

QUALITY ASSURANCE IN CLINICAL NURSING PRACTICE

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ABSTRACT

Quality assurance is a judgment concerning the process of care, based on the extents to which care contributes to valued outcomes. For the last few years the concept of six sigma system DMAIC model has entered health care field for quality improvement. This is a pre experimental one group pre test post test only design. The study found effectiveness of bedside clinic on inculcation of six sigma model for quality improvement in patient care at a selected rural private hospital. Twelve staff nurses were selected by purposive sampling technique and administered bedside clinic after a practice questionnaire. In post test the mean and standard deviation was 15.54 ± 1.14 with the t value of 6.95 at $p < 0.05$. Observational check list showed 92% well performed the application of this model. Organization of bed side clinic for six sigma model DMAIC helped the nurses to understand quality improvement and its practicability in standardizing processes.

Keywords:

Quality assurance, Clinical Nursing Practice, Six Sigma System, DMAIC model, Quality Improvement, Patient Care, Bed Side Clinic

INTRODUCTION

Quality assurance in health care is often taken to be an innovative of late twentieth century but its gestation has a much longer history. Ellis and Whittington stated in their book Miss Nightingale notes on nursing in 1993, the benchmarks for the nursing care whose standard is really high; however, it remains achievable for many years. The same author brought up assurance programme in nursing. Similarly, in United Kingdom, the royal college of nursing established a project titled standard of care in 1965.

“Quality assurance is a judgment concerning the process of care, based on the extents to which that care contributes to valued outcomes” – Donabedian

Coyne C. Killien M defined quality assurance as a process for assessing patient care through establishing standards and executing mechanisms to achieve that standard.

“WHO defined quality, as making sure that the services provided by the hospital are the best possible in a given existing resources and current medical knowledge.

JUSTIFICATION

The complexity of the health care system has grown drastically and its quality depends on complex internal systems working smoothly and efficiently together. For the last few years the concept of six sigma has entered in health care system for the quality improvement.

Research has shown that adding the six sigma management model to the management of hospital service quality allows for an increase in the scientific nature of hospice care management and an increase in patient satisfaction.

PROBLEM STATEMENT

Effectiveness of bedside clinic on inculcation of six sigma model for quality improvement in patient care among staff nurses at a selected rural private hospital

OBJECTIVES

To assess the practice of six sigma model towards quality improvement in patient care among staff nurses

To organize bedside clinic on inculcation of six sigma model towards quality improvement in patient care among staff nurses

To evaluate the practice of six sigma model towards quality improvement in patient care among staff nurses

METHODOLOGY

Design: One group pre test post test only design (Table 1)

Setting: Private hospital rural setting.

Sample size: 12 staff nurses

Sampling technique: Purposive sampling

Table 1. Scoring key

| S. No | Scores | Interpretation |
|-------|--------|---------------------|
| 1 | 11-20 | Adequate practice |
| 2 | 1-10 | Inadequate practice |

Data Collection Tools:

1. Practice questionnaire on six sigma model towards quality assurance

2. Observational check list to assess their practice.
3. Intervention: Bedside clinic was done with case discussion cum demonstration method of patient care and asked the study participants to apply the six sigma model.

Data Collection Procedure

Day 1: Pre test with Practice questionnaire administered

Day 2-3: Bedside clinic was organized with case discussion cum demonstration method of patient care

Day 4-6: Inculcation of six sigma model on quality patient care by staff nurses

Day 7: Post test with same Practice questionnaire given

Observation check list to assess the performance of staff nurses was used

RESULTS

- This study found the study participants were all female, majority qualified with diploma, married with work experience less than 3 years.
- Among 12 study participants, 92% well performed the application of this model towards quality patient care.
- In post test the mean and standard deviation was 15.54 ± 1.14 with the t value of 6.95 at $p < 0.05$ which found the effectiveness of bedside clinic.

Regarding the quality assurance practice of staff nurses by six sigma model, ninety two percentage well performed and found the effectiveness of bedside clinic on its application (Table 2 and Table 3).

