RESEARCH ARTICLE

IMPACT OF WAITING TIME FOR IMAGING TESTS AND CONSULTATION ON OUT-PATIENT SATISFACTION AT A TERTIARY CARE HOSPITAL.

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Manuscript Info

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Abstract

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Background: Patient satisfaction is the vital goal of any health care system, but it is hard to measure the satisfaction.

Aims & objectives: (1) To study the waiting time at Out Patient Department (OPDs) (2) To study the waiting time for various diagnostic services; (3) To study the patient satisfaction on hospital process.

Methods: This was a cross sectional observational study conducted in a tertiary care hospital for the period of 8 months and patients were interviewed availing the OPD Services.

Results: The average waiting time for the patients in diagnostic imaging parameters is:

For Echo 18min, ultrasound 6.9min, CT 23.4min, X-Ray 6.09min, ECG 5.90min, TMT 19min, MRI 50.65minutes. The average waiting time for the patients to consult the physicians of various departments in descending order is that for Cardiology department 51.60min, General medicine 38.28min, Orthopedic department 33.81min, Neurology department 28.06min, Gynecology department 24.62min, Nephrology department 20.56min, Pulmonology 15.9min. Ophthalmology 7.67min

Conclusions: Many patients face the difficulties in finding the various departments. Patients were satisfied with treatment provided and they were also satisfied with the activities of hospital staff but they were dissatisfied regarding the waiting time in hospital for diagnosis and for consultation.

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Introduction:-

OPD is considered as the pane to hospital services and a patient intuition of the hospital begins at the OPD. This intuition often influences the patient's sensitivity to the hospital and therefore it is essential to make sure that OPD services offer an admirable experience for consumer. It is also well established that 8-10% of OPD patients need hospitalization. In this study, the OPD is defined as the hospital's department where patients receive diagnosis and/or treatment but did not stay overnight. [1]

Patients splurge considerable amount of time in the clinics, waiting for services to be delivered by physicians and other associated health professionals. The extent to which health clients are pleased with the care received is robustly correlated to the quality of the waiting experience.

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Patients' waiting time is described as, "the extent of time since the patient enter the out-patient department to the time the patient leave the Outpatient department". [1] Waiting time refers to the time a patient waits in the clinic before being seen by one of the clinic medical staff. Patient waiting time is an important indicator of quality of services presented by hospitals. The quantity of time a patient waits to be seen as one factor which affects exploitation of healthcare services. Patients recognize long waiting times as a hurdle to essentially obtaining services. charging patients waiting unreasonably can be a origin of stress for both patient and doctor. Waiting time is a substantial phase of practice that patients will use to critic health personnel, even more than their knowledge and skill. The duration of waiting time varies from country to country, and yet within country it varies from center to center. Long waiting times have been reported in both developed and developing countries. It is often one of the most annoying parts about health care delivery system. So it is an vital to progress the waiting time of the out-door patients.

Measurement of patient satisfaction has become familiar consign in many healthcare settings owed to its impact on quality of care. It has been acknowledged for some time that satisfied patients are more compliant with treatment, remaining with a physician, and uphold engagements. [2]

"Patient's satisfaction is a measure of the extent to which a patient is pleased with the health care e.[3][4][5]Patient satisfaction is the essential goal of any health care system, but it is complicated to evaluate the satisfaction and gauze awareness of health care systems as not merely the clinical but also the non-clinical outcomes of care authorize the patient satisfaction. [6] Many surveys were unsuccessful to find a relationship between patient satisfaction and health care excellence.[7][8]Patients satisfaction with an encounter with health care service is mainly dependent on the duration and efficacy of care, and how adopted and communicative the health care providers are.[9]

In this it is significant to recognize about the factors distressing the satisfaction of out-door patients. This includes.
1.   Out patient's department services
2.   Logistic arrangement in the out-patient's department
3.   Waiting time
4.   Facilities
5.   Perception about the performance of the staff
6.   Appointment system
7.   Behavior of staff
8.   Support service.

A diagnostic service refers to an examination, or procedure used to identify a person's disease or condition and which allows a medical diagnosis to be made. Diagnosis services are grouped into 3 categories – Imaging tests, Physiological Measurement tests and Day Case Endoscopies. We chiefly concentrated on imaging tests like Echo, ECG, TMT, MRI, CT, X-ray, Ultra sound.

