience during my absence.

I am grateful to all those who participated in this study especially patients attending at Inkuru Nziza Orthopedic Specialized Hospital in general and OPD services especially for their generosity and trust to let me conduct this study. Finally, I extend my appreciations and thanks to my friends, colleagues at work, all my classmates and others that I have not mentioned for their support and assistance in one way or another.

MAY GOD BLESS YOU!

ABSTRACT

Patients' satisfaction has been raised as a health issue especially as an indicator for measuring the quality of health care and it is also found that it is much influenced by increased waits. The present study worked on increasing patients' satisfaction rate through reduction of waiting time.We conducted a pre and post intervention study with a cross-sectional study design. A convenient sampling method was applied in gathering the baseline data, and during both phases such as evaluation and post intervention phases. The activities done include elaboration of leverage system used in appointments provision for patients and training of OPD staff on how to avoid patients' frustration when waiting for services such as keep updating them about coming time of doctors, apologize for the delay, keeping them busy etc... Our results show that the patients' satisfaction rate has increased from 50 % to 80% even if there is no significant reduction of waiting time. This study also shows that to increase patients' satisfaction doesn't only depend on the reduction of waiting time or increased resources such as increased staffing. Our recommendations include that the receptionists must be trained on providing full information regarding waiting time, Incharge of Customer care and nurses should also get regular training on how to avoid patients frustration when waiting for consultation and then the doctors and other physicians should also be encourage to apologize when they delay even if it is due to they were doing other hospital duties.

Key words:

Waiting Time, Patient Satisfaction, Satisfaction Determinants, Out Patient Department

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LIST OF ACRONYMS AND ABREVIATIONS

EIR: **“**Eglise Inkuru Nziza au Rwanda”

IOSH: Inkurunziza Orthopedic Specialized Hospital

USA: United State of America

HCAHPS: Hospital Consumer Assessment of Health care Providers and Systems.

OPD: Outpatient department

SMS: Short message service

WHO: World Health Organization

DEFINITION OF KEY TERMS

Patient satisfaction: It is referred as patients' emotions, feelings and their perceptions on delivered healthcare services.

Waiting time: The waiting time refers to the total number of minutes that each patient spent waiting for every health care service.

Satisfaction determinants: Patient satisfaction is primarily influenced by nine healthcare determinants: Technical Care, Interpersonal Care, Physical Environment, Accessibility, Availability, Finances, Organizational Characteristics, Continuity of Care and Outcomes of Care

Outpatient department (OPD): OPD is defined as that part of a hospital with assigned physical facilities and a sufficient number of medical and other staff during normal working hours to care for patients who are not registered as inpatients. increase.

CHAPTER ONE: INTRODUCTION

1.1. INTRODUCTION

This chapter includes the background which includes the overviews of the patients' satisfaction worldwide and in Africa, satisfaction meaning together with its determinants including the impact of waiting time on patients' satisfaction. The solutions applied worldwide for improving patients' satisfaction are mentioned. This chapter also includes the problem statement, objective of the study, hypothesis, and justification of the project and then the organization of the dissertation.

1.2. BACKGROUND

1.2.1. The hospital setting

The Inkuru Nziza Orthopedic Specialized Hospital is a semi-public Hospital owned by Inkuru Nziza Church in Rwanda (EIR). The Hospital is located in the capital of Rwanda, Kigali, Kicukiro District, Gikondo Sector, Kanserege Cell and Marembo III village (Www.inkurunzizahospital.org). It was accredited as a specialized Hospital in Rehabilitation and Orthopedic conditions in September 2020. It aims at providing the high quality of rehabilitation and surgical interventions of orthopedic conditions. (Official Gazette no Special of 01/09/2020).

At the beginning, in 1997, it had a name of Inkuru Nziza Community Based Rehabilitation (CBR) in which it provided only services related to rehabilitation and it was more known to the name of CBR Inkuru Nziza. Then, as it has been developing, in 2008, it increased the services offered at the beginning by initiating the surgical interventions of orthopedic conditions of

children and then it changed its name to Inkuru Nziza Orthopedic Pediatric Hospital. (Annual report, 2008).

Currently, the Hospital provides the services of Physiotherapy, Orthopaedic Workshop, Ophthalmology, Optometry, Walking aids workshop, General and Specialized consultations, Surgery, Radiography, Laboratory, and Dental services (Www.inkurunzizahospital.org). By estimation, this Hospital receives patients between 65 and 80 per day in which about 90% of all patients are accounted in Outpatient Department (OPD). The above services are provided by 49 permanent staff (twenty Physicians, eight Administrative Staff, one Doctor, fourteen cleaners and four security guards) and 9 part-timers (Five surgeons and two anaesthetic Doctors). The Hospital is consulted by the patients' country wide and from abroad (Annual report, 2018).

1.2.2. Patient satisfaction

Patient satisfaction is a crucial and frequently used indicator for evaluating the caliber of treatment offered by a health facility[2].It influences the timely, effective, and patient-centered provision of quality healthcare, as well as clinical outcomes, patient retention, and medical malpractice claims[2].

The researchers reviewed that patient satisfaction is mostly influenced by nine health care determinants such as technical care, interpersonal care, physical environment, accessibility, availability, finances, organization characteristics, continuity of care and outcome of care[3].

Physician interpersonal care or communication skills related to physician attitude, description of condition, level of care, emotional support, respect for patient preferences, and patient involvement in decision-making were the most influential on patient care[3]. In contrast, research

conducted in the outpatient department found that long waiting times and crowded registrations produced the highest satisfaction[4] and these aspects are included in the determinants of access. Moreover, physical comfort has been reported to result in the highest degree of satisfaction compared to other satisfaction determinants[5].

According to the Kenyatta National Hospital Cancer Outpatient Clinic Patient Satisfaction Survey, precisely conducted in Kenya, Africa, patients were satisfied and above average in most aspects considered, Overall satisfaction with the service was 64.9%[6].Another study conducted at Mwananyamala Hospital in Dares Salaam, Tanzania, found that patient satisfaction was primarily affected by the quality of care they received, with the main areas of concern being by promoting compassion, politeness and active listening, and availability of essential drugs. This researcher also found that there was a needed to improve the communication skills, availability of essential medicines, medical prescribing skills and prescription skills of clinicians [7.]Subsequently, another survey conducted in South Africa found that only 44.7% were satisfied with their wait times[8].

Little is known on improving patient satisfaction in Rwanda, available information is limited and scanty. The scientific research done in USA, California on improving patient satisfaction rate through physician education, feedback, and incentives revealed an increase by 8.1% (from 65.7% to 73.8%) [9]. These researchers also found that for patients responded positively to all 3 physician-related Hospital Consumer Assessment of Health Care Providers and Systems (HCAHPS), the change was 5.1% (from 83.8% to 88.9%) of patients responded always to "How often did doctors treat you with courtesy and respect [9]? By 6.0% (from 75.6% to 81.6%) for patients responded always to "does your doctor listen carefully to you? By 7.8% (72.1% to

79.9% for patients responded always to “does your doctor explain things in a way you could understand [9]? According to the above researchers too, the rate of patients who would definitely recommend this hospital to friends and family improved significantly to 7.1% (from 82.7% to 89.8%) [9].By my knowledge, there are few studies conducted in Africa with a purpose of increasing patients’ satisfaction rate while this problem is a universal issue. This motivates the researcher to work on increasing patients’ satisfaction through reduction of waiting time in such country of Africa like Rwanda at Inkuru Nziza Orthopedic Specialized Hospital.

1.3. PROBLEM STATEMENT

There is a low satisfaction rate for the patients attending OPD services at Inkuru Nziza Orthopedic Specialized Hospital. The OPD services included in this project are general & specialized consultations, laboratory, radiography, dental, ophthalmology, cashier and reception desk. During the meeting with OPD representative staff (13 staff), 90% of them voted that patient satisfaction is the first problem which could be conduct in order to find out on how to improve patient satisfaction rate as well as increasing patients’ attendance. Failure to satisfy a patient or meet his expectations means losing him forever [10]. Patient dissatisfaction may result into loss of clients, it has a great impact and even if it is only a single patient, as long as it continues [10].Losing one patient leads to many later: satisfying one customer will inform four other customers, and alienating one customer will spread it to ten or more if the problem is severe[11]. This researcher reported also that improving patient satisfaction with medical services by reducing waiting times, providing patients with timely care, and providing a compassionate approach contributes to a positive image of the hospital in people's minds. It also helps to create and build the image of the hospital locally and nationally. Moreover, the problem of low

satisfaction among the clients attending at this Hospital can be one of the most serious issues affecting the Hospital development in term of generated income while this Hospital is financially based on its generated income. In the United States, one patient loss due to dissatisfaction equates to loss of over $200,000[10].

1.4.MAGNITUDE OF THE PROBLEM

In order to find out the extent of satisfaction rate in relation to waiting time at Inkuru Nziza Orthopedic Hospital, the researcher has conducted a baseline data collection by using a standardized tool of questionnaire, and the results are illustrated in table below:

The table 1: shows the satisfaction rate in relation to the waiting time in OPD services:

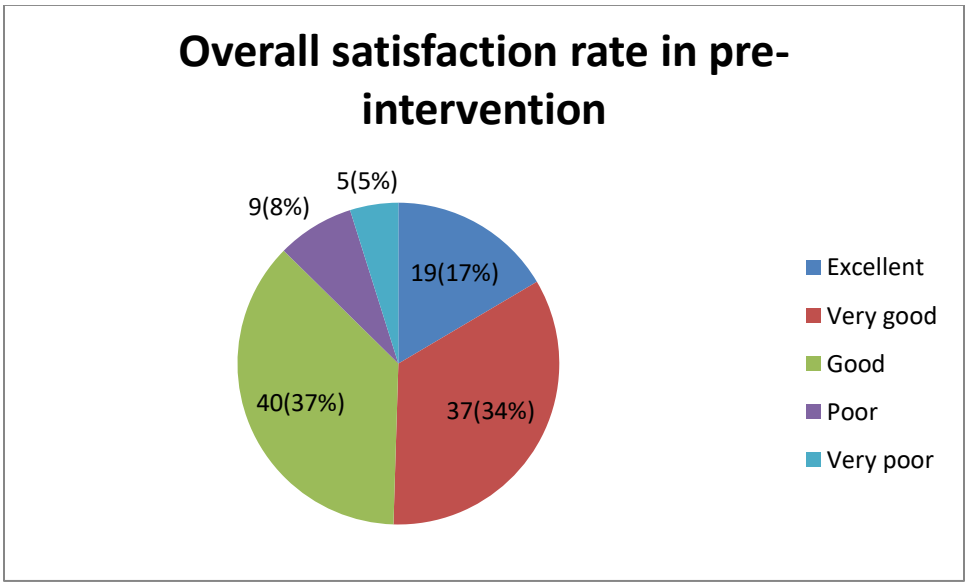
Waiting time at OPD places	**SATISFACTION RATE**					
	Poor	**Fair**	**Good**	**Verygood**	**Excellent**	**TOTAL**
Waiting time at reception desk	0(0%)	8(8%)	19(18%)	51(49%)	26(25%)	**104**
Waiting time for consultation	14(14%)	30(30%)	28(28%)	21(21%)	10(10%)	**101**
Waiting at cashiers	3(3%)	7(8%)	11(12%)	48(54%)	20(22%)	**89**
Waiting time at Radiography results	1(2%)	5(12%)	7(17%)	19(46%)	9(22%)	**41**
Waiting time at Laboratory exams	1(3%)	3(9%)	5(16%)	16(50%)	7(22%)	**32**
Waiting time at pharmacy	1(4%)	2(9%)	4(17%)	13(57%)	3(13%)	**23**
TOTAL	**23(6%)**	**45(11%)**	**84(21%)**	**160(42%)**	**69(11%)**	**381**

The table shows that regarding to the waiting time, the unsatisfied patients were 26% (0+8+19) at reception desk, 71% (18+24+38) to the waiting for consultation, 23.6% at cashier desk, 31.7% for radiography results, 28% for laboratory exams, and 30% at pharmacy desk.

These above results show that the more ratio of dissatisfaction is found in the waiting time for consultation (71%). The other study conducted by different people, on different participants also found the same results in which it was revealed that long waiting time was mostly marked in waiting time for consultation and waiting time for billing[12].

Then, the overall satisfaction rate in consideration of all its determinants at IOSH is also searched.

