A STUDY ON DIAGNOSTIC SERVICES OF HEALTH CARE INDUSTRY IN TRICHY

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ABSTRACT

Human resources are the back bone of the country. The success of a plan or development of the national economy or an increase in the physical quality life index is substantially influenced by the effective measures taken for education, health, skill and well-being of the masses. The development of healthcare facilities is only not influenced by the opening of healthcare centres and hospitals but more so by their effective administration and value-orientation. In a country like India where the poor sections of the society are not in a position to afford the expensive medi-care services offered by the private hospitals, it is not a good sign. Hence it is high time that the policy makers, medical and para-medical personnel, managerial personnel realize gravity of the situation should make possible the necessary changes in the administration of hospitals so that the masses are made available the world class Medicare services. This study is mainly concerned with Diagnostic services in TRICHY region. The primary and secondary data are used in this study. The secondary data were collected from the healthcare industry and manual, magazines and etc. The survey conducted for primary data for this study is from the period February 2013 to March 2013. It is a descriptive study used to examine the patient's attitude and their problems towards diagnostic services in Trichy city. The researcher has interviewed a total number of 90 respondents. The data were analysed using appropriate statistical tools such as percentages, chi-square test, ranking technique and Likert scaling techniques. The diagnostic services are analysed based on age categories such as young adulthood, middle adulthood and old adulthood. The majority of the clients are aware about the diagnostic centre through physician only. Null hypothesis is rejected and it concludes that there is an association between the sources of awareness 'friends and relatives' and a socio economic factor 'Education'.

Key words: Stress management, Sources of stress, Impacts and relief measures

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Introduction

Diagnostic services are the means used to determine the cause of an illness or disorder. Diagnostic Imaging department is comprised of medical staff, technologists, nurses, clerical support, PACS specialists and a management team. Team have eleven (11) Radiologists who interpret diagnostic images from all four hospitals and two (2) Nuclear. Health Central Hospital offers a variety of outpatient testing procedures that include laboratory services, CT and MRI scans, ultrasound scan, cardiac testing, pulmonary and cardiac rehab as well as access. Health care reform initiatives, quality measurement, and requirements for much greater accountability to numerous stakeholder groups, new questions arise constantly that need to be answered with more depth and greater insight.

A client use the instrument Diagnostic test to determine the general effects associated with running the test. The diagnostic service published the following information:

- Name and description of the diagnostic service
- Characteristics of a diagnostic service
- Diagnostic capabilities and default settings and effects which is applied in diagnostic service

The quality of services, the behaviour of medical and para-medical personnel, the structure of fee, the inculcation of mass awareness are some of the aspects to be given due weight age while marketing the healthcare services. In the Indian perspective, the hospitals irrespective of the fact that they are public or private diagnostic centre bring the responsibility of expanding their services to the rural areas where the masses suffer a lot. This in a natural way requires a new approach, a new strategy, a new vision. It is against this background that we talk about hospital marketing which would make the ways for multi-dimensional developments.

A health system, also sometimes referred to as healthcare system is the organisation of people, institutions, and resources to deliver health care services to meet the health needs of target population. There is a wide variety of health systems around the world, with as many histories and organizational structures as there are nations. In some countries, health system planning is distributed among market participants. In others, there is a concerted effort among governments, trade unions, charities, religious, or other co-ordinate bodies to deliver planned health care services targeted to the populations they serve. However, health care planning has been described as often evolutionary rather than revolutionary.

Category of services

- Health care category
- Health care facilities, Manpower and services
- Health services
- Community health services
- Preventive health services

Diagnostic services

- Genetic Testing
- Anonymous Testing
- Multi Phasic screening
- Mobile Health Units
- Mass screening
- Mass Chest X-Ray
- Neonatal Screening

Types of Diagnostic tests

When the physician prescribes diagnostic testing at Chesapeake Regional Medical Centre, it can be assured of the most up-to-date technology, backed by caring, compassionate staff who understand your individual needs. Whether the testing involves lab work, X-rays or cardiac monitoring, Chesapeake Regional offers a full range of sophisticated diagnostic services, such as:

Bone Densitometry: Bone densitometry is a test similar to an X-ray that quickly and accurately measures bone density. It is used primarily to detect osteopenia or osteoporosis, diseases in which the bone's mineral content and density are low and the risk of fractures is high. Bone mineral density measures the amount of calcium in a specific region of the bones.

