ESTIMATION OF WAITING TIME AND ASSOCIATED FACTORS AT OUTPATIENT DEPARTMENT &AT VARIOUS INVESTIGATION DEPARTMENT IN RAJIV GANDHI CANCER INSTITUTE AND RESEARCH CENTRE

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ABSTRACT

- **Background: OPD is ordinarily one of the underlying resources among patients and the medical clinic, OPD are referred to as the "face" of any hospital. With the growth in outpatient volume, patient flow, and unexpected equipment breakdowns, there may be an increase in bottlenecks, which raises OPD and other investigative department waiting time.**

- **Aim and objectives: (1) to estimate the average waiting time of patients in OPD and at various investigation departments of the hospital. (2) to find out the factors responsible for long waiting time.**

- **Methods: this report is based on an observational study at RGCIRC for 2 months & 50 patients were reviewed and data is collected by monitoring the patient at every department of the hospital.**

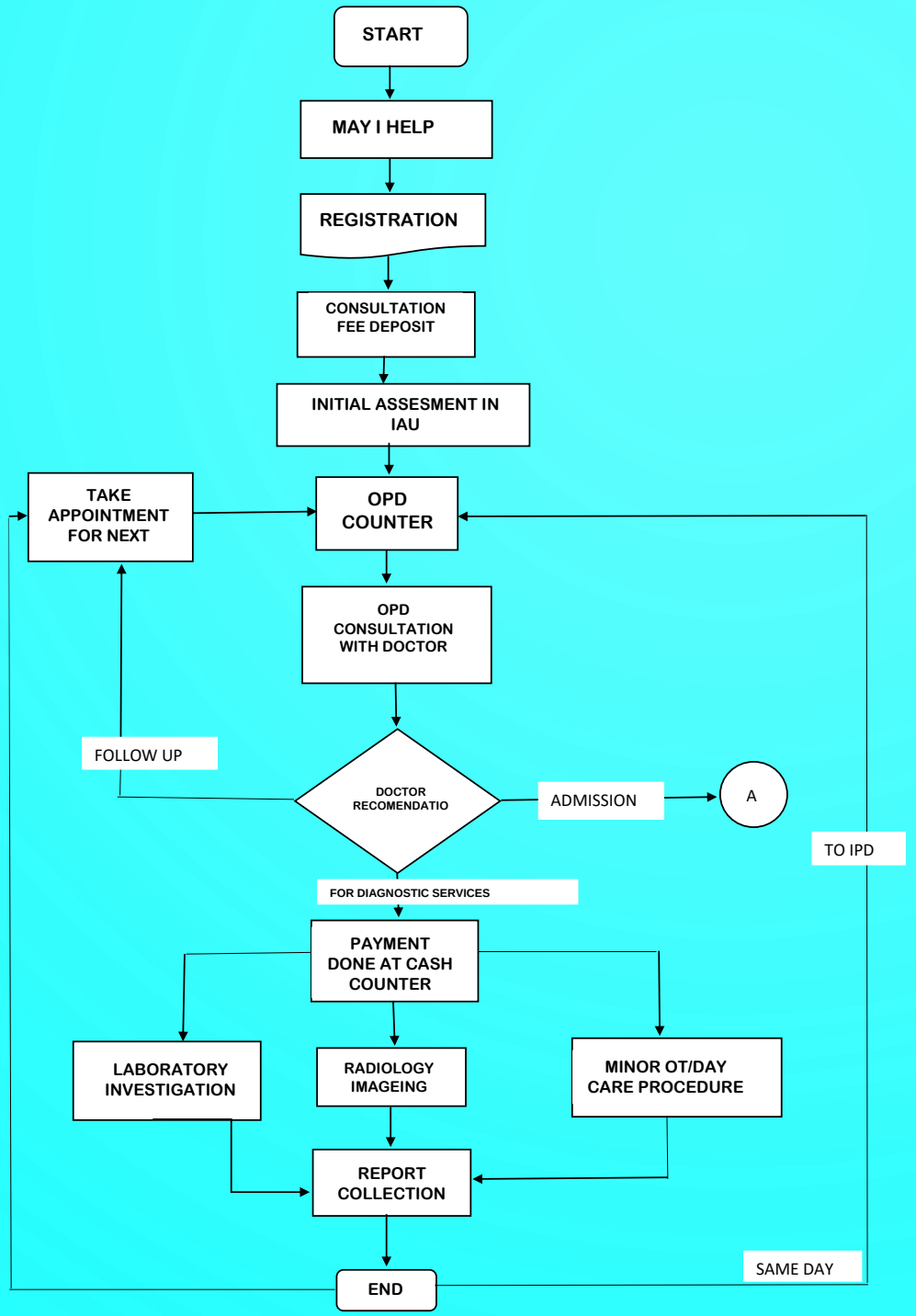
- **Result: it was tracked down that the normal measure of time that a patient spends in the registration process (form +desk) is 32minutes , holding up time in OPD for consultation is 19 minutes though time given by specialist is 21 minutes and for radiology department is 32 minutes and for laboratory department holding up time is 30 minutes the significant bottleneck causing this high holding up time was discovered to be the holding up time in OPD and investigation department. This is one of the fundamental reasons among the disappointment of patients with OPD, accounting for the number of OPD.**

- **Conclusion : many patients face the challenges in tracking down the different offices. On a normal 21 minutes of holding up time outside the OPD and 58 minutes waiting for overall investigation (radiology and laboratory) department. And the reasons for this long waiting are preference given to scheduled patient than walk-in patients, sometimes doctor may be in the OT during his OT hours and unexpected equipment's breakdowns.**