The Figure 1 shows the overall satisfaction rate in consideration of all its determinants:



The figure 1 shows that lesser than half (50%) (33% for very good + 17% for excellent) of patients attending in OPD are not satisfied. The categories considered as the satisfaction are only

excellent and very good. So, the order ones who ticketed on very poor, poor, or good categories are taken as dissatisfied patients.

1.5. OBJECTIVE

The objective of this study is to increase the satisfaction rate of patients attending OPD services at Inkuru Nziza Orthopedic Specialized hospital from 50% to 85% within 6 months.

CHAPTER TWO: LITERATURE REVIEW

Patient satisfaction refers to the patient's feelings, emotions and perceptions of the healthcare services provided[1]. Patient satisfaction is an important and commonly used metric to measure the quality of care[15]. Patient satisfaction is primarily influenced by nine healthcare determinants: B. Technical Care, Interpersonal Care, Physical Environment, Accessibility, Availability, Finances, Organizational Characteristics, Continuity of Care and Outcomes of Care[3]. The waiting time is included among the aspects of the accessibility determinant[3]. Waiting time refers to the total number of minutes each patient spent waiting for each medical service[16].

The most important determinants influencing patients' satisfaction were interpersonal care or communication skills of physicians in terms of their attitude, explanation of conditions, level of care, emotional support, respect for patient preferences and involving patients in decision making.[3] In contrast, a study carried out in out-patients department found that long waiting time and overcrowded registration scored the highest dissatisfaction rate.[4] Furthermore, physical comfort achieved the highest satisfaction compared to other satisfaction determinants.[5]

On the other hand, long patient wait times are common in outpatient facilities, and this problem contributes to many public health problems, including limited access to care, disrupted hospital workflow, and patient dissatisfaction [17&18]. The Canadian Institute of Health Information reported that 90% of emergency departments, the actual time spent from triage to first doctor's assessment were much longer than the recommended time[19]. Actual wait times ranged from 47 to 229 minutes, compared to the recommended maximum of 120 minutes[19].In China, a survey of outpatients at a tertiary hospital found that the average waiting time to enroll was 98 minutes, with some patients taking 98 minutes to enroll and some patients taking up to 13.5 hours to enrol

for a certain doctor [20]. Delays in patient care due to long wait times are common and may result in postponing the care, and patients often wait longer than they actually see their healthcare provider[21]. For example, a national survey conducted in public hospitals in Malaysia found that the average waiting time for patients from registration to receipt of a prescription was more than two hours, and the average time spent consulting with medical staff was just 15 minutes[21].

A study conducted at a US university hospital found that 61% of patients waited between 90 and 180 minutes in the outpatient department, while 36.1% waited less than 5 minutes at the doctor's office[22]. For instance, Wait times at clinics turned out to be a major factor in soldiers' dissatisfaction seeking medical services [23].Patients were also more likely to be satisfied with less waiting time [24]. Longer waiting times were again reported to reduce patient satisfaction and willingness to return [25]. One study also found that patients were less satisfied when the longer they waited to see a doctor increased [26]. A research study focused on the Chinese population found that emergency room patients who were less satisfied with waiting times were less likely to be satisfied with the overall care services they received[27].

Patient wait times were also found to be related to patient perceptions of other aspects of care that were not directly related to medical satisfaction[28]. We found that patients were more likely to find staff friendly or caring the less they waited[28].We also found that longer wait times can lead to lower patient perceptions of physician skills and lower patient confidence in the health services provided [29].Patient wait times significantly impacted patient perceptions of caregiver's ability to provide care reliably and accurately[30].

The study conducted in India, they indicated that the overall satisfaction level of excellent was 73% while for average were 22%.[31]In another study of patient satisfaction in the cancer

outpatient department of Kenyatta National Hospital, conducted in Kenya, Africa, patients were satisfied with most aspects considered and scored above average[6]. This study also showed an overall satisfaction rate of 64.9% at Cancer Treatment Center services.that the overall satisfaction rating of the services at the Cancer Treatment Centre was 64.9%[6].Another study carried out in Tanzania found that patients presented an overall dissatisfaction on quality of care.[7]Then another study regarding to patient satisfaction was conducted in South Africa and it was revealed that only 44.7% were satisfied on the waiting time.[8]

Strategies to reduce wait times and improve care satisfaction included reviewing appointment scheduling systems and improving workforce management[32&33]. However, due to labor shortages and an increase in the number of patients, it is inevitable that waiting times will not be prolonged. Solving this supply and demand problem is obviously difficult with limited resources[32&33].

Some researchers have approached the problem of long waiting times and patient dissatisfaction from a psychological perspective. They have focused on reducing patient frustration with long waiting times through methods related to perception and psychology. This includes managing patient expectations by encouraging the patients to arrive a little bit late to the appointment time given at the clinic[34]; let the patient know how long they have to wait in the waiting room [23]; Providing clear instructions through public information systems[26&37] and providing health care education to Patients[35].

Other studies have shown that time spent with a doctor has a greater impact on patient satisfaction than wait time[36]. For example, one study showed that longer stays with a doctor reduced patient dissatisfaction with long wait times[37].

Research done in USA, California on improving patient satisfaction rate through physician education, feedback, and incentives reported an increase of overall satisfaction rate by 8.1% (from 65.7% to 73.8%); by 5.1% (from 83.8% to 88.9%) of patients responded always to "How often did doctors treat you with courtesy and respect [9]? By 6.0% (from 75.6% to 81.6%) for patients responded always to "does your doctor listen carefully to you? By 7.8% (72.1% to 79.9% for patients responded always to "does your doctor explain things in a way you could understand [9]? There was also a significant improvement in percentage of 7.1% (from 82.7% to 89.8%) for patients who would definitely recommend this hospital to their friends and family.[9]

CHAPTER THREE: METHODOLOGY

3.1. STUDY DESIGN

This study was pre and post intervention; cross-sectional design was used to approach the participants in which each participant filled the questionnaire by ticking on the answer related to her/his feelings on how was satisfied about the services provided by Inkurunziza Orthopedic Hospital. A convenient sampling method was used in which all patients presenting OPD services at Inkurunziza Orthopedic Hospital were requested to participate up to when the required number was obtained. The study population was all patients or caregivers representing children aging above 18 years, both females and males, all attending at Inkurunziza Orthopedic Hospital in OPD services until the required number was reached. The number of participants (n) was obtained by using the Yamane's formula [38] in which $n = N / (1+N (e^2))$, where n stands for simple size, N for study population and e equal to 0.05.

In order to gather the data regarding the satisfaction rate among the patients attending at Inkuru Nziza Orthopedic Specialized Hospital for finding out the baseline data, in phase of discovering the root cause, and also during evaluation phase, all the data was collected by using a structured self-administered questionnaire in which the respondents filled the questionnaire themselves. A cross-section method was applied in which all patients attending OPD services, females and males aged 18 years and above attended on the day of data collection were approached to participate voluntarily. The OPD services included in this study are consultation, laboratory, radiography, dental, ophthalmology and other non-clinical services like reception and cashier desk. The questionnaire was adapted from a standardized questionnaire attached to a letter

explaining the purpose of the study and an informed consent form asking participants to sign their voluntary participation in the study.

The advantage of self-administered surveys is that respondents do not necessarily have to be with an investigator, but they complete the survey themselves. Also, the response speed is quite fast[14]. The standardized questionnaire was closed ended questions [39] and it was in three official languages used in Rwanda such as Kinyarwanda, English and French. The appropriate translation was done by the competent person.

3.2. ROOT CAUSES ANALYSIS

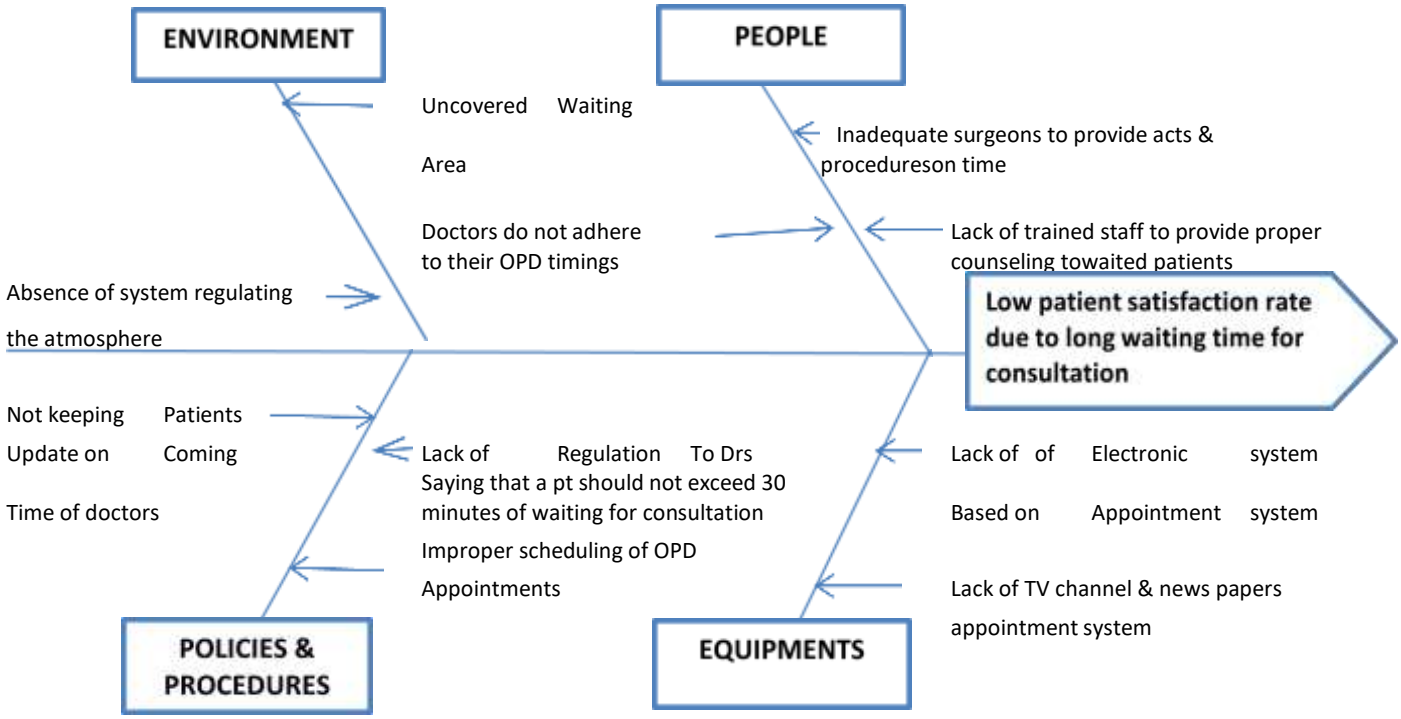
This analysis consists of list of possible root causes, verification of possible root causes and identification of real root cause.

3.2.1. The possible root causes

By referring to the baseline data in which it was found that the most determinants for dissatisfaction for patients attending at Inkuru Nziza Orthopedic Hospital is long waiting time for consultation, the possible root causes for it were listed by the OPD team and they are illustrated by using the fishbone diagram.