Magnetic Resonance Imaging: An MRI is a type of diagnostic test that uses electromagnetic energy to produce highly detailed and sophisticated cross-sectional images of various body organs. MRI is most useful for providing soft-tissue images, detecting edema in the brain, projecting a direct image of the spinal cord, tumours in the chest and abdomen, and visualizing the cardiovascular system.

Computed Tomography: Multiple angles are detected and relayed to a computer, programmed with the absorption capacities of the various body tissues. The computer then projects a single composite picture of a specific slice of the abdomen, chest or head on a screen.

Ultrasound: An ultrasound uses high-frequency, inaudible sound waves that are bounced off body tissues and then recorded to give information about the anatomy of an internal organ. Ultrasounds are used to detect a wide variety of conditions and by a range of physicians including radiologists, neurosurgeons, ophthalmologists, cardiologists, gastroenterologists and obstetricians/gynaecologists.

Laboratory: Routine laboratory work is done on site at the Diagnostic Centre of Chesapeake. Those services include EKG testing, pre-employment drug screenings and point of care testing. Laboratory tests are blood tests used to diagnose and monitor treatment for heart disease.

Blood count Blood sugar test Blood Thinners Risk of coronary artery disease B-Type Natriuretic Peptide Electrolytes Enzyme & Protein Lipid Thyroid Waste products in the blood

Statement of the problem

Good health, responsiveness to the expectations of the population, and fair financial contribution and progress towards them depends on how systems carry out four vital functions namely provision of health care services, resource generation, financing, and stewardship. Other dimensions for the evaluation of health systems include quality, efficiency, acceptability, and equity. In recent diagnostic market publics are having so many sources to know their health illness through latest technologies. Day by day the technologies are changing and innovative machines launched in the market. Due to this technology upgradation public have so many problems such as doctor suggest to test frequently, small illness also diagnosed through testing only, charges differentiated from one centre to another centre, no awareness about testing and result, costlier, more time consuming, patient is fully depends on only doctor suggestions and opinions. The researcher has found the above said problems from health care industry hence made an attempt to analyse the problems.

Scope of the study

Diagnostic Radiology performs procedures in the main department, Trauma Suites, Operating Room, and Emergency Room and throughout the institution, which are served by portable radiography and fluoroscopy. Radiology Imaging Services provides services to

Pediatric, Adolescent, Adult and Geriatric patients with services available to inpatient and emergent cases through regular staffing or on-call coverage. Outpatient services are provided in each department.

Objectives of the study

- To know about the diagnostic services available in Trichy
- To analyse the quality of service rendered by the diagnostic centres
- To analyse the prompt service and accurate reporting provided to all clients
- To ensure the infrastructure provided to the patient in the view of safety, kinds of service availability and reliability of all equipment in diagnostic centre

Review of Literature

The researcher mainly concentrated on the Diagnostic service practices and policies of service providers, patient satisfaction towards testing reports and services, level of usage, quality of service, cost and variety of service provided by the providers.

Meta works[1] Meta Works investigators used systematic review methods derived from the evolving science of review research. The review followed a prospective protocol that was developed *a* priori and shared with the nominating partners on the project (Blue Cross/Blue Shield [BC/BS] of Massachusetts and the Sleep Disorders Centre of Metropolitan Toronto), a panel of technical experts (with representation from consumer groups and professional specialties: neurology, pulmonologist, dentistry, otolaryngology, epidemiology, and nursing); To be included in the review, studies had to report results of any diagnostic test or intervention to establish or support a diagnosis of SA in adults, with at least 10 patients as total sample size. Key data elements sought for extraction from each study included study level, patient level, and test characteristics. The main objective of the analysis was to evaluate the diagnostic accuracy of alternatives to full PSG for the diagnosis of SA as compared to a full PSG (gold standard).

