

**A comparative analysis on service quality in hospital sector in Raipur,  
Chhattisgarh**

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## Abstract

Quality of the services in hospitals is one of the most discussed topics in recent times. As it results in patient satisfaction, profitability, good market value, and better treatment of the patients. This research paper discusses the quality of services delivered by two major public hospitals in the Raipur city of Chhattisgarh – AIIMS & Medical College Hospital. In this research study, three major variables have been studied – Perception, Service Delivery & Patient Satisfaction. Most of the quality factors have been taken to study the quality of services. The study has been conducted on admitted patients of both the hospitals and the OPD patients who visited the facility by 2nd or 3rd time and those attendants who accompany the patients. The data is the primary data and it has been collected before the COVID pandemic from the period July 2019 to October 2019.

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**Keywords:** Public hospitals, Service quality, Patient satisfaction, Delivery of services.

## Introduction

Quality of hospital services refers to how well those services are really provided. Patients and their carers may feel unsatisfied if they feel their needs were not adequately addressed by the hospital. They should be satisfied with the services as delivered. Before a patient or family member even sets foot in a hospital, they form impressions and expectations about the care they will receive. They are pleased if the service meets or exceeds their expectations, and satisfied if the service is just as they

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expected it to be. That said, it all comes down to the quality of the services provided and how the customers perceive them. A hospital's capacity to attract and retain patients for further care, lab and diagnostic testing, marketing, and price competition all depend on the standard of care they provide, making service quality a crucial metric. In order to evaluate the quality of care provided by the hospital, it is crucial to hear from both patients and their careers. Improvements can be made, and suggestions can be implemented, to enhance management and care in the places where they are most needed.

During the time of COVID-19, the majority of the economy went into a slowdown since most countries went into complete lockdown, and all economic activities came to a halt (Kumar & Ayedee, 2021). The tourism industry was the sector that was most negatively impacted (Bhatia et al., 2022). This study on health sector that was most prominent and demanding, data collected during pandemic to analysis realationship and comparative study of three major variables have been studied – Perception, Service Delivery & Patient Satisfaction.

### **Literature Review**

The majority of the research has been done on hospital service quality by using the famous SERVQUAL model of Parasuramans et al. Some of the past research which has been done is mentioned briefly here.

### **Qualitative Factors in Service Delivery**

Many evidences exist on the many facets of service quality that contribute to satisfied customers. Eleven factors make up service quality: dependability; responsiveness; competency; access; civility; communication; credibility; security; competence; knowing the consumer; and tangibles. In addition, the study's findings indicate that there are five components that make up service quality (Berry, Zeithaml, & Parasuraman, 1985; Parasuraman, Zeithaml, & Berry, 1985; Zeithaml, Bitner, & Gremler, 1996).

Studies rank service quality dimensions differently. Tactiles and empathy are the most important service quality factors in UAE. Iranians and Qataris value reliability over tangibles (Abdullah & Kassim, 2009; Al-Tamimi & Al-Amiri, 2003; Golmohammadi & Jahandideh, 2010; Hossain & Leo, 2009).

Aagja & Garg, 2010; D'Souza & Sequeira, 2012, Miranda et al. (2010) suggested that if we use a mutual approach to measuring service quality, we must deal with perception because these services are for the value addition

for customers and service providers. Even if hospitals have their own perception and opinion, they must ensure that customers and service providers are given importance using their core strength to fulfil the requirements. Dr. S. Ramanathan (2013) demonstrated that service dimensions gradually affect patients' happiness across 250 patients from ICT-equipped hospitals in Trichy, Tamil Nadu. Three factors—tangibility, reliability, and responsiveness—correlated with patient satisfaction. Patients' satisfaction with ICT-equipped Trichy, Tamilnadu hospitals' services. Sharmila (2013) measured SQ in government and private hospitals based on medical care, staff-patient communication, cleanliness and hygiene, lab and diagnostic facilities, comfort and ambiance, and patient emotional factors. Most private hospitals scored well on most factors. Public hospitals lacked funding and autonomy, so staff didn't care about patients' needs. The government must provide resources and motivate personnel to improve service quality to improve public hospital image.

### **Research Design**

Two important Raipur public hospitals were studied. Both are over-1000-bed tertiary care facilities. Primary data was obtained from admitted patients who stayed in the hospital for at least three days, OPD patients who returned for a second or third time, and the attendants who stayed with the patients.

The study examined hospital service quality perception, delivery, and customer satisfaction. The SERVQUAL approach included perception elements, while prior researchers provided service delivery and customer satisfaction factors. The researcher included most service quality variables.

### **Objectives of the Study**

1. To identify and measure the factors of the perceptions among the patients and the attendants selected from two major public hospitals in Raipur city.
2. To identify and measure the factors of the service delivery among the patients and the attendants selected from two major public hospitals in Raipur city
3. To identify and measure the factors of customer satisfaction among the patients and the attendants selected from two major public hospitals in Raipur city

4. To compare the factors of perception, service delivery, and customer satisfaction among the patients and the attendants selected from two major public hospitals in Raipur city

The sample size was 500 and the sampling technique used was simple random sampling. The primary data was collected by using a questionnaire. The sample area of the study was

1. All India Institute of Medical Sciences, AIIMS
2. Pt. J.N.M. Medical college associated Hospital & Regional Cancer Centre.

