

A comparative study to assess the knowledge and attitude regarding Six-Sigma DMAIC methodology among government and private hospitals of Pune city, India

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Abstract

Health care organization aims to provide quality care to patient with good patient satisfaction. Many private hospitals have adopted many strategies to increase the patient satisfaction level. However, government hospitals are still need to look forward towards better patient care. Six sigma is one of the latest approach, which has not yet accepted by the health care industry fully. This paper aims to assess the knowledge and attitude regarding Six-Sigma DMAIC methodology among government and private hospitals. Sixty-two samples of nurse administrators ward in-charge, nurse educators were taken by purposive sampling. Pre-experimental approach was used to assess the level of knowledge by self-administer structured questionnaires and five point Likert scale was used to assess the attitude regarding Six-sigma DMAIC methodology. Results revealed that, Most of the nurse administrators from Government hospitals had average knowledge level (Score 11-20) i.e. 28 %, 12 % were having good knowledge score (Score 21-30) but in private hospital majority i.e. 37 % had good knowledge score (Score 21-30), 13% had average knowledge level (Score 11-20) and only 12 % had poor knowledge score (Score 0-10) respectively. Similarly, as far as attitude was concern, Most of the nurse administrators from Government hospitals had poor attitude score (Score 0-20) i.e. 55 %, only 4 % were having good attitude score (Score 41-60). In private hospital majority i.e. 40 % had poor attitude score (Score 0-20), 8 % had good attitude towards Six-sigma DMAIC approach (Score 41-60) and only 14 % had average attitude score (Score 21-40) respectively and there was very week between knowledge and attitude score of private and government hospitals.

Key words: *Knowledge, Attitude, Six-sigma, DMAIC*

INTRODUCTION

Health care industry is growing very fast. New technologies and innovations are touching the sky. In the current scenario of COVID-19, many countries have adopted various methods to save the supply chains of hospital resources like PPE, sanitizers etc. but whole world was in dearth of resources as patient input is more than the output ratio¹. Six-sigma is one of the tool in health care management, which focus on preventing errors in any system and helps in saving the resources by

minimizing the resource wastage. If the organization choose Six-sigma DMAIC approach at early phases, it will results in better productivity and outcomes in term of patient satisfaction as well in recourse management². Country like India the concept of Six-sigma is not very known³. Many corporate health care industries in all over the world have adopted DMAIC as a part of management tool and proven to be very effective in quality management process. Asian countries are still in dilemma to adopt such kind of process, but in India, many private sectors especially in health care sectors and IT have implemented the DMAIC approach and make it a part of their daily activities⁴. Many health care provider i.e. nurses; physicians etc. are not much familiar with the DMAIC methodology. Health care providers need to understand this concept and new pedagogies need to implement to understand the importance of Six-sigma DMAIC approach.

Research statement

A comparative study to assess the knowledge and practice regarding Six-Sigma DMAIC methodology among government and private hospitals of Pune city

Objectives

1. To assess the knowledge regarding Six Sigma DMAIC of private and government health-care organization.
2. To assess the attitude regarding Six Sigma DMAIC of private and government health-care organization.
3. To compare the knowledge and attitude regarding Six Sigma DMAIC of private and government health-care organization.

Methodology

1. **Research approach:** Quantitative approach
2. **Research design:** One shot case study
3. **Sampling technique:** Convenience sampling
4. **Sample size:** 62 (calculated by power analysis)
5. **Sampling criteria:**
 - **Inclusive criteria**
 - Those who are involved in hospital administrative work, ward in charges, Nursing superintendents, Nurse educators, Hospital Management
 - Those who are available at the time of data collection
 - Those who can understand English.