The fishbone diagram shows the most suggested root causes:

FISHBORNE DIAGRAM



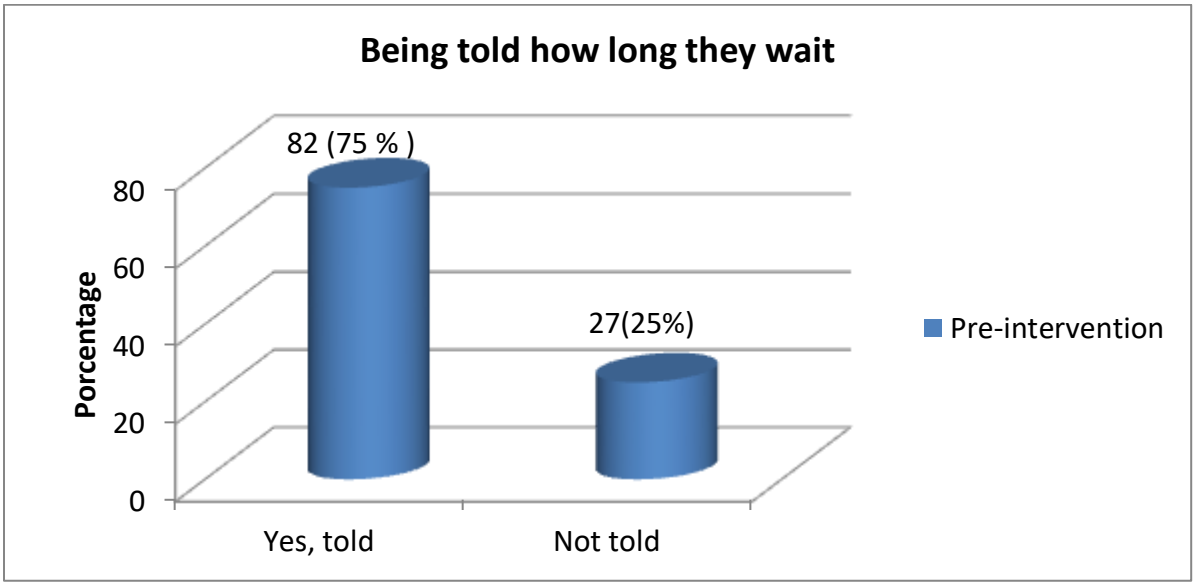
3.2.2. Verification of possible root causes

3.2.2.1. On people

Cause1. Lack of trained staff to provide proper counseling for the waited patients:

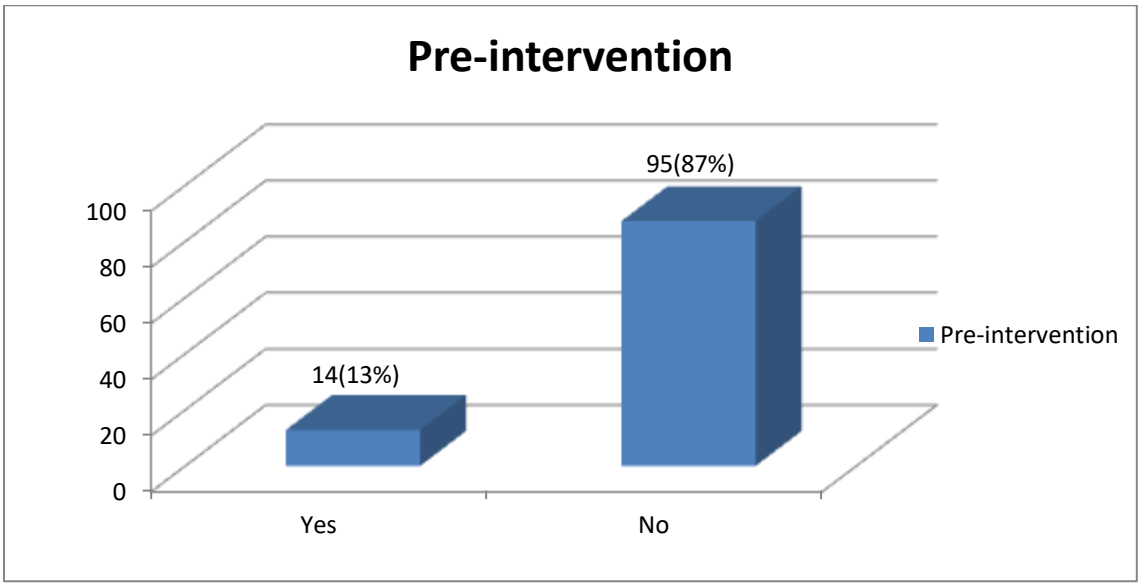
The data was gathered by using a self-administered questionnaire with close ended questions to the patients and including the questions like " Were you told how long would have to wait?; " Were you told why you had to wait? ; "Did someone apologize for the delay? And below are the results:

The figure 2 shows how patients were told about how long they have to wait:



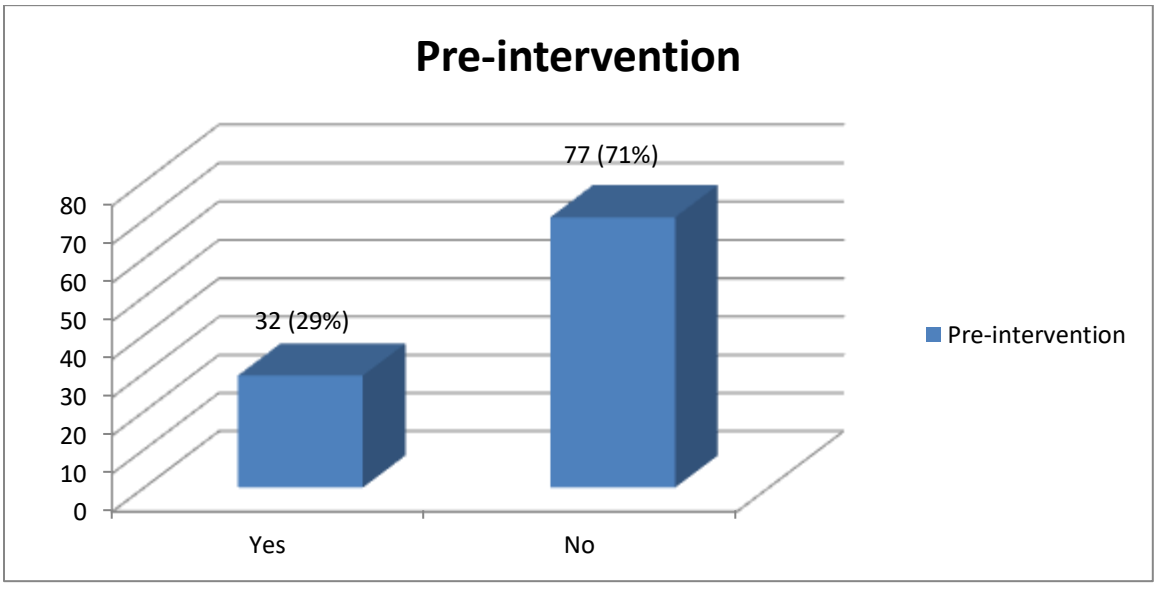
The figure 2 shows that 75% of patients were told about how long of time they have to wait for consultation.

The figure 3 shows how patients have been told the reason why they should wait:



The figure 3 shows that only few patients (13%) have been explained the reason why they could wait.

The figure 4 shows on how patients have been apologized for waiting longer:



The figure 3 shows that only (29%) of patients are the ones apologized for the long waiting.

Regarding to the above responses on the above three questions asked to the patients, the lack of trained staff to provide proper counseling for the patients waiting for consultation can be the root cause of dissatisfaction post long waiting time for consultation.

Cause 2: Inadequate number of surgeons to provide acts & procedures on time:

To do verification if the inadequate staff number can be the root cause of patient dissatisfaction at above Hospital, the researcher requested the number of procedures performed by two doctors who have a fixed time to do procedures, we find that one doctor operated 91 patients in three months which means that per month she or he operates 31 patients (91/3) and per day is 1 patient (31/30). Another doctor operated 5 patients in 12 hours which means that per day are 3 patients ((5:12) X 8). According to a 2018 survey by the physician's foundation, doctors on average work 51 hours a week and one doctor should treat 20 patients a day (Weber, 2019).

So, these above figures of number of procedures done by Surgeon Doctors show that they are very few procedures compared to the standards. Therefore, the inadequate number of the staff is not the cause of patient's dissatisfaction post long waiting time for consultation at above Hospital.

Cause 3: Doctors do not adhere to their OPD appointments

To verify this cause, the researcher uses the elaborated checklist comparing it with the schedule given to the reception and their arrived time within one month and the average late time for each doctor is the following:

Table 2 shows the how the doctors adhere to their OPD timings:

Doctors	**Average late time during last Month in minutes**
1st Doctor	31
2nd Doctor	23
3rd Doctor	80
4th Doctor	71
5th Doctors	42
6th Doctors	92
Total average	**339/6 (=56.5)**

The Table 2 shows that the average late for the doctors is 56.5 minutes and this is too long. Therefore, this might be one of the root causes for patient dissatisfaction.

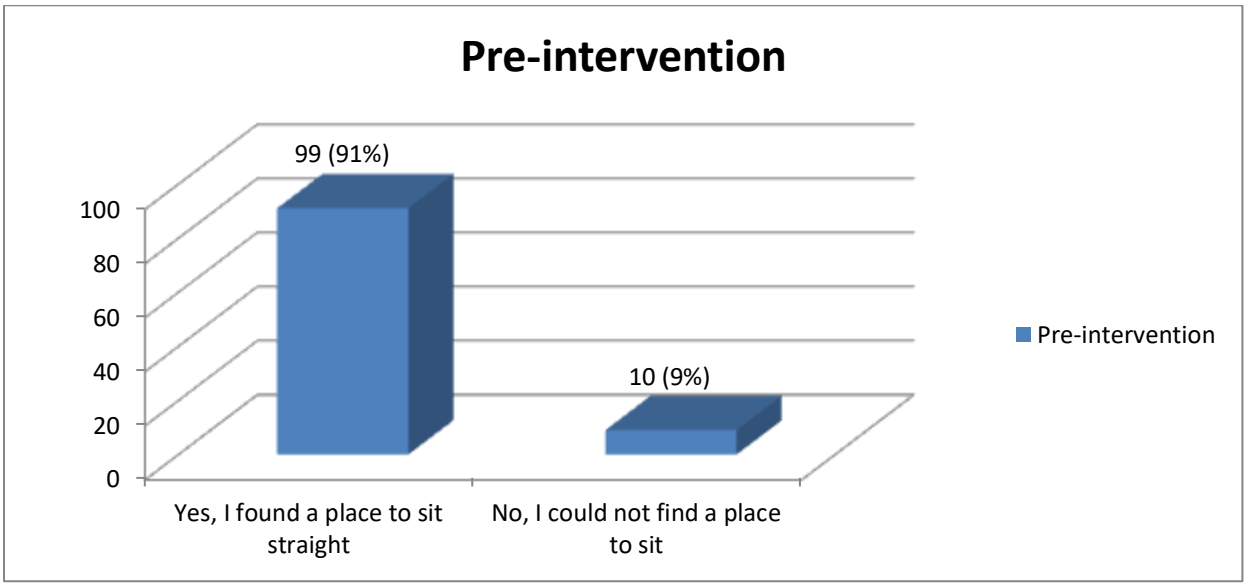
3.2.2.2. On environment

Cause 4: Inappropriate waiting area

To verify this cause, the researcher gathered information by using a self-administered questionnaire adapted from a standardized questionnaire and these are the results to each question from the patients:

a) Where you able to find a place to sit in the waiting area:

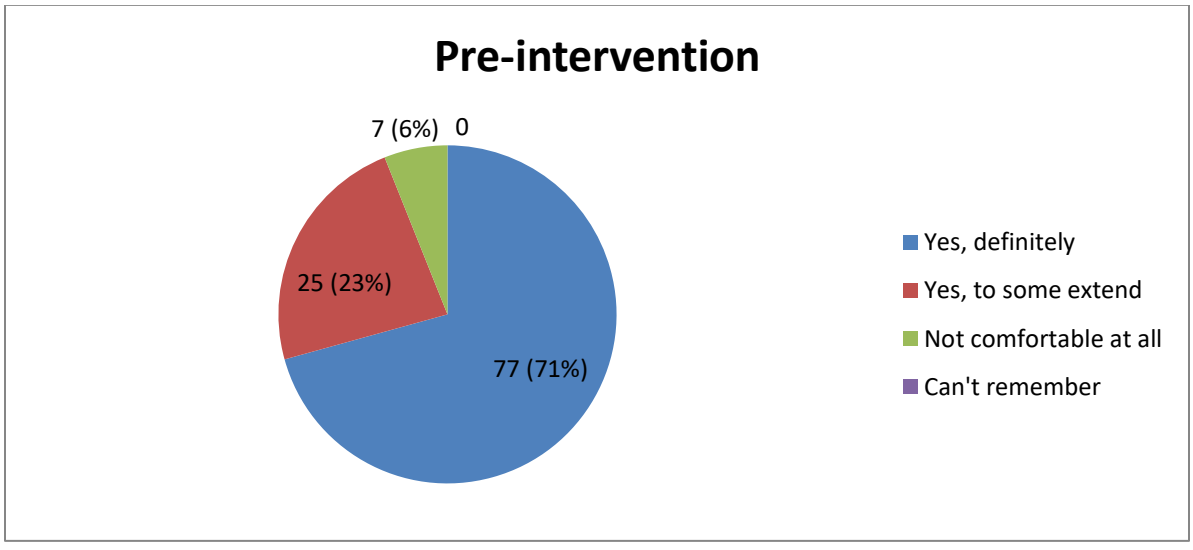
The figure 5 shows how patients feel about environment on finding a place to sit:



The figure 5 shows that almost of the patients (91%) (67%+23%) do not have a problem in finding out a place to sit when waiting for consultation.

a) Where the seats in the waiting area comfortable?