Chandrashekar T sreeramareddy and Kishore V Panduru[2] has conducted a study on "Time delays in diagnosis of pulmonary tuberculosis" and it analyzed that Delay in diagnosis of pulmonary tuberculosis results in increasing severity, mortality and transmission. Various investigators have reported about delays in diagnosis of tuberculosis. The reported ranges of

[1] Agency for healthcare research and quality, June 2005,
[2] Journal of Bio medical Central, Vol. 2, August 2008, pp. 1 - 5.

average (median or mean) total delay, patient delay, health system delay were 25–185 days, 4.9–162 days and 2–87 days respectively for both low and high income countries.

Methodology and sources of data

The geographical area of the study is confined to Trichy city which is located in the southern part of India. The primary and secondary data are used in this study. The secondary data are collected from the healthcare industry, manual and magazines etc. The survery conducted for primary data in this study is from December 2013 to January 2014. It is a descriptive study perused is used to examine the patient's attitude and their problems towards diagnostic centre in Trichy city. The researcher has interviewed a total number of 90 respondents. As the responses received from 10 respondents, were inadequate and contradictory to the required information, they were not considered for the study. Finally, the information provided by 80 respondents of diagnostic service takers has been taken for the present analysis. The data were analysed using appropriate statistical tools such as percentages, chi-square test, ranking technique and Likert scaling techniques. In order to analyse the attitude of patients through Likert scaling and ranking technique have been used in this study. Suitable hypothesis have been framed and test of association between socio economic factors and source of awareness was undertaken through chi square test.

Data analysis

In the Indian healthcare services industry, a largely unorganized diagnostic service is one of the fastest growing segments. Several important developments and factors have created a market that has witnessed an active participation of domestic players, and attracted foreign companies. As per the estimations, carried out in the latest research report, the Indian diagnostic services market will grow at the compound annual rate of around 26% during 2012-2015 on back of huge investments, fast expansion into tier II & III cities, and strong government support strengthening the healthcare infrastructure in the country.

According to our comprehensive study, "Diagnostic Services Market Outlook in Trichy", the market's future landscape will be defined by major advancements in the IT, and sophisticated lab testing mechanism. Currently, there exists a tremendous growth opportunity for the market players in tier II and III cities, wherein the educated middle class population is becoming more sophisticated with respect to preventive healthcare check-ups.

Every year, the reference laboratory carries out more than 23,000 serological, 10,000 haematological and 12,500 carpological examinations. In addition, the emergency diagnostic service examines more than 150 blood films a year for malaria outside regular working hours. The Indian diagnostic and pathological labs test services market was valued at Rs66.87 billion in FY2008. Indian diagnostics and pathological labs, based on the working level, are classified into high-end labs, accounting for 38% of the market share, manual labs (28%) and second-level regional labs (34%). By therapeutic segment, the major share is held by biochemistry (38%), followed by immunology (23%), haematology (15.8%), critical care, urine routine, others, microbiology and coagulation. Seventy seven per cent of the market is contributed by biochemistry and clinical pathology, which includes immunology and haematology. According to the estimates, the Indian diagnostics and labs test services, in view of its growth potential, is expected to reach Rs159.89 billion by FY2013, reflecting a CAGR of 18.9% during FY09-FY13.

Age Classification of the respondents

Based on age of the respondents, attitude, post purchase behaviour differ from one respondent to another respondent. Hence the researcher made an attempt to classify the respondents on the basis of age. It has been categorised for this analysis such as 20 to 35 years, 36 to 50 years and more than 50 years. It is also called as young adulthood, middle age adulthood and old age adulthood. The details of categorization are presented in table no.1.

Table no. 1 age wise classifications of respondents

Sl. No.	PARTICULARS	No. of Respondents			
		20 to 35 years	36 to 50 years	More than 50years	
		Young adulthood	Middle adulthood	Old adulthood	Total
1	AGE OF THE RESPONDENTS	44 no's	21 no's	15 no's	80
	Percentage	**55%**	**26.25%**	**18.75%**	**100**

Source: Primary data

It is observed from the table 1 that 44 number of respondents comes under the age group of 20 to 35 years category, 21 number of respondents are falls in 36 to 50 years age group and 15 number of respondents under the more than 50 years category.