The diagnostic waiting time relates to all tests with a diagnostic element. The waiting time for a diagnostic service commences on the date on which the referral for the service is received by the Health Care provider and stops on the date on which the test is performed.

As patient's satisfaction is an imperative factor of the health care industry in this competitive recent era. So current study was conducted to identify the difficulties face by patients while searching the various OPDs, waiting time at OPDs, various investigation departments, patient's satisfaction and to get feedback about service provided at a tertiary care hospital. [11]

Methods:-
A cross-sectional, observational study conducted at a tertiary care hospital from December 2016 to July 2017 for the period of 8 months.

A total 4486 patients enrolled for study purpose include those patients who seeking the treatment from various Outdoor Patients Departments running in this hospital.

Study Population
All patients who met our inclusion criteria at the Tertiary Care Hospital.

Quantitative Method of Study-
Observational time-motion study
The details of patients, time of his/her entry, the time taken by the patient to move through various departments, till the exit of the patient was noted and recorded

Qualitative Method of Study-
A Patient Experience Feedback questionnaire was administered to the OPD patients. This analysis was conducted after obtaining the waiting time data. Hence, the basis behind this feedback was to assess the impact on the waiting time and the patient's satisfaction.

Sample Size –
4486

Inclusion Criteria
1. Male/Female clients who were above 18years.
2. Willingness to participate

Exclusion criteria
1. Customers with severe physical or mental impairment
2.   Returning customers who already filled the questionnaire
3. Corporate Patients.

Results:-
Waiting time for imaging diagnostic services:
Table 1:-Average waiting time for Echo and Ultrasound

ECHO			ULTRA SOUND		
Month	Number of ECHO	Average Waiting Time (min)	Month	Number of US	Average Waiting Time (min)
Dec	1326	15	Dec	1384	7.66
Jan	1636	16	Jan	1516	6.17
Feb	1199	20	Feb	1424	6.27
Mar	1473	19	Mar	1876	6.25
Apr	282	19	Apr	1391	6.27
May	1216	17	May	1660	6.81
June	1590	19	June	1849	7.04
July	1922	19	July	2297	8.61

Table 1 shows that the highest average waiting time is 20min seen in February and lowest waiting time is 15min seen in December in Echo & in Ultrasound the highest average waiting time is 8.61min seen in July and lowest waiting time is 6.17min seen in Jan.

Table 2:-Average waiting time for CT and X-Ray

CT			X-Ray		
MONTH	Number	Average Waiting Time (min)	MONTH	Number	Average Waiting Time (min)
Dec	190	35.13	Dec	1466	5.66
Jan	224	29.69	Jan	1937	5.87
Feb	231	26.14	Feb	1812	6.24
Mar	257	28.01	Mar	2140	6.11
Apr	274	23.04	Apr	1717	6.26
May	288	23.43	May	2417	5.12
June	334	13.00	June	1669	6.76
July	341	8.74	July	2140	6.71

Table 2 shows that the highest average waiting time is 35.13min seen in Decemberand lowest waiting time is 8.74min seen in July in CT & in X-Ray the highest average waiting time is 6.76min seen in June and lowest waiting time is 5.12min seen in May.

Table 3:-Average waiting time for ECG and TMT

ECG				TMT		
MONTH	Number of ECG	Average Waiting Time		MONTH	Number of TMT	Average Waiting Time
Dec	1189	6		Dec	518	26
Jan	1441	6		Jan	601	18
Feb	1281	7		Feb	484	16
Mar	1575	7		Mar	605	20
Apr	1103	6		Apr	443	17
May	1406	7		May	450	18
June	1512	7		June	590	20
July	1922	6		July	656	17

Table 3 shows that the highest average waiting time is 7min seen in February, March, May, June and lowest waiting time is 6min seen in January, April, July, December in ECG& in TMT the highest average waiting time is 26min seen in December and lowest waiting time is 16min seen in February.