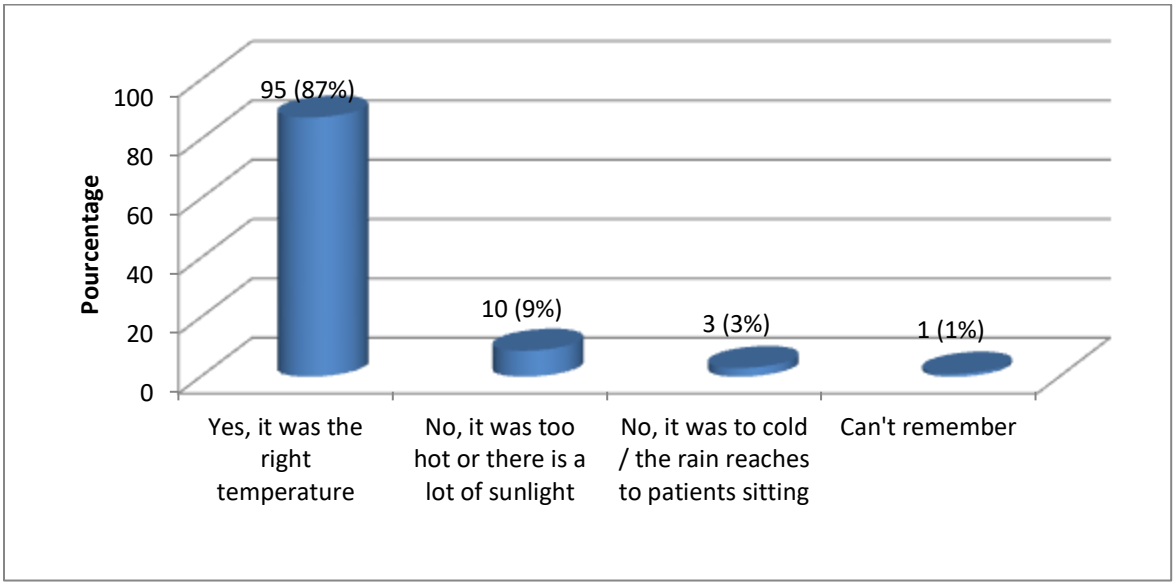
The figure 6 shows how patients feel on comfort of seats:



The figure 6 shows that the majority the patients (71%) seat comfortably.

b) Was the waiting area the right temperature?

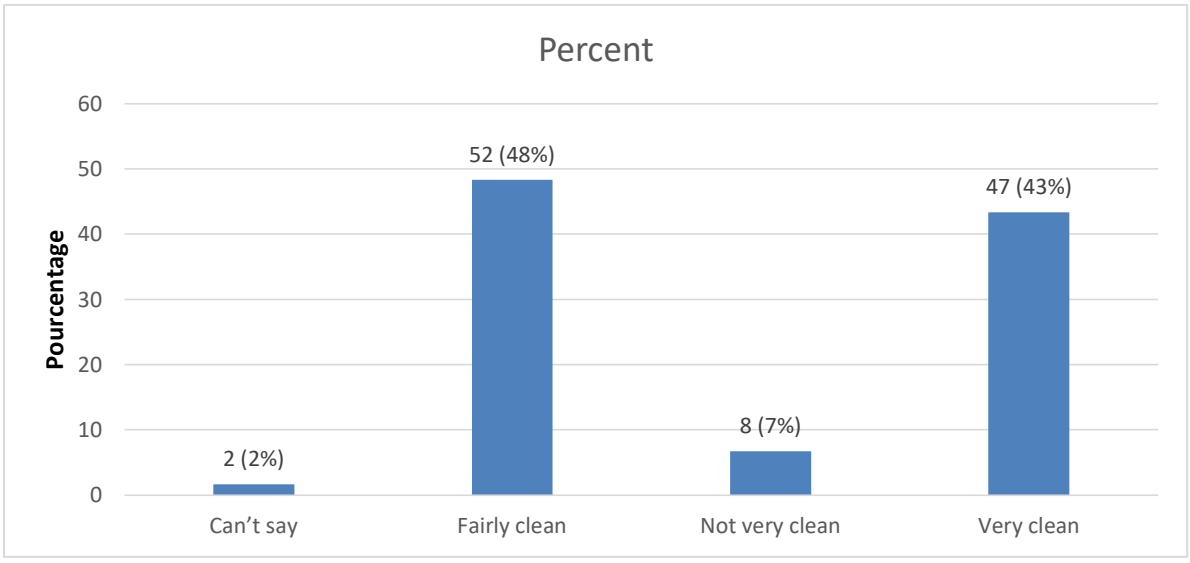
The figure 7 shows how the patients feel about the temperature of the waiting area:



The figure 7 shows that a high percentage (87%) of patients is satisfied with waiting area temperature.

c) In your opinion, how clean was the OPD?

The figure 8 shows how patients feel with the cleanliness:



The figure 7 shows that very few (7%) patients do not feel well with cleanliness. Basing on the above responses from the patients, the inappropriate waiting area cannot be the root cause of patients' dissatisfaction post long waiting time for consultation.

3.2.2.3. On policies & procedures

Cause 5: Improper scheduling of OPD patients' appointments:

The researcher by using an interview guide asked the receptionist and Incharge of customer about the existed manner which they use for providing the appointments to the patients. They told the researcher that they tell all patients the same time of the beginning of a doctor's consultation. This causes the almost of patients to arrive on the same time and this resulted to the long waiting of the patients for consultation. The researcher realized that almost the patients come between 07h30 – 10h00, the doctors starts consultation at 9h00 and finish at 13h30. This

way of manner of scheduling the consultation time contributes a lot to the long waiting time as well as patients' dissatisfaction. Therefore, the improper scheduling of OPD patients' appointments could be one of the causes for long waiting time as well as patients' dissatisfaction.

Cause 6: Lack of regulation to the doctors saying that a patient should not exceed more than 30 minutes waiting for consultation

By interviewing the OPD staff if there is a regulation informing them that a patient should not exceed 30 minutes waiting for consultation, all OPD staff (100%) responded that there was no regulation on that. By considering on how this regulation could put pressure on the OPD staff respecting the OPD appointment times, this cause could be the cause of long waiting time for consultation and patients' dissatisfaction.

Cause 7: Not keeping patients update on coming time of doctors

To verify this cause, a researcher provided self-administered questions to the patient saying that "When waiting for consultation, did someone keep updating you about the coming time of your doctor?

Figure 9 shows if patients were kept updating on coming time of his / her doctor:

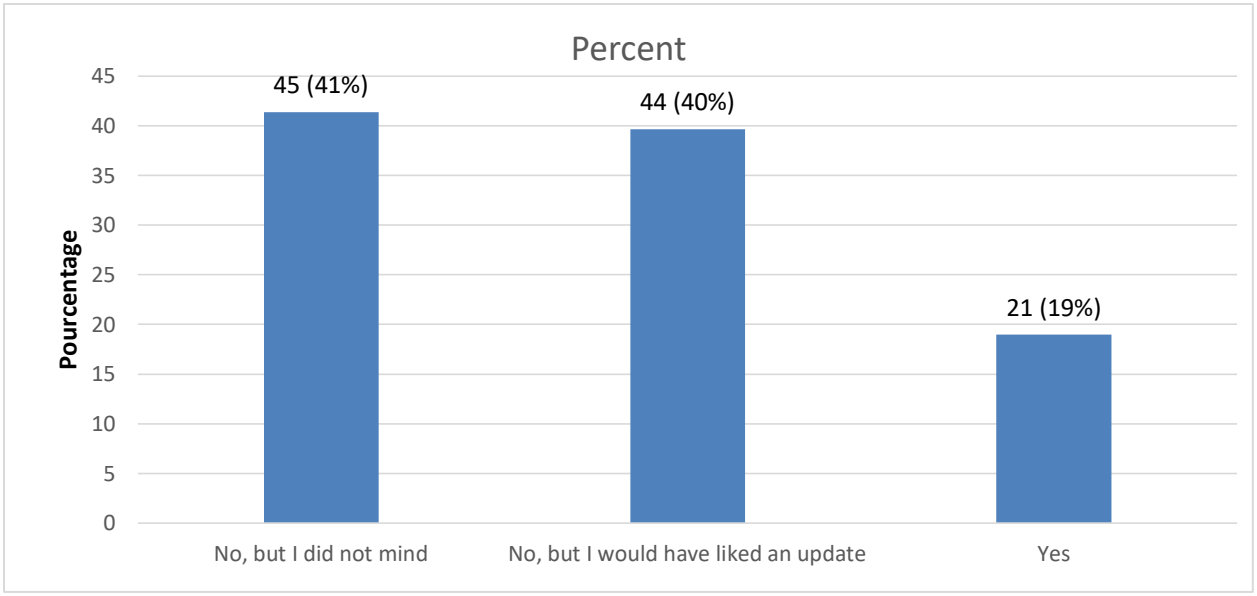


Figure 8 shows that only 19% of patients were the only kept updated on coming time of doctors when they were waiting. This can also be the cause of dissatisfaction.

3.2.2.4. On Equipment

Cause 8: Lack of well-equipped consultation rooms

The researcher used a checklist to verify the availability of the required equipments for consultation in both consultation rooms as follows:

Table 3 shows the availability of equipments used in consultation room No1 & No2

No	Equipments	Room No1	Room No2
1	Dr. chair	ok	ok
2	Patient chair (2)	ok	ok
3	Adjustable exam table	ok	ok
4	Disk top & computer	ok	ok
5	Network system and connection	ok	Not well functioning
6	Weighing scale	ok	ok
7	Height meter	ok	ok
8	Sinks and counters	absent	absent
9	Cup board	ok	ok
10	Hunger for clinical coats	ok	ok
11	Negatoscopy	ok	Absent
12	Reflex hammer	ok	ok
13	Blood pressure monitor	ok	ok
14	Blood pressure cuffs – adult, child & infant	ok	ok
15	Otoscope for checking ears	ok	ok
16	Stethoscope	ok	ok
17	Thermometer	ok	ok
18	Exam gowns	ok	ok
19	Good Curtain on windows	Very old	Very old

The table 3 shows that both rooms lack of sinks and have very old curtains. Second room has its unique problems like network cables which were not placed in proper place as it is said by the users, lacking of negatoscopy while it is very important equipment in orthopedic consultations as the cases seen here are the orthopedics. Even if, it is much important as said above, negatoscopy could contribute a lot in quality rather than in long waiting time for consultation. So, this cause could not be the root cause for long waiting time resulting to the patients' dissatisfaction as well.

Cause 9: Absence of an electronic system to provide the appointment**s** for patients

To verify this cause, the researcher interviewed the receptionists on how they give to the patients the appointments. They answered that all patients were told verbally the starting time of consultation for a doctor. So, the existed system may cause the patients to come on the same time and this can resulted in long waiting time for consultation as the doctor can not receive all the patients at the same time, it must be have an interval between one patient and another to follow. With consideration on how this system can help avoiding all the patients to attend OPD services at the same time and each should have its own appointment time and helps also to alert the doctors about the appointment times he/she provided for the different patients, this could be one of the causes of long waiting time for consultation as well as the patients' dissatisfaction.