Analysis of Socio Economic factors

In recent days patient opinion differs from one person to the other due to their gender, educational qualification, income, size of the family and occupation. In this part of analysis socio economic factors highly influence because majority of the people undergo diagnostic services to diagnose the disease and to take measures. So the researcher made an attempt to analyse the socio economic factors in the subsequent paragraphs and results are presented in table no 2.

Table no. 2. Analysis of socio economic factors

Particulars	Young Adulthood		Middle Adulthood		Old Adulthood	
	Res	Per	Res	Per	Res	Per
GENDER						
Male	15	34	8	38	7	46.6
Female	29	65.90	13	62	8	53.3
EDUCATIONAL QUALIFICATION						
Illiterate	1	2.27	5	23.8	5	33.3
School Level	18	40.9	9	42.8	5	33.3
Graduate	17	38.6	4	19	3	20
Professionals	8	18.18	3	14.2	2	13.3
ANNUAL INCOME						
Less than Rs. 100000	26	59	12	57	5	33.3
Rs. 100001 to Rs. 300000	14	31.80	8	38	7	46.6
More than Rs. 300001	4	9	1	5	3	20
SIZE OF THE FAMILY						
Less than 3 members	11	25	4	19	2	13.3
3 to 5 members	21	48	14	67	8	53.33
More than 5 members	12	27.2	3	14	5	33.33
OCCUPATION						
Government Employee	6	14	1	5	2	13
Private Employee	29	66	12	57	6	40
House wife	5	11.3	6	29	5	33
Profession	4	9	2	10	2	13
TOTAL	**44**	**100**	**21**	**100**	**15**	**100**

Source: Primary Data

Table no. 2 indicates that majority of the respondents are under the female category at all the categories of age because of raising health problems for women. Small percentage of the male respondents are availing the diagnostic services in all the categories of age. Majority of respondents have only school level education in the entire category. Next in young adulthood 38.6 percent of the respondents have completed graduation and 23.8 percent in middle adulthood and 33.3 percent in old adulthood have completed their graduation. Other respondents have completed professional courses in minimal percentage. 59 percent of young adulthood and 57

percent of respondents of middle adulthood come under the less then Rs. 100000 income category. 46.6 percent of old adulthood respondents come in the 100001 and 300000 group category. Minimized percent of the respondents comes under the category of more than Rs. 300000.The sample respondent's majority 67 percent of middle adulthood, 53.33 percent of old adulthood and 48 percent of young adulthood comes under the 3 to 5 members in their family. Few of the young and old adulthood respondents are having more than 5 members in their family. Majority of the respondents have employment in the private employment in all the adulthoods. Next major clients are under the category of housewife and other respondents are working as a government employee. Minimal respondents are doing professional activities.

Awareness about diagnostic centre:

In the present scenario is expanding a number of service providers. Everyone is taking innovative efforts to create awareness to the society such as consultancy, through employees, physician, friends and relatives and advertisement. The following table enunciates the awareness level of the respondents towards the diagnostic centre

Table no. 3. Awareness of diagnostic centre

Particulars	Young adulthood		Middle Adulthood		Old Adulthood	
	Res	Rank	Res	Rank	Res	Rank
Consultancy	10	III	3	III	2	III
Through employees	9	IV	0	IV	2	III
Physician	19	I	14	I	7	I
Friends & relatives	16	II	8	II	6	II
Advertisement	4	V	3	III	2	III
Total	**58**		**28**		**19**	

Source: Primary Data

It is evident from table 3 that the majority of the clients are aware about the diagnostic centre through only physician. Hence the first rank has been allotted to this source. Following this source 'Friends and relatives' secures the second place. Third place goes to the consultancy service organisation. The remaining sources 'through employees' and advertisement have also created awareness to some extent.

