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Research Article

A Comparative Study On Medical Errors In Hospitals Related To Integration

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ABSTRACT

BACKGROUND: Integrated care is a term used to bring inputs, management, service delivery, and organization of services together concerning treatment, diagnostic services, health promotion, and rehabilitation services. Medical errors have a contributory role in the cause of patient mortality and morbidity. This study intended to light the significance of integration in hospitals to overcome medical errors.

MATERIAL AND METHOD: The study was descriptive and retrospective. Secondary data were collected from the NABH assessment reports, clinical audits, and administrative reports of three consecutive years from the 18 NABH-accredited hospitals in India.

RESULT: The study found 0.93% and 2.21% of prescription errors, 0.11% and 0.32% of medicine errors, 0.72% and 1.84% of diagnostic errors, and 0.07% and 0.13% adverse errors in integrated and nonintegrated hospitals respectively. Paired sample t-test was done to determine statistical significance. A study found a statistically significant difference in the integrated and nonintegrated hospitals relate to prescription error (p=0), medicine error (p=0), diagnostic error (p=0), and adverse error (p=0), at the significance level of 0.05.

CONCLUSION: Integration in the hospitals for core services can prove to be one of the feasible solutions for reduced medical errors and increased patient satisfaction.

KEYWORDS: *medical errors, hospitals, integration, patient satisfaction*

INTRODUCTION

Medical error has a contributory role in the cause of patient mortality and morbidity. Medical error ranked at a 3rd number followed by heart disease and cancer as a leading causes of death [1]. It not only causes patient harm and suffering but also contributes to adverse emotional and mental effects on relatives of patients and concerned healthcare providers[2]. On top of it, medical errors also result in notable cost-effective burdens owing to additional healthcare costs and gone productivity from improper utilization of workdays [3].
According to the WHO factsheet 2019, The incidence of adverse events owing to unsafe care is contributing to one of the 10 leading causes of disability and death in the world. Medication errors are a notable cause of injury and preventable harm to healthcare; internationally, the economic burden associated with medication errors has been contributing US$42 billion annually[4][5]. Diagnostic errors take place in adults about 5% of outpatient healthcare settings, of that half of the incidence has the potential to lead to severe harm [6]. Prescription errors encompass 70% of medication errors that could lead to adverse effects. The mean value of prescription errors with the potential to cause an adverse effect in patients was 4 in 1000 prescriptions [7][8].

OBJECTIVE OF THE STUDY

This study aimed to outline the common medical errors and their incidence among integrated and

nonintegrated hospitals.

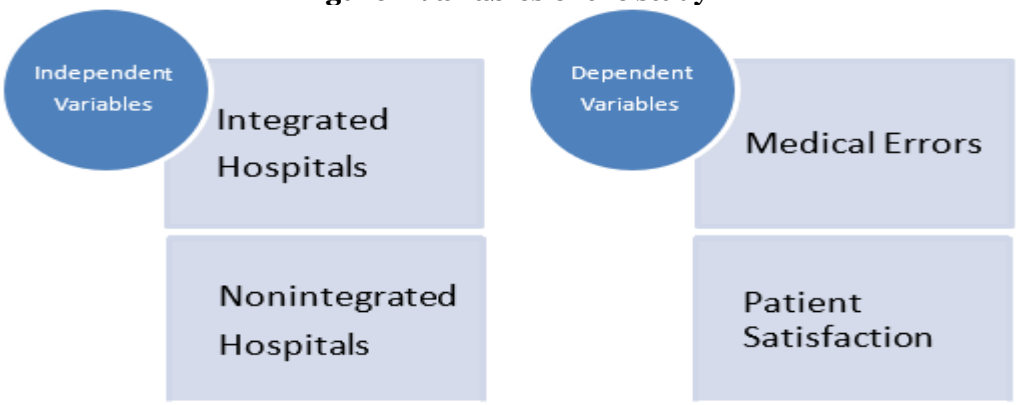
MATERIAL AND METHOD

The study was retrospective in nature. 18 NABH Accredited hospitals were drawn for the study within INDIA. A comparison was made among the integrated and nonintegrated hospitals related to medication errors and patient satisfaction. The NABH toolkit was used to collect the data. In the present study, medical errors were categorized into four; Prescription error, diagnostic error, medicine error, and adverse error. Data were entered in the SPSS and MS EXCEL. A significant association was ruled out at the significance of 0.05.

VARIABLES OF THE STUDY

Integrated and non-integrated hospitals were taken as independent variables, in that integration of physician, midwife, IT, and laboratory were taken into consideration. Medical error and patient satisfaction as dependent variables as depicted in Figure 1 hereafter.

