

A Study on The Patient Satisfaction on The Medical, Nursing & Supportive Health Care Services in Ipd of A Multispecialty Hospital

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Abstract

Patient expression is an important source of information in screening for problems and developing an effective plan of action for quality improvement in health care organizations. Assessing satisfaction has been mandatory for quality control of any hospital, which has resulted in an increasing number of projects devoted to the concept of satisfaction and determinant of patient satisfaction.

Introduction

Patient satisfaction is an important factor for organization reputation, it comprises of extrinsic and intrinsic factors and helps in maintain comfortable and empathetic environment for patient seeking healthcare services. The study findings are limited to the IPD patients during July 2018 – September 2018 in Multispecialty Hospital. However, the similar type of study can be initiated in other hospital for measuring IPD patient's satisfaction.

Objectives and purpose of the study: -

- ❖ To study whether demographic factors like Age, Gender, wards etc. Affect the satisfaction level.
- ❖ Assess the patient satisfaction on the Medical, Nursing & supportive health care services provided in Multispecialty Hospital.
- ❖ Determine association between level of patients' satisfaction & their selected demographic variables

Research Methodology

Hypothesis: -

Null Hypothesis: -

Ho: There is no significant difference between satisfaction level of male and female.

H1: There is a significant difference between satisfaction level of male and female

Ho: There is no significant difference between satisfaction levels of different age group.

H1: There is a significant difference between satisfaction levels of difference age group.

Ho: There is no significant difference between satisfaction level of different wards.

H1: There is a significant difference between satisfaction level of different wards

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Sample Size: 326

Total Sample Size as per Formula given below is 326 for Population of 2126 Patients. But Keeping in mind the sampling will collect a sample size of **350 Patients** keeping in consideration the non-response error.

From historical data it was found that average IPD admissions in selected ward as per inclusion criteria of the study is 2126 admissions. Thus, the calculated sample size based on following formula is Sample Size =

$$\frac{\frac{z^2 \times p(1-p)}{e^2}}{1 + \left(\frac{z^2 \times p(1-p)}{e^2 N}\right)}$$

Where,

N = Population Size

e = Margin of error i.e. 5% in this study

z = z-score i.e. 1.96 at 95% confidence interval for this study

Response from total participants (530 in medicine and 820 in surgery, Gynecology & Obstetrics Ward (776) was collected as sample.

The total Sample of 350 will be distributed in the ratio of 25:38:37, hence the required sample size would be 88:133:130 respectively for Medicine, Surgical and Gynecology & Obstetrics Wards.

Patients were interviewed using a well-structured questionnaire containing close ended questions was developed. The questionnaire was pretested. It covered the information related to patient's socio-economic characteristics, registration process, and perception towards availability of basic amenities, behavior of doctors and other staff, facilities available in pharmacy and radiology department. Data was collected during the months of July and September 2018

Frequency distribution of patient based on their demographic variable:

Age			
Age Group	Frequency	Percent	Cumulative Percent
18-28	105	30.0	30.0
28-38	91	26.0	56.0
38-48	84	24.0	80.0
48-58	57	16.3	96.3
58-68	12	3.4	99.7
>68	1	.3	100.0
Total	350	100.0	

The above table shows that the maximum response is by the 18 -28 age group and minimum is above 68 age group. It represents the distribution of respondents regarding age shows that majority of the age (30%) belongs to 18 -28. followed by (26%) are belongs to 28-38, (24%) are belongs to 38-48, (16, %) are belongs to 48-58, (4%) are belongs to 58-68, (0.3%) are belongs to above 68 age.

Gender	Frequency	Percent	Cumulative Percent
Male	156	44.6	44.6
Female	194	55.4	100.0
Total	350	100.0	

Distribution of patients according to gender shows that majority of the patients were females (55%) and males are (45%). i.e. 156 Males and 194 females out of 350 patients.

Ward	Frequency	Percent	Cumulative Percent
Medical Ward	165	47.1	47.1
Surgical Ward	95	27.1	74.3
Gynecology & Obstetrics Ward.	90	25.7	100.0
Total	350	100.0	

Distribution of patients according to ward shows that majority of the patients were Medical ward (47%), surgical ward (27%) and Gynecology& Obstetrics ward (25%) encountered.

Analysis of Gender

Mann-Whitney Test

	Gender	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Wilcoxon W	Z	P value
Overall Reception	Male	156	193.13	30127.50	12382.5	31297.5	3.269	0.01
	Female	194	161.33	31297.50				
	Total	350						

From the above table, it is observed that p value of Mann-Whitney U test is 0.01 which is less than significance level of 0.05. Thus, the null hypothesis (Ho1) i.e. **“There is no significant difference in the satisfaction level of patients between male and female” is rejected.** And hence it can be inferred that there is a difference in satisfaction level of patients on the basis of Gender with respect to Reception area services. Moreover, it can be inferred that **the satisfaction level among the male members is higher as compared to Female Patients.**

Kruskal-Wallis Test

Overall Reception					
Age	N	Mean Rank	Chi-Square	Df	P value
18-28	105	178.37	27.044	5	.000
28-38	91	140.42			
38-48	84	195.45			
48-58	57	204.88			
58-68	12	132.33			
>68	1	234.00			
Total	350				

From the above table, it is observed that p value of Kruskal-Wallis Test is 0.000 which is less than significance level of 0.05. Thus, the null hypothesis (Ho1) i.e. **“There is no significant difference between satisfaction levels of different age group”** is rejected. And hence it can be inferred that there is a difference in satisfaction level of patients on the basis of Age with respect to Reception area services. Moreover, it can be inferred that **the satisfaction level among the patients of age group of more than 68 Years is highest.**

Kruskal-Wallis Test Analysis for Overall Reception

Ward	N	Mean Rank	Chi –square	df	P value
Medical Ward	165	175.66	5.378	2	0.68
Surgical Ward	95	190.36			
Gynecology & Obstetrics Ward.	90	159.51			
Total	350				

From the above table, it is observed that p value of Kruskal-Wallis Test is **0.68** which is more than significance level of 0.05. Thus, the null hypothesis (Ho1) i.e. **“There is no significant difference between satisfaction level of different wards”** is failed to reject. And therefore, it can be inferred that the satisfaction level among the patients of different wards is same.

Comparison with Admission Process.

Mann-Whitney Test

Ranks							
Gender	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Wilcoxon W	Z	P value
Male	156	179.79	28047.00	14463.0	33378.0	-.789	0.43
Female	194	172.05	33378.00				
Total	350						

From the above table, it is observed that p value of Mann-Whitney U test is 0.43 which is more than significance level of 0.05. Thus, the null hypothesis (Ho1) i.e. **“There is no significant difference in the satisfaction level of patients between male and female”** with respect to Admission Process is **failed to reject**. And it can be inferred that both male and female are equally satisfied with admission processes.

Kruskal-Wallis Test

Ranks						
	Age	N	Mean Rank	Chi-Square	Df	P value
Overall Admission	18-28	105	185.54	9.854	5	.079
	28-38	91	177.65			
	38-48	84	169.24			
	48-58	57	178.22			
	58-68	12	100.83			
	>68	1	192.50			
	Total	350				

From the above table, it is observed that p value of Kruskal-Wallis Test is 0.079 which is more than significance level of 0.05. Thus, the null hypothesis (Ho1) i.e. **“There is no significant difference between satisfaction levels of different age group”** with respect to Admission process is **failed to reject**. Therefore, it can be inferred that age group impacts on the satisfaction level with respect to admission process. The mean rank suggested that 58-68 age group are least satisfied with admission process.

Kruskal-Wallis Test

	Ward	N	Mean Rank	Chi-Square	Df	P value
Overall Admission	Medical Ward	165	162.24	8.743	2	.013
	Surgical Ward	95	196.87			
	Gynecology & Obstetrics Ward.	90	177.24			
	Total	350				

From the above table, it is observed that p value of Kruskal-Wallis Testis 0.013 which is less than significance level of 0.05. Thus, the null hypothesis (Ho1) i.e. **“There is no significant difference between satisfaction level of different wards”** is **rejected**. Therefore, it is inferred that level of satisfaction among different wards of IPD is significantly different with overall admission. According to above table the surgical ward is more satisfied with greater mean rank.

Comparison with Doctor’s care.

Mann-Whitney Test

Ranks								
	Gender	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Wilcoxon W	Z	P value
Overall Doctors care	Male	156	180.13	28099.50	14410.5	33325.5	-.853	.393
	Female	194	171.78	33325.50				
	Total	350						

From the above table, it is observed that p value of Mann-Whitney U test is 0.393 which is more than significance level of 0.05. Thus, the null hypothesis (Ho1) i.e. **“There is no significant difference in the satisfaction level of patients between male and female”** with respect to gender is **failed to reject**. Therefore, it is inferred that both male and female are equally satisfied with overall Doctors care.

Kruskal-Wallis Test

Ranks						
	Age	N	Mean Rank	Chi-Square	df	P value
Overall care	18-28	105	174.13	2.426	5	.788
	28-38	91	175.11			
	38-48	84	168.43			
	48-58	57	181.75			
	58-68	12	206.83			
	>68	1	216.00			
	Total	350				

From the above table, it is observed that p value of Kruskal-Wallis Test is 0.788 which is more than significance level of 0.05. Thus, the null hypothesis (Ho1) i.e. **“There is no significant difference between satisfaction levels of different age group”** with respect to Doctor’s Care is **failed to reject**. Therefore, it is inferred that level of satisfaction among different age group is significantly different with overall doctors’ care.

Kruskal-Wallis Test

	Ward	N	Mean Rank	Chi- square	df	P value
Overall Doctors care	Medical Ward	165	178.26	.304	2	.859
	Surgical Ward	95	172.21			
	Gynecology & Obstetrics Ward.	90	173.92			
	Total	350				

From the above table, it is observed that p value of Kruskal-Wallis Test is 0.859 which is more than significance level of 0.05. Thus, the null hypothesis (Ho1) i.e. **“There is no significant difference between satisfaction level of different wards.”** With respect to doctors care is failed to reject. Therefore, it is inferred that level of satisfaction among different wards is significantly no difference with overall Doctors care. Mean rank of all the above wards are equally satisfied.

Analysis of Nursing Care Mann-Whitney Test

Ranks								
	Gender	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Wilcoxon W	Z	P value
Overall Nursing Care	Male	156	169.35	26418.00				
	Female	194	180.45	35007.00	14172.000	26418.000	-1.154	0.249
	Total	350						

From the above table, it is observed that p value of Mann-Whitney U test is 0.249 which is more than significance level of 0.05. Thus, the null hypothesis (Ho1) i.e. **“there is no difference between response of patients between male and female”** is fail to rejected. Therefore, it is inferred that both male and female are equally satisfied with overall Nursing care.

Kruskal-Wallis Test

	Age	N	Mean Rank	Chi-Square	Df	P value
Overall Nursing Care	18-28	105	182.02	4.910	5	.427
	28-38	91	165.95			
	38-48	84	180.12			
	48-58	57	180.11			
	58-68	12	146.17			
	>68	1	60.50			
	Total	350				

From the above table, it is observed that p value of Kruskal-Wallis Test is 0.427 which is more than significance level of 0.05. Thus, the null hypothesis (Ho1) i.e. **“there is no difference between response of patients between among different age group”** is fail to rejected. Therefore, it is inferred that level of satisfaction among different age group is

significantly no difference with overall nursing care. Mean rank of the 3rd and 4th age group are similarly satisfied.

Kruskal-Wallis Test

Ranks						
	Ward	N	Mean Rank	Chi -square	Df	P value
Overall Nursing Care	Medical Ward	165	166.98			
	Surgical Ward	95	184.52	2.876	2	.237
	Gynecology & Obstetrics Ward.	90	181.59			
	Total	350				

From the above table, it is observed that p value of Kruskal-Wallis Test is 0.237 which is more than significance level of 0.05. Thus, the null hypothesis (Ho1) i.e.” there is no difference between response of patients between among different ward on nursing care” is fail to rejected. Therefore, it is inferred that level of satisfaction among different wards is significantly no difference with overall nursing care. The mean rank suggested that patient who are in surgical ward found more satisfied compare to another ward.

Analysis of Non- clinical staff

Mann-Whitney Test

Ranks								
	Gender	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Wilcoxon W	Z	P value
Overall, Non-Clinical Staff	Male	156	175.08	27313.00	15067.00	27313.00	-0.75	.940
	Female	194	175.84	34112.00				
	Total	350						

From the above table, it is observed that p value of Mann- Whitney U test is 0.940 which is more than significance level of 0.05. Thus, the null hypothesis (Ho1) i.e.” there is no difference between response of patients between male and female” is failed to reject. Therefore, it is inferred that both male and female are equally satisfied with overall non clinical staff services.

Kruskal-Wallis Test

Ranks						
	Age	N	Mean Rank	Chi-square	df	P value
Overall, Non-Clinical Staff	18-28	105	180.38	5.315	5	.379
	28-38	91	176.00			
	38-48	84	173.86			
	48-58	57	180.78			
	58-68	12	123.67			
	>68	1	77.00			
	Total	350				

From the above table, it is observed that p value of Kruskal-Wallis Test is 0.379 which is more than significance level of 0.05. Thus, the null hypothesis (Ho1) i.e.” there is no difference between response of patients between among different age group.” is failed to

reject. Therefore, it is inferred that level of satisfaction among different age groups significantly no difference with overall Non clinical staff. Mean rank of all the above suggested that age group between 18-28 and 48-58 are satisfied more compare to other group.

Kruskal-Wallis Test

Ranks						
	Ward	N	Mean Rank	Chi-square	Df	p-value
Overall, Non-Clinical Staff	Medical Ward	165	164.42			
	Surgical Ward	95	183.38	4.488	2	.106
	Gynecology & Obstetrics Ward.	90	187.49			
	Total	350				

From the above table, it is observed that p value of Kruskal-Wallis Test is 0.106 which is more than significance level of 0.05. Thus, the null hypothesis (Ho1) i.e. "there is no difference between response of patients between among ward for Non clinical staff" is fail to rejected. Therefore, it is inferred that level of satisfaction among different wards is significantly no difference with overall Non clinical staff services. The mean rank suggests that patients who are medical ward found more satisfied with Non clinical services.

Clinical service:

Mann-Whitney Test

Ranks								
	Gender	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Wilcoxon W	Z	P Value
Overall Clinical Services	Male	156	165.83	25869.50				
	Female	194	183.28	35555.50	13623.500	25869.500	-1.715	0.086
	Total	350						

From the above table, it is observed that p value of Mann-Whitney U test is 0.086 which is more than significance level of 0.05. Thus, the null hypothesis (Ho1) i.e. "there is no difference between response of patients between male and female" is failed to reject. Therefore, it is inferred that both male and female are equally satisfied with overall clinical staff services.

Kruskal-Wallis Test

Ranks						
	Age	N	Mean Rank	Chi-square	Df	P value
Overall Clinical Services	18-28	105	175.69			
	28-38	91	180.71			
	38-48	84	171.93	6.160	5	.291
	48-58	57	162.68			
	58-68	12	228.08			
	>68	1	80.50			
	Total	350				

From the above table, it is observed that p value of Kruskal-Wallis Test is 0.291 which is more than significance level of 0.05. Thus, the null hypothesis (Ho1) i.e. "there is no difference between response of patients between among different age groups on clinical staff" is failed to reject. Therefore, it is inferred that level of satisfaction among different wards is significantly no difference with overall clinical staff services. Mean rank suggest that age group between 58 -68 are found more satisfied with clinical services.

Kruskal-Wallis Test

Ranks						
	Ward	N	Mean Rank	Chi-Square	Df	P- value
Overall Clinical Services	Medical Ward	165	170.43			
	Surgical Ward	95	177.14	1.078	2	.583
	Gynecology & Obstetrics Ward.	90	183.06			
	Total	350				

From the above table, it is observed that p value of Kruskal-Wallis Test is 0.583, which is more than significance level of 0.05. Thus, the null hypothesis (Ho1) i.e."there is no difference between response of patients between among different wards on clinical staff" is failed to reject. Therefore, it is inferred that level of satisfaction among different wards is significantly no difference with overall clinical staff services. Mean rank suggest that Gynecology & Obstetrics ward more found satisfied than other.

a. Supporting services:

Comparison with supporting services.

Mann-Whitney Test

Ranks								
	Gender	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Wilcoxon W	Z	P Value
Overall Supporting services	Male	156	176.02	27458.50				
	Female	194	175.09	33966.50	15051.5	33966.500	-.093	0.926
	Total	350						

From the above table, it is observed that p value of Mann-Whitney U test is 0.926 which is more than significance level of 0.05. Thus, the null hypothesis (Ho1) i.e."there is no difference between response of patients between male and female" is failed to reject. Therefore, it is inferred that both male and female are equally satisfied with overall supporting staff services.

Kruskal-Wallis Test

From the above table, it is observed that p value of Kruskal-Wallis Test is 0.321, which is

Ranks						
	Age	N	Mean Rank	Chi-square	df	P value
Overall Supporting services	18-28	105	185.48			
	28-38	91	179.86	5.851	5	.321
	38-48	84	158.19			
	48-58	57	175.49			
	58-68	12	185.29			
	>68	1	67.50			
	Total	350				

more than significance level of 0.05. Thus, the null hypothesis (Ho1) i.e. "there is no difference between response of patients between among different age group on supporting staff" is failed to reject. Therefore, it is inferred that level of satisfaction among different wards is significantly no difference with overall supporting staff services. The Mean rank suggest that the age group between 18-28 and 58-68 are found satisfied with overall supporting services.

Kruskal-Wallis Test

Ranks						
	Ward	N	Mean Rank	Chi-square	df	P value
Overall Supporting services	Medical Ward	165	175.79			
	Surgical Ward	95	165.33	2.240	2	.326
	Gynecology & Obstetrics Ward.	90	185.70			
	Total	350				

From the above table, it is observed that p value of Kruskal-Wallis Test is 0.326, which is more than significance level of 0.05. Thus, the null hypothesis (Ho1) i.e. "there is no difference between response of patients between among different wards on supporting staff" is failed to reject. Therefore, it is inferred that level of satisfaction among different wards is significantly no difference with overall supporting staff services. The mean value of the medical ward found more satisfied with supporting staff.

Section 3: comparison of area wise association of patient satisfaction on health care services with selected demographic variable.

A. Comparison of area wise association with gender about your agreement following:

	P- value	Mann-Whitney test	Decision
Reception	0.01	12382.5	Rejected
Admission	0.43	14463.0	Accepted
Doctor's care	0.393	14410.5	Accepted
Nursing care	0.249	14172.00	Accepted
Non-Clinical staff	0.94	15067.0	Accepted
Clinical services	0.086	13623.5	Accepted
Supporting & utility services	0.926	15051.5	Accepted

P-value of Mann Whitney U test applied to all the statement related with agreement to the patient satisfaction is reception process if rejected which p-value is lesser than 0.5. Other process is accepted which p-value is more than 0.5.

B. Comparison of area wise association with age group about your agreement following:

	P- value	Kruskal-Wallis Test	Decision
Reception	0.00	27.044	Rejected
Admission	0.079	9.854	Accepted
Doctor's care	0.788	2.426	Accepted
Nursing care	0.427	4.910	Accepted
Non-Clinical staff	0.379	5.315	Accepted
Clinical services	0.291	6.16	Accepted
Supporting & utility services	0.321	5.851	Accepted

P-value of **Kruskal-Wallis** test applied to all the statement related with agreement to the patient satisfaction is reception process if rejected which p-value is lesser than 0.5. Other process is accepted which p-value is more than 0.5.

C. Comparison of area wise association with ward about your agreement following:

	P- value	Kruskal-Wallis Test	Decision
Reception	0.68	5.378	Accepted
Admission	0.013	8.743	Rejected
Doctor's care	0.859	0.304	Accepted
Nursing care	0.237	2.870	Accepted
Non-Clinical staff	0.106	4.488	Accepted
Clinical services	0.583	1.078	Accepted
Supporting & utility services	0.326	2.240	Accepted

P-value of **Kruskal-Wallis Test** applied to all the statement related with agreement to the patient satisfaction is reception process if rejected which p value is lesser than 0.5. Other process is accepted which p value is more than 0.5.

Major finding of the study:

I. Result of demographic variable

1. Majority 105(30%) of respondents were in the age group of 18-28 years.
2. The majority of respondents indicated that 194(55%) were females.
3. Majority of respondents 165(47%) from Medical wards.

II. Distribution of satisfaction level of the patients.

1. The overall finding is the patient's satisfaction level at the Multispecialty Hospital was satisfactory.
2. The median of all the sectors of health care services is 4 out of 5 (satisfied). The overall data was found that the patients are satisfied by the hospital services like Reception, Admission, Doctor's care, Nursing care, Non clinical, Clinical staff and supportive services.
3. Majority of patients are satisfied with (52%) direction and communication by employee at reception.
4. 50.9% are very satisfied with transport to room and admission process.
5. Majority (52%) of patients were satisfied with time spend by doctor and (49.9%) satisfied with the courtesy and respect shown.
6. In nursing care (50%) of patients are satisfied with nurses observe the promised time.
7. Majority of patients are satisfied with Non clinical and clinical staff also.
8. Majority (47.7%) are satisfied with cleanliness of wards and corridors in supportive services.

III. Correlation between demographic factor and medical services.

1. It was observed that p value is less than 0.05 in comparison with gender and reception, age group and reception and ward and admission. Therefore, null hypothesis is rejected "there is significant difference between satisfaction level between male and female.
2. It was observed that p value is less than 0.05 in comparison with age group and reception and ward and admission. Therefore, null hypothesis is rejected "there is significant difference between satisfaction level between age group.
3. It was observed that p value is less than 0.05 in comparison with ward and admission. Therefore, null hypothesis is rejected "there is significant difference between satisfaction level between different wards.
4. It was observed that other comparison is accepted so there is significant with demographic and medical services satisfaction level.

From mean rank, it observed that the satisfaction level of female is significantly lower than male.

Suggestions/Recommendation

The study reveals that there is a high satisfaction level (median 4 out of 5) in all aspects of health care services in Multispecialty Hospital. However, investigator observed and recommended for rectifications.

1. Every single employee needs to know how to handle customer/patients' complaints and concerns.
2. The communication and sympathetic nature of doctors, nurses, ward boy, security guard and other supportive staff need to be improved.
3. There should be provision for separate toilet and bathroom, pantry and cloth washing area for the bystanders.

4. Sitting arrangements outside the critical areas like ICU, CR, NICU, and Obst ward has to be enhanced.
5. Canteen facility shall be facilitated.
6. Majority of ward don't have nurses' room for refreshment and dress changing separate. Nurse's room shall be earmarked.
7. Some problems like the skill and competency of the nursing care, attention of nurse in odd hours, cleanliness of wards and corridor and the availability of drinking water is average in the hospital, thus patients were not satisfied among the facility.
8. The cleanliness of wards and corridor and the availability of drinking water was not good the hospital should be noticed that problem and maintain the cleanliness and reduce the problem of the drinking water.

Conclusion: -

1. At Multispecialty Hospital the overall services are good. After taking all data found out that the patient is satisfied from given hospital services from the Multispecialty Hospital. But some issue is finding out that patient cannot more satisfied from the services like room preparation at the time of admission and work and behavior of radiology staff, it was average in the hospital.
2. After knowing the satisfaction level of the patient then some problems face by the patient in the hospital like nursing care, cleanliness and drinking water problem so now hospital should be improved their hospital services so patient can feel comfortable in the hospital and improve the reputation.
3. Health care services are more important at now days so patient satisfaction among the hospital it was very much important to know from the patient so hospitals are improved their facility to give best services to patient in the hospital.

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