Association between the sources of awareness of diagnostic service providers and socio-economic factors

The association between the sources of awareness of diagnostic service providers and socio-economic factors like age, gender, educational qualifications, annual income and occupation of the respondents has been analyzed with the help of chi-square test. The result of the analysis is given in the Table no. 4

Table no 4 chi-square analysis for sources of awareness of diagnostic service providers and socio- economic factors

SOURCES	Age	Gender	Edu. Qua.	Income	Occupation
Through consultancy	1.02	0.05	0.651	2.81	0.555
Through centre employees	5.018	0.01	0.769	0.05	6.241
Physician	0.164	0.03	1.042	2.173	2.603
Friends & Relatives	5.25	0.03	9.058	3.234	3.725
Advertisement	0.464	1.411	4.915	4.065	2.666

Source: Primary Data

It is inferred from the Table 4 that the computed chi-square value is greater than the five percent critical value for the source 'Friends and relatives' for the socio economic factor 'Education. Hence Null hypothesis is rejected and it is concluded that there is an association between the source 'friends and relatives' and a socio economic factor 'Education'. The computed chi-square value is less than the five percent critical value for the sources 'through consultancy', 'through centre employees', 'physician', 'friends and relatives and 'advertisement' for all the socio-economic factors. Hence the null hypotheses are accepted. So, it can be concluded that there is no association between the sources of awareness and all the socio economic factors except education.

Kinds of diagnostic services

Health care industry is having changes frequently due to advanced technologies, equipments and methods. Those technologies are laboratory testing, X-ray, CT-scan, MRI- scan and Doppler scan. A few important diagnostic tests through which the respondents are aware in Trichy is analysed on the basis of weighted ranking method and presented in table no.5.

Table no 5 kinds of diagnostic services

Particulars	Young adulthood		Middle Adulthood		Old Adulthood		Total Score	Rank
	Res	Score	Res	Score	Res	Score		
Laboratory Tests	29	145	18	90	8	40	275	I

X-ray	28	114	16	64	10	40	218	II
CT-scan	27	81	13	39	9	27	147	III
MRI scan	24	48	9	18	8	16	82	IV
Doppler scan	22	22	5	5	5	5	32	V
Total	**130**		**61**		**40**			

It is evident from the Table 5 that the majority of respondents are aware about the "Laboratory test". Hence the first rank has been allotted to this test. Following this, the test 'X-ray' secures the second place. Third place goes to the test 'CT-Scan'. The remaining test "MRI Scan" and '"Doppler Scan" have also aware to some extent.

Kinds of laboratory services

Diagnostic services day by day changing based on dynamic results needed by the physician. So that researcher analysed which is most preferred test by the physician and test by the patients through the classification of tests are such as haematology, biochemistry, liquid profile, thyroid, imaging, serum & lector.

Table no. 6 Kinds of laboratory services

Particulars	Young Adulthood		Middle Adulthood		Old Adulthood	
	Res	%	Res	%	Res	%
Haematology	27	36.49	8	18	9	35
Biochemistry	23	31	10	14	4	15
Liquid profile	9	12	16	36	7	27
Thyroid	6	8	3	9	1	4
Imaging	8	11	5	16	2	8
Serum &lector	1	1	2	7	3	12
Total	**74**	**100**	**44**	**100**	**26**	**100**

Table No. 6 exhibits 36.49 percent of young adulthood and 35 percent of old adulthood respondents are testing haematology test. 36 percent of the respondents, testing liquid profile tests to middle adulthood people. Mostly the respondents are testing biochemistry tests in the diagnostic centre. Few respondents are testing the following tests such as thyroid, imaging and serum & Lector.

Selection of the diagnostic centre

In the diagnostic centre various kinds of tests are tested by the clients. But the clients are seeing various criteria to select the particular diagnostic centre such as service quality, infrastructure, facilities, timely response, reasonable cost, guidance, accurate assessment, referred by physician and others, offered concession, providing ambulance services, skilled employees and image of the organisation. The results are given in the table No.7.

It is evident from table 7 that the majority of clients are young and middle adulthood category people seeing 'service quality' and old adulthood people seeing 'guidance' and 'employee skill set'.

Table no. 7 selection of the diagnostic centre

Particulars	Young adulthood		Middle Adulthood		Old Adulthood	
	Res	Rank	Res	Rank	Res	Rank
Quality services	33	I	13	I	3	IV
Infrastructure & Facilities	26	II	11	II	6	II
Timely response	10	VII	9	IV	4	III
Reasonable cost	3	X	4	VII	2	V
Guidance	9	VIII	4	VII	7	I
Accurate Assessment	22	III	10	III	6	II
Referred by Physician	19	IV	5	VI	6	II
Referred by others	5	X	6	V	3	IV
Offering concession	1	XI	3	VIII	1	VI
Ambulance services available	15	VI	11	II	4	III
Skilled employees	16	V	11	II	7	I
Centre Reputation	6	IX	4	VII	3	IV

Source: Primary Data.