Table 2. Practice on six sigma model on quality patient care among staff nurses n=12

| S. No | Practice | Pre test | | Post test | |
|-------|---------------------|----------|----|-----------|----|
| | | f | % | f | % |
| 1 | Adequate practice | 2 | 10 | 10 | 90 |
| 2 | Inadequate practice | 10 | 90 | 2 | 10 |

Table 3. Inculcation of six sigma model on quality patient care among staff nurses (n=12)

| S. No | Performance | Pre test | | Post test | |
|-------|----------------------|----------|----|-----------|----|
| | | f | % | f | % |
| 1 | Well performed | 4 | 33 | 11 | 92 |
| 2 | Moderately performed | 5 | 42 | 1 | 8 |
| 3 | Poorly performed | 3 | 25 | - | - |

DISCUSSION

Application of DMAIC model will help us to understand about the quality improvement. The five phases in DMAIC model is shown in Figure 1. This helps the professionals involved in health care to follow the framework through visualization which improves round the clock quality care for the patients. In this study, define phase framed expected outcomes. Measure phase consisted of tools and techniques used in the ward. Analyze phase included data for

observation and assessment. Improve phase focused on clinical teaching method. Control phase emphasized on maintaining quality standards in nursing care.

A study was carried out in a private hospital in Dublin with the goal to reduce average wait time for patients referred from the emergency department to trauma orthopedics among 382 staff nurses. A pre and post intervention design was employed to evaluate the effectiveness of Define, Measure, Analyse, Improve and Control (DMAIC) Lean sigma framework. Results conveyed that the total wait time of patients for review reduced by 34%, a 51% reduction in the process sites required for registering and an increase in orthopedic consultant clinic capacity of 22%. (Hannah Johnson, 2021).

A similar study focused on optimizing nursing time in a day care unit through quality improvement using Lean Six Sigma methodology among nurses. It was a prospective interventional study using pre- and post-evaluation applied Lean Six Sigma model to improve the efficiency of a private hospital day care unit. Main outcome measures were patient turn around times, nursing time, nurse-patient ration, nurse and patient survey. It generated a positive impact on optimizing nursing time and improving personalized patient care and staff satisfaction. Results highlighted significant improvements in service performance and patient and staff satisfaction. Thus this study brings out the Six Sigma tools and techniques provide evidence-based approaches that support QI in practice. (Carmel Davies, Caroline Lyons, Regina Whyte, 2019)

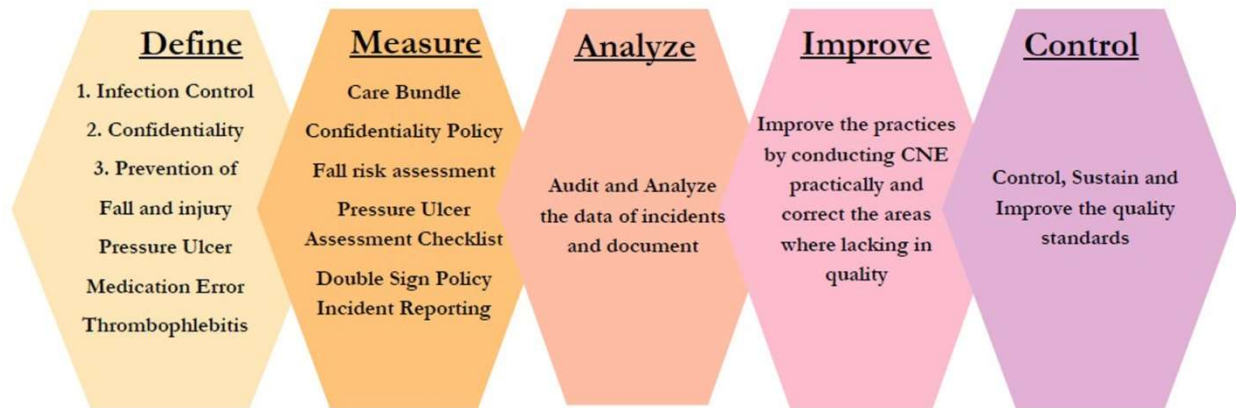


Fig. 1 Five phases of DMAIC model

CONCLUSION

This study concludes that bedside clinic can be an effective method of clinical teaching on quality assurance programmes for staff nurses. Generalization is limited to small sample size and lesser duration. It recommends clinical settings to encourage incident review procedures, hospital information system, patient satisfaction surveys, nursing research and evidence based practice. Future studies can focus on knowledge, attitude, practice and behavior regarding application of quality assurance models. Application of this model helps us to understand quality improvement and its practicability into the health care settings in standardizing processes.

CONFLICT OF INTEREST

Authors declare no conflict of interest

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