### Research findings & Discussion

Paired T-Test for a comparative study:

In this study, we have compared two means of selected public hospitals (AIIMS& PT.J.N.M Medical College Hospital) of the Raipur city of Chhattisgarh. A total of 22 paired comparisons were tested in our study as shown in Table 1 and Table 2.

#### 1. *Tangibility of services*

**Table 1**  
**Paired Samples Statistics**

|        |                  | Mean    | N   | Std. Deviation | Std. Error Mean |
|--------|------------------|---------|-----|----------------|-----------------|
| Pair 1 | TANGIBILITYAIIMS | 27.0960 | 125 | 4.27375        | .38226          |
|        | TANGIBILITYMCH   | 20.4320 | 125 | 4.67204        | .41788          |

**Table 2**  
**Paired Samples Test**

|        |                                   | Paired Differences |                |                 |                                           | t       | df     | Sig. (2-tailed) |             |
|--------|-----------------------------------|--------------------|----------------|-----------------|-------------------------------------------|---------|--------|-----------------|-------------|
|        |                                   | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |         |        |                 |             |
|        |                                   |                    |                |                 | Lower                                     |         |        |                 | Upper       |
| Pair 1 | TANGIBILITYAIIMS - TANGIBILITYMCH | 6.66400            | 6.14862        | .54995          | 5.57550                                   | 7.75250 | 12.117 | 124             | .0000000000 |

The paired t-test of the tangibility factor showed the mean value of the AIIMS hospital (27.09) is more than the MCH hospital (20.43). This shows that the patients(indoor & OPD)and the attendants visiting AIIMS hospital are more satisfied than the medical college hospital concerning the tangibility of services. The t value is 12.117 & the difference in the mean is statistically strongly significant. The significance level is <0.001.

## 2. Reliability of services

**Table 3**  
**Paired Samples Statistics**

|        |                  | Mean    | N   | Std. Deviation | Std. Error Mean |
|--------|------------------|---------|-----|----------------|-----------------|
| Pair 1 | RELIABILITYAIIMS | 15.9360 | 125 | 2.44865        | .21901          |
|        | RELIABILITYMCH   | 12.5360 | 125 | 3.67981        | .32913          |

**Table 4**  
**Paired Samples Test**

|        |                                  | Paired Differences |                |                 |                                           | t       | df    | Sig. (2-tailed) |             |
|--------|----------------------------------|--------------------|----------------|-----------------|-------------------------------------------|---------|-------|-----------------|-------------|
|        |                                  | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |         |       |                 |             |
|        |                                  |                    |                |                 | Difference                                |         |       |                 |             |
|        |                                  |                    |                |                 | Lower                                     |         |       |                 | Upper       |
| Pair 1 | RELIABILITYAIMS - RELIABILITYMCH | 3.40000            | 4.15816        | .37192          | 2.66387                                   | 4.13613 | 9.142 | 124             | .0000000000 |

The paired t-test of the reliability factor showed the mean value of the AIIMS hospital (15.93) is more than the MCH hospital (12.53). This shows that the patients (indoor & OPD) and the attendants visiting AIIMS hospital are more satisfied than the medical college hospital concerning the reliability of services. The t value is 9.142 & the difference in the mean is statistically strongly significant. The significance level is  $<0.001$  as shown in Table 3 and Table 4.

## 3. Assurance of services

**Table 5**  
**Paired Samples Statistics**

|        |                | Mean    | N   | Std. Deviation | Std. Error Mean |
|--------|----------------|---------|-----|----------------|-----------------|
| Pair 1 | ASSURANCEAIIMS | 12.1840 | 125 | 2.16417        | .19357          |
|        | ASSURANCEMCH   | 8.9760  | 125 | 2.84396        | .25437          |

**Table 6**  
**Paired Samples Test**

|        |                               | Paired Differences |                |                 |                                           | t       | df     | Sig. (2-tailed) |             |
|--------|-------------------------------|--------------------|----------------|-----------------|-------------------------------------------|---------|--------|-----------------|-------------|
|        |                               | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |         |        |                 |             |
|        |                               |                    |                |                 | Difference                                |         |        |                 |             |
|        |                               |                    |                |                 | Lower                                     |         |        |                 | Upper       |
| Pair 1 | ASSURANCEAIIMS - ASSURANCEMCH | 3.20800            | 3.32220        | .29715          | 2.61986                                   | 3.79614 | 10.796 | 124             | .0000000000 |

The paired t-test of the assurance factor showed the mean value of the AIIMS hospital (12.18) is more than the MCH hospital (8.97). This shows that the patients (indoor & OPD) and the attendants visiting AIIMS hospital are more satisfied than the medical college hospital concerning

assurance of services. The t value is 10.796& the difference in the mean is statistically strongly significant. The significance level is <0.001 as shown in Table 5 and Table 6.