Hence the first rank has been allotted to these criteria. Following this factor 'infrastructure and facilities secures second place. Third place goes to the criteria 'accurate assessment' in young and middle category and old adulthood expecting 'timely response' and availability of ambulance services. The remaining criteria's have distributed in very similar manner and also seen by the respondents while entered into the diagnostic centre.

Kinds of privileges

Diagnostic centres are offering variety of privileges to their clients such as concessional rate, adequate availability, door delivery of report and telephonic reporting. So the researcher analysed the privileges which enjoyed by the respondents and presented table no. 8.

Table no. 8 Kinds of privileges

Particulars	Young adulthood		Middle Adulthood		Old Adulthood	
	Res	Rank	Res	Rank	Res	Rank
Rate concession	3	IV	6	II	3	I
Adequate available	27	I	8	I	3	I

Door delivery of report	5	III	2	IV	2	II
Telephonic reporting	13	II	4	III	2	II
Total	**48**		**20**		**10**	

Source: Primary Data.

It is learnt from the above table 8 that the majority of respondents from all adulthood categories got 'adequate availability' of service. Hence, first rank is provided to this factor. The second and third ranks have been allotted to 'telephonic reporting' and 'door delivery of report'.

Opinion of Non referred centre report

Now a day's patients are selecting a non referred diagnostic centre due to the cost variation, time consuming, no facilities, far away from the city and unskilled employees. So the researcher made an attempt to analyse the opinion of the acceptance of report by a physician from the patients and shows in table 9

Table No. 9 Opinion of non referred centre report

Particulars	Young adulthood		Middle Adulthood		Old Adulthood	
	Res	%	Res	%	Res	%
Non acceptable	3	100	3	60	5	71.43
Dissatisfaction about the reports	2	66.67	5	100	4	57.14
Bad opinion about the centre	2	66.67	2	40	6	85.71
Direct you take report on other	1	33.33	2	40	2	28.57
Total	**8**		**12**		**17**	

Out of 3 respondents in young adulthood, 5 respondents in middle adulthood and 7 respondents from old adulthood opined that majority of the physicians are not accepting non referred centre reports. Few of the doctors criticize the reports taken from centre. Minimized respondents instruct to take fresh report on that particular centre.

Time taken for distribution of report

Diagnostic centre distributing reports based on the test, number of clients, and cost of report and payment duration. The researcher framed timings for this analysis such as less than 12 hours, 12 to 24 hours and more than 24 hours. So the analysed time taken for distribution of report to the patients or referred physician.

Table No. 10 Time taken for distribution of report

Particulars	Young Adulthood		Middle Adulthood		Old Adulthood	
	Res	%	Res	%	Res	%
Less than 12hrs	26	59.09	6	29	2	13.33
12 to 24hrs	16	36.36	13	62	8	53.33
More than 24hrs	2	4.545	2	10	5	33.33
Total	**44**	**100**	**21**	**100**	**15**	**100**

Source: primary data

It is inferred from table 10 that the majority of respondents under young adulthood 59.09 percent opinioned that they have delivered report within 12 hours. 62 percent middle adulthood and 53.33 percent old adulthood respondents received report 12 to 24 hours.

Report missing

Researcher analysed how many patients are missing their medical report after receiving from the diagnostic centre. The table 11 showed the results below.

Table no. 11 Report missing

Particulars	Young Adulthood		Middle Adulthood		Old Adulthood	
	Res	%	Res	%	Res	%
Yes	22	51.16	14	70	8	47.06
No	21	49	6	30	9	52.94
Total	43	100	20	100	17	100

Source: Primary Data

Table 11 reveals that the majority of respondents have been missed in young adulthood (51.16) and middle adulthood (70) category. 52.94 Percent respondents are not missed their diagnostic report.

