Searching a Model for Better Health Service to the Rural Indian: A Comparative Study on PPP and Private Diagnostic Centers in West Bengal with Special Reference to Purba Midnapore District

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ABSTRACT

In this study, we have made an attempt for searching a model for better health service to the rural Indians. It is unearth that before the introduction of PPP-based diagnosis centers, people have to use private diagnosis centers by spending more money. Introduction of PPP unit reduce out of pocket expenditure no doubt. But it is the proper time to evaluate the service actually they provide and such evaluation can be done by the measurement of satisfaction level of the patients who are taking services from these units. In this study, parameters used to measure the satisfaction levels of patients include Pathological test, CT scan, USG, digital X-ray, dialysis which are running under PPP. We interviewed 270 patients with structured questionnaire using 5 point Likert scale and also considered only such patients those having the experience on both PPP and private diagnosis services. Here, Cronbach's Alpha for reliability of data, descriptive statistics and also Wilcoxon test have used to know any difference in perception about satisfaction between PPP and Private diagnostic center. It is found from the result of Wilcoxon test (at 95% confidence level) that in most of the cases (i.e., in 77 per cent cases) there was significant difference in perception about satisfaction level between PPP and private diagnostic center. Moreover, patients are inclined to the private diagnostic centers ignoring the higher prices of the private centers. It is also apparent from the result that they are only satisfied with PPP model for their price structure.

Keywords: Public Private Partnership, Satisfaction, Patients, Null Hypothesis etc.
JEL Classification: I11, I19, P46

INTRODUCTION:

Public Private Partnership model is an emerging issue in every sector worldwide. In case of health sector it is not possible for the government to fulfill all the necessary requirement of the growing population like India. As per the census 2011, 73 percent people lives in rural area and about 26.1% people lives below poverty lines, most of the cases people have to depend on quake doctors because primary health centers are not sufficient as required. Again, about 70% of total health care market is captured by the private sector player and invest about 3% of the country's GDP in health care sector whereas Govt. of India allocate only 1.3% of the GDP which is one of the lowest investment in respect of other developing countries. As a result public infrastructure not sufficiently met the demand of the people with this low investment. Though private player invests more, but main problem is that most of the Private hospitals are in the town and in the metro cities. Private players are not like to open their hospitals in rural area. So, there is a huge disparity in health service between urban and rural areas. In this situation govt. makes some reforms in Indian health sector, among them public private partnership is one of the major reforms policy adopted by govt. of India. The state govt. of West Bengal also adopted this

policy to improve rural healthcare delivery system. The govt. of West Bengal engaged with private partner to deliver some diagnostic service like pathological test, Ct scan, USG, digital X ray, MRI, dialysis, fare price medical shop etc. Where govt. provides land and building, private player provides total equipments, technology and personnel. As the govt. provide space and building in the hospital premises, a concessional rate fixed by the govt. for the test and most of the cases BPL patients get services free of cost. These diagnostic service units are located in the medical college hospitals, district hospitals, subdivision hospitals, rural hospitals and state general hospitals. Earlier public have to use private centers for any kind of diagnostic test by expanding more. At present, opening of PPP models certainly, a prudent decision of the govt. to improve the rural healthcare but at the same time it is real time to evaluate the patient's satisfaction level at those PPP model health care centers and also compare the satisfaction level with private diagnostic center.

Need and Significance of the study:
Public private partnership in healthcare system is burning issue at present. In West Bengal diagnostic test units under PPP are established in different hospitals. In today's healthcare system doctors are very much concern about the diagnostic test. Without proper identification of disease doctors are not in a position to give appropriate treatment. Prior to PPP unit rural patient have to depend only private diagnostic center by expanding more and many of them are not able to bear the burden of cost. As a result doctors prescribed the medicine without proper diagnosis of the disease. After PPP, the situation of rural health system tremendously improved. But there are lots of scopes for improvement. So, the area of improvement can only be known form the patient satisfaction survey and it is also fruitful if compare with private healthcare unit. Because most of the cases private taken as the standard.
 Measurement of patient satisfaction is very important tool of health care industry in this competitive market. Sustainability of any hospitals or clinical establishment depends upon the patient satisfaction. Patient satisfaction surveys are useful for the management to understand the user need and their perception about the service received. The modern health care literature also suggests that patient satisfaction is a dominant concern that is involved with strategic decisions in the health service. Patient satisfaction should be essential to assessments of quality as to design and management of health care systems. So management have to give priority to improve the service quality, otherwise the consequences are terrible.