#### 4. Empathy of services

**Table 7**  
**Paired Samples Statistics**

|                     | Mean    | N   | Std. Deviation | Std. Error Mean |
|---------------------|---------|-----|----------------|-----------------|
| Pair 1 EMPATHYAIIMS | 15.4880 | 125 | 2.93647        | .26265          |
| EMPATHYMCH          | 12.2000 | 125 | 3.56280        | .31867          |

**Table 8**  
**Paired Samples Test**

|        |                           | Paired Differences |                |                 |                                           | t       | df    | Sig. (2-tailed) |             |
|--------|---------------------------|--------------------|----------------|-----------------|-------------------------------------------|---------|-------|-----------------|-------------|
|        |                           | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |         |       |                 |             |
|        |                           |                    |                |                 | Lower                                     |         |       |                 | Upper       |
| Pair 1 | EMPATHYAIIMS - EMPATHYMCH | 3.28800            | 4.38990        | .39264          | 2.51085                                   | 4.06515 | 8.374 | 124             | .0000000000 |

The paired t-test of the empathy factor showed the mean value of the AIIMS hospital (15.48) is more than the MCH hospital (12.20). This shows that the patients (indoor & OPD) and the attendants visiting AIIMS hospital are more satisfied than the medical college hospital concerning empathy of services. The t value is 8.374& the difference in the mean is statistically strongly significant. The significance level is <0.001 as shown in Table 7 and Table 8.

#### 5. Responsiveness of services shown in Table 9

**Table 9**  
**Paired Samples Statistics**

|                            | Mean    | N   | Std. Deviation | Std. Error Mean |
|----------------------------|---------|-----|----------------|-----------------|
| Pair 1 RESPONSIVENESSAIIMS | 12.8800 | 125 | 2.02644        | .18125          |
| RESPONSIVENESSMCH          | 9.1680  | 125 | 2.69029        | .24063          |

**Table 10**  
**Paired Samples Test**

|        |                                         | Paired Differences |                |                 |                                           | t       | df     | Sig. (2-tailed) |             |
|--------|-----------------------------------------|--------------------|----------------|-----------------|-------------------------------------------|---------|--------|-----------------|-------------|
|        |                                         | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |         |        |                 |             |
|        |                                         |                    |                |                 | Lower                                     |         |        |                 | Upper       |
| Pair 1 | RESPONSIVENESSAIIMS - RESPONSIVENESSMCH | 3.71200            | 3.35246        | .29985          | 3.11851                                   | 4.30549 | 12.379 | 124             | .0000000000 |

The paired t-test of the Responsiveness factor showed the mean value of the AIIMS hospital (12.8) is more than the MCH hospital (9.1). This shows that the patients (indoor & OPD) and the attendants visiting AIIMS hospital are more satisfied than the medical college hospital concerning the responsiveness of services. The t-value is 12.379 & the difference in the mean is statistically strongly significant. The significance level is  $<0.001$  as shown in Table 9 and Table 10.

#### 6. Admission Process

**Table 11**  
**Paired Samples Statistics**

|                              | Mean    | N   | Std. Deviation | Std. Error Mean |
|------------------------------|---------|-----|----------------|-----------------|
| Pair 1 ADMISSIONPROCESSAIIMS | 17.1360 | 125 | 2.24091        | .20043          |
| ADMISSIONPROCESSMCH          | 12.5360 | 125 | 3.80056        | .33993          |

**Table 12**  
**Paired Samples Test**

|        |                                                       | Paired Differences |                |                 |                                           | t       | df     | Sig. (2-tailed) |             |
|--------|-------------------------------------------------------|--------------------|----------------|-----------------|-------------------------------------------|---------|--------|-----------------|-------------|
|        |                                                       | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |         |        |                 |             |
|        |                                                       |                    |                |                 | Lower                                     |         |        |                 | Upper       |
| Pair 1 | ADMISSIONPROCESSAI<br>MS -<br>ADMISSIONPROCESSM<br>CH | 4.60000            | 4.34407        | .38855          | 3.83096                                   | 5.36904 | 11.839 | 124             | .0000000000 |

The paired t-test of the admission process showed the mean value of the AIIMS hospital (17.13) is more than the MCH hospital (12.53). This shows that the patients (indoor & OPD) and the attendants visiting AIIMS hospital are more satisfied than the medical college hospital concerning the responsiveness of services. The t value is 11.839 & the difference in the mean is statistically strongly significant. The significance level is  $<0.001$  as shown in Table 11 and Table 12.