Table 4:-Average waiting time for MRI

MRI		
MONTH	Number	Average Waiting Time (min)
Dec	212	61.94
Jan 17	240	64.25
Feb	226	61.61
Mar	284	58.33
Apr	228	46.76
May	252	50.5
June	271	30.97
July	292	31.31

Table 4 shows that the highest average waiting time is 64.25min seen in Januaryand lowest waiting time is 30.97min seen June in MRI.

Table 5:-Waiting Time for Out Patient Consultation

Month	Dr.A(cardiology)		Dr.B(Cardiology)		Dr.C(Cardiology)		Dr.D(Cardiology)		Dr.E(Neurology)		Dr.F(Gynaecology)		Dr.G(Neurology)	
	No	Average Time	No	Average Time	No	Average Time	No	Average Time	No	Average Time	No	Average Time	No	Average Time
Dec	495	74	542	25	253	16	33	39	478	47	200	24	185	14
Jan	593	92	569	88	195	74	0	0	542	49	120	37	224	19
Feb	573	71.1	525	60	239	139		0	517	54.2	139	32.6	178	15.2
Mar	666	56.91	286	65.63	239	57.82	179	13.24	754	30.82	186	16.45	277	17.69
Apr	981	82	497	76	217	39	69	19	535	40.5	183	32	111	18.5
May	575	49.19	12	69.3	521	62.6	89	24.2	540	25.6	228	20.4	179	19
Jun	586	56.91	504	65.63	308	57.82	3	13.24	352	30.82	161	16.45	227	17.69
July	569	49.5	474	46.1	194	54.2	-	-	470	31.7	155	14.3	129	18.4

Table 5 shows that the highest average time taken by the patient to consult Dr. A is 74min followed by Dr.B 88min, Dr.C 139min, Dr.D 39min, Dr.E 54.2min, Dr.F 37min & Dr.G 19min and the lowest average time taken for Dr. A is 49.19min followed by Dr.B 25min, Dr.C 16min, Dr.D 13.24min, Dr.E 25.6min, Dr.F 14.3min & Dr.G 14min.

Table 6:-Waiting Time for Out Patient Consultation

Month	Dr.H(General medicine)		Dr.I(Opthomology)		Dr.J(Nephrology)		Dr.K(Orthopedics)		Dr.L(General medicine)	
	No	Average Time	No	Average Time	No	Average Time	No	Average Time	No	Average Time
Dec	641	71	253	9	120	26	231	17	118	19
Jan	750	69	216	13	108	43		41	110	42
Feb	190	60.5		0	94	15.9	201	30.4	94	81
Mar	933	21.9	4	0	88	15.77	251	24.94	148	65.91
Apr	731	62.5	0	0	102	17.5	238	30.5	135	33
May	764	45.6	143	14	108	14.3	199	22.5	140	19
June	835	21.9	133	15.4	105	15.77	202	24.94	125	65.91
July	811	26.4	68	10	104	16.3	220	19.3	120	29

Table 6 shows that the highest average time taken by the patient to consult Dr.H is 62.5min followed by Dr.I 15.4min, Dr. J 26min, Dr.K 30.4min, Dr.L 65.91min and the lowest average time taken for Dr. H is 21.9minfollowed by Dr.I 0min, Dr.J 14.3min, Dr.K 17min, Dr.L 19min.

Table 7:-Waiting Time for Out Patient Consultation

| Month	Dr.M(Gynaecology)		Dr.N(Orthopedic)		Dr.O(General medicine)		Dr.P(General medicine)		Dr.Q(Pulmonology)		Dr.R(Pulmonogy)	
	No	Average Time	No	Average Time	No	Average Time	No	Average Time	No	Average Time	No	Average Time
Dec	129	16	96	16	281	17	171	25	137	8	103	11
Jan	120	27	121	38	436	19	234	24	144	18	96	16
Feb	153	30.6	123	63.2	451	41.4	437	27.6	170	13	81	23.1
Mar	154	31.82	130	65.38	399	22.94	400	53.97	154	9.54	93	23.42
Apr	193	28	133	23.5	460	61.5	-	-	149	24.5	55	12
May	198	17.1	121	26.3	303	23.9	-	-	131	16.1	120	13
June	280	31.82	125	65.38	370	22.94			190	9.54	170	23.42
July	204	18.6	110	32.6	265	21.5			115	14.2	99	21

Table 7 shows that the highest average time taken by the patient to consult Dr.M is 31.82min followed by Dr.N 65.38min, Dr.O 41.4, Dr.P 53.97min, Dr.Q 24.5min, Dr.R 23.42min, and the lowest average time taken for Dr.M is 16min followed by Dr.N 16min, Dr.O 17min, Dr. P 24min, Dr.Q 8min, Dr.R 11min.