• **Exclusive criteria**

- Who have already done Six Sigma certification
- Who have attended any seminar or workshop on Six sigma

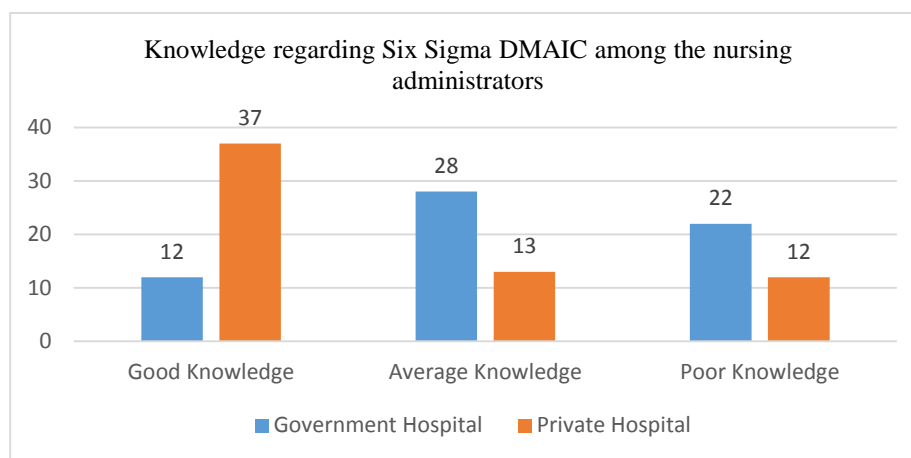
Data collection procedure: The data collection is divided in 3 sections

- **Section I:** Sociodemographic data
- **Section II:** Knowledge regarding Six Sigma DMAIC among the nursing administrators
- **Section III:** Attitude regarding Six Sigma DMAIC among the nursing administrators

Results

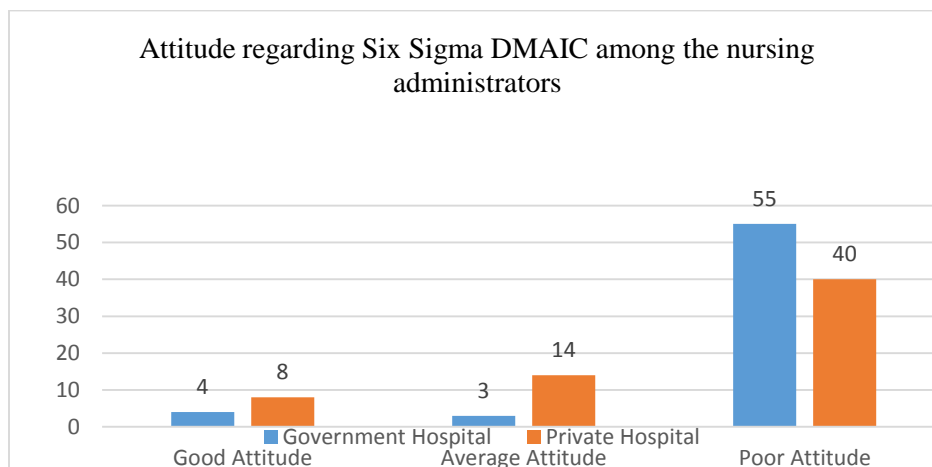
SECTION I

Fig 1,



Knowledge regarding Six Sigma DMAIC among the nursing administrators

Figure 1 Shows the level of Knowledge regarding Six Sigma DMAIC among the nursing administrators. Most of the nurse administrators from Government hospitals had average knowledge level (Score 11-20) i.e. 28 %, 12 % were having good knowledge score (Score 21-30) but in private hospital majority i.e. 37 % had good knowledge score (Score 21-30), 13% had average knowledge level (Score 11-20) and only 12 % had poor knowledge score (Score 0-10)



SECTION II

Fig 2, Attitude regarding Six Sigma DMAIC among the nursing administrators

Figure 2 Shows the level of attitude regarding Six Sigma DMAIC among the nursing administrators. Most of the nurse administrators from Government hospitals had poor attitude score (Score 0-20) i.e. 55 %, only 4 % were having good attitude score (Score 41-60). In private hospital majority i.e. 40 % had poor attitude score (Score 0-20), 8 % had good attitude towards Six-sigma DMAIC approach (Score 41-60) and only 14 % had average attitude score (Score 21-40) respectively.