LITERATURE REVIEW:

The literatures on PPP in health sector are very limited and most of them are qualitative in nature. A few literatures used statistical analysis. The highlights of the relevant studies are presented below.
Partnership with the private sector has flourished as a new way of reforms as the public sector resources are limited to serve the people in the whole world (Mitchell Weaver and Manning 1992). Neither public sector nor the private sector alone can operate with the best interest of the health sector and both the sector gain from each other (ADBI 2000). When the public health sector fails to give quality health care service to the poor people in developing countries—partnerships between public and private organizations are often seen as offering an innovative method with a good chance of producing the desired outcomes (Reich 2002). Best way to measure service quality is to measure the satisfaction level of customers, as they are ultimate beneficiaries of service quality (Bergman and Klefsjo, 1994). Patient opinions have also given importance to improve the overall quality of services delivered by hospitals (Armstrong, 1991; Meredith *et al.*, 1993). Service quality is considered as the best predictor of patients' satisfaction from the hospitals. But in many cases it is not the best predictor because there are many other factors which contribute to the dissatisfaction of patients such as they may not satisfied with the doctor's advice or may be because of much traffic and non-availability of doctors (Lee *et al.*, 2011). Measurement of patient's satisfaction in today's competitive market is very much essential. In this study they measures the satisfaction level amongst patients of a leading NABL accredited, private diagnostic center located in Surat, by using one questionnaire collected feedback and data was processed through SPSS 15 (Desai, Nahar and Bansal 2012). SERVQUAL instrument was used by the different authors to measure the satisfaction level. Irfan and Ijaz (2011) compare service quality between private and public hospitals in Pakistan (Lahor) used five dimensions; empathy, tangibles, assurance, timeliness and assurance were used in order to measure the patient's perceptions. They used one questionnaire with five point Likert scale. Descriptive statistics like mean, SD, mean square error and also t-test was performed to calculate the values of Leven's test for equalities of variances, t-value, df, and p-value to test the significance level of the private and public service quality constructs. Bogal, Kassa and Ali (2015) measure the patients' perception and satisfaction on quality of laboratory service. Five point Likert scales and their weighted average were used to

categorize satisfaction level of the patients. They analysed data by using SPSS version 20. Chi-square test was used to see the association between the outcome variables. Brady and Cronin (2001) suggested a hierarchical model to measure perceived service quality considering three primary dimensions viz. interaction quality, physical environment quality and outcome quality consist of attitude, behaviour, and experience (interaction quality); ambient conditions, design, and social factors (physical environment quality); waiting time, tangibles and value (outcome quality) respectively. In their approach, Brady and Cronin emphasized on customers' expectation and perception of different dimensions of services in order to measure service quality.

Research Gap:

After going through the existing literatures it is found that there are a few studies about public private partnership model in healthcare sector. Studies measuring the satisfaction level of patients who have taken services from PPP diagnostic units established in different hospitals and also comparing the satisfaction level of patients who have taken services from PPP and Private diagnostic clinic are found seldom. So the present study is the honest attempt to measure the satisfaction level of patients who have taken services from PPP clinics and also from private diagnostic centers; and also compare the satisfaction levels that provided by both PPP clinics and private diagnostic centers.

OBJECTIVES OF THE STUDY:

1. To measure the patients' satisfaction level relating to services that provided by both PPP and Private clinic.
2. To make a Comparative analysis on the satisfaction level of patients relating to services that provided by both PPP and private diagnostic center.

RESEARCH HYPOTHESES:

On the basis of the above objectives, we have been considering the following hypothesis:

H01: There is no significant difference about the satisfaction of pathological test between the PPP and the private diagnostic center.

H11: There is significant difference about satisfaction of pathological test between the PPP and private diagnostic center.

H02: There is no significant difference about the satisfaction of USG between the PPP and private diagnostic center.

H12: There is significant difference about the satisfaction of USG between the PPP and private diagnostic center.

H03: There is no significant difference about the satisfaction of CT-scan between the PPP and private diagnostic center.

H13: There is significant difference about the satisfaction of CT-scan between the PPP and private diagnostic center.

H04: There is no significant difference about the satisfaction of dialysis between the PPP and private diagnostic center.

H14: There is significant difference about the satisfaction of dialysis between the PPP and private diagnostic center.