Table 8:-Out Patient Satisfaction Index

Month	Appointment	Reception	Billing Counter	Doctor	Lab Reports	Pharmacy	Hygiene	Canteen	Total Satisfaction	Recommend Hospital
Dec	91.88	91.62	87.34	95.09	86.90	79.28	82.24	82.62	91.37	94.27
Jan 17	89.83	90.46	86.36	92.27	82.65	79.34	90.31	72.16	90.62	94.72
Feb 17	90.52	90.27	88.17	95.64	89.01	79.78	81.04	79.36	93.37	96.56
Mar 17	90.63	90.63	90.63	95.83	90.63	88.54	92.71	93.75	94.79	95.83
Apr 17	93.05	93.50	91.03	96.41	91.03	89.35	94.06	91.14	95.85	96.14
May 17	88.88	91.63	90.42	93.75	90.94	89.97	90.71	88.42	94.38	94.90
June 17	89.91	92.69	91.47	94.84	92	91.01	91.76	89.44	95.48	96.00

Month	Diagnosis	Doctors	Front office	Over all Satisfaction	Pharmacy
July	90	93	87	90	77

Table 8 shows that the highest Out Patient Satisfaction Index is 95.85% seen in the month of April and the lowest Out Patient Satisfaction index is 90.62% seen in the month of Jan

Graph 1:-Percentages of Out Patient Satisfaction Index
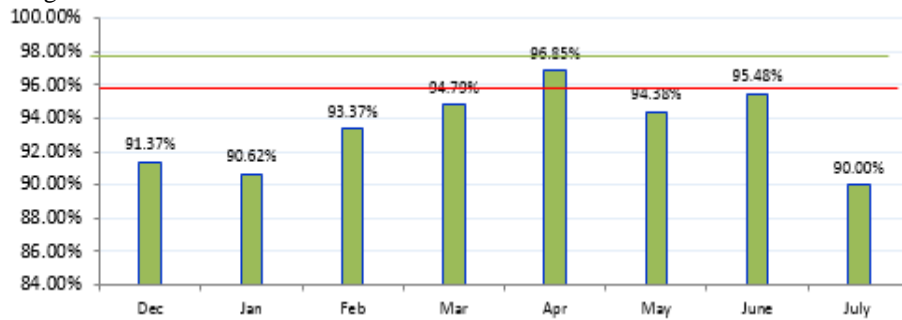
Conclusion:-

The present study was aimed to study the waiting time and out patient satisfaction at our hospital. Our surveillance reveals that many patients face the difficulties in finding the various OPDs and for imaging tests. It is taking long time for the OPD patients to consult their respected physicians. The average waiting time for the patients to consult the physicians of various departments in descending order is Cardiology, General medicine, Orthopedic, Neurology, Gynecology, Nephrology, Pulmonology, Ophthalmology. Patients were satisfied with treatment provided and they were also satisfied with the activities of hospital staff but they were dissatisfied regarding the waiting time in hospital for diagnosis and for consultation. So, in order to reduce the waiting time for consultation and for diagnostic imaging tests the tertiary care hospital should follow the following recommendations.

Recommendations
1. Patient satisfaction assessment should be conducted regularly.
2. In OPDs, proposal and complaint box should be kept, so that patients can easily put their complaints and proposals.
3. A help desk facility should be provided nearby the registration counter for the patient's convenience in finding OPDs.
4. Patient Centric OPD scheduling, thus increasing utilization.
5. Doctors should be advised to adhere to their allotted slots.
6. Rounds should be taken prior to or after the OPD hours.
7. There must be co-ordination between OPD hours and OT timings (in case of elective surgeries).
8. All codes must be made available in a soft format to the receptionists.
9. Lab technician must be available at all times.

Through these recommendations we conclude that these will reduce the dissatisfaction of patients.

Acknowledgement:-

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