- **Key words : OPD, waiting times, investigation**

INTRODUCTION

- **OPD is considered as the window to hospital services and a patient impression of the hospital begins at the OPD. This impression often influences the patient's sensitivity to the hospital and thus it is essential to make sure that OPD services provide a best experience for the patient.**
- **Patients spends a considerable amount of time within the clinics, anticipating services to be delivered by physicians and other allied health professionals. The degree to which health consumers are satisfied with the care received is strongly associated with the standard of the waiting experience.**
- **Patients' waiting time has been defined as "The length of time from when the patient enters the Hospital to the time patient actually leaves the hospital".**
- **Waiting time refers to the time a patient waits within the clinic before being seen by one in all the clinic medical staff. Patient clinic waiting time is a vital indicator of the standard of services offered by hospitals. It is often one in every of the foremost frustrating parts of the health care delivery system. So, it is important to reduce the waiting time of new patient at various department .**
- **To analyse the inefficiencies and bottlenecks to improve patient care delivery at OPD and at other various investigations departments.**
- **As the patient flow increases there may be an increase in bottlenecks, which gives a poor overall impression for the patient. So, to avoid this, reasons for an increase in waiting time are analysed to enhance patient satisfaction.**
- **This study was conducted to understand the difficulties faced by new patients while searching the assorted OPDs/departments, waiting time at registration desk , IAU , OPD and at various investigation departments, patient satisfaction and to urge feedback about service provided at RGCI Hospital.**



A FLOW CHART WAS CREATED TO IDENTIFY KEY PROCESS IN THE OPD AND VARIOUS INVESTIGATIONS DEPARTMENT IN ORDERT TO EXAMINE THE DIFFERENT STEPS INVOLVED IN PATIENT CARE.

RESEARCH QUESTION

- What is the average waiting time in OPD and at various investigation department ?
- What are the factors affecting long waiting times of patients in the OPD and at various investigation department?

OBJECTIVE OF THE STUDY

- **Broad Objective**

To estimate the average waiting time of patients in OPD and at various investigation departments of the hospital.

- **Specific Objective**

To find out how much time new patients need to wait at the registration counter

To estimate the average waiting time of new patients in OPD of different departments and at various investigations.

To find out the factors responsible for long waiting time.

RESEARCH METHODOLGY

- This report is based on an observational study conducted at RGCI Hospital. In which primary data was taken, on waiting time at various departments like registration desk , OPD etc.
- Type of study: an observational cross-sectional descriptive study
- Location of study: Rajiv Gandhi cancer hospital
- Duration of study: 2 months
- Study subject: walk-in patients
- Sample size: : The following sample size formula was used to calculate sample

$$n = \left(\frac{1.96 \times SD^2}{\text{Confidence limit}} \right)^2$$

Mean waiting time = 12.16 minutes and Standard deviation = 2.35 and Confidence limit ± 2.4 and putting these values in the above formula, the sample obtained was 78 and considering 10% non-response the final sample size was 86. Finally we have selected 50 patients considering on an average 2 selected patients was observed daily at different stages of consultation for 25 days.

- .Sampling method: taking consent of patients to follow him / her
- Study tool: The study was conducted using structured questionnaire by taking consent of patient to follow him/ her while moving from one department of hospital to another and note down time taken at every step. questionnaire was consist of question on background information of patients like place of residence, age, gender, and education qualification. a question to capture time at each stage of consultation and a question to capture reason for waiting and open-ended question to note the observation

METHOD OF DATA COLLECTION

Data is collected by monitoring the new patient at every department of the hospital and noted down the timing that subject spend at each stage of department

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DATA ANALYSIS

Time motion technique was used to estimate the average waiting time of patients at each stage of consultation. Fish bone analysis technique will be used to identify the cause of long waiting time. Quantitative data was summarized using mean and standard deviation and qualitative data was summarised using proportions. Data would be analysed using statistical data analysing software or MS excel

RESULT AND ANALYSIS

- In this section the results are presented. The total patients reviewed were 50. The section presents results on actual patient waiting time at various steps of consultation and factors that are associated with overall waiting time
- **PERCENTAGE DISTRIBUTION OF SELECTED PATIENTS ACCORDING TO THEIR AGE**

Age	n (%)
Less than 20	4(8%)
20 – 39	19(38%)
40-59	17(34%)
60 and above	10(20%)
total	50(100%)

- **INTERPRETATION: -**
- It reveals that the most of patients attending OPDs are between the age group of 20 and 39 years old (38 %), followed by 40-59 years old (34 %), and 40-60 years old (20 %), with the remaining patients being under the age of 20 years old (8%).