H05: There is no significant difference about the satisfaction of digital X-ray between the PPP and private diagnostic center.

H15: There is significant difference of the satisfaction of digital X-ray between the PPP and private diagnostic center.

RESEARCH METHODOLOGY :

Selection of Study area:

For the purpose of the study, we have considered Purba Medinipur district of West Bengal having some PPP units which are running very smoothly. Further, we have chosen the hospitals having at least two diagnostic units, included for the study and these are Tamluk District hospiatal, Rawapara RH, Khejurberia RH, Panskura-1 RH and Basulia RH. The PPP units running under Tamluk District Hospitals include pathological test, digital x-ray, dialysis and CT-scan and other hospitals include pathological test unit and USG only. These units provide service to the inpatients (IPD) and outdoor patients (OPD). A mixed occupational background individuals as farmers, traders, service class, house wife and students avail the diagnostic facility.

Data Source:
Since the study is related to the demographic characteristics, Primary data are used for the study. Data are collected through structured questionnaire from the selected hospitals of Purba Medinipur district.

Sample Size and data collection:
Sample size have been selected by using appropriate statistical formulae invented by Cochran for infinite population ($n0= z^2\ pq/e^2$). Where, $n0$ is the sample size, z is the selected critical value of desired confidence level, p is the estimated proportion of an attribute that is present in the population, q = 1- p and e is the desired level of precision. For this study assume maximum variability, which is equal to 20% (p=0.20) and taking 95% confidence level with ±5% precision. So, p=0.20, q=1-0.20=0.80, e=0.05, z=1.96, putting the data with above formulae calculated sample size equal to 245.76 i.e 245. But the sample size was inflated by 10% to take care of non-response, incomplete responses and refusals. The patients having age between 18 to 80 years attending outpatient department (OPD) and also the patients admitted in different ward into the hospitals (IPD) were included in the study.
Ultimately, a total of 270 patients have been considered for the study.

Study Period:
The study period is taken from October 2017 and March 2018, considering seasonal change effect on patients. Systematic sampling technique was used to select respondents amongst patients and inpatients in the sampled hospitals. Every 3rd patient attending OPD and every 5th attending IPD was taken for the study purpose.

For this study one pre tested structured, close ended questionnaire was used for collection of data. For each of the diagnostic test separate questions were used to know the satisfaction level of each test separately. Total 30 questions (6 for each) were included to assess the satisfaction level of five core diagnostic test- pathological test, USG, digital x-ray, dialysis and CT-scan. The patient having experience of both the PPP and private diagnostic tests were included in the study in order to make a close comparison between the PPP and private clinics. Responses were recorded against two separate columns in the questionnaire which includes information about both PPP and Private diagnostic center using five point Likert scale start from 1 to 5 indicating lowest and highest level of satisfaction, respectively. The patient have to indicate their level of satisfaction by choosing 1= "strongly disagree", 2= "disagree", 3= "neutral", 4= "agree" and 5= "strongly agree". Those who chose strongly disagree and disagree were known as dissatisfied and those who chose agree, strongly agree were considered as satisfied. Prior approval was taken from ethical board before beginning the survey. Out patients were interviewed after exit from the clinic and inpatients were in the wards.

Tools and Techniques:
We have used Descriptive Statistics and Wilcoxon Test for analysis of the study. Since normality test supports in favour of non-parametric test (as K-S=> 0.05 and S-W=>0.05), we have used Wilcoxon test to know any significant difference of the satisfaction level between PPP and Private diagnostic centers. We have used specific hypotheses for each main hypothesis to test the significance at 95% confidence interval.

RESULT AND ANALYSIS:

Here, we have dealt with the measurement of satisfaction level of patients at their diagnostic centers. But we have confined our study manly on a few tests that are commonly prescribed by the doctors as essential for treatment of patients. In the study a total of 270 patients attending the various outdoor and indoor departments were included in the study. Out of total respondent, 55% of the study population comprise female. Mean age of the respondents came out of the study 35. Near about 92% respondents were married. More than 26% respondents were done cultivation and 25% were worker or labour. Educational qualification of the respondents were very poor, 47% respondents were belongs to below 8th standard. Most of the respondents came from poor and middle class family. Based on objectives of the study, we have analysed the results of the tests one by one for detailed outstanding of them.