#### 7. Nursing Services

**Table 13**  
**Paired Samples Statistics**

|                             | Mean    | N   | Std. Deviation | Std. Error Mean |
|-----------------------------|---------|-----|----------------|-----------------|
| Pair 1 NURSINGSERVICESAIIMS | 12.4320 | 125 | 2.06872        | .18503          |
| NURSINGSERVICESMCH          | 9.5920  | 125 | 2.66729        | .23857          |

**Table 14**  
**Paired Samples Test**

|        |                                      | Paired Differences |                |                 |                                           | t       | df    | Sig. (2-tailed) |             |
|--------|--------------------------------------|--------------------|----------------|-----------------|-------------------------------------------|---------|-------|-----------------|-------------|
|        |                                      | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |         |       |                 |             |
|        |                                      |                    |                |                 | Lower                                     |         |       |                 | Upper       |
| Pair 1 | NURSINGSERVESAIMS - NURSINGSERVESMCH | 2.84000            | 3.25378        | .29103          | 2.26398                                   | 3.41602 | 9.759 | 124             | .0000000000 |

The paired t-test of the nursing services showed the mean value of the AIIMS hospital (12.43) is more than the MCH hospital (9.59). This shows that the patients(indoor & OPD)and the attendants visiting AIIMS hospital are more satisfied than the medical college hospital regarding nursing services. The t value is 9.759& the difference in the mean is statistically strongly significant. The significance level is <0.001 as shown in Table 13 and Table 14.

#### 8. *Medical services*

**Table 15**  
**Paired Samples Statistics**

|        |                   | Mean    | N   | Std. Deviation | Std. Error Mean |
|--------|-------------------|---------|-----|----------------|-----------------|
| Pair 1 | MEDICALSERVESAIMS | 12.1040 | 125 | 2.13581        | .19103          |
|        | MEDICALSERVESMCH  | 9.3680  | 125 | 2.55436        | .22847          |

**Table 16**  
**Paired Samples Test**

|        |                                          | Paired Differences |                |                 |                                           | t       | df    | Sig. (2-tailed) |             |
|--------|------------------------------------------|--------------------|----------------|-----------------|-------------------------------------------|---------|-------|-----------------|-------------|
|        |                                          | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |         |       |                 |             |
|        |                                          |                    |                |                 | Lower                                     |         |       |                 | Upper       |
| Pair 1 | MEDICALSERVICESAIMS - MEDICALSERVICESMCH | 2.73600            | 3.40811        | .30483          | 2.13265                                   | 3.33935 | 8.975 | 124             | .0000000000 |

The paired t-test of the medical services showed the mean value of the AIIMS hospital (12.10) is more than the MCH hospital (9.36). This shows that the patients (indoor & OPD) and the attendants visiting AIIMS hospital are more satisfied than the medical college hospital regarding nursing services. The t value is 8.975& the difference in the mean is statistically strongly significant. The significance level is <0.001 as shown in Table 15 and Table 16.

9. *Lab &Diagnostics services*

**Table 17**  
**Paired Samples Statistics**

|        |                  | Mean    | N   | Std. Deviation | Std. Error Mean |
|--------|------------------|---------|-----|----------------|-----------------|
| Pair 1 | DIAGNOSTICAIIIMS | 15.3120 | 125 | 3.22394        | .28836          |
|        | DIAGNOSTICMCH    | 12.6640 | 125 | 3.30675        | .29576          |

**Table 18**  
**Paired Samples Test**

|        |                                     | Paired Differences |                |                 |                                           | t       | df    | Sig. (2-tailed) |       |
|--------|-------------------------------------|--------------------|----------------|-----------------|-------------------------------------------|---------|-------|-----------------|-------|
|        |                                     | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |         |       |                 |       |
|        |                                     |                    |                |                 | Lower                                     |         |       |                 | Upper |
| Pair 1 | DIAGNOSTICAIIIMS -<br>DIAGNOSTICMCH | 2.64800            | 4.61809        | .41305          | 1.83045                                   | 3.46555 | 6.411 | 124             | .000  |

The paired t-test of thelab & diagnostic services showed the mean value of the AIIMS hospital (15.31) is more than the MCH hospital (12.66). This shows that the patients (indoor & OPD) and the attendants visiting AIIMS hospital are more satisfied than the medical college hospital regarding lab & diagnostic services. The t-value is 6.411& the difference in the mean is statistically strongly significant. The significance level is <0.001 as shown in Table 17 and Table 18.

10. *Patient care services*

**Table 19**  
**Paired Samples Statistics**

|        |                  | Mean    | N   | Std. Deviation | Std. Error Mean |
|--------|------------------|---------|-----|----------------|-----------------|
| Pair 1 | PATEINTCAREAIIMS | 19.4000 | 125 | 3.05857        | .27357          |
|        | PATEINTCAREMCH   | 19.3360 | 125 | 6.29381        | .56294          |

**Table 20**  
**Paired Samples Test**

|        |                                    | Paired Differences |                |                 |                                           | t       | df   | Sig. (2-tailed) |       |
|--------|------------------------------------|--------------------|----------------|-----------------|-------------------------------------------|---------|------|-----------------|-------|
|        |                                    | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |         |      |                 |       |
|        |                                    |                    |                |                 | Difference                                |         |      |                 |       |
|        |                                    |                    |                |                 | Lower                                     |         |      |                 | Upper |
| Pair 1 | PATEINTCAREAIIMS - PATEINTCAREMICH | .06400             | 7.15355        | .63983          | -1.20241                                  | 1.33041 | .100 | 124             | .920  |

The paired t-test of the patient care services showed the mean value of the AIIMS hospital (19.40) is almost equal to the MCH hospital (19.33). This shows that the patients (indoor & OPD) and the attendants visiting both the AIIMS and medical college hospital are satisfied regarding patient care services. The t-value is .100 & the difference in the mean is statistically insignificant. The significance level is  $>0.001$  as shown in Table 19 and Table 20.

