

# Activity Analysis of Nursing Care in a Teaching Hospital in Central Kerala.

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## ABSTRACT

**Background:** There is a growing awareness that the hospitals have not been able to fulfill their expected roles due to the reason that the work force in the hospital may not spend sufficient time for patient care activities. A study was conducted in Sree Narayana Institute of Medical Sciences wards to find out the effective time utilized for patient care activities by nursing staff and to suggest measures to improve quality of care in the hospital wards. Analysis of function was undertaken through work sampling and task analysis. It was observed that utilization of time for patient care activities was ranging from 73% to 88%. The attempt threw light on the strengths and weaknesses the existing system in terms of manpower utilization. **Methods:** 3 wards were randomly selected for the study (one medical, one surgical and one pediatric ward with 30, 30 and 15 beds respectively). The methodology adopted included interview with hospital administrator, nursing superintendent and staff supervisor responsible for the nursing staff. The key activities in patient care in the wards were identified on the basis of discussions with administrative and key programme personnel. Analysis of function was undertaken through work sampling and task analysis. **Results:** The extent of underutilization of time (Personal work + idling time + time utilized for other activities) varies from 12% for the trainee nurses to 27% for the head nurses. **Conclusion:** This attempt throws light into some inherent strengths and weaknesses within the hospital organization and management in terms of manpower utilization. One of the major gaps identified relates to the underutilization of working time. The delegation of administrative responsibility to duty nurse helps in reducing the administrative work load of head nurse. The findings reveal that as expected, down the hierarchy, the amount of time for administering drugs injection etc form the major works of the juniors when compared to seniors and the nursing expertise available is not fully utilized.

**Keywords:** Analysis; indicators; training.

## INTRODUCTION

There is a growing awareness that the hospitals have not been able to fulfill their expected roles due to various factors. One of the major reasons for this disturbing situation is that the work force in the hospital usually spends only about 50% of their time for patient care activities which has been pointed out in several studies (Rao, 1998). This has made health services researchers to learn more about how health workers spend their working time in the hospitals. Studies requiring such information range from simple evaluations to work sampling method and time and motion techniques (Finkler, 1993). Many different evaluation strategies have been employed in the attempt to determine the optimal assignment of duties and responsibilities to healthcare practitioners of different skills and training levels (Sittig, 1993). Two widely used techniques for collecting work activity information are work-sampling (activity analysis) and time-and-motion studies. Both techniques have strengths and weaknesses (Finkler, 1993).

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Presently there is a steady growth in the number of hospital attendance due to increasing demand from the community. Unless the manpower to match this increasing demand is provided, there is possibility of compromising on quality and quantum of service provided along with underutilization and 'mis' utilization of health man power. More over the problems in health manpower planning though appearing to be limited to supply and demand considerations, the methods adopted to fulfill this growing demand can have a bearing on the quality of health care due to maldistribution of and utilization of under qualified manpower (Rao, 1998). Workers are often utilized for jobs for which they are not adequately trained. The tendency that prevails even now is to produce those categories of health workers whose turnover could be easily accomplished without paying adequate attention to the quality of

their training (Naumanen and Liesivuori, 1992). As there is no consistent policy with respect to the health manpower deployment, the systems approach to health manpower planning did not receive due importance. There are several reports to point out the under utilization of the working time of personnel in the hospital wards (Reilly and Tony, 2009). With this point of view the present study has been taken up with the objectives finding out the effective time utilization of nursing staff in the wards and to suggest means for the effective utilization of manpower.

## MATERIALS AND METHODS

Place of study: Sree Narayana Institute of Medical Sciences, a tertiary level Medical College Hospital, Kochi, Kerala. After discussion with superintendents, 3 wards were randomly selected for the study (one medical, one surgical and one pediatric ward with 30, 30 and 15 beds respectively). A pilot study was conducted in one of the wards to finalize the formats and information required. The methodology adopted included interview with hospital administrator, nursing superintendent and staff supervisor responsible for the nursing staff. The key activities in patient care in the wards were identified on the basis of discussions with administrative and key programme personnel. The staff observed for the purpose of study were head nurses, staff nurses, trainee nurses (who joined the hospital for training after completing GNM course) and nursing students (final year general nursing). Analysis of function was undertaken through work sampling and task analysis. The activities carried out have been grouped into 1-11 as given below.

- 1) Administering drugs/injection/IV fluids/procedures/others related
- 2) Collection of samples for investigations
- 3) Carrying of samples for investigations and collecting the reports
- 4) Administrative/management (including indenting/procuring)
- 5) Recording/reporting (including prescriptions)
- 6) Accompanying the patient (with the patient and with the bystander)
- 7) Transferring the patient using wheel chair/trolley
- 8) Other ward work (attending phone calls, interacting with patients)
- 9) Personal work (including time for tea and for lunch)
- 10) Idling time and other activities such as chitchatting, reading magazines, newspaper etc
- 11) Other activity

The tasks performed by the Nursing staff engaged in patient care were observed for the purpose. The observers comprised of faculty of the Department of medicine. They were given practical training in the wards to collect data by the senior faculty of the Department. Observations were made at one minute interval during randomly selected one hour duration on randomly selected 7 days. A total of 9 hours of time (540 observations/minutes) was spent for observing the head nurses, 19 hours of time (1140 observations/minutes) for staff nurse, 8 hours of time for (480 observations/minutes) trainee nurse and 7 hours of time (420 observations/minutes) for student. The study was conducted during the shift from 7.30 am to 4.00 pm, this being the only period where all the different categories of nurses are on duty. The various activities performed by the individual worker were closely observed in order to study the time spent on each activity including the idle time if any and the time spent for personal work.

