

The Nurse – Patient Ratio And Its Impact On Patient Outcome In Selected Urban And Rural Government Hospitals

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ABSTRACT- “A study was conducted “To assess the Nurse Patients Ratio and its impact on patients’ outcome in selected Urban and Rural hospitals of Madhya Pradesh”. A non-experimental comparative survey research design was used in the study seven hospitals (Two Urban and five Rural hospitals) were included in the study. The sampling was done by multistage technique. Duration for data collection was from August to Sept 2017. Data was collected from Hospital Administrator (Nursing) by Structured Interview Schedule consisting of hospital profile, nurse-patient ratio, and adverse patient outcome. Regarding the findings- The nurse patient ratio were maintained in surgical, pediatric and maternity wards. Adverse patient outcome were very less where the nurse patient ratio were maintained.

. Key words: Nurse Patient Ratio, Patient Outcome, Hospital Administrator.

INTRODUCTION

Health care systems worldwide are stressed by limited resources and increasing demands on their services. Nurse patient assignments are based on the acuity or needs of the patient for nursing care. It also depends on many other factors like types of services (medicine, surgery, obstetric etc) acuity of illness, experiences of nurses, amount of quality of supervision, availability of nursing aides, teaching function, planning of nursing units, physical facilities, location of equipments, supplies, working hours and shifts.

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NEED OF STUDY

Barret et al suggested that in determining staffing pattern of a patient care division the factor to be considered are. Mean daily patient census, Daily patient turnover rate, Illness acuity of majority of the patients, Types of therapies and procedures performed on patients, Proportion of time required per shift per time for both indirect and direct nursing care activities, Add concluding points to emphasize need of study.

OBJECTIVES

1. To assess the Nurse Patient ratio in selected Urban and Rural government hospitals in Madhya Pradesh
2. To compare the Nurse Patient ratio in selected Urban and Rural government hospitals of Madhya Pradesh.
3. To compare the Nurse Patient ratio and its impact on patient outcome in selected Urban and Rural government hospitals of Madhya Pradesh
4. To find the association of Nurse Patient ratio on patient outcome in selected Urban and Rural government hospitals of Madhya Pradesh.

HYPOTHESIS

H₁ – There will be significant difference in the Nurse –Patient Ratio and its impact on patient outcome.

REVIEW OF LITERATURE

Kane et al (2007) found that nurses' daily working hours did not accurately reflect the time they spent with patients or doing clinical tasks. Activities such as attending meetings, completing educational days or administrative work are not accounted for. With increasing shortfalls in staff there is little hope of achieving excellence in standards of care. The difficulty in providing adequate care is becoming apparent, and the likelihood of patients experiencing adverse outcomes will increase as staffing is continually compromised.

Claire H. Robinson, et al. (2010) demonstrated a study on factors that affect implementation of a nurse staffing directive. Results from a qualitative multi-case evaluation found that the high implementation facility had leadership understanding and endorsement of staffing methodology, confidence in and ability to work with data, and integration of staffing methodology results into

the budgeting process. The low implementation facility reported poor leadership engagement and little understanding of data sources and interpretation.

Frith, K., Anderson, E., Tseng, F., & Fong, E. (2012) performed a study on Nurse staffing is an important strategy to prevent medication errors in community hospitals. A study of 11 hospitals over a two-year period demonstrated a significant relationship between RNs in the skill mix and medication errors and falls. As the proportion of RNs increased, the medication errors decreased. The study found that for every 20% decrease in staffing below the staffing minimum, medication errors increased by 18%.

MATERIALS AND METHODS

A non-experimental comparative survey research design was used in the study. The study was conducted in selected urban and rural government hospitals of Madhya Pradesh wef August to September in 2017

Two urban and five rural hospitals were included in the study. In the study total numbers were selected from East, West, North and South zone.