Figure 1 Variables of the study



Medical error and patient satisfaction were considered latent variables whereas prescription error, diagnostic error, medicine error, and adverse error were the observant variables.

Table 1 Frequency distribution of Medical errors

Medical Errors	Integration	Frequency %(108)
Prescription Errors	Integrated	0.93%
	Non-Integrated	2.21%
Medicine Errors	Integrated	0.11%
	Non-Integrated	0.32%
Diagnostic Errors	Integrated	0.72%
	Non-Integrated	1.84%
Adverse Errors	Integrated	0.07%
	Non-Integrated	0.13%

As four medical errors were taken into consideration, table 1 depicts the comparative frequency for the integrated and non-integrated hospitals. In a frequency distribution, non- integrated hospitals were having higher medical errors in comparison to integrated hospitals.

Table 2 t-Test analysis for Medical Errors

t-test analysis for the Medical Errors								
	Prescription Error		Medicine Error		Diagnostic Error		Adverse Error	
	Integrated	Non-Integrated	Integrated	Non-Integrated	Integrated	Non-Integrated	Integrated	Non-Integrated
Mean	0.93	2.21	0.11	0.32	0.72	1.84	0.07	0.11
Observation	108	108	108	108	108	108	108	108
df	214	214	214	214	214	214	214	214
t-state	-39.71		-50.37		-35.35		-13.14	
p-value	0.00		0.00		0.00		0.00	

Paired sample t-test was done to determine if the Ho can be accepted or rejected. Table 2 indicates that there was a statistically significant difference in the integrated and nonintegrated hospitals related to prescription error (p=0), medicine error (p=0), diagnostic error (p=0), and adverse error (p=0), at the significance level of 0.05

Table 3 Correlation between Average medical errors and integrated hospitals

Correlation between all Errors and Average Satisfaction for Integrated and Non-integrated Hospital								
	Integrated PRE_ER	Nonintegrated PRES_ERR	Integrated MED_ERR	Nonintegrated MED_ERR	Integrated DIAG_ERR	Nonintegrated DIAG_ERR	Integrated ADV_ERR	Nonintegrated ADV_ERR
Integrated_	Pearson Correlation	-.886**	-.827**	-.882**	-.931**	-.880**	-.657**	-.908**
Sig(2-tailed)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
N	108	108	108	108	108	108	108	108
Nonintegrated	Pearson Correlation	-.889**	-.833**	-.887**	-.932**	-.883**	-.663**	-.911**
Sig(2-tailed)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
N	108	108	108	108	108	108	108	108

There was a very strong significant negative correlation between prescription errors and average satisfaction scores for both integrated(r=-.886, p<.001, n=108) and non-integrated (r=-.827, p<.001, n=108) hospitals. There was a very strong negative correlation between medicine errors and average satisfaction scores for both integrated (r=-.882, p<.001, n=108) and non-integrated (r=-.931, p<.001, n=108) hospitals. There was a very strong significant negative correlation between diagnostic errors and average satisfaction for both integrated (r=-.880, p<.001, n=108) and nonintegrated (r=-.657, p<.001, n=108) hospitals. There was a very strong negative correlation between adverse errors and average satisfaction for both integrated (r=.908, p<.001, n=108) and nonintegrated (r=-.902, p<.001, n=108) hospitals.

DISCUSSION

A study involving a total of 3337,025 of 70 studies found that the average preventable harm rate to a patient was 6% and it encompass 12% of serious outcomes even severe to death [9]. A similar kind of study revealed 25% of drug errors and other 24% of treatment errors as preventable harm, and in comparison to general hospitals, advanced specialties (surgery or intensive care) had a higher incidence of it[10][11]. Thus, this study supports the results of previous studies that the incidence of medical errors is higher in non-integrated hospitals compared to integrated hospitals. As per the report of the World Health Organization, approximately, 50% of the globs population does not have a preference to visit healthcare settings; and among those who consume medical treatment, a small number of them experienced medical errors. It indicates the discrepancy between the demand and supply of medical treatments. Applications of digital health technology are perceived as effective to overcome and counteract medical errors[12] [13]. This study suggests that integration in the hospitals for core services can prove to be one of the feasible solutions for reduced medical errors and increased patient satisfaction.

CONCLUSION

The foundational evidence of data can encourage healthcare organizations, policymakers, and researchers to initiate continuous measuring and to counteract preventable medical harm. Data on integration assist to look up services relate to quality, access, efficiency, and user satisfaction in the comparison of non-integrated services. Foundations should look for the integration of services to counteract medical errors.

SOURCE OF SUPPORT: NO

CONFLICT OF INTEREST: NO

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