#### 11. Housekeeping services

**Table 21**  
**Paired Samples Statistics**

|        |                   | Mean    | N   | Std. Deviation | Std. Error Mean |
|--------|-------------------|---------|-----|----------------|-----------------|
| Pair 1 | HOUSEKEEPINGAIIMS | 12.5360 | 125 | 2.01424        | .18016          |
|        | HOUSEKEEPINGMCH   | 11.0000 | 125 | 2.33832        | .20915          |

**Table 22**  
**Paired Samples Test**

|        |                                     | Paired Differences |                |                 |                                           | t       | df    | Sig. (2-tailed) |         |
|--------|-------------------------------------|--------------------|----------------|-----------------|-------------------------------------------|---------|-------|-----------------|---------|
|        |                                     | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |         |       |                 |         |
|        |                                     |                    |                |                 | Lower                                     |         |       |                 | Upper   |
| Pair 1 | HOUSEKEEPINGAIIMS - HOUSEKEEPINGMCH | 1.53600            | 2.96904        | .26556          | 1.01038                                   | 2.06162 | 5.784 | 124             | .000000 |

The paired t-test of the housekeeping services showed the mean value of the AIIMS hospital (12.53) is more than the MCH hospital (11.00). This shows that the patients (indoor & OPD) and the attendants visiting AIIMS hospital are more satisfied than the medical college hospital regarding housekeeping services. The t value is 5.784 & the difference in the mean is statistically strongly significant. The significance level is  $<0.001$  as shown in Table 21 and Table 22.

#### 12. Food services

**Table 23**  
**Paired Samples Statistics**

|        |                   | Mean    | N   | Std. Deviation | Std. Error Mean |
|--------|-------------------|---------|-----|----------------|-----------------|
| Pair 1 | FOODSERVICESAIIMS | 11.6320 | 125 | 2.65651        | .23761          |
|        | FOODSERVICESMCH   | 11.1760 | 125 | 2.00429        | .17927          |

**Table 24**  
**Paired Samples Test**

|        |                                     | Paired Differences |                |                 |                                           | t       | df    | Sig. (2-tailed) |       |
|--------|-------------------------------------|--------------------|----------------|-----------------|-------------------------------------------|---------|-------|-----------------|-------|
|        |                                     | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |         |       |                 |       |
|        |                                     |                    |                |                 | Lower                                     |         |       |                 | Upper |
| Pair 1 | FOODSERVICESAIIMS - FOODSERVICESMCH | .45600             | 3.29835        | .29501          | -.12791                                   | 1.03991 | 1.546 | 124             | .125  |

The paired sample t-test of the food services showed the mean value of the AIIMS hospital (11.63) is almost equal to the MCH hospital (11.17). This shows that the patients (indoor & OPD) and the attendants visiting both the AIIMS and medical college hospital are satisfied regarding food services. The t-value is 1.54 & the difference in the mean is statistically insignificant. The significance level is  $>0.001$  as shown in Table 23 and Table 24.

### 13. Security services

**Table 25**  
**Paired Samples Statistics**

|                      | Mean    | N   | Std. Deviation | Std. Error Mean |
|----------------------|---------|-----|----------------|-----------------|
| Pair 1 SECURITYAIIMS | 17.2160 | 125 | 2.43159        | .21749          |
| SECURITYMCH          | 14.9120 | 125 | 3.00810        | .26905          |

**Table 26**  
**Paired Samples Test**

|        |                            | Paired Differences |                |                 |                                           | t       | df    | Sig. (2-tailed) |          |
|--------|----------------------------|--------------------|----------------|-----------------|-------------------------------------------|---------|-------|-----------------|----------|
|        |                            | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |         |       |                 |          |
|        |                            |                    |                |                 | Lower                                     |         |       |                 | Upper    |
|        |                            |                    |                |                 |                                           |         |       |                 |          |
| Pair 1 | SECURITYAIMS - SECURITYMCH | 2.30400            | 4.08227        | .36513          | 1.58131                                   | 3.02669 | 6.310 | 124             | .0000000 |

The paired sample t-test of these security services showed the mean value of the AIIMS hospital (17.21) is more than the MCH hospital (14.91). This shows that the patients (indoor & OPD) and the attendants visiting AIIMS hospital are more satisfied than the medical college hospital regarding security services. The t value is 6.310 & the difference in the mean is statistically strongly significant. The significance level is  $<0.001$  as shown in Table 25 and Table 26.