Pathological test: Out of 270 respondents, 251 patients have been found who availed this service. The service quality of pathological test measured through cleanliness of the lab, behavior of the stuff, waiting time for the test, time taken for given report, acceptance of report, price taken for the test. The reliability coefficient Cronbach Alpha for PPP clinic is 0.688 and for private clinic is 0.706. Table-1 shows that mean values are higher in private pathology i.e. patients are more satisfied with private pathological clinic. However, mean values of PPP are slightly higher than private pathology in case of waiting time for the test and price taken for the test.
As evident from Table 2, Wilcoxon test shows that null Hypotheses B and C are accepted at 95% significance level, as p value is greater than .05. Therefore, there is no difference about the perception between PPP and private pathology in case of behavior of the stuff and waiting time for the test. In other cases Null hypotheses

are rejected, there is significant difference about the perception between PPP and Private pathology.

Table 1: Descriptive statistics for Pathological test

Variables	N	Minimum	maximum	Mean		SD	
				PPP	PVT.	PPP	PVT.
Cleanliness of the lab is good	251	2.00	5.00	3.6255	4.1116	.85040	.73451
Staff of the lab behave good with you	251	2.00	5.00	3.8765	4.0080	.78784	.76937
Waiting time for the test not so high	251	2.00	5.00	4.0598	4.0000	.75393	.77460
Report given in time	251	2.00	5.00	3.6813	4.0837	.87293	.72455
Report given by them is generally accepted	251	2.00	5.00	3.6733	4.0956	.78794	.73676
Price taken if any is reasonable	251	2.00	5.00	4.2908	3.4900	.72047	.73410

Source: Own calculation

Table 2: Result of Wilcoxon test for Pathology

Sub-Hypothesis H0= NULL HYPOTHESIS H1= ALTERNATIVE HYPOTHESIS	Wilcoxon test		
	Z score	Asymp. Sig. (2-sided)	Null Hypothesis
A. H0= No difference of perception in cleanliness of the lab between PPP and Private. **H1= H0 is not true.**	-6.331	.000	Rejected
B. H0= No difference of perception in behavior of staff between PPP and Private. **H1= H0 is not true.**	-1.941	.052	Accepted
C. H0= No difference of perception in waiting time for the test between PPP and Private. **H1= H0 is not true.**	-.782	.435	Accepted
D. H0= No difference of perception in time taking for given report between PPP and Private . **H1= H0 is not true.**	-5.287	.000	Rejected
E. H0= No difference of perception in acceptance of report given by PPP and Private. **H1= H0 is not true.**	-5.574	.000	Rejected
F. H0= No difference of perception in price taken between PPP and Private . **H1= H0 is not true.**	-9.479	.000	Rejected

Source: Own calculation

USG: Out of 270, 135 respondents having experience in USG. For measuring satisfaction six parameter like behavior of the stuff, use of sophisticated equipment, waiting time for taking service, cleanliness of the center, attention given by doctors and price taken for the test. The reliability coefficient Cronbach Alpha for PPP clinic is 0.676 and for private clinic is 0.900. It is observed from table-3 that mean values of the service quality constructs representing private clinic are providing better services to their patients compare to PPP clinic.

From table-4, it is found that p values of the Wilcoxon test (Hypotheses A, B, C, D, E and F) are less than 0.05 in all the cases at 95% confidence interval. So, in all the cases Null Hypotheses are rejected. Therefore, it can be said that there is significant difference in perception about the satisfaction level service taken from PPP and Private USG.

Table 3: Descriptive statistics for USG

Variables	N	Minimum		Maximum		Mean		SD	
		PPP	PVT.	PPP	PVT.	PPP	PVT.	PPP	PVT.
Behavior of the staff of diagnostic center is good	135	2.00	2.00	5.00	5.00	3.7407	4.2593	.77231	.634438
Sophisticated equipment is used for investigation	135	2.00	3.00	5.00	5.00	3.7926	4.3037	.73400	.62622
Waiting time for taking service not too much	135	2.00	2.00	5.00	5.00	3.1630	4.0074	.89948	.64062

Variables	N	Minimum		Maximum		Mean		SD	
		PPP	PVT.	PPP	PVT.	PPP	PVT.	PPP	PVT.
Cleanliness of the center is good	135	2.00	3.00	5.00	5.00	3.6222	4.3852	.91314	.58572
Doctors give much attention to the patient	135	2.00	2.00	5.00	5.00	3.9185	4.1037	.80160	.63802
Price taken is reasonable	135	2.00	2.00	5.00	5.00	3.9185	4.1037	.80160	.63802