## RESULTS

The results are given in the table. The extent of underutilization of time (Personal work + idling time + time utilized for other activities) varies from 12% for the trainee nurses to 27% for the head nurses. In the case of head nurses; more than 19% of time is utilized for administrative purposes, 20% for recording and reporting and only 16% utilized for administering drugs, injections etc. Regarding staff nurses, 27% of the time utilized for recording and reporting, 22% for administering drugs, injection etc; and 15% for other ward work. In the case of trainee nurses, 74% of the time was utilized for activities like administering drugs, injection etc (36%), recording and reporting (28%) and other ward work (10%). It was also observed that the nursing students also got opportunity to administer drugs, injection etc (35%) of time and for recording and reporting (20% of time) under guidance of senior nurses.

## DISCUSSION & CONCLUSION

This attempt throws light into some inherent strengths and weaknesses within the hospital organization and management in terms of manpower utilization. One of the major gaps identified relates to the underutilization of working time. The delegation of administrative responsibility to duty nurse helps in reducing the administrative work load of head nurse. The findings reveal that as expected, down the hierarchy, the amount of time for administering drugs injection etc form the major works of the juniors when compared to seniors and the nursing expertise available is not fully utilized.

**Table 1: Proportion of time spent on various activities during duty hours by nurses (in %).**

Sl. No.	Activity	Head Nurse		Head Nurse		Trainee Nurse		Final year nursing students	
		Units	%	Units	%	Units	%	Units	%
1	Administering Drugs / injection / IV Fluids / Procedures / Others related	86	16	251	22	171	36	148	35
2	Collection of samples for investigations	4	1	21	2	3	1	5	1
3	Carrying of samples for investigations and collecting the reports	19	4	20	2	21	4	22	5
4	Administrative / management ( Including indenting / procuring)	104	19	65	6	13	3	3	1
5	Recording / Reporting (including prescriptions)	106	20	311	27	132	28	84	20
6	Accompanying the patient ( with the patient and with the bystander)	4	1	39	5	33	7	38	9
7	Transferring the patient using wheel chair / trolley	0	0	4	0	3	1	5	1
8	Other ward work (Attending phone calls, interacting with patients)	74	14	175	15	46	10	31	7
9	Personal work (Including time for tea &for lunch)	46	9	67	6	0	0	20	5
10	Idling time and other activities such as chitchatting, reading magazines, newspaper etc	46	9	112	10	35	7	33	8
11	Other activity	51	9	55	5	23	5	31	7
	Total	540	100	1140	100	480	100	420	100

1 unit = 1 minute

Nursing staff is often given duties like collecting reports, accompanying patients etc which can be done by lower category of workers. Another finding is the utilization of working time of nursing staff for unskilled activities (eg. Carrying blood samples to lab). These points to the need for judicious use of available competencies in strengthening the quality of nursing care, through meaningful reallocation of staff duties appropriate to their qualifications.

The work audit brings home the impelling need for streamlining activities to optimize the use of available manpower in the wards. The present study has brought home the need for clearer job specifications of each person working in the ward which would help to reduce duplication of work and staff development would be possible. Another point which deserves attention is the problem of "multiple lines of authority". It has been informed that at least some people in the ward have to take instructions from variety of superiors. Though, this phenomenon is unavoidable to some extent in the ward setting, there is need to have an appropriate line of authority well defined before-hand in order to ensure managerial efficiency. It may be pertinent to give a few practical suggestions based on direct observation and as an outcome of the discussion with the health personnel, which would help in proper utilization of manpower and enhancing the quality of patient care in the ward setting. Need based posting of staff at different wards may be considered so that where ever there is more admission / work, there will be more staff available on duty. At least 2 staff nurses have to be posted in the ward and at least one of them should be available at any point of time.

Posting of other categories of workers / supportive staff in adequate numbers need to be considered so that professional skills of staff nurses can be utilized for quality care. There is need for regular and surprise visits by superiors to check the quality of work in the ward. The findings of the present enquiry underscore the need for incorporating functional analysis of health care personnel as an essential component of the hospital administration.

## REFERENCES

1. Finkler S A, (1993), "A comparison of work sampling and time—motion techniques for studies in health services research", available at: [http://www.findarticles.com/p/article/mi\\_m4149/is\\_n5\\_v\\_28/ai\\_15444019](http://www.findarticles.com/p/article/mi_m4149/is_n5_v_28/ai_15444019) accessed 25 February 2010.
2. Naumanen P and Liesivuori J, (1992), Work activity analysis of Finnish occupational health professionals, Oxford University Press Publisher, Oxford.
3. Rao et al, (1998), " In service education for Hospital Personnel — need and importance", Journal of the -Indian Hospital Association, 35, 170-173.
4. Reilly P A and Tony, (2009) "How to get best value from HP

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