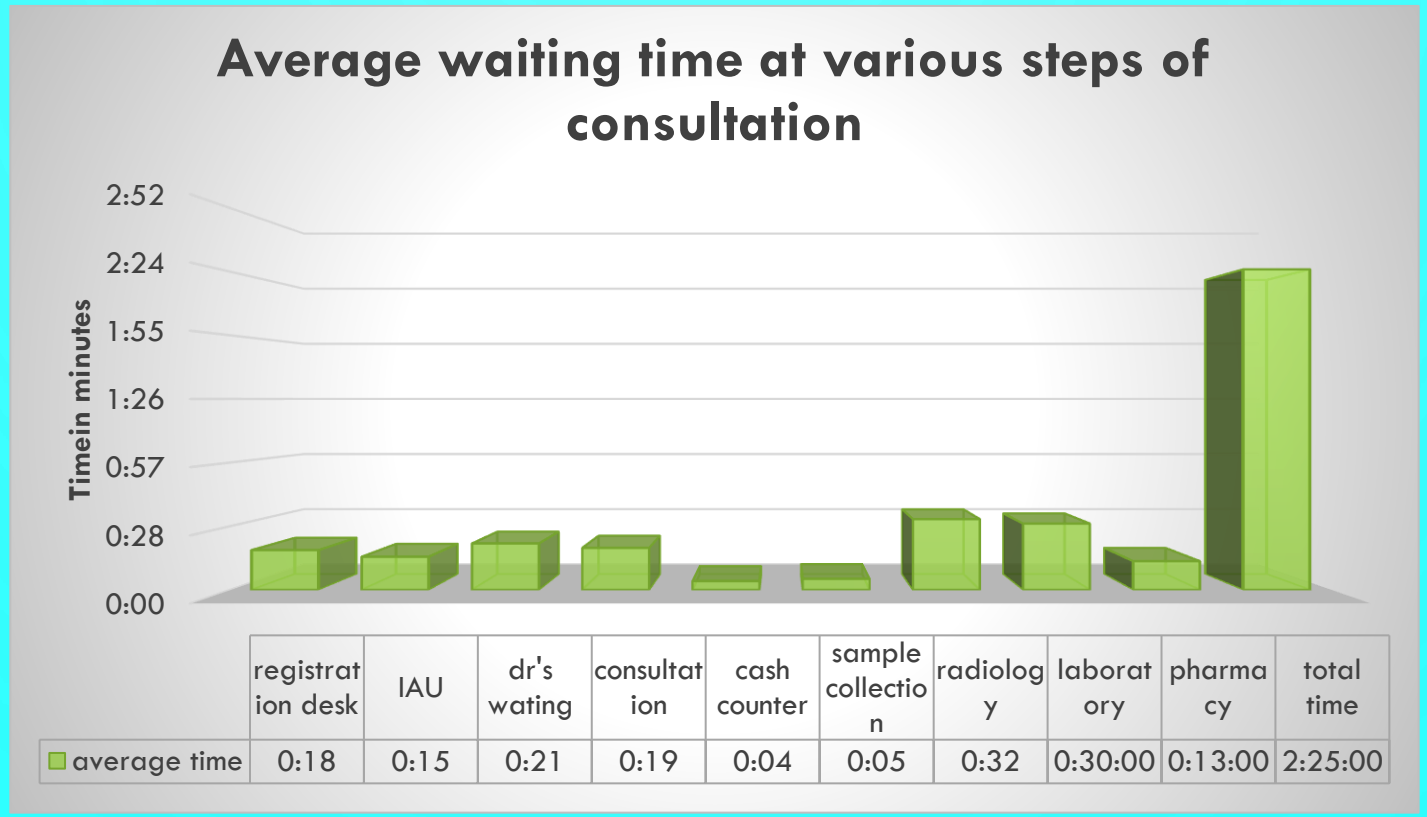
PERCENT DISTRIBUTION OF SELECTED PATIENTS ACCORDING TO THEIR GENDER

GENDER	n(%)
Male	27(54%)
Female	23(46%)
Total	50(100%)

INTERPRETAION:-

Male patients form the majority of OPD patients (54%) compared to female patients 23 (46 %).

AVERAGE WAITING TIME AT VARIOUS STEPS OF CONSULTATION



INTERPRETATION :

In the present study,

- the average waiting time at the counter for the process of registration and obtaining OPD file was calculated to be 18 min.
- The average waiting time for IAU department where nurse takes the history is 15 minutes.
- The mean waiting time at OPD waiting lounge from arrival to entry in OPD for consultation was calculated to be 21 minutes .
- whereas the mean time for OPD consultation, that is, the time given by doctors to each patient was calculated to be 19 mins.
- On an average, A patient spend on sample collection is 5 mins whereas 32 mins in the radiology department and 30 mins in the laboratory.
- However, the average time consumed by each patient at the pharmacy counter was 13 min.
- On average, a patient spent 2 h 25 min from his/her arrival in the hospital till his / her exit from the hospital .

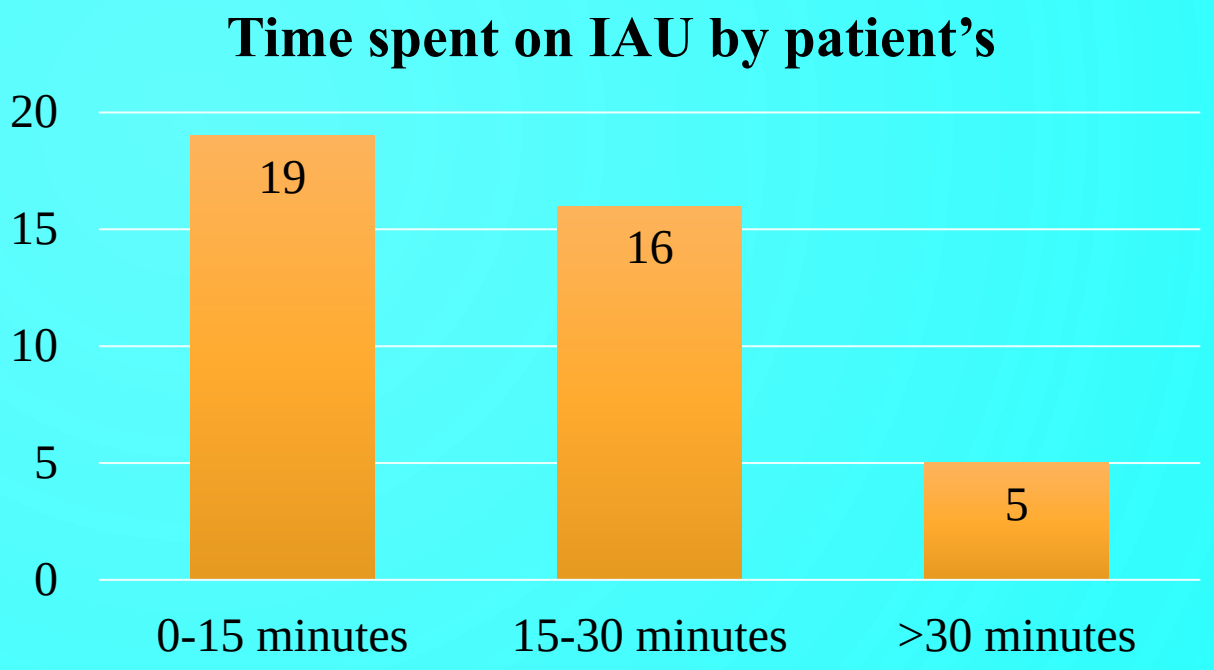
TIME SPENT ON REGISTRATION DESK

- Out of 50 patients, 4(%) patients registered within 10 minutes and 58 (%) patient registered within 20 minutes And rest 38% registered in more than 20 minutes.
- Registration time depend upon time of visiting the counter, patients flow in hospital, scanning of reports given by patients, number of registration counter.