Source: Own calculation

Table 4: Result of Wilcoxon Test for USG

Sub-Hypothesis H0= NULL HYPOTHESIS H1= ALTERNATIVE HYPOTHESIS	Wilcoxon Test		
	Z value	Asymp Sig. (2-sided)	Null Hypothesis
A. H0= No difference of perception in behavior of staff between PPP and Private. **H1= H0 is not true.**	-5.666	.000	Rejected
B. H0= No difference of perception in used of sophisticated equipment is for investigation between PPP and Private. **H1= H0 is not true.**	-5.462	.000	Rejected
C. H0= No difference of perception in waiting time for the test between PPP and Private. **H1= H0 is not true.**	-7.118	.000	Rejected
D. H0= No difference of perception in cleanliness of the lab between PPP and private. **H1= H0 is not true.**	-6.511	.000	Rejected
E. H0= No difference of perception in doctors' attention to the patient between PPP and Private. **H1= H0 is not true.**	-2.178	.028	Rejected
F. H0= No difference of perception in price taken between PPP and Private. **H1= H0 is not true.**	-2.188	.029	Rejected

Source: Own calculation

CT-SCAN: Total 101 respondents having the experience of ct-scan. To measure the satisfaction six parameters have been used. The reliability coefficient Cronbach Alpha for PPP clinic is 0.734 and for private clinic is 0.693. From the descriptive statistics (table-5) it is observed that mean values of the all variables more than average, it indicates that patients' perception about the ct-scan service in both (PPP and private) cases are satisfactory.

From table-6 it is found from result of the Wilcoxon test (table-6) (Hypothesis A, B, C, D, E and F) that p values in all cases less than .05 at 95% confidence interval. It is observed that in all the cases **Null Hypotheses** are rejected. Therefore, there is significant difference in perception about the satisfaction level between PPP and Private CT-scan.

Table 5: Descriptive statistics for CT-scan

Variables	N	Minimum		Maximum		Mean		SD	
		PPP	PVT.	PPP	PVT.	PPP	PVT.	PPP	PVT.
Behavior of the staff of the clinic are good	101	2.00	3.00	5.00	5.00	3.7030	4.2079	.80678	.55348
Behavior of the technician is good	101	2.00	3.00	5.00	5.00	3.9604	4.2871	.88228	.53547
Cleanliness of the center is good	101	2.00	3.00	5.00	5.00	4.1188	4.4356	.75216	.57299
Waiting time for a machine is not too much	101	2.00	3.00	5.00	5.00	4.1188	4.3762	.77829	.56305
Waiting room is comfortable	101	2.00	3.00	5.00	5.00	4.0495	4.3861	.73995	.54718
Price taken is reasonable	101	2.00	2.00	5.00	5.00	4.2376	3.8020	.73687	.81265

Source: Own calculation

Table 6: Result of Wilcoxon test for CT-scan

Sub-Hypothesis H0= NULL HYPOTHESIS H1= ALTERNATIVE HYPOTHESIS	Wilcoxon test		
	Z value	Asymp. Sig. (2-sided)	Null Hypothesis
A. H0= No difference of perception in behavior of staff between PPP and Private. **H1= H0 is not true.**	-5.167	.000	Rejected
B. H0= No difference of perception in behavior of technician between PPP and Private. **H1= H0 is not true.**	-3.326	.001	Rejected
C. H0= No difference of perception in cleanliness of the lab between PPP and private. **H1= H0 is not true.**	-3.075	.002	Rejected
D. H0= No difference of perception in waiting time for the test between PPP and Private . **H1= H0 is not true.**	-2.582	.010	Rejected
E. H0= No difference of perception in waiting room comfort between PPP and Private. **H1= H0 is not true.**	-3.729	.000	Rejected
F. H0= No difference of perception in price taken between PPP and Private. **H1= H0 is not true.**	-4.141	.000	Rejected

Source: Own calculation

DIALYSIS: Total 69 respondents taking dialysis out of 270. Six parameters are used to measure the satisfaction level of the patients. The reliability coefficient Cronbach Alpha for PPP clinic is 0.681 and for private clinic is 0.812. From table-7 it is found that patients' are rating high for this service i.e. they are highly satisfied in taking service from PPP and Private Center.