3.2.3. Identification of the real root cause

Table 4 shows the accepted or rejected root causes:

Pre-selected root causes	**Information needed to prove or disprove**	**Accept (V) & rejected (X)**
Doctors do not adhere to their OPD timings	This is a cause because the doctors sometime start with operations and do the consultations later, but this is hard to change because of how doctors work; they have to rounds in hospitalized patients, operations, and consultations on each day. This is why the SPS team decided to reject it.	X
Improper scheduling of OPD patients appointments for consultation.	This is also a cause because if each patient is given his / her specific tome to arrive, it can reduce the time he /she wait.	V
Lack of regulation to the doctors saying that a patients should not exceed more than 30 minutes waiting for consultation	SPS team voted (11/11= 100%) that the impact of this is very little and suggested to reject it.	X
Not keeping patients update on coming time of doctors	According to McCormack (2014), this is a cause as this author reported that frustration for patients waiting can be reduced by simply notifying patients how long they will have to wait as well as a personal apology from their doctor when they have had to wait.	V
Absence of an electronic system	According to Hedges (2020), patient's dissatisfaction due	

to provide the appointments for patients and alerting the doctors about their OPD timings.	long waiting can be treated by having leverage software to send multiple appointment reminders via text message, email and / or a phone call leading up to the appointment time, but the majority (95%) SPS team did not see it as the most cause of above dissatisfaction as our patients did not delay to arrive.	X

The both causes such as "improper scheduling of OPD patients appointments for consultation and not keeping patients update on coming time of doctors are overlapped as when there update of scheduling, at the same time update of time is also done at the same time. This is why the SPS team found that it is better to take it as the one cause.

Therefore, the most root cause of dissatisfaction for patients waiting for consultation at Inkuru Nziza Orthopedic Specialized Hospital is improper scheduling and lacking update on OPD appointment times.

3.3. IMPLEMENTATION PLAN

3.3.1. Alternative solutions

i) We have implemented electronic software that sends multiple appointment reminders via SMS, email, and/or phone prior to patient and physician appointment times. This adoption of software was going together with the training on how to use it not only for OPD staff, for all Hospital physicians, nurses and receptions.

ii) To train the OPD staff (doctors, nurses, allied health professionals working in OPD, Customer Care Officer, and Receptionists) on how to avoid patients' frustration when waiting.

iii) Recruitment of permanent surgeon doctors because most of the surgeons are part-timers at this Hospital.

iv) Occupying well the waiting area by TV screen with different channels and a table full of different newspapers and drinking water.

3.3.2. Comparative analysis for suggested solutions

The study team used the comparative criteria such as time, feasibility, impact and cost on each alternative solution in order to find out the most solution could be implemented and then each criterion scored under 5.

Criteria 1: Time

Table 5 shows scores of alternative solutions on time:

No	Alternative solutions	Time	Score
1	Implementation of electronic software that sends multiple appointment reminders via SMS, email, and/or phone prior to patient and physician appointment times.	2 Months	4
2	To train the OPD staff (doctors, nurses, allied health professionals working in OPD, Customer Care Officer, and Receptionists) on how to avoid patients' frustration when waiting.	4 days	5
3	Recruitment of permanent surgeon doctors because most of the surgeons are part-timers at this Hospital.	1 year	1
4	Occupying well the waiting area by TV screen with different channels and a table full of different news papers and drinking water.	6 Months	2

Criteria 2: Feasibility

Table 6 shows scores of alternative solutions about feasibility:

No	Alternative solutions	Feasibility	Score
1	Implementation of electronic software that sends multiple appointment reminders via SMS, email, and/or phone prior to patient and physician appointment times.	It needs to convice the invest in it, select the type of software they need to use and train the users	3
2	To train the OPD staff (doctors, nurses, allied health professionals working in OPD, Customer Care Officer, and Receptionists) on how to avoid patients' frustration when waiting.	It needs only to have a permission from the Hospital leaders and scheduling time for people in different domain in different days	4
3	Recruitment of permanent surgeon doctors because most of the surgeons are part-timers at this Hospital.	It is not easy to find a free surgeon and who is ready to work at this Hospital. To have a budget is also a very big problem	1
4	Occupying well the waiting area by TV screen with different channels and a table full of different news papers and drinking water.	It needs the Hospital administrators it important in order to have a budget for it.	2

Criteria 3: impact

Table 7 shows scores of alternative solutions about their impact

No	Alternative solutions	Impact	Score
1	Implementation of electronic software that sends multiple appointment reminders via SMS, email, and/or phone prior to patient and physician appointment times.	This software alerts the patients and doctors about OPD timings and it facilitates them to hurry up for reaching on time.	4
2	To train the OPD staff (doctors, nurses, allied health professionals working in OPD, Customer Care Officer, and Receptionists) on how to avoid patients' frustration when waiting.	It gives the trainees the knowledge and skills on how to handle patients waiting in order to avoid frustration of them.	4
3	Recruitment of permanent surgeon doctors because most of the surgeons are part-timers at this Hospital.	If the doctors are enough, ones could be in consultation while others are doing other procedures. Patients may wait, but not for a long time.	3
4	Occupying well the waiting area by TV screen with different channels and a table full of different news papers and drinking water.	The channeled TV occupies patients and being busy with. S0, it can reduce a little bit the frustration	3

Criteria 4: Cost

Table 8 shows the scores of alternative solutions about their cost

No	Alternative solutions	Cost	Score
1	Implementation of electronic software that sends multiple appointment reminders via SMS, email, and/or phone prior to patient and physician appointment times.	This software costs 220,000 per Month and the Hospital administrative has already accepted to invest in it	4
2	To train the OPD staff (doctors, nurses, allied health professionals working in OPD, Customer Care Officer, and Receptionists) on how to avoid patients' frustration when waiting.	There is no any direct cost for this training.	5
3	Recruitment of permanent surgeon doctors because most of the surgeons are part-timers at this Hospital.	The monthly salary for only 1 doctor surgeon may cost the Hospital more than 4 millions.	1
4	Occupying well the waiting area by TV screen with different channels and a table full of different news papers and drinking water.	It may cost about 1 million as single payment and 30,000 per every month	2

3.3.3. Summary of Decision matrix

Table 9 shows the decision matrix of alternative solutions

	Evaluation criteria 5=Best , 1=Worst				
Alternatives solutions	**Time**	**Feasibility**	**Impact**	**Cost**	**Total score**
Implemented of electronic software that sends multiple appointment reminders via SMS, email, and/or phone prior to patient and physician appointment times.	4	3	**5**	**4**	**16**
To train the OPD staff (doctors, nurses, allied health professionals working in OPD, Customer Care Officer, and Receptionists) on how to avoid patients' frustration when waiting.	5	4	**3**	**5**	**17**
Recruitment of permanent surgeon doctors because most of the surgeons are part-timers at this Hospital.	1	1	**3**	1	**6**
Occupying well the waiting area by TV screen with different channels and a table full of different news papers and drinking water.	2	2	**3**	**2**	**9**

According to the above matrix used, the most chosen solution is training of OPD staff on how to avoid patients' frustration when waiting, but the project team realized that it could be better to take both first solutions. Therefore, the solutions to be implemented are training of OPD staff on how to avoid patients' frustration when waiting and adoption of leverage software via SMS, email, and/or phone prior to patient and physician appointment times.

3.3.4. Result chain of the project

- Goal: to increase the satisfaction rate of patients attending OPD services at Inkuru Nziza Orthopedic Specialized hospital from 50% to 85% within 6 months.

Outcome 1: Improvement of satisfaction rate of patients attending OPD services at Inkuru Nziza Orthopedic Specialized Hospital from 50% to 85% through reducing waiting time for patients attending OPD services.

Outcome 2: Patients receiving the right care at the right time will also be improved as well as the quality of healthcare provided.

Output: -Elaboration of electronic system used in the provision of appointments

- Training on how to use the electronic system
- Training regarding on how to avoid patients 'frustration when waiting

Activities: - Advocacy for budget of electronic system

- Selection of appropriate software system which could be used
- Elaboration of training notes on how to avoid frustration of patients waiting
- Organization and delivering the training on the use of leverage software system for both medical staff and non medical staff who involved in the patients' appointments.
- Develop and implement working protocol for doctors which facilitate them to work without delaying the consultations.

3.3.5. Implementation plan using "Gantt Chart"

Table 10 shows the implementation plan using Gantt Chart:

Task activity	Responsible Person	Period before Oct./2021	Nov. 2021	Dec. 2021	Jan 2022	Feb 2022	March 2022
Elaboration of the training documents & advocating for budget of system to use in booking appointment for patients	Researcher & team	**X**					
Evaluation of the document and add/ inputs comments & choosing the system to use in booking appointments	Researcher &Team	**X**	**X**				
Training on customer care with emphasize on how to avoid patients' frustration when waiting for consultation	OPD doctors, nurses, Allied Health Professionals & Customer Care Officer			**X**			
Training on system of	OPD doctors, nurses,			**X**			

booking appointments	Allied Health Professionals & Customer Care Officer						
Work organization & task reassignment	Receptions, Customer Care Officer, Nurses, Allied Health Professionals working in OPD & Doctors			**X**	**X**		
Collect data monthly to evaluate outcomes of the project implemented	OPD physician team & Customer Care Officer, Receptionists & Patients				**X**	**X**	
Provide report and feedback	Researcher & Team					**X**	**X**

3.3.6. Monitoring and evaluation

Table 11 shows about monitoring and evaluation of the study:

TYPE	WHAT(indicator)	How	Who	When	where data	how will data be analyzed
Process	OPD meeting conducted	counting	data collector	15/ 02 /2022	attendance list reports	excel
	Completion of waiting time tool	Observation	data collector	Daily	Checklist	Excel
	Completing of the satisfaction tool	Self-administered questionnaire	Researcher & SPS team	Everyday, before noon	Standard questionnaire	Document
	Checking the appointments given to each patients	Observation	Research & SPS team	4 weeks	SMS received by patients	Exel
Outcome 1	Each patients has his/her specific time for coming	checklist tool	researcher	monthly	SMS received by patients	Interval between one patient to another
Outcome 2	Decreased waiting time	Calculation	Researcher	Two Months	Checklist	Excel Table
Outcome 3	Increased patients' satisfaction rate	counting	Researcher & SPS team	Two Months	Completing self-administered question	Excel sheet

IV. CHAPTER IV: RESULTS

4.1.INTRODUCTION

This study worked on increasing satisfaction rate through reducing waiting time for consultation and other related determinants for patients attending OPD services at Inkuru Nziza Orthopedic Specialized Hospital. We trained the OPD staff on how to avoid patients' frustration when waiting. Again, we participated in elaboration of an appointment system to be utilized by receptionists, therapists, nurses and doctors in provision of patients' appointments. This system helped each patient to arrive on his/ her own specified time. The interventions were implemented following the Gantt chart made. Socio-demographic characteristics of patients participated in pre and post intervention were also captured.

4.2. SOCIO-DEMOGRAPHIC CHARACTERISTICS OF PATIENTS PARTICIPATED IN PRE AND POST INTERVENTION

This study included pre-post intervention socio-demographic characteristics of participated patients as follows:

Table 12 shows socio-demographic characteristics data:

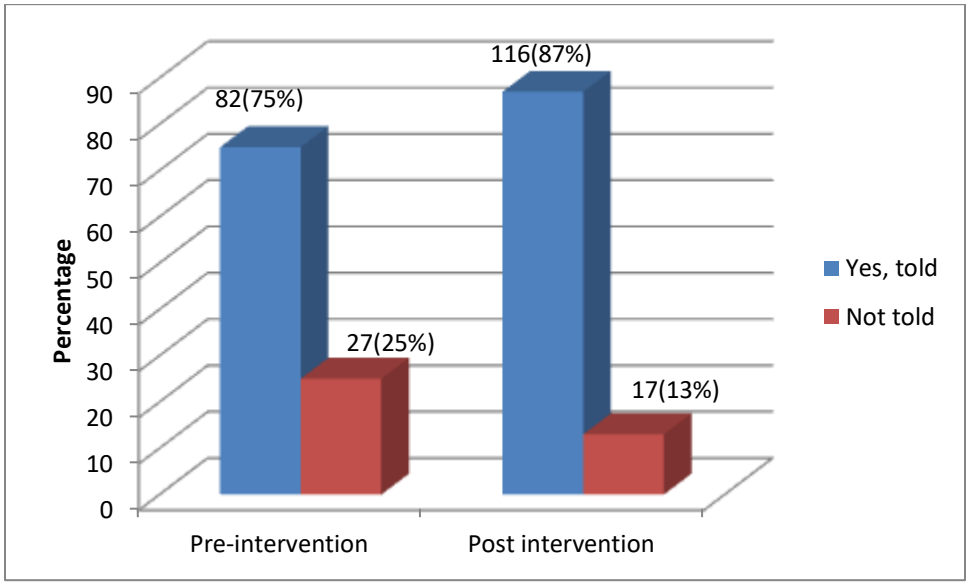
Age group	**Pre-intervention**	**Post-intervention**
≥ 16 ≤ 35	32(29%)	64(48%)
≥ 36 ≤ 55	65(59%)	52(39%)
≥56	12(11%)	16(12%)
Gender		
Female	70(64%)	98(74%)
Male	39(36)	35(26%)
Marital status		
Single	13(12%)	49(37%)
Married	96(88%)	84(63%)
Educational level		
Never attended school	9(8%)	13(10%)
Primary	9(8%)	10(7%)
Secondary	32(29%)	60(45%)
Tertiary	60(55%)	51(38%)
Occupation		
Working in public / private institution	34(31%)	39(29%)
Self employed	44(40%)	39(31%)
Un employed	9(8%)	27(20%)
Farming or livestock	15(14%)	16(12%)
Others	8(7%)	11(8%)

This table 12 shows that the most participants (70% or 51%) were above youth age before and after intervention. This table also shows that the females participated in high number (64% or 75%) in both stages either pre or post intervention respectively and also most of the participants were married in both groups. Regarding the educational level of the participants, the big percentage of participants 83% or 84% in both groups either post or pre- intervention were educated at least to the secondary level. This table again shows that the big number of participants (40% or 31%) in each phase (Pre-or post-intervention, respectively, were self-employed.