Issuing procedure of duplicate certificate

The researcher made an attempt to analyse the procedure adopted for the issue of duplicate reports to their clients and present in the table 12

Table no. 12 Issuing procedure of duplicate certificate

Particulars	Young adulthood		Middle adulthood		Old adulthood	
	Res	%	Res	%	Res	%
Additional amount paid	4	20	0	0	1	12.5
Free of cost	5	25	8	72.72	2	25
Physician reference	11	55	3	27.27	5	62.5

Total	**20**	**100**	**11**	**100**	**8**	**100**

Source: primary data

This table 12 exhibit 62.5 percent old adulthood and 55 percent of young adulthood respondents are getting their duplicate report through reference of physician. 72.72 percent of the respondents getting their report at free of cost without doctor reference. Few percent of the respondents are getting their report through payment.

SUMMARY OF INFERENCES:

- The diagnostic services are analysed based on age and also categorized young adulthood, middle adulthood and old adulthood. Majority of 44 percent respondent under young adulthood, 26.25 percent and 18.75 percent of respondents comes under middle and old adulthood categories.
- The majority of the respondents are female category at all the adulthoods.
- Most of the respondents are having school level education.
- A maximized respondent falls in less than Rs. 100000 earning group in all the category of adulthood. Minimized percent of the respondents comes under the category of more than 3, 00,000.
- Majority 67 percent of middle adulthood have 3 to 5 members in their family. 27.2 percent, 33.33 percent of respondents are having more than 5 members under the category of young and old.
- Most of the respondents are working as a private employee; Minimized respondents are in professional category in all the category of adulthoods.
- The majority of the clients are aware about the diagnostic centre through only physician. Hence it scored first rank. Second place goes to friends and relatives.
- Null hypothesis is rejected and it is concluded that there is an association between the sources of awareness 'friends and relatives' and a socio economic factor 'Education'. It can be concluded that there is no association between the sources of awareness and all the socio economic factors as null hypothesis is accepted.
- The majority of respondents are aware of "Laboratory test" and remaining tests such "MRI Scan" and '"Doppler Scan" are also award by minimized respondents.

- Majority of respondents are choosing their diagnostic centre based on disease. Lowest percent of the respondents are selecting based on the cost in all the adulthoods.
- Haematology kind of test is done by the 44 respondents in all the adulthood. Minimized respondents are testing the following tests such as thyroid, imaging, serum & lector.
- Most of the respondents have selected their diagnostic based on quality of service next they have given priority to infrastructure and facilities, accurate assessment. Minimized percentages of respondents have select based on the rate concession.
- 93.18 in young adulthood, 71.42 in middle adulthood and 53.33 percent in old adulthood respondents are selecting diagnostic centre as suggested by the physician.
- Most of the respondent have availed privileges from physician suggested centres.
- Physician suggested centre have adequate facilities and having skilled employees.
- Few respondents are selecting centre which is not referred by the doctor.
- All respondents have opined that the report is not accepted by the doctor from a non referred diagnostic centre.
- The majority of respondents have opined that all the centres expecting 'Prescription letter' from a physician for testing.
- The majority of the respondents under young adulthood 59.09 percent opined that they have got report within 12 hours. 62 percent of middle adulthood and 53.33 percent adulthood respondents have got their report between 12 to 24 hours.
- All categories of respondents are not getting any explanation relates to the result from the diagnostic centre.
- Majority of the respondent are not aware of the terms and conditions of the diagnostic centre. Very few respondents are aware and understand the diagnostic terms and conditions of the centre.
- Most of the young and middle adulthood category they have missed their diagnostic report.
- Report missed respondents are getting their duplicate report when demanded only.
- Most of the report missed persons have opined that getting the duplicate report is with reference of physician. Small numbers of respondents are getting their report through the payment easily.
- Majority of the respondents are diagnosing their illness through laboratory only. Peculiar or major cases are diagnosing using CT and MRI among all the adulthoods.