Table-8 shows the result of Wilcoxon test it is observed that P>0.05 in case of hypothesis A and F and in other cases p<.05 at 95% confidence interval. So, it can be said that Null Hypotheses are rejected for hypotheses B, C, D and E but, in A and B Null Hypotheses are accepted. Perceptions of the respondents are not significantly difference about the cleanliness and comfort of the dialysis room and helpfulness of the stuff between PPP and Private clinic.

Table 7: Descriptive statistics for Dialysis

Variables	N	Minimum		Maximum		Mean		SD	
		PPP	PVT.	PPP	PVT.	PPP	PVT.	PPP	PVT.
The cleanliness and comfort of the dialysis room and the waiting room are good	69	3.00	3.00	5.00	5.00	4.5797	4.6812	.55322	.52839
The number of patient per staff and per machine are adequate	69	3.00	3.00	5.00	5.00	4.1449	4.4058	.60087	.73402
The temperature and noise level of machine are tolerable	69	3.00	3.00	5.00	5.00	4.0725	4.3188	.75379	.60616
Waiting time for a machine is not too much	69	2.00	3.00	5.00	5.00	4.1014	4.5507	.76974	.60722
The staff at the dialysis clinic treat you with courtesy and respect	69	2.00	4.00	5.00	5.00	4.3623	4.6522	.68537	.47977
The staff at the dialysis clinic are helpful	69	3.00	3.00	5.00	5.00	4.4348	4.5072	.60581	.60932

Source: Own calculation

Table 8: Result of Willcoxon test for Dialysis

Sub-Hypothesis H0= NULL HYPOTHESIS H1= ALTERNATIVE HYPOTHESIS	Wilcoxon Test		
	Z value	Asymp. Sig. (2-sided)	Null Hypothesis
A. H0= No difference in perception about cleanliness and comfort of the waiting and dialysis room between PPP and Private. **H1= H0 is not true.**	-1.158	.247	Accepted
B. H0= No difference in perception about the number of stuff and machine ratio between PPP and Private. **H1= H0 is not true.**	-2.310	.021	Rejected
C. H0= No difference in perception about temperature and noise level of machine between PPP and Private. **H1= H0 is not true.**	-2.279	.023	Rejected
D. H0= No difference of perception in waiting time for a machine between PPP and Private . **H1= H0 is not true.**	-3.576	.000	Rejected
E. H0= No difference of perception about the staff's courtesy and respect between PPP and Private. **H1= H0 is not true.**	-2.583	.010	Rejected
F. H0= No difference of perception about the staff's helpfulness between PPP and Private. **H1= H0 is not true.**	-.675	.499	Accepted

Source: Own calculation

***Digital x-ray*:** Total 85 respondents having experience about digital x-ray. Six parameters are used to measure the satisfaction level of the respondents. The reliability coefficient Cronbach Alpha for PPP clinic is 0.565 and for private clinic is 0.891. From descriptive statistics (table-9) it is seen that mean values of both the clinic above the average i.e. patients' are satisfied to take the service.

From the result of Wilcoxon test (table-10) it is found that Null Hypothesis A, B and D are rejected as p values are less than .05 at 95% confidence interval. It is can be said that the perceptions of the respondents are significantly different about behavior of the stuff and technician and acceptance of the report between PPP and Private clinic.

Table 9: Descriptive statistics for Digital X-ray

Variables	N	Minimum		Maximum		Mean		SD	
		PPP	PVT.	PPP	PVT.	PPP	PVT.	PPP	PVT.
Behavior of the staff of the clinic are good	85	2.00	2.00	5.00	5.00	3.9294	4.2706	.68640	.67943
Behavior of the technician is good	85	3.00	3.00	5.00	5.00	3.9059	4.3059	.70074	.65508
Waiting time for a machine is not too much	85	2.00	2.00	5.00	5.00	4.0706	3.9882	.72026	.68128
Cleanliness of the center is good	85	2.00	3.00	5.00	5.00	3.3647	4.4118	.92385	.58338
Report given in time	85	3.00	2.00	5.00	5.00	4.1529	4.0706	.69874	.70353
Report is generally accepted	85	2.00	2.00	5.00	5.00	4.0353	4.0706	.73106	.70353