14. *Medical care*

**Table 27**  
**Paired Samples Statistics**

|        |                  | Mean    | N   | Std. Deviation | Std. Error Mean |
|--------|------------------|---------|-----|----------------|-----------------|
| Pair 1 | MEDICALCAREAIIMS | 10.2400 | 125 | 3.48129        | .31138          |
|        | MEDICALCAREMCH   | 17.1120 | 125 | 2.11453        | .18913          |

**Table 28**  
**Paired Samples Test**

|        |                                   | Paired Differences |                |                 |                                           | t        | df      | Sig. (2-tailed) |             |
|--------|-----------------------------------|--------------------|----------------|-----------------|-------------------------------------------|----------|---------|-----------------|-------------|
|        |                                   | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |          |         |                 |             |
|        |                                   |                    |                |                 | Lower                                     |          |         |                 | Upper       |
| Pair 1 | MEDICALCAREAIIMS - MEDICALCAREMCH | -6.87200           | 4.26156        | .38117          | -7.62643                                  | -6.11757 | -18.029 | 124             | .0000000000 |

The paired sample t-test of the medical care showed the mean value of the MCH hospital (17.11) is more than the AIIMS hospital (10.24). This shows that the patients (indoor & OPD) and the attendants visiting the medical college hospital are more satisfied than the AIIMShospital regarding medical care services. The t value is -18.029 & the difference in the mean is statistically strongly significant. The significance level is <0.001 as shown in Table 27 and Table 28.

15. *Availability*

**Table 29**  
**Paired Samples Statistics**

|        |                   | Mean    | N   | Std. Deviation | Std. Error Mean |
|--------|-------------------|---------|-----|----------------|-----------------|
| Pair 1 | AVAILABILITYAIIMS | 16.8400 | 125 | 5.09174        | .45542          |
|        | AVAILABILITYMCH   | 26.3200 | 125 | 3.13307        | .28023          |

**Table 30**  
**Paired Samples Test**

|        |                                     | Paired Differences |                |                 |                                           | t        | df      | Sig. (2-tailed) |             |
|--------|-------------------------------------|--------------------|----------------|-----------------|-------------------------------------------|----------|---------|-----------------|-------------|
|        |                                     | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |          |         |                 |             |
|        |                                     |                    |                |                 | Lower                                     |          |         |                 | Upper       |
| Pair 1 | AVAILABILITYAIIMS - AVAILABILITYMCH | -9.48000           | 6.01825        | .53829          | -10.54542                                 | -8.41458 | -17.611 | 124             | .0000000000 |

The paired sample t-test of the availability showed the mean value of the MCH hospital (26.32) is more than the AIIMS hospital (16.84). This

shows that the patients (indoor & OPD) and the attendants visiting the medical college hospital are more satisfied than the AIIMS hospital regarding the availability of clinical and non-clinical facilities in the hospitals. The t value is -17.611& the difference in the mean is statistically strongly significant. The significance level is <0.001 as shown in Table 29 and Table 30.

#### 16. Professionalism

**Table 31**  
**Paired Samples Statistics**

|        |                      | Mean    | N   | Std. Deviation | Std. Error Mean |
|--------|----------------------|---------|-----|----------------|-----------------|
| Pair 1 | PROFESSIONALISMAIIMS | 10.3360 | 125 | 3.09512        | .27684          |
|        | PROFESSIONALISMMCH   | 17.2720 | 125 | 2.02952        | .18153          |

**Table 32**  
**Paired Samples Test**

|        |                                           | Paired Differences |                |                 |                                           | t        | df      | Sig. (2-tailed) |             |
|--------|-------------------------------------------|--------------------|----------------|-----------------|-------------------------------------------|----------|---------|-----------------|-------------|
|        |                                           | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |          |         |                 |             |
|        |                                           |                    |                |                 | Lower                                     |          |         |                 | Upper       |
| Pair 1 | PROFESSIONALISMAIIMS - PROFESSIONALISMMCH | -6.93600           | 3.73463        | .33404          | -7.59715                                  | -6.27485 | -20.764 | 124             | .0000000000 |

The paired sample t-test of professionalism showed the mean value of the MCH hospital (17.27) is more than the AIIMS hospital (10.33). This shows that the patients (indoor & OPD) and the attendants visiting the medical college hospital are more satisfied than the AIIMS hospital regarding the professionalism of the doctors and the nursing staff of the hospital. The t value is -20.764& the difference in the mean is statistically strongly significant. The significance level is <0.001 as shown in Table 31 and Table 32.

#### 17. Hospital personnel

**Table 33**  
**Paired Samples Statistics**

|        |                        | Mean    | N   | Std. Deviation | Std. Error Mean |
|--------|------------------------|---------|-----|----------------|-----------------|
| Pair 1 | HOSPITALPERSONNELAIIMS | 8.2080  | 125 | 2.45375        | .21947          |
|        | HOSPITALPERSONNELMCH   | 13.5840 | 125 | 1.45460        | .13010          |

**Table 34**  
**Paired Samples Test**

|        |                                                          | Paired Differences |                |                 |                                           | t        | df      | Sig. (2-tailed) |             |
|--------|----------------------------------------------------------|--------------------|----------------|-----------------|-------------------------------------------|----------|---------|-----------------|-------------|
|        |                                                          | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |          |         |                 |             |
|        |                                                          |                    |                |                 | Lower                                     |          |         |                 | Upper       |
| Pair 1 | HOSPITALPERSONNELA<br>IIMS -<br>HOSPITALPERSONNEL<br>MCH | -5.37600           | 2.86149        | .25594          | -5.88258                                  | -4.86942 | -21.005 | 124             | .0000000000 |

The paired sample t-test of the hospital personnel showed the mean value of the MCH hospital (13.58) is more than the AIIMS hospital (8.20). This shows that the patients (indoor & OPD) and the attendants visiting the medical college hospital are more satisfied than the AIIMShospital regarding the hospital personnel. The t value is -21.005 & the difference in the mean is statistically strongly significant. The significance level is <0.001 as shown in Table 33 and Table 34.

#### 18. Technical Quality

**Table 35**  
**Paired Samples Statistics**

|        |                       | Mean    | N   | Std. Deviation | Std. Error Mean |
|--------|-----------------------|---------|-----|----------------|-----------------|
| Pair 1 | TECHNICALQUALITYAIIMS | 34.6720 | 125 | 8.57865        | .76730          |
|        | TECHNICALQUALITYMCH   | 54.6000 | 125 | 4.37736        | .39152          |

**Table 36**  
**Paired Samples Test**

|        |                                            | Paired Differences |                |                 |                                           | t         | df      | Sig. (2-tailed) |             |
|--------|--------------------------------------------|--------------------|----------------|-----------------|-------------------------------------------|-----------|---------|-----------------|-------------|
|        |                                            | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |           |         |                 |             |
|        |                                            |                    |                |                 | Lower                                     |           |         |                 | Upper       |
| Pair 1 | TECHNICALQUALITYAIMS - TECHNICALQUALITYMCH | -19.92800          | 9.88088        | .88377          | -21.67723                                 | -18.17877 | -22.549 | 124             | .0000000000 |

The paired sample t-test of the technical quality showed the mean value of the MCH hospital (54.60) is more than the AIIMS hospital (34.67). This shows that the patients (indoor & OPD) and the attendants visiting the medical college hospital are more satisfied than the AIIMShospital regarding the technical quality. The t value is -22.549 & the difference in the mean is statistically strongly significant. The significance level is <0.001 as shown in Table 35 and Table 36.

19. *Administrative Care*

**Table 37**  
**Paired Samples Statistics**

|        |                         | Mean    | N   | Std. Deviation | Std. Error Mean |
|--------|-------------------------|---------|-----|----------------|-----------------|
| Pair 1 | ADMINISTRATIVECAREAIIMS | 27.2960 | 125 | 6.35385        | .56831          |
|        | ADMINISTRATIVECAREMCH   | 39.4640 | 125 | 4.04719        | .36199          |

**Table 38**  
**Paired Samples Test**

|        |                                                            | Paired Differences |                |                 |                                           | t         | df      | Sig. (2-tailed) |             |
|--------|------------------------------------------------------------|--------------------|----------------|-----------------|-------------------------------------------|-----------|---------|-----------------|-------------|
|        |                                                            | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |           |         |                 |             |
|        |                                                            |                    |                |                 | Lower                                     |           |         |                 | Upper       |
| Pair 1 | ADMINISTRATIVECAREAI<br>IMS -<br>ADMINISTRATIVECAREM<br>CH | -12.16800          | 7.96336        | .71226          | -13.57777                                 | -10.75823 | -17.084 | 124             | .0000000000 |

The paired sample t-test of the administrative care showed the mean value of the MCH hospital (39.46) is more than the AIIMS hospital (27.29). This shows that the patients (indoor & OPD) and the attendants visiting the medical college hospital are more satisfied than the AIIMS hospital regarding the administrative care of the hospital. The t value is -17.084 & the difference in the mean is statistically strongly significant. The significance level is <0.001 as shown in Table 37 and Table 38.

20. *Diagnostics*

**Table 39**  
**Paired Samples Statistics**

|        |                  | Mean   | N   | Std. Deviation | Std. Error Mean |
|--------|------------------|--------|-----|----------------|-----------------|
| Pair 1 | DIAGNOSTICSAIIMS | 5.8320 | 125 | 1.77680        | .15892          |
|        | DIAGNOSTICSMCH   | 8.8640 | 125 | 1.07271        | .09595          |

**Table 40**  
**Paired Samples Test**

|        |                                   | Paired Differences |                |                 |                                           | t        | df      | Sig. (2-tailed) |             |
|--------|-----------------------------------|--------------------|----------------|-----------------|-------------------------------------------|----------|---------|-----------------|-------------|
|        |                                   | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |          |         |                 |             |
|        |                                   |                    |                |                 | Lower                                     |          |         |                 | Upper       |
| Pair 1 | DIAGNOSTICSAIIMS - DIAGNOSTICSMCH | -3.03200           | 2.03967        | .18243          | -3.39309                                  | -2.67091 | -16.620 | 124             | .0000000000 |

The paired sample t-test of the diagnostic showed the mean value of the MCH hospital (8.86) is more than the AIIMS hospital (5.83). This shows that the patients (indoor & OPD) and the attendants visiting the medical college hospital are more satisfied than the AIIMS hospital regarding diagnostic care. The t value is -16.620 & the difference in the mean is statistically strongly significant. The significance level is <0.001 as shown in Table 39 and Table 40.

## 21. Communication

**Table 41**  
**Paired Samples Statistics**

|                            | Mean    | N   | Std. Deviation | Std. Error Mean |
|----------------------------|---------|-----|----------------|-----------------|
| Pair 1 COMMUNICATION AIIMS | 12.3600 | 125 | 3.37782        | .30212          |
| COMMUNICATION MCH          | 17.6400 | 125 | 1.96502        | .17576          |

**Table 42**  
**Paired Samples Test**

|        |                                       | Paired Differences |                |                 |                                           | t        | df      | Sig. (2-tailed) |             |
|--------|---------------------------------------|--------------------|----------------|-----------------|-------------------------------------------|----------|---------|-----------------|-------------|
|        |                                       | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |          |         |                 |             |
|        |                                       |                    |                |                 | Lower                                     |          |         |                 | Upper       |
| Pair 1 | COMMUNICATIONAIIMS - COMMUNICATIONMCH | -5.28000           | 3.89085        | .34801          | -5.96881                                  | -4.59119 | -15.172 | 124             | .0000000000 |

The paired sample t-test of the communication showed the mean value of the MCH hospital (17.64) is more than the AIIMS hospital (12.36). This shows that the patients (indoor & OPD) and the attendants visiting the medical college hospital are more satisfied than the AIIMS hospital regarding the communication services of the hospital. The t value is -15.172 & the difference in the mean is statistically strongly significant. The significance level is <0.001 as shown in Table 41 and Table 42.

## 22. Interaction

**Table 43**  
**Paired Samples Statistics**

|                          | Mean    | N   | Std. Deviation | Std. Error Mean |
|--------------------------|---------|-----|----------------|-----------------|
| Pair 1 INTERACTION AIIMS | 20.2240 | 125 | 4.96092        | .44372          |
| INTERACTION MCH          | 26.6400 | 125 | 2.70424        | .24187          |

**Table 44**  
**Paired Samples Test**

|        |                                   | Paired Differences |                |                 |                                           | t       | df  | Sig. (2-tailed) |
|--------|-----------------------------------|--------------------|----------------|-----------------|-------------------------------------------|---------|-----|-----------------|
|        |                                   | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |         |     |                 |
|        |                                   |                    |                |                 | Lower Upper                               |         |     |                 |
| Pair 1 | INTERACTIONAIIMS - INTERACTIONMCH | -6.41600           | 5.88764        | .52661          | -7.45830 -5.37370                         | -12.184 | 124 | .0000000000     |

The paired sample t-test of the interaction showed the mean value of the MCH hospital (26.64) is more than the AIIMS hospital (20.22). This shows that the patients (indoor & OPD) and the attendants visiting the medical college hospital are more satisfied than the AIIMShospital regarding the interaction with the treating doctors and the nursing staff. The t value is -12.184& the difference in the mean is statistically strongly significant. The significance level is <0.001 as shown in Table 43 and Table 44.

## Conclusion

This study has been conducted on two big public tertiary care hospitals in the Raipur city of Chhattisgarh. They are the referral centers of PHC, CHC, SDH, and other private nursing homes of the state. The comparative analysis between the AIIMS and the medical college hospital showed that the patients (Indoor & OPD follow-ups) and the attendants visiting the AIIMS hospital are more satisfied with the quality services related to tangibility, reliability, assurance, empathy, and responsiveness of services and other quality factors like admission process, nursing, medical, lab & diagnostics, housekeeping, security services than medical college hospital. Besides this, the comparative analysis showed that the patients (Indoor & OPD follow-up) and the attendants visiting the medical college hospital are more satisfied with the services related to medical care, availability of the doctors and the nursing staff, professionalism of the doctors and the hospital staff, hospital personnel in terms of skills and training, technical quality of the doctors and the nursing staff, administrative care, diagnostics, communication with the patients and the attendants, interaction with the patients and the attendants by the doctors and the hospital staff. There were two factors where both the public hospitals have almost equal means – patient care services & food services.

Overall we can say that both AIIMS and the medical college hospital have to focus and work on the quality of service delivery. Organizations have a list of services but they fail to implement those. The organizations can set up a quality department that can monitor the quality and key performance indicators for better patient care.

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