TOOLS USED: Structured Interview Schedule was used. The tool consisted of four sections. Section I-Hospital profile, Section II-Professional qualification & Work experience of staff nurses, Section III-Nurse Patient's ratio in selected ward whereas Section VI-Adverse Patient Outcome consist of eight items.

RESULT AND DISCUSSION:

Section I - Hospital profile

- 1) **Types of hospital:-** In the present 2 (100%) District hospitals and 5(100%) Community Health Centre was selected for the study by stratified random sampling technique.
- 2) **Bed strength: -** The Bed strength of all 2(100%) Urban Hospitals was ≤ 100 where as all 5 (100%) Rural Hospitals bed strength was between 101 to 200.
- 3) **Last month's Bed occupancy** Regarding the bed occupancy 1(50%) each of the two Urban Hospitals Bed occupancy was 71-90% and $> 90\%$ respectively were as in the rural hospitals majority 03 (60%) hospital bed occupancy was $>90\%$ and 01 (20%) each of the hospital was 52-65% and 71-90% respectively. The findings indicate that the bed occupancy in one month of the rural hospital is more than the urban hospital
- 4) **Bed occupancy of last six months** Regarding the bed occupancy of last six months 1(50%) each of the two Urban Hospitals Bed occupancy was 71-90% and $> 90\%$

respectively were as in the rural hospitals majority 03 (60%) hospital bed occupancy was >90% and 01 (20%) each of the hospital was 52-65% and 71-90% respectively. The findings indicate that the bed occupancy of last one year of the rural hospital is more than the urban hospital.

- 5) **30% nurses reserve towards leave-** Regarding the 30% nurses reserve 1(50%) urban hospitals had reserve towards leave and 01(50%) in the urban hospital didn't have. Were as in the rural hospital 4 (80%) had reserve and 01(20%) didn't have reserve 30% towards leave. The findings indicate that the rural hospitals have better nurses reserve compared to the urban hospitals.

Section II- Professional qualification & Work experience of staff nurses

1. **Professional qualification of Staff Nurses** Majority of staff nurses 44 & 21 (55%- 50%) in urban and rural were GNM, number of B.Sc. (N) 34 & 16 (42% & 38%) in urban & rural area. Numbers of ANM are very less that is 02 & 05 (3% & 12%).

2. **Work experience of Staff Nurses** Majority of staff nurses have 1-5 year of working experience 39 & 18 (49% & 42%) in urban & rural area, staff nurses have 6-10 years of working experience 16 & 11 (20% & 26%) in urban & rural area, staff nurses have 11-15 years of working experience 15 & 22 (19% & 22%) in urban & rural area, staff nurses have less in number >15 years of working experience 10 & 04 1(2% & 10%) in urban & rural area.

Table I: Comparison of Nurse Patient Ratio in the hospitals

SN	Area	Urban (n=02)				Rural (n=05)			
		Yes		No		Yes		No	
		F	(%)	F	(%)	F	(%)	F	(%)
1	Medical ward	1	(50%)	1	(50%)	3	(60%)	2	(40%)
2	Surgical ward	2	(100%)	0	(00%)	4	(80%)	1	(20%)
3	Pediatric ward	2	(100%)	1	(00%)	4	(80%)	1	(20%)
4	Maternity ward	2	(100%)	1	(00%)	5	(100%)	0	(100%)
5	Casualty	1	(50%)	1	(50%)	3	(60%)	2	(40%)

- 1 In the medical ward & casualty 50% urban hospital follow norms & all the rural hospital follows Nurse Patient ratio norms.

- 2 In the surgical, pediatric & maternity wards both urban & rural hospitals follow Nurse Patient norms.