Source: Own calculation

Table 10: Result of *Wilcoxon test for Digital X-ray*

Sub-Hypothesis H0= NULL HYPOTHESIS H1= ALTERNATIVE HYPOTHESIS	Wilcoxon test		
	Z value	Asymp. Sig. (2-sided)	Null Hypothesis
A. H0= No difference of perception in behavior of staff between PPP and Private. **H1= H0 is not true.**	-3.341	.001	Rejected
B. H0= No difference of perception in behavior of technician between PPP and Private. **H1= H0 is not true.**	-3.551	.000	Rejected
C. H0= No difference of perception in waiting time for the test between PPP and Private. **H1= H0 is not true.**	-.703	.482	Accepted
D. H0= No difference of perception in cleanliness of the lab between PPP and private. **H1= H0 is not true.**	-6.056	.000	Rejected
E. H0= No difference of perception in time taking for given report between PPP and Private. **H1= H0 is not true.**	-.686	.493	Accepted
F. H0= No difference of perception in acceptance of report given by PPP and Private. **H1= H0 is not true.**	-.454	.650	Accepted

Source: Own calculation

FINDINGS AND CONCLUSION:

We have dealt with the different dimensions of satisfaction level of patients at their diagnostic centers. The study shows that a few tests are generally prescribed by the doctors as essential for treatment of patients. Accordingly, such tests have been considered in our study to draw some conclusion.

Pathology: Perception of patients' has no difference between PPP and Private clinic in case of behavior of the stuff and in waiting time as null hypotheses (mentioned in table 2) are accepted. In all other cases patients have different opinion with giving higher score to the private clinic except price for the test. As PPP units are taking lesser fees for the test so, patients are more satisfied in this regard.

USG: In this case patients have better perception about the service taken from private USG clinic. All the null hypotheses (mentioned in Table 4) are rejected with higher mean score in Private clinic. So, it can be said that patients are more satisfied with private USG clinic.

CT scan: In CT scan also, all the null hypotheses ((mentioned in Table 6) are rejected as the patient's have different perception about services taken from PPP and Private Clinic. From mean score it is seen that in all the cases scores are higher except price taken for CT scan. So, patients are more satisfied with private CT scan except price taken by them.

Dialysis: In case of dialysis, null hypothesis (mentioned in Table 8) regarding cleanliness of centers and helpfulness of the stuff are accepted but in other cases rejected. As the mean scores are higher in case of private dialysis clinic patients are more satisfied with service taken from Private dialysis clinic.

Digital x-ray: In case of digital x-ray perception regarding waiting time and report delivery are same as null hypotheses (mentioned in Table 10) are accepted. But in other cases like behavior of stuff and technician and cleanliness of clinic null hypotheses are rejected with higher mean value in private clinic. So, in these cases patients are more satisfied with private digital X-ray.

From the above discussion it is found that in most of the cases patients' are expected to have different opinion about the services taken from PPP and Private diagnostic center. Only in 23 per cent cases, patients are indifferent about the services provided by both PPP and Private diagnostic centers. Patients are likely to have better perception about the services provided by the private diagnostic centers (i.e., in 77 per cent cases) in comparison to PPP model. Private diagnostic centers are desirable to the patients due to good behavior of the stuff and cleanliness of the centers. Thus, Patients have inclined to the PPP units only for their lesser fees. It is

frequently found in rural centers as majority of the patients came from BPL category so as to take the opportunity provided by the PPP units run by the government health centers. No doubt certain improvement is desirable for the PPP units, though it plays a vital role especially in rural and semi urban area.

RECOMMENDATION:

It is to be hoped that PPP model in health service will open a new era in healthcare sector. Government has to give importance to open more and more centers through PPP model as lower and middle income people may get full benefits from them and save their pocket expenditure on healthcare. However, following suggestions may be incorporated for providing better services:
- Awareness of PPP service should be increased among the patients.
- PPP unit should be open in primary health center also.
- Management has to evaluate the services provided by the PPP.
- Staff has to more careful on their duty.
- Service charged of PPP unit should be revised.

LIMITATION OF THE STUDY:

The major limitations for the study are as follows
i.   Only Purba Medinipur district has been selected for the study due to paucity of time and other resources.
ii. The research is only concerned with the service quality of the diagnostic center.
iii. Most of the respondents are belonged to rural areas and middle or lower socio-economic class.
iv. The analysis has been prepared based on the data collected from the field survey.
v.   The limitations of the tools and techniques applied for analysis are inherent in the present study.

SCOPE OF FURTHER RESEARCH:

Further research can be done with taking more district and more diagnostic center. This study only concentrate on service quality but infrastructure of the diagnostic center can be included for further study. Qualification of the staff and technician of the diagnostic center can also be included for the further study.

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