- Mostly the respondents are using laboratory test frequently at time of illness in all the categories adulthoods and few only undergo test at the time of accident.
- All the adulthood respondents felt the charge of diagnosing is high and very few only have said it as lowest cost.
- Report is varies from one centre to another centre and there is only minimized percent of uniformity of diagnosing reports.
- Recent technologies are used to reduce timings for testing. So that the respondents are opined that the laboratory, X – ray, CT – scans, MRI and Doppler taken more than 3 hours for testing. Very minimal percent of the respondents said the diagnosing is completed within an hour.
- The level of satisfaction scores given by the sample respondents in young adulthood are more than 60 percent in middle category of people opined it is more than 59 percent and in old adulthood respondents more than 60 percent.
- Majority of the respondents in all the categories have opined that the report is in standard. Very few have said the variances are present in their report.
- It is observed from the analysis that the majority of young, middle and old adulthood have indicated that level of satisfaction is in an average level.
- Most of the respondents are diagnosing only specific parts in all adulthood.
- Young adulthood category opined that door step testing is offered in lab. Few respondents have availed ambulance services and others are getting suggestions relating to medicine.
- Majority of 43 percent of respondents are testing more than 3 times in lab, 30 percent of the respondents using X-ray 2 times, 38 percent of the respondents more than 3 times, MRI used only one time and Doppler scan is also used in cent percent. In adult category all the testing methods used minimum three times at the time of treatment.
- The satisfaction score of the respondents towards the cost of testing has been obtained in the table 14. It is inferred from the above table that majority of respondents have felt costlier in all categories.
- Majority of the respondents have said that those who are testing their health it will take more than 3 hours for every test in the entire diagnostic centre under all the categories.
- The opinion regarding the level of satisfaction of the respondents towards diagnostic centre employee approach. Majority of respondents have agreed to the approach of the employees

in diagnostic centre as depicted in above table. The satisfaction scores given by the sample respondents in young adulthood are more than 60 percent, in middle adulthood category is 59 percent and old adulthood category is 60 percent.

- Young adulthood opined that lab, X-ray and CT scan process are standard but MRI and Doppler scan process varies from one centre to another centre. In middle adulthood category respondents have opined that the diagnostic process is standard. Old adulthood category has said that lab, MRI and X-ray testing procedure are standard. But CT and Doppler scan procedure is varies from person to person.
- At the time of testing whether there arise side effects or not was analysed and observed from the respondents that the majority of young, middle and old adulthood have indicated that the level of satisfaction is at average level.
- Under young adulthood category the type is specific parts done through lab and X-ray tests, specific diagnosing through CT scan, Doppler and MRI. Middle adulthood category has used lab, Doppler and X- ray for whole body testing and CT scan for specific parts. Old adulthood category people have used lab and X-ray for specific parts testing and CT scan for specific diagnosing.
- Young and middle adulthood category opinioned door step testing offered in lab and MRI scan. Few respondents have ambulance services and others getting suggestion relates to medicine.

CONCLUSION

Relationship between patients and diagnostics labs or referral labs has an influential role in the industry. The re-discovery of testing methods is a keen problem in the market. Patients' (as Customer) satisfaction is an important factor, which affects the financial position and goodwill of the various labs from small to big players of the whole industry. Patient's as well as Physician's demands are dynamic, but its consideration is necessary for every diagnostics labs to make existence in the competitive market. The Indian economy is set to grow rapidly through the continuous blooming of the Improved World Class Diagnostics sector. Patients prefer to perform their tests where the Physician prescribes. They are willing to send the samples to the leading referral labs Now-a-days because of the high class and efficient logistics system of the referral labs and the accuracy as well as consistency in reporting time of the tests it is becoming popular.

The current survey cannot be classified as an exhaustive survey encompassing all parameters that need assessment. With high percentage of overall satisfaction found in present survey, important point to remember is patients are not just satisfied with modern sophisticated equipment, top class furniture or skilled diagnose alone, but what they need is human touch from the healthcare setup and staff in time when they are already in pain. Hence this piece of research work will form the base for further research in this potential area.

RECOMMENDATION:

Efforts needed to retain customer and increase reputation of the diagnostic centre service. All patients should be informed about their probable bill amount in advance. Comfortable blood collection procedure and satisfaction of patient's/referral doctor's doubts are areas that need to be worked on by the diagnostic service providers.

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