Time spent on registration desk	
Time in minutes	Numbers (%)
0-10	4
11-20	58
21-30	26
>30	12

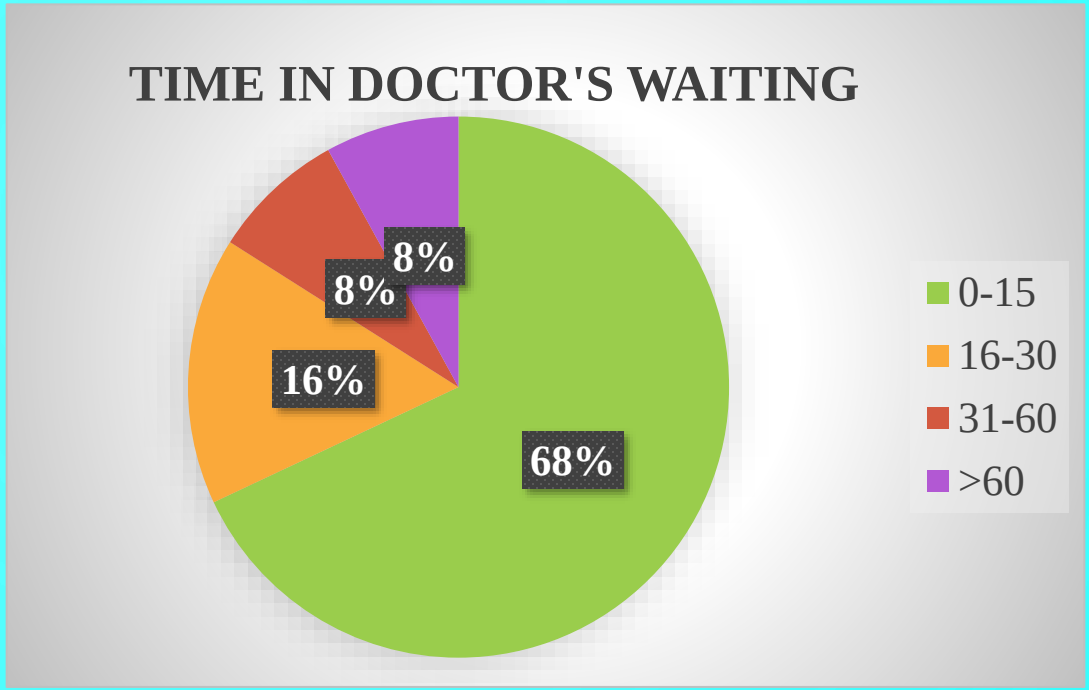
IAU

- Out of 50 patients**, 40 went to the IAU department, where the nurse took their history, and the remaining 10 gave their history during the consultation period to the treating doctor in his OPD day.**
- 19 patients registered within 15 minutes and 16 patients registered with in 15 – 30 minutes and rest 5 patients registered within more than 30 minutes.
- **The average waiting time at IAU is 15 minutes .**
- So , it is observed that 21 patients coming to OPD face the long waiting Time and delay in consultation.



WAITING TIME SPENT IN OPD FOR CONSULTATION

- Majority of patient i.e., 34 (68%) were waited up to 15 minutes,
- while 8 patient (16%) waited between 16 – 30 minutes and
- 4 patients (8%) waited more than 60 minutes outside the OPD while seeking for medical care in concern OPDs.
- **The mean waiting time for OPD waiting was 21 minutes**



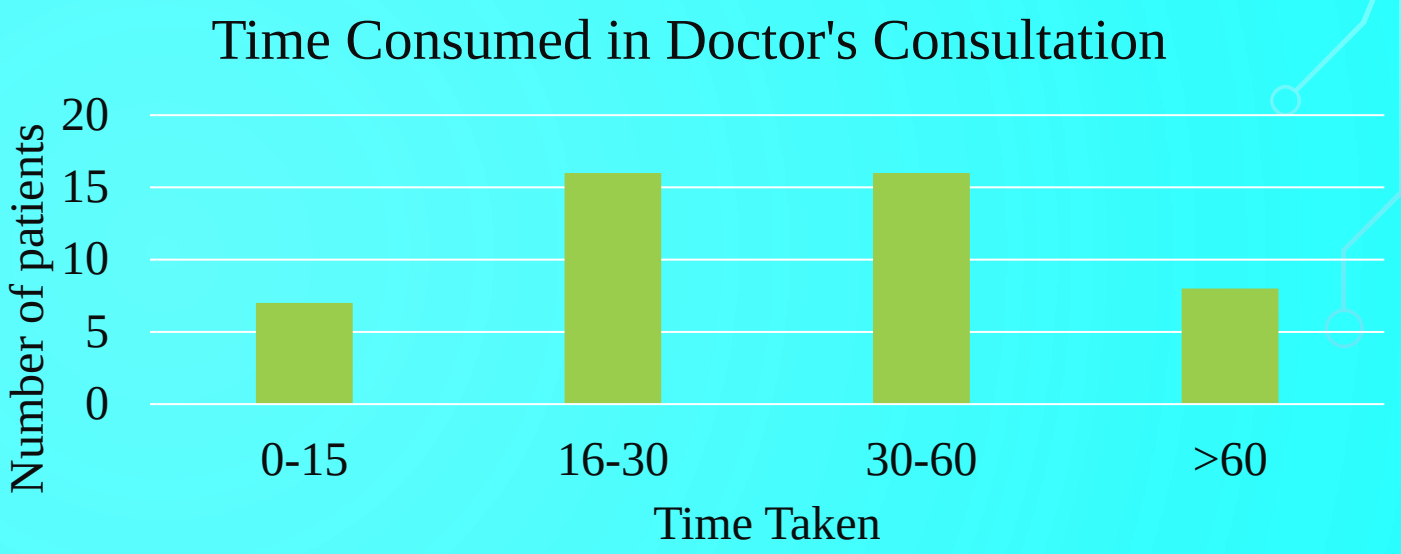
Time	Number
0-15 MINUTES	34
16-30 minutes	8
31-60 minutes	4
>60 minutes	4