4.3. THE RESULTS REGARDING WAITING TIME

1.4.1. About telling a patient that he /she should wait

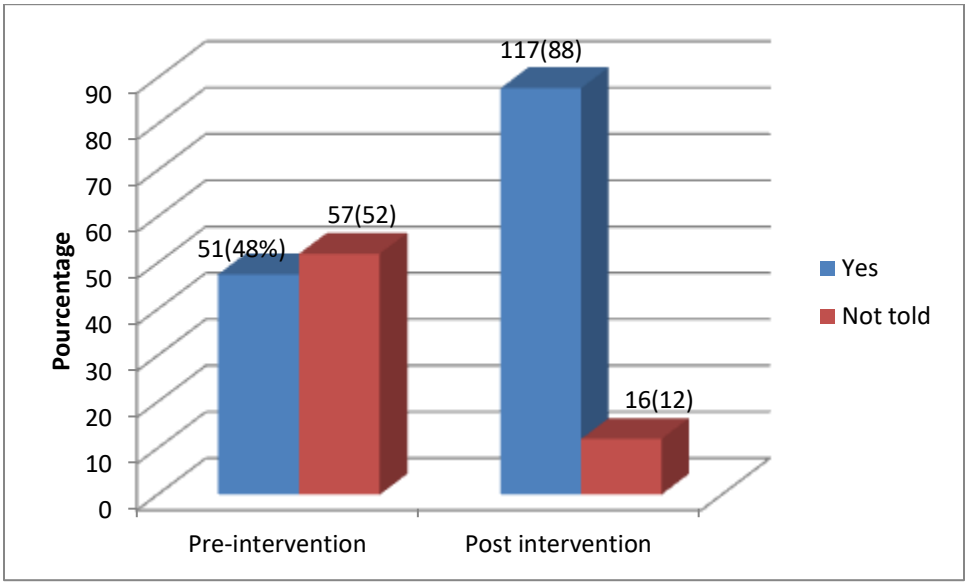
The figures 12 showed about telling patients that they should wait if required:



The figure 12 showed that more than triple of participants either before intervention (75%) or post intervention (87%).

1.4.2. Informed about the reasons why patients should wait

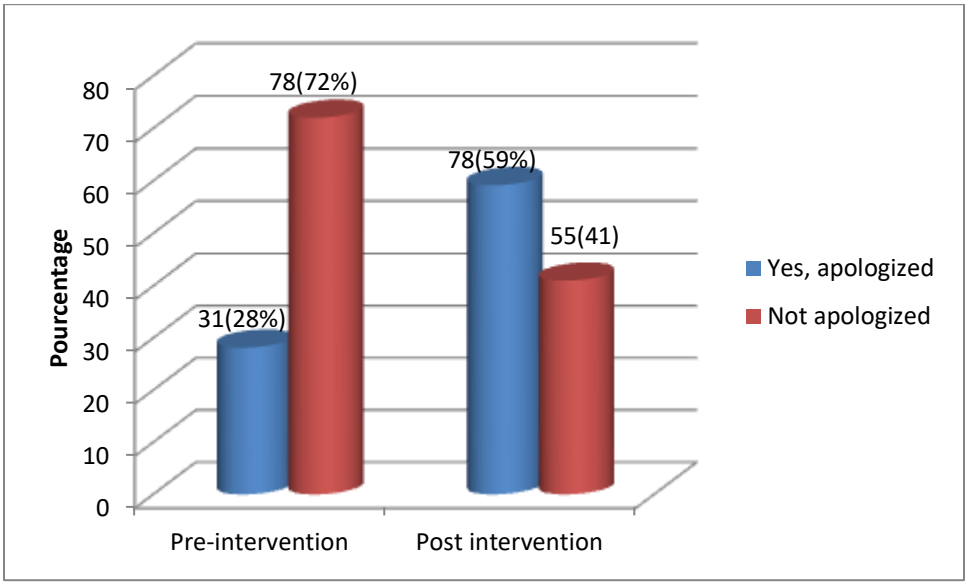
The figure 13 shows how patients were told why they have to wait:



The figure 13 showed that below half of patients (48%) were not told the reason why they had to wait while after intervention more than triple (88%) were told why they had to wait for consultation.

1.4.3. To apologize for the delay to offer services to the patients

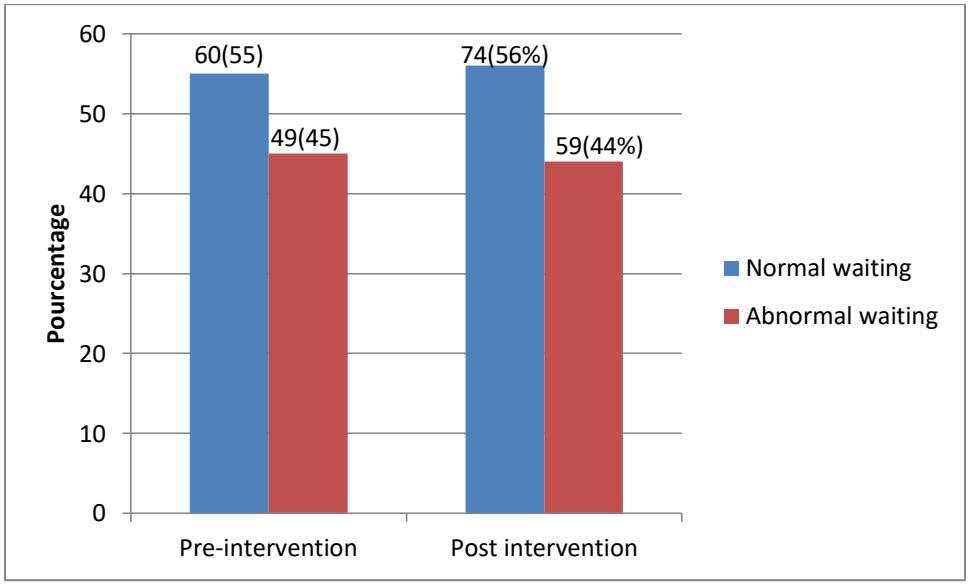
The figure 14 shows how physicians or other staff apologized to the patients for the delay:



The figure 14 showed that before the intervention very few numbers of patients (28%) were not apologized for the delay while after more than half of patients (59%) were apologized for the delay by the physicians or any other of the staff when they were waiting for consultation.

1.4.4. Amount of waiting time

The figure 15 how long patients wait for consultation:



The figure 15 shows that the number of patients waited for consultation in normal time or standardized time is almost the same in pre-intervention time (55%) and post intervention (56%).

1.5. PHYSICAL ENVIRONMENT

1.5.1. Finding a place to sit in waiting area for consultation

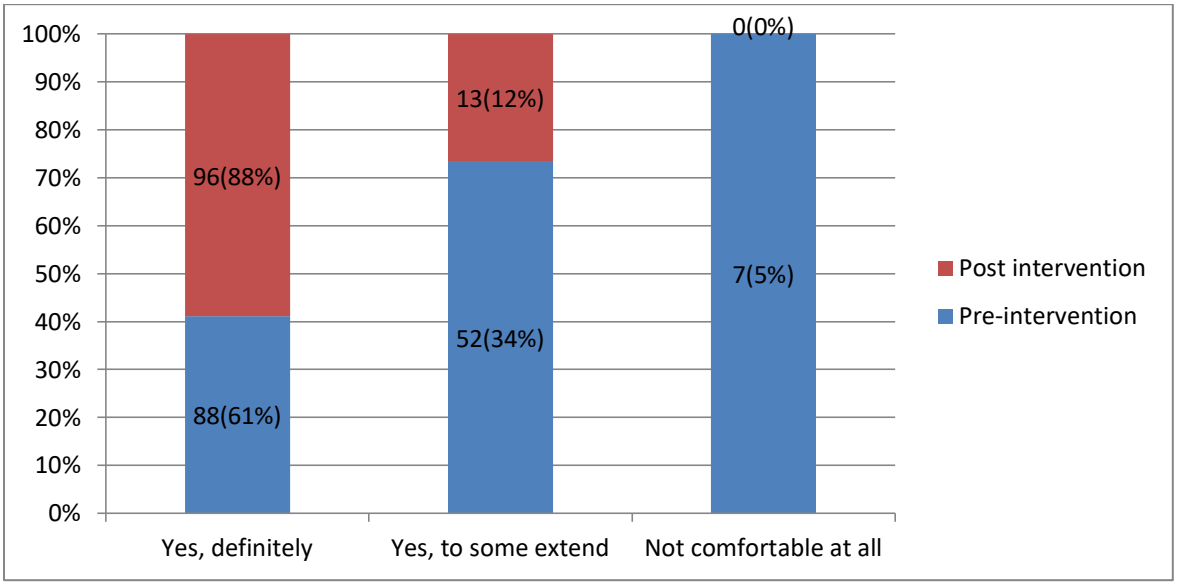
Table 15 shows about finding a place to sit in waiting area for consultation:

VARIABLES	**Intervention**		
	Pre-intervention	**Post intervention**	**P-value**
Were you able to find a place to sit in the waiting area?			**0.002**
Yes, I found a place to sit straight away	73(67%)	126(95%)	
Yes, but I had to wait for a seat	25(23%)	7(5%)	
No, I could not find a place to sit	10(9%)	0(0%)	
No, I did not want to find a place to sit	0(0%)	0(0%)	
Can't remember	1(1%)	0(0%)	

Table 15 showed that only 67 of patients were the only ones found a place to sit in the waiting area of consultation while after intervention almost of the patients (95%) found a place to sit in that waiting area of consultation.

1.5.2. The comfort of seats located in waiting area for consultation

The figure 16 shows the comfort of seats located in waiting area for consultation:



The figure 16 showed that before intervention, a little bit more than half (61%) are the only patients were sitting comfortable when waiting for consultation, while almost of them (88%) in post intervention where sitting comfortable.