Section III (A)

Correlation between Government and Private hospital based on knowledge score

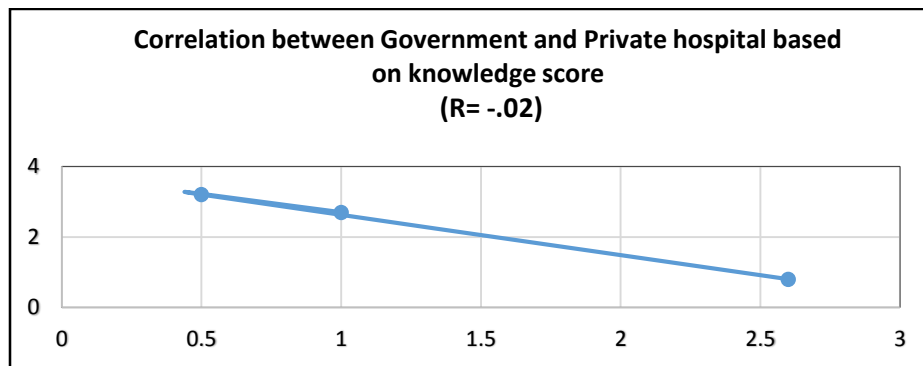


Fig 3 Correlation between Government and Private hospital based on knowledge score

Fig 3 depicts the Correlation between Government and Private hospital based on knowledge score. The value of product moment correlation is $-.02$, which is negative. This means the correlation between government and private hospital based on their knowledge score was negative. Therefore, there was no correlation in knowledge level of government and private hospital.

Section III (B)

Correlation between Government and Private hospital based on attitude score

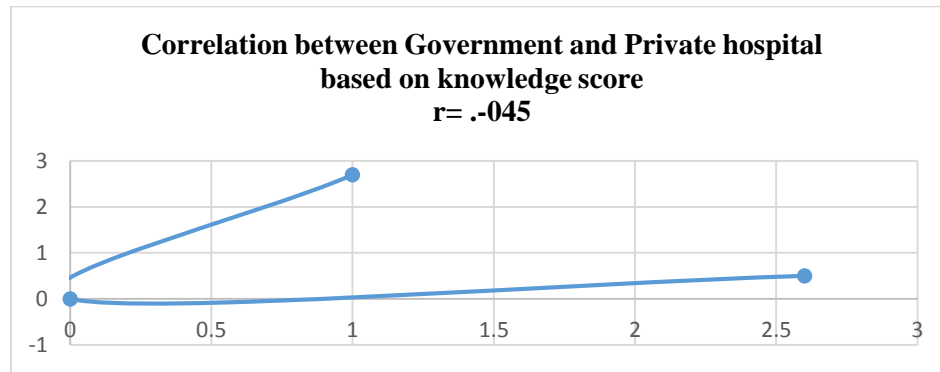


Fig 4 Correlation between Government and Private hospital based on attitude score

Fig 4 depicts the Correlation between Government and Private hospital based on attitude score. The value of product moment correlation is $-.045$, which is weak negative. This means the correlation between government and private hospital based on their attitude score was negative. However, there was weak correlation in attitude level of government and private hospital.

Discussion

Similar results were shown by study conducted by **Critchley (2015)**, among the staff nurses of corporate hospitals in USA. Results revealed that the knowledge and attitude of staff nurses regarding Six sigma was higher. (**Torjesen, 2014**), revealed the similar results about the knowledge and practice adopted by missionary hospitals of California. The knowledge and attitude of health care providers were from average to good but the practice score was less as compare to knowledge.

Ethical clearance

Ethical clearance was obtained from the Institutional Ethical Committee of Symbiosis College of Nursing, Pune, and Maharashtra on 8th Aug 2020.

Conflict of interest: There was no conflict of interest in this study.

Funding: Self

Reference

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