TIME CONSUMED IN DOCTOR'S CONSULTATION

- **The mean time given by the doctors to each patient was calculated to be only 19 min.**

- The study shows that 7 patients have a consultation time with doctor within 15 minutes,

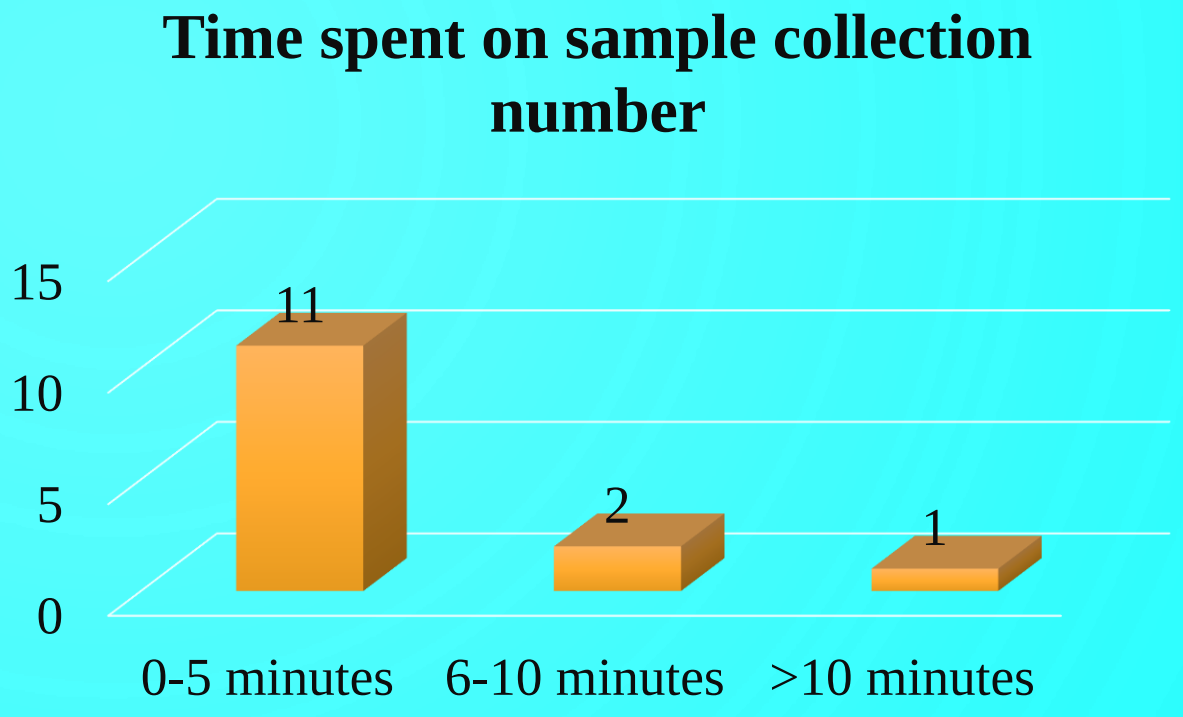
- 18 patients were examined by doctor in between 16 – 30 minutes and rest of 25 patients receive more than 30 minutes for their ailments



Consultation Time in minutes	Number
0-15	7
16-30	18
30-60	16
>60	9

TIME SPENT ON SAMPLE COLLECTION

- 20 patients were advised for sample collection by consulting doctor , out of which 14 patients had done it .
- Here, **mean waiting time was observed to be between 5 minutes**.
- and according to this study most of the patients, consumed less time in sample collection room .

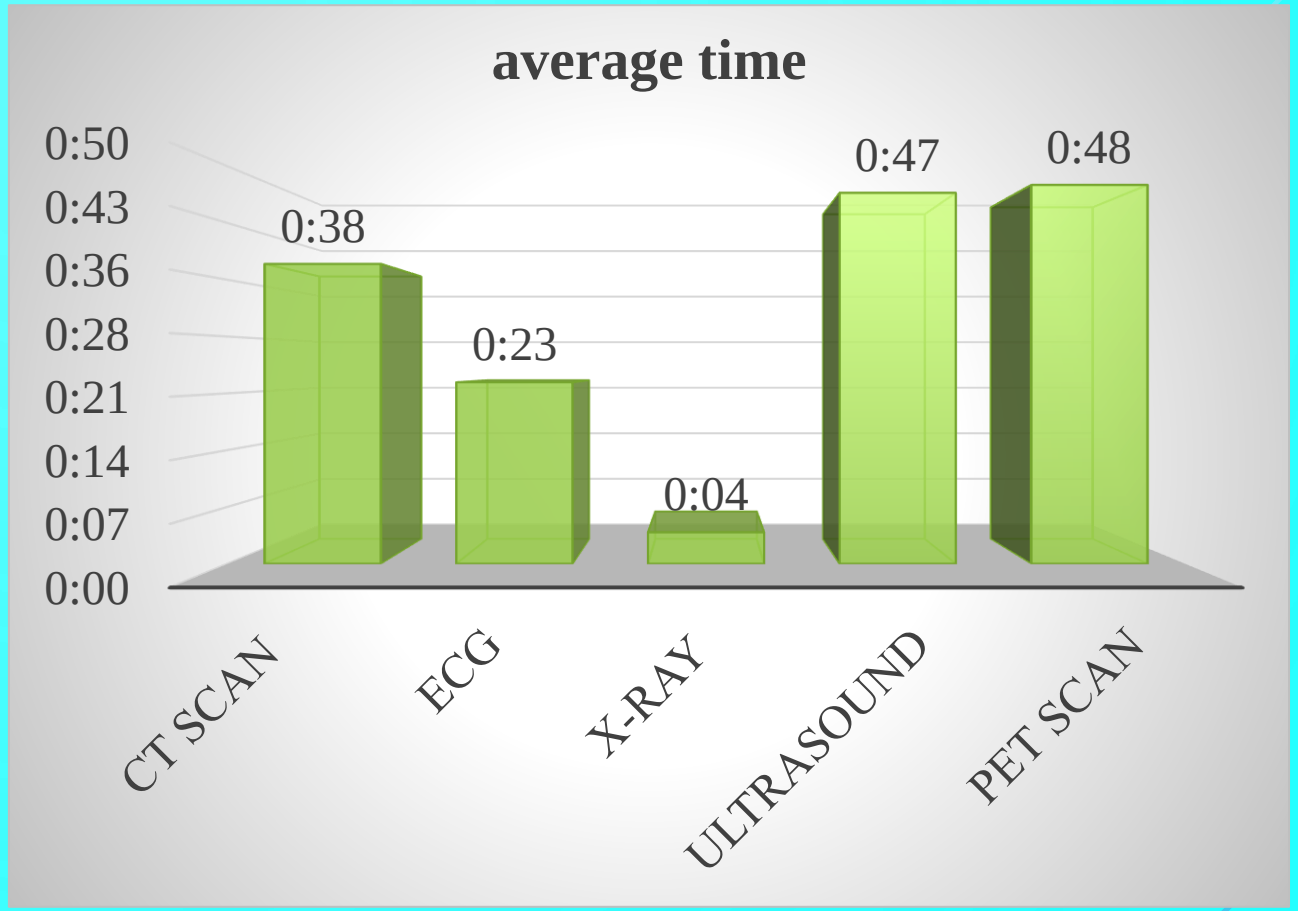


TIME SPENT BY PATIENT IN INVESTIGATION'S

RADIOLOGY DEPARTMENT

SERVICES PROVIDED

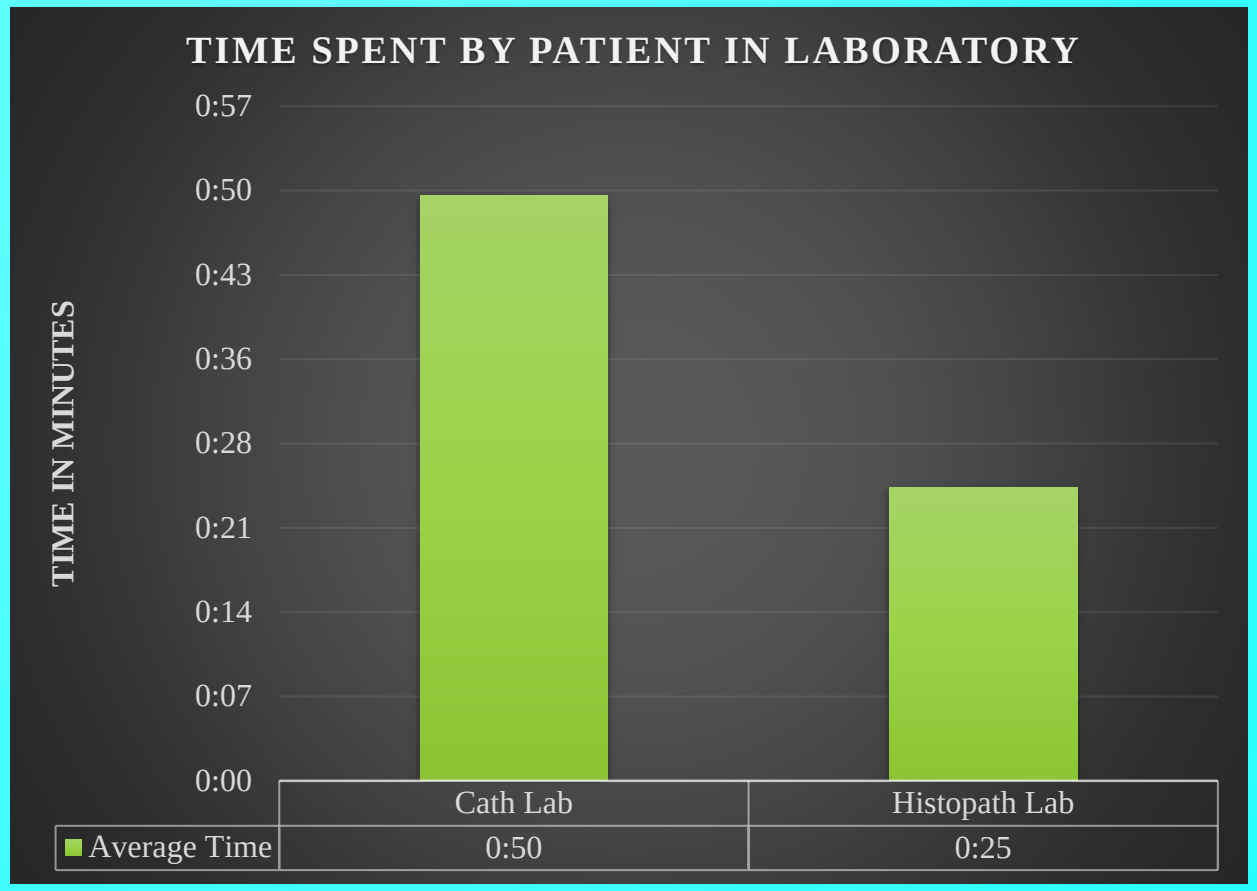
- CT SCAN (average time 38 minutes)
- ECG (average time is 23 minutes)
- X- RAY (average time is 4 minutes)
- ULTRASOUND (average time is 47 minutes)
- PET SCAN (average time is 48 minutes)



Note : walk in patients

LABORATORY DEPARTMENTS

- The average time spent on cath lab is 50 minutes
- Whereas 25 minutes in histology lab



Fish bone analysis

Cause-and-effect analysis using statistical methods such as **fishbone diagrams**.

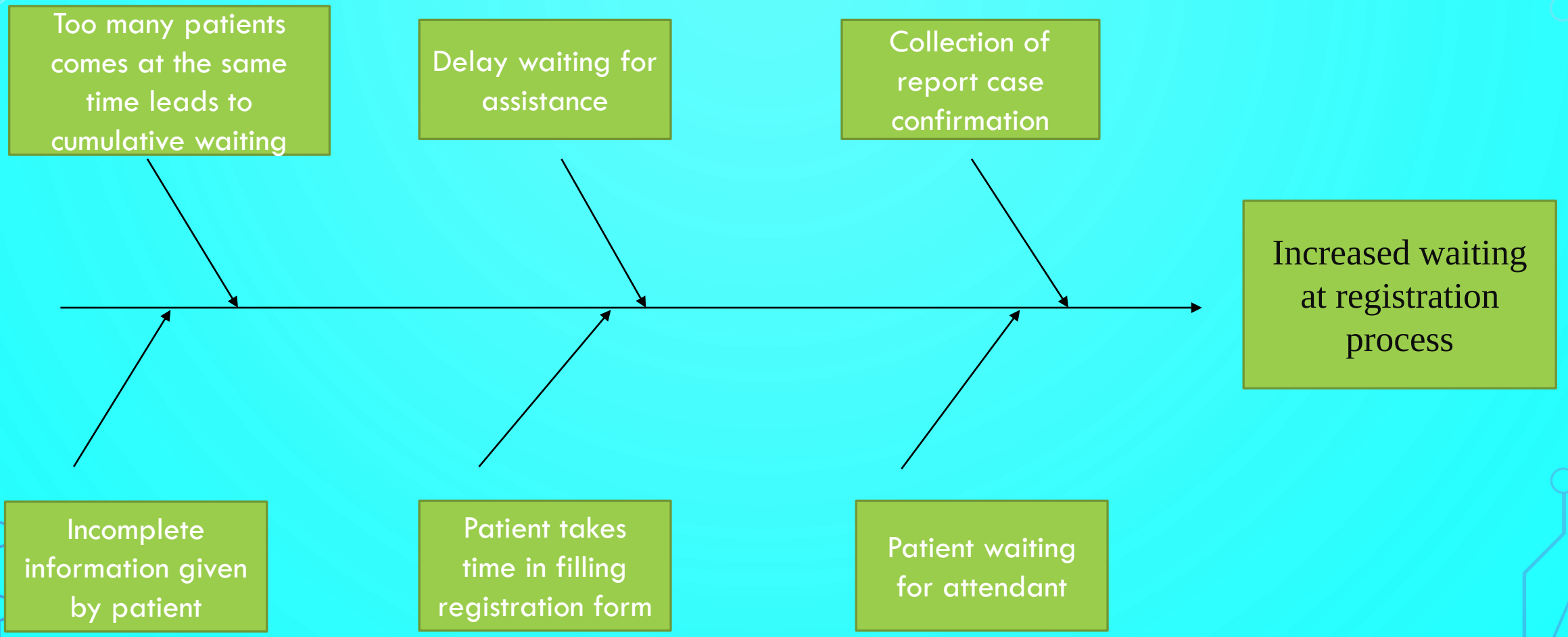
Dr. Kaoru ishikawa of the university of tokyo was the first to employ the cause & effect or fishbone diagram in 1943, which is why it is often referred to as a "ishikawa diagram."

This diagram is designed to identify all of the possible contributing root causes for a problem. This strategy can be applied to any type of project and can be customised by the user to meet the situation A cause-and-effect diagram, often known as a "fishbone" diagram, can aid brainstorming by identifying potential causes of an issue and organising ideas into usable categories. A fishbone diagram is a graphic representation of cause and effect relationships. It's a more systematic method than many other techniques for determining what's causing a problem. The problem or consequence is indicated on the fish's head or mouth. On the smaller "bones," possible contributing reasons are mentioned under several cause categories. A fishbone diagram can help you figure out what's causing your problem.

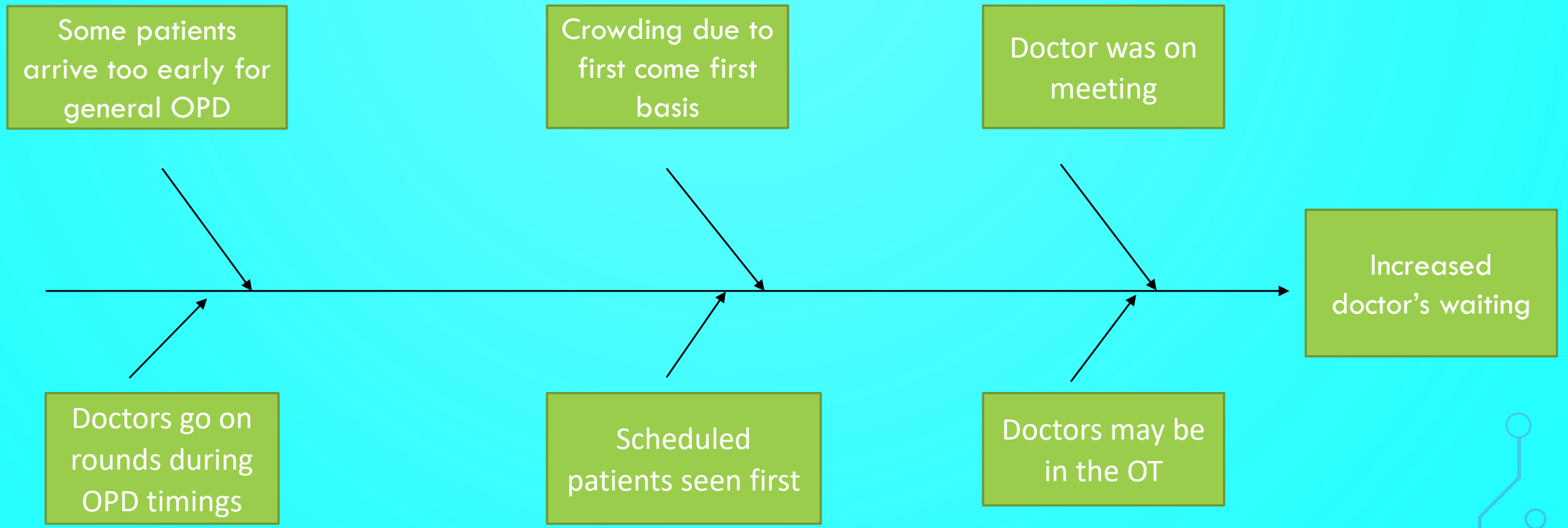
Identification and analysis of factors contributing to a specific outcome or problem (root cause analysis). It is a necessary tool for quality development .
it revealed the challenges faced by patient in the OPD

ROOT CAUSE ANALYSIS

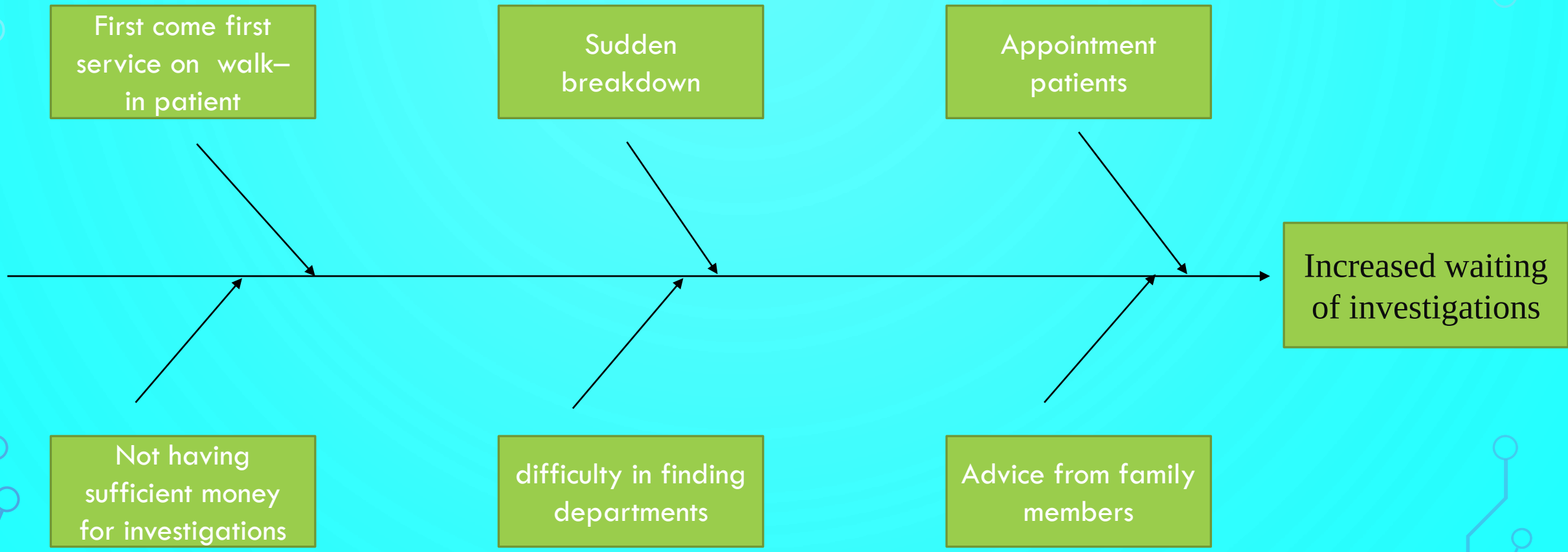
- Cause and effect diagram for first bottleneck (increased waiting time at registration process)



- Cause and effect diagram for second bottleneck (increased doctor's waiting)



- CAUSE AND EFFECT DIAGRAM FOR 3RD BOTTLE NECK (INCREASED WAITING TIME OF INVESTIGATION)



CONCLUSION

- The project study explains the importance of Patient delivery care in hospital as it is the initial department of the hospital which provides quality care to the patients.
- In this study , it was found patients constitute of all age groups and genders mostly we observed male patient coming to hospital . Study depicts that average no . Of patients coming to hospital each day as walk in is more in comparison to the appointment patients.
- In the study , it is observed that 38% of the patients faced difficulty in registration process, while 21% of the patients coming to OPD face the long waiting and delays in the consultation and that results to the negative image of hospital in the mind of patients.
- During the study , many factors or reasons for the long waiting and delays in the OPD and other various investigation are determined and several solutions to reduce the long waiting time in OPD and other various investigations department are recommended at the end of the project to reduce the delays and to facilitate the smooth functioning of the OPD and investigation department in hospital.

RECOMMENDATION

1. The hospital may improve on the signage system. more defined and user – friendly signages should be used with pictorial description for guiding illiterate patients. this will help in reducing the congestion in the corridors.
2. Displaying the consultant’s timings in the OPD, as well as online will reduce the number of enquiries made by the patients.
3. Separate OPD rooms for old and new patients.
4. The patients who arrive too early in hospital they should be well informed about their concerned doctor’s timing .
5. There must be co- ordination between OPD hours and OT timing.

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