1.5.3. About waiting area possessing the right temperature

Table 16: Temperature of the waiting area

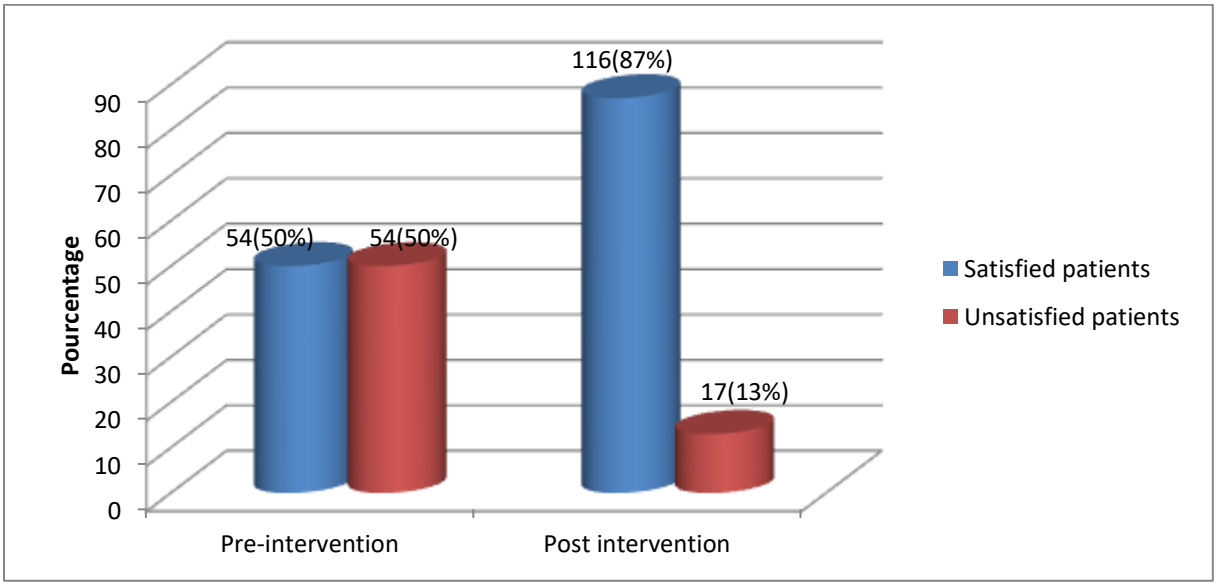
VARIABLES	Intervention		
	Pre-intervention	**Post intervention**	**P-value**
Does the waiting area possess the right temperature for you?			**0.625**
Yes, it was the right temperature	95(87%)	120(90%)	
No, it was too hot or there is a lot of sunlight	10(9%)	1(1%)	
No, it was too cold / the rain reaches to patients sitting	3(3%)	4(3%)	
Can't remember	1(1%)	7(5%)	

The table 16 showed that almost of all patients of both phases (Pre-post-intervention) (87% or 90% respectively) responded that the waiting area for consultation possesses the right temperature.

1.6. QUALITY OF CARE

1.6.1. The overall satisfaction level of patients

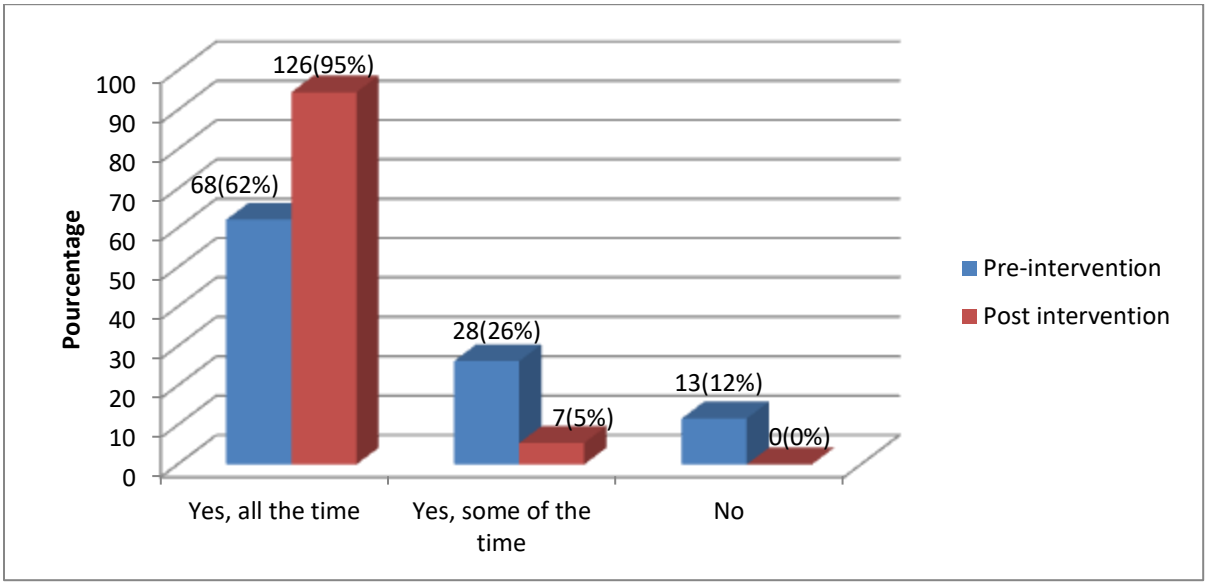
The figure 17 shows the overall satisfaction of patients:



The figure 17 showed that before the intervention, half of the patients (50%) were not generally satisfied with the services provided while in post intervention; more than triple (87%) of patients were generally satisfied with services received at Inkuru Nziza Orthopedic Specialized Hospital.

1.6.2. About patients to recommend other patients

The figure 18 shows the willingness to recommend the hospital to family and friend:



The figure 18 showed that only patients equal to 62% are the only ones have full willingness to recommend the Inkuru Nziza Orthopedic Specialized Hospital to their families or friends while after intervention, it is almost all patients (95%) that willingness to do so.

CHAPTER FIVE: DISCUSSION

5.1. INTRODUCTION

The aim of this study was to improve the satisfaction rate through reducing waiting time for consultation for patients attending OPD services at Inkuru Nziza Orthopedic Specialized Hospital. As a result, the study's findings are discussed in this chapter in relation to the aim and objective. Additionally, the results are examined and discussed in relation to related research or background information to draw conclusions. The chapter comes to a close by outlining the challenges the researcher encountered during implementation and how these challenges were resolved.

5.2. SELECTED SOCIO-DEMOGRAPHIC FACTORS AND THEIR ASSOCIATION TO SATISFACTION RATE

5.2.1. Regarding to the age, gender and education level

The study has shown un-resemblance of predominating age group between pre-intervention and post intervention participants. Females were represented with higher percentage compared to male in both groups and most of the participants were persons having at least secondary education level in both groups, either pre or post intervention groups. Based on the findings that patient variables like age, gender, and education level only minimally affect patient satisfaction, and even this irregularity in the age groups, larger percentage of females, and the large number of educated participants cannot have an impact on the satisfaction rate outcome by basing to the findings stating that patient characteristics such as age, gender and education level have only slightly influence on patient satisfaction [40].

5.3. COMMUNICATION ON WAITING TIME

5.3.1. Informing patients that they have to wait

The result showed that communicating or informing patients that they have to wait for doctors or other physicians, after intervention, has increased from 75 to 85% and this communication usually at Inkuru Nziza Orthopedic Specialized Hospital is done at reception desk and by Incharge of customer care. Telling the patients the reason why they should wait has significantly increased from 48% in pre-intervention group of people to 88% in post intervention group; and then to apologize the patients for delaying also increased from 28% in pre-intervention group to 59% in post intervention group. There is an increase in communication, and research has shown that among other aspects of treatment, clear explanation and effective communication have the most effects on raising overall patient satisfaction[41].The other researchers reported also that by focusing on psychological perspectives, they might reduce patients' discontent caused by prolonged waiting times through good communication. They have concentrated on using techniques related to perception and psychology to lessen patients' dissatisfaction due to long waiting time. These techniques include managing patients' expectations by letting them know ahead of time how much time they should expect to spend in the clinic[34], telling people waiting in line how much longer their wait will likely be[23], giving out clear instructions via public information systems[26&37], and educating patients about their health[35].

5.3.2. The length of waiting time

The result showed that the number of patients waited in normal standard of waiting time is almost the same in pre-intervention or in post intervention groups as the number of patients

waited for consultation in normal time or standardized time is almost the same in pre-intervention time (55%) and post intervention (56%).It was like that while it is advised that at least 90 of patients be seen by doctors within 30 minutes of their scheduled visits[12], and it was also revealed that when the wait time to visit a clinician lengthened, patient satisfaction fell[16]. These results concur with those of another study done by other researchers in a different nation, which claimed that long waiting times are frequently unavoidable because of staff shortages and increases in patient load[32&33].

The adoption of scheduling appointment system in which a very patient has his/her own coming time and advising the doctors to respect their OPD scheduling time, the length of waiting time for patients did not significantly decreased the number of patients waited long. The un-decrease of waiting time was due to other parameters which could not be under-control of the current researcher. These parameters include small number of doctors and patients who come from very far village and most of them came without having appointment and they need to wait for the doctor who should first finish the already scheduled activity.

5.4. PHYSICAL ENVIRONMENT

The results showed that after intervention, almost of the patients (95%) waiting for consulting have found a place to sit, while before intervention it was about 67%; sitting comfortably before the intervention was only 61%, while in post intervention reached to 88%; and then almost of the patients of both groups (pre-or post intervention) (87% or 90% respectively) do not have much complains about temperature possessed by waiting area for consultation. This improvement of physical environment has played too a big role in improving overall satisfaction of patients attending OPD especially for consultation service as the researchers has revealed that compared

to the three fundamental elements of information, care coordination, and emotional support, physical comfort had the highest rate of satisfaction [5].

5.5. THE OVERALL SATISFACTION RATE

5.5.1. The overall satisfaction rate for the health care services

The results showed that the overall satisfaction rate has significantly increased from 50% in pre-intervention phase to 87% in post intervention phase. This increase of patient satisfaction rate comes from the improve of communication to the patients about the reasons why they should wait, keeping update the patients waiting for consultation about the coming time for doctors as well as encouraging the doctors and other physicians to apologize to the patients for the delay. Moreover, this increase is also a contribution of the improvement of the physical comfort. This is not contrary to what reported by the previous researchers that it is not always possible to prevent dissatisfaction with waiting or to really reduce waiting times by boosting resources such additional staffing[16], however there are a number of care service enhancements to be thought about. These researchers went on to state that additional steps should be taken to inform individuals about potential medical treatments they may receive and the medical personnel in charge of such services by giving clearer, more transparent information. These researchers also recommended that healthcare professionals be urged to maintain their compassion and respect for patients. The satisfaction has increased even if the waiting time has not yet reduced.

5.5.2. The recommendation of the Hospital to friends or families

The most of patients (95%) have willingness to recommend this Hospital to their friends and family. Many of these patients recommend this Hospital because they are very satisfied with the

services provided and others probably wished to do this due to many reasons like there no any other Hospital near to them does the specialized services like the ones delivered at this Hospital.

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

6.1. Conclusion

The patients waited longer for the consultation may get frustration, but this study shows that we could not only focus on reducing this frustration and dissatisfaction by only with reducing waiting time with expenses resources like increasing the staff, we could also use other approaches like providing good information about why they should wait, keep updating them about update time of doctor's coming, and doing apologize by doctors and other physicians. We experienced also that by keeping busy the patients waiting for consultation with having different TV channels, different news papers also by making these patients comfortable with physical environment like with good atmosphere of waiting area, comfortable seats may also decrease patients frustration as well as dissatisfaction rate.

This study also shows that the fact of overcrowded patients is not among the determinants of long waiting times for patients at this Hospital as here they receive few patients compared to other hospitals. This low waiting time is mostly influenced by very few orthopedic surgeons (there is only two).

6.2. Recommendations

It is well found that it is not always possible to reduce the amount of waiting time with resources due to financial limitations such as increasing the staffing, and it is also hard to implement properly scheduling systems for all patients due patients who cannot respect the scheduling system because of coming far from the Hospital, or suddenly get sick. This is why the recommendations post this study include:

The receptionists must be trained on providing full information regarding waiting time,

The Incharge of Customer care and nurses should also getting regular training on how to avoid patients frustration when waiting for consultation;

The doctors and other physicians should also be encourage to apologize when they delay even if it is due to they were doing other hospital duties.

The further study with the same objective of this to use time study in gathering the data regarding the waiting time rather than filling the questionnaires themselves;

The further study may also work on improving employees satisfaction rate as unsatisfied staff could also affect much the overall satisfaction as well as the provision of therapeutic care.

6.3.Challenges

1. Patients' satisfaction is influenced by many determinants rather than waiting time focused in this study. So, narrowing the waiting time may not have much impact for increasing patients' satisfaction.

   To overcome this challenge, the researcher has chosen to work on solving on one determinants raised by many studies as the most frequent determinants complained by many patients especially in developing countries like Rwanda.
2. In conducting this study, we faced also a challenge of finding few patients attending the OPD services and even for the hall Hospital services.

To overcome this challenge, the researcher prolonged the period for data collection and implementation in order to have enough number of participants.

3. Most of the OPD therapists or doctors are part-timers. So, doing maximum participation in this study was very difficult for this staff.

The researcher tried to manage to meet with each doctor at his/her free time and online meetings.

4. Lack of other similar studies conducted in Africa or sub-Saharan Africa on improving patients' satisfaction

   To overcome this challenge, the researcher utilized the other studies conducted in USA and Europe and we will compare the findings.

The lesson learnt from this study is that, even if patient satisfaction reflects patients' emotions, sentiments, and impressions of the healthcare services they get, it has been identified as the most reliable and widely used indicator of the quality of treatment offered by a healthcare institution, patient may say that he /she is not satisfied by only considering one determinants. So, it needs at least to tackle on many determinants as much as possible in order to increase a big rate on patients 'satisfaction rate.

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Appendixes

QUESTINNAIRE USED ON PATIENT'S SATISFACTION RATE

We are conducting a study that is aimed at determining thesatisfaction rate for patients attending OPD services at InkuruNziza Orthopedic Specialized Hospital. You have been chosen to be part of the study and your contribution in filling this questionnaire will be very important in order to improve the quality of care provided at this Hospital. The information provided will be treated confidentially and your consent is paramount.

NOTE: Please do not write your name on the questionnaire. Select one response by using a tick in the box near your choice.

A. ACCESSIBILITY TO THE SERVICES

1. From the time you were first told you needed an appointment to the time you went to the Outpatient department, how long did you wait for your appointment?

i) Up to 1 week ☐

ii) 1- 2 weeks ☐

iii) 3 weeks to 1 month ☐

iv) 1 month to 6 weeks ☐

v) More than 6 weeks but no more than 3 months ☐

vi) More than 3 months ☐

vii) I went to Outpatient department without an appointment ☐

viii) Don't know / can't remember ☐

2. Think about your most recent visit to the OPD, Were you given a choice of appointment times?

i) Yes ☐

ii) No, but I did not need / want a choice ☐

iii) No, but I would have liked a choice ☐

iv) Don't know / can't remember ☐

3. Was your appointment changed to a later date by the Hospital?

i) No ☐

ii) Yes, once ☐

iii) Yes, 2 or 3 times ☐

iv) Yes, 4 times or more ☐

4. What was the most useful source of information when choosing to come to this Hospital (tick ONE only)

i) GP ☐

ii) Consultant ☐

iii) Any other staff member ☐

iv) Myself, my own previous experience ☐

v) A booklet or leaflet about my choices ☐

vi) Hospital website ☐

vii) Other internet site ☐

viii) Family /friends ☐

ix) Other: …….

5. Once you arrived at the Hospital, was it easy to find your way to the OPD?

   i) Yes, definitely ☐

   ii) Yes, but it could be improved ☐

   iii) No ☐

   iv) Don't know / can't remember ☐

6. Still thinking about your most recent visit to the OPD, how long did you wait in the reception area or desk?

i) Less than 10 minutes ☐

ii) 10 to 15 minutes ☐

iii) 16 to 30 minutes ☐

iv) More than 30 minutes ☐

7. What is the length of time you took in waiting area of an OPD physician or doctor office?

   i) Seen on time or early ☐

   ii) Waited up to 5 minute ☐

   iii) Waited 6 – 15 minutes ☐

   iv) Waited 16-30 minutes ☐

   v) Waited 31 – 60 minutes ☐

   vi) Waited more than 1 hour but not more than 2 hours ☐

   vii) Waited more than 2 hours ☐

   viii) Don't know / can't remember ☐

B. OUR COMMUNICATION WITH YOU / INTERPERSONAL CARE

8. When you arrived at the OPD, how would you rate the friendliness and courtesy of the receptionist?

   i) Excellent ☐

   ii) Very good ☐

   iii) Good ☐

   iv) Fair ☐

   v) Poor ☐

   vi) Very poor ☐

9. In the reception area, could other patients overhear what you talked about with the receptionist?

   i) Yes, and I was not happy about it ☐

   ii) Yes, but I did not mind ☐

   iii) No, others could not overhear ☐

   iv) Don't know / can't say ☐

10. If waiting is required, were you told how long would have to wait?

   i) Yes, but the wait was shorter ☐

   ii) Yes and I had to wait about as long as I was told ☐

   iii) Yes, but the wait was long ☐

   iv) No, I was not told ☐

   v) Don't know / can't remember ☐

11. Were you told why you had to wait?

i) Yes ☐

ii) No, but I would have liked to an explanation ☐

iii) No, but I did not mind ☐

iv) Don't know / can't remember ☐

12. Did someone apologize for the delay?

i) Yes ☐

ii) No, but I would have liked an apology ☐

iii) No, but I did not mind ☐

C. PHYSICAL ENVIRONMENT AND FACILITIES

13. Was it easy to get through the main entrance and move around in OPD?

i) Yes, it was easy ☐

ii) No, it was difficult ☐

iii) Don't know / can't remember ☐

14. Did you see any posters or leaflets in the OPD asking patients and visitors to wash their hands or to use hand wash gels?

i) Yes ☐

ii) No ☐

iii) Can't remember ☐

15. Were hand-wash gels available for patient and visitors to use?

i) Yes ☐

ii) Yes, but they were empty ☐

iii) I did not see any hand-wash gels ☐

iv) Can't remember ☐

16. Did staff wear name badges?

i) Yes, all of the staff wore name badges ☐

ii) Some of the staff wore name badges ☐

iii) Very few or none of the staff wore name badges ☐

iv) Don't know / Can't remember ☐

17. Were you able to find a place to sit in the waiting area?

i) Yes, I found a place to sit straight away ☐

ii) Yes, but I had to wait for a seat ☐

iii) No, I could not find a place to sit ☐

iv) No, I did not want to find a place to sit ☐

v) Don't know / can't remember ☐

18. Were the seats in the waiting area comfortable?

i) Yes, definitely ☐

ii) Yes, to some extent ☐

iii) No ☐

iv) Don't know / can't remember ☐

19. Does the waiting area possess the right temperature for you?

i) Yes, it was the right temperature ☐

ii) No, it was too hot ☐

iii) No, it was too cold ☐

iv) Don't know / can't remember ☐

20. In your opinion, how clean was the OPD?

i) Very clean ☐

ii) Fairly clean ☐

iii) Not very clean ☐

iv) Not at all clean ☐

v) Can't say ☐

21. How clean were the toilets at the OPD?

i) Very clean ☐

ii) Fairly clean ☐

iii) Not very clean ☐

iv) Not at all clean ☐

v) I did not use a toilet ☐

D. QUALITY OF CARE

By treatment, we mean any medical or surgical intervention, procedures or therapy

22. During OPD appointment, did you have any treatment for your health condition?

i) Yes ☐

ii) No ☐

23. Before the treatment, did a member of staff explain what would happen?

i) Yes, definitely ☐

ii) Yes, to some extent ☐

iii) No ☐

iv) I did not want an explanation ☐

24. Before the treatment, did a member of staff explain any risks and / or benefits in a way you could understand?

i) Yes, definitely ☐

ii) Yes, to some extent ☐

iii) No ☐

iv) I did not want an explanation ☐

25. Before the treatment, did a member of the staff answer your questions in a way you could understand?

i) Yes, definitely ☐

ii) Yes, to some extent ☐

iii) No ☐

iv) I did not have any questions ☐

26. Afterward, did a member of the staff explain how treatment had gone in a way you could understand?

i) Yes, completely ☐

ii) Yes, to some extend ☐

iii) No, I did not get an explanation I could understand ☐

iv) No, but they explained it to a friend or family member ☐

27. Did you have enough time to discuss your health or medical problem with the physician or doctor?

i) Yes, definitely ☐

ii) Yes, to some extent ☐

iii) No ☐

28. Did the doctor or physician seem aware of your medical history?

i) He/she knew enough ☐

ii) He/she knew something but not enough ☐

iii) He/she knew little or nothing ☐

iv) Don't know / can't say ☐

29. How long were you with the doctor or physician?

i) Up to 5 minutes ☐

ii) 6 - 10 minutes ☐

iii) 11 - 20 minutes ☐

iv) 21 – 30 minutes ☐

v) More than 30 minutes ☐

vi) Can't remember ☐

30. Did the doctor or physicianexplain the reasons for any treatment or action in a way that you could understand?

i) Yes, completely ☐

ii) Yes, to some extent ☐

iii) No ☐

iv) I did not need an explanation ☐

v) No treatment or action was needed ☐

31. Did the physician or doctor listen to what you had to say?

i) Yes, definitely ☐

ii) Yes, to some extent ☐

iii) No ☐

32. If you had important questions to ask the physician or doctor, did you get answers that you could understand?

i) Yes, definitely ☐

ii) Yes, to some extent ☐

iii) No ☐

iv) I did not need to ask ☐

v) I did not have an opportunity to ask ☐

33. Did you have confidence and trust in the physicianor doctor examining and treating you?

i) Yes, definitely ☐

ii) Yes, to some extent ☐

iii) No ☐

34. If you had any worries or fears about your condition or treatment, did a physician or doctor discuss them with you?

i) Yes, completely ☐

ii) Yes, to some extent ☐

iii) No ☐

iv) I did not have worries or fears ☐

35. Did the staff treating and examining you introduce themselves?

i) Yes, all of the staff introduced themselves ☐

ii) Some of the staff introduced themselves ☐

iii) Very few or none of the staff introduced themselves ☐

iv) Don’t know / can’t remember ☐

36. Did doctors and/or other staff talk in front of you as if you weren't there?

i) Yes, definitely ☐

ii) Yes, to some extent ☐

iii) No ☐

37. Were you given enough privacy when discussing your condition or treatment?

i) Yes, definitely ☐

ii) Yes, to some extent ☐

iii) No ☐

38. Were you involved as much as you wanted to be in decisions about your care and treatment?

i) Yes, definitely ☐

ii) Yes, to some extent ☐

iii) No ☐

39. Before you left the OPD, were any new medications prescribed or ordered for you?

i) Yes ☐

ii) No ☐

40. Were you involved as much as you wanted to be in decisions about the best medicine for you?

i) Yes, definitely ☐

ii) Yes, to some extent ☐

iii) No ☐

41. Did a member of staff explain to you how to take the new medications?

i) Yes, completely ☐

ii) Yes, to some extent ☐

iii) No ☐

iv) I did not need an explanation ☐

42. Did a member of staff explain the purpose of the medications you were to take at home in a way you could understand?

i) Yes, completely ☐

ii) Yes, to some extent ☐

iii) No ☐

iv) I did not need an explanation ☐

43. Before you left the OPD, were you told what would happen next (e.g. whether you needed another appointment, to see your GP or physician etc.?

i) Yes ☐

ii) No ☐

iii) Don't know / can't remember ☐

44. Did OPD staff tell you when you could resume your usual activities, such as when to go back to work or drive a car?

i) Yes, definitely ☐

ii) Yes, to some extent ☐

iii) No ☐

iv) I did not need this type of information ☐

45. Did a member of staff tell you about what danger signals regarding your illness or treatment to watch for after you went home?

i) Yes, completely ☐

ii) Yes, to some extent ☐

iii) No ☐

iv) I did not need this type of information ☐

46. Did Hospital staff tell you who to contact if you were worried about your condition or treatment after you left hospital?

i) Yes ☐

ii) No ☐

iii) Don't know / can't remember ☐

47. Did Hospital staff give you information about voluntary and support groups or any government assistance for people who have a similar condition in your local area?

i) Yes ☐

ii) No, but I would have liked some ☐

iii) No, but I got information from somewhere else ☐

iv) No, but I did not want / need this information ☐

v) Don't know / can't remember ☐

48. How well organized was the OPD you visited?

i) Not at all organized ☐

ii) Fairly organized ☐

iii) Very well organized ☐

49. Would you recommend this OPD to your family and friends?

i) Yes, definitely ☐

ii) Yes, probably ☐

iii) No ☐

E. PERSONAL INFORMATION

50. How old are you? ..... (In years).

51. Are you a female or male? 1. Female ☐

2. Male ☐

58. What is your marital status?

1. Single ☐ 3. Widower ☐

2. Married ☐ 4. Divorced ☐

59. What is your highest level of Education?

1. No school attended ☐ 3. Secondary ☐

2. Primary ☐ 4. Tertiary ☐

60. What is your occupation?

1. Working in public/private service ☐

2. Self-employed ☐

3. Farming or livestock ☐

5. Unemployed ☐

6. Other……

J. ANY OTHER COMMENTS

If there is anything else you would like to tell us about your experience in OPD

Please do so here. ……

……..

Was there anything particularly good about your visit to the OPD?

……
……

Was there anything that could have been improved?

…….

Any other comments

……
……

THANK YOU VERY MUCH FOR YOUR HELP