Table II: Comparison of Adverse Nursing Care Outcome

S.No.	Adverse Outcome incidents	Urban n=2		Rural n=5	
		Yes	No	Yes	No
1	Medication error	1 (50%)	1 (50%)	1 (20%)	4 (80%)
2	Bed sore	2 (100%)	0 (0%)	0 (0%)	5 (100%)
3	Patient fall	2 (100%)	0 (0%)	0 (0%)	5 (100%)
4	Needle stick injury	2 (100%)	0 (0%)	1 (20%)	4 (80%)
5	Hospital acquired infection	1 (50%)	1 (50%)	0 (0%)	5 (100%)
6	Discharge against medical advice	1 (50%)	1 (50%)	1 (20%)	4 (80%)
7	Spillage of blood	2 (100%)	0 (0%)	3 (60%)	2 (40%)
8	Spillage of body fluid	2 (100%)	0 (0%)	1 (20%)	4 (80%)
9	Verbal complaint against staff nurse	1 (50%)	1 (50%)	3 (60%)	2 (20%)
10	Written complaint against staff nurses	0 (0%)	2 (100%)	0 (0%)	5 (100%)
11	Reports of disease complications	1 (50%)	1 (50%)	1 (20%)	4 (80%)
12	Reports of death due to complication	2 (100%)	0 (0%)	1 (20%)	4 (80%)

In the Urban hospitals Majority 2 (100%) reported incidents Bed sore, patient fall, needle stick injury, spillage of blood, spillage of body fluid and deaths due to complications where as 1(50%) urban hospitals reported incidents of medication error, hospital acquired infection, discharge against medical advice, verbal complaint against staff nurses and reports of disease complications. 01(50%) urban hospital did not report incidents of medication error, hospital acquired infection, discharge against medical advice, verbal complaint against staff nurses and reports of disease complications.

Regarding the Rural hospitals majority 5(80%) did not report incidents of bed sore, patient fall, hospital acquired infection and written complaint against staff nurses. 4(80%) hospitals reported incidents of medication error, needle stick injury, discharge against medical advice, spillage of body fluid, reports of disease complications and reports of death due to complications where as 2(40%) hospitals reported incidents of spillage of blood and verbal complaint against nurses

Table: III Distribution of Patient satisfaction with Nursing Care according to ADVERSE NURSING CARE OUTCOME

Adverse nursing care outcome	Patient satisfaction with nursing care		N	Mean	Std. Deviation	T value	P value
	Good	Very Good					
Urban	2	0	2	3.4444	2.60342	-1.296	0.231
Rural	4	1	5	7.0000			

Table 3 shows that majority of patients were satisfied with nursing care, responding good.

Table: IV Distribution of overall Patient Satisfaction with Nursing Care

S.N O.	ITEMS	URBAN		RURAL	
		FAIR	GOOD	FAIR	GOOD
1	Getting Information Easily	80%	20%	30%	70%
2	Information Given by Nurses	80%	20%	10%	90%
3	Informing Family or Friends	80%	20%	10%	90%
4	Involving Family or Friends in Patient Care	100%	0%	0%	100%
5	Concerned and Care by Nurses	100%	0%	0%	100%
6	Consideration of your needs	80%	20%	30%	70%
7	Restful Atmosphere provided by Nurses	80%	20%	10%	90%
8	Privacy	80%	20%	20%	80%
9	Discharge Instruction	100%	0%	0%	100%
10	Overall Quality	100%		100%	

Majority 100% patients stated firstly Table 4: satisfied regarding involving family member, concern shown by nurses and discharge instruction record by them where as it was found to be good in rural area.

LIMITATIONS OF THE STUDY

- The study was conducted in urban and rural hospitals on selected aspects.
- The study sample size was small.

RECOMMENDATIONS

On the basis of the findings of the study following recommendations have been made for further study.

- A large sample size would make the result more generalized.
- A study can be conducted using another tool that determines the level of satisfaction of patient.
- Some intervention based study can be done to improve the quality of life of patients.

EXPECTED OUTCOMES

This research will enlighten the Nurse – Patient Ratio and its impact on patient outcome in selected Government hospitals of Madhya Pradesh. Having a descriptive research design will have the potential to find out the approaches which are helpful in maintaining and improving Nurse – Patient Ratio in government hospitals for prevention of adverse nursing care outcomes of Madhya Pradesh.

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