
AN APPLICATION OF SIX SIGMA FOR PROFESSIONAL SECURITY AND FORTIFICATION AMONG NURSES.

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ABSTRACT:

Background and Aims: An Implementation of Professional Security and Fortification using Six Sigma among Nurses. Six Sigma at hospitals is a methodically used background that advances by OHS among Nurses. To understand Professional Security and Fortification using Six Sigma among Healthcare Nurses. To describe Professional Security and Fortification using Six Sigma among Healthcare Nurses. To analyze the implementation of Professional Security and Fortification using Six Sigma among Healthcare Nurses. To factor the implementation of Professional Security and Fortification using Six Sigma among Healthcare Nurses. **Methods and Materials:** An approach of research known as quantitative research is applied, and a sample of 151 people from five private hospitals located in various areas of Tamil Nadu is used. The information was gathered through the use of a self-administered questionnaire starting in May 2024 and continuing through July 2024. The sampling method used was convenience sampling. To determine the relationship between nurses' demographics and perceived quality upgrading, a one-way analysis of variance was performed using SPSS software. **Results:** Nurses have high positive thoughts towards the Six Sigma for OHS among nurses scores for personal details. **Conclusion:** This study is an understanding the Professional Security and Fortification using Six Sigma by Healthcare Nurses. Nurses have high positive thoughts towards the Six Sigma for Professional Security and Fortification among nurses scores for personal details.

KEYWORDS: Six Sigma, Healthcare Nurses, SPSS, Factor Analysis.

1. INTRODUCTION:

1.1. DEFINITION OF SIG SIGMA:

Six sigma -“a measure of quality that strives for perfection” and “A quality improvement methodology that applies statistics to measure and reduce process variation.”

1.2. HOW AND WHEN TO USE IT:

- Identify your target audience and services.
- Inspect customer surveys, concession reports, and other data.
- Prioritize issues based on severity, frequency, and likelihood.
- Identify internal mechanisms causing the most discontent and discomfort.
- Determine the cause and location of faults.
- Develop effective solutions to address these issues.
- Establish effective metrics.
- Phases of Six Sigma.

1.3. THERE ARE SIX PHASES OF SIX SIGMA:

- Create organization commitment.
- Occupational diagnostics
- Improve the organization setup.
- Professional development documentation and metrics
- Project selection
- Deployment-training, project execution and review
- Training centers

1.4. STEPS IN SIX SIGMA METHODOLOGY:

Define → Measure → Analysis → Improve → Control.

I. Define:

Define the problem, clarify and relate it to the people.

1. Measure (Practical Problem):

Ensure your target metric is measured well.

2. Analysis (Statistical Problem):

Look for root causes and generate a prioritized listing of them.

3. Improve (Statistical Solution):

Determine and confirm the optimal solution.

4. Control (Practical Solution):

Ensure the issue does not resurface< keep going.

1.5. MOST POPULAR OUTCOMES FROM SIX SIGMA:

- Increased patient satisfaction and care.
- Fewer complaints.
- Increased prescription accuracy.
- Reduced waiting time and variation.
- Safer and more efficient emergency services.
- Fewer medical errors defects.
- Increased physician satisfaction.
- Reduced cost and savings.
- Better financial and higher annual savings.
- Less rework waste.

1.6. PROFESSIONAL SECURITY AND FORTIFICATION:

The discipline of Professional Security and Fortification, sometimes known as OHS, is a multi-disciplinary organization that focuses on the safety, health, and welfare of individuals while they are at work.

A company's efforts to prevent accidents and dangers in all working environments are mentioned to as occupational well-being and protection, or OHS for short. OHS procedures protect workers against accidents, injuries, and toxic substances. Every facet of a worker's physical, mental, and social health and safety in the workplace is addressed by Professional Security and Fortification, also known as OHS.

Hospital personnel are immediately exposed to several occupational dangers that could endanger their health, safety, and even their lives and dependents, making OHS in this core industry highly dubious. Globally known, this complex issue has persisted for years without a solution. Medical staff are unaware of OHS rules to prevent additional harm.

Globally, 340 million work accidents and 160 million occupational disorders occur annually. Growing hospital services and facilities should stress the requirement for internationally agreed safe working methods and most critically, safety awareness among hospital professionals to follow stringent work conduct and ethos.

1.7. KEYS TO IMPLEMENTING SIX SIGMA IN HEALTHCARE:

- Gain the support of the leadership, and make sure you don't scrimp on planning.
- Determine the opportunities that exist and establish the value proposition.
- Ensure that the strategic alignment is in line with the objectives and incentives of the organization.
- Create a business case, choose who will lead the team, and devise a strategy for the deployment of the system.
- The establishment of measurements and the evaluation of performance.
- The management of change through regular communication efforts.
- In order to maintain continuous progress, it is necessary to monitor the results.

1.8. SIX SIGMA SCOPE IN HOSPITAL SERVICES:

- Medical Operations +Administrative Operations.
- Bed related Inpatient Functions
- Out patients related Functions
- Diagnostics and Treatment Functions
- Administrative Functions
- Research and Teaching Functions
- Supply Chain

2. REVIEW OF LITRATURE:

According to Daniel et al. 2020, throughout the course of the past two decades, there has been a growing interest in the healthcare sector in the methodologies that are utilized in the industrial sector of process re-organization in order to improve the efficiency of individuals and organizations. Over the course of the last several decades, Lean Six Sigma (LSS) in the health care industry has garnered a growing amount of interest from researchers as well as practitioners. This is due to the fact that LSS plays an essential part in efforts aimed at improving quality and reducing costs. Globally, improvements have been made to the efficiency of health care; but, expenses continue to climb at an alarming rate, and quality issues continue to exist. In addition, patients continue to face significant inefficiencies when receiving care. According to Giuliano et al. 2021, patients in today's society have a difficult time having their opinions heard. Some of the most pressing concerns include increases in accessibility and quality of care, as well as reductions in wait times and lead times. According to Mohammed Ali et al. 2023, the Lean Six Sigma (LSS) methodology is a well-

adopted quality- and process-improvement strategy that is employed in applied engineering. This methodology is utilized in the production and manufacturing of household items, HVAC, and automotive products. According to Angels et al. 2020, the Six Sigma management technique strives to improve the efficiency of processes, decrease the number of defects, and ultimately increase both quality and customer happiness. According to Angels et al. 2020, Six Sigma was effectively implemented in a variety of other industrial sectors, and then after that, it was also used in the service industry. The health care industry in India is confronted with a multitude of challenges, including the enhancement of service quality, the reduction of costs as a result of the growing expectations of customers, and the preservation of its competitive advantage over the long term (Vaishnavi et al., 2020). According to Vaishnavi et al. 2020, Lean Six Sigma (LSS) is a strategy that is widely accepted and utilized for the purpose of continuously improving quality-related issues in domains such as manufacturing and service sector. This is accomplished by integrating lean thinking (LT) and Six Sigma respectively. When it comes to health care organizations, LSS can be of assistance in achieving excellent service, improvement in the process, and elimination of waste all at the same time. This is necessary in order to satisfy the current demands of customers and the competitors. According to Vaishnavi et al. 2020, the implementation of LSS makes it possible for health care organizations to improve the level of satisfaction experienced by their patients, which is a very important role for these organizations. When compared to employees who operate in a single place, individuals who engage in international work are subjected to greater risks and are subjected to unique demands and pressures. As a result, they are more susceptible to dangers, which may have potentially detrimental effects on their health and safety. The World Health Organization (WHO) use the following definition of a healthy workplace: "one in which workers and managers collaborate to use a continual improvement process to protect and promote the health, safety, and well-being of all workers and the sustainability of the workplace..." The year 2020, Helen et al. When it comes to providing world-class quality care, timely delivery, and enhanced patient happiness at the lowest possible cost in order to maximize profit, health care organizations all over the world have been confronted with considerable problems and issues during the past several years. Lean six sigma (LSS) is a methodology that is implemented by health care businesses in order to achieve increased performance in terms of cost while also improving quality and productivity. On the other hand, the manner in which it is executed varies from organization to organization. (Samanta and others, 2022). According to Marta et al. 2020, Professional Security and Fortification management system is a component of an organization's overall

management system. This system encompasses the organizational structure, planning, accountability, policies, processes, and resources that are required to develop, implement, review, and maintain Professional Security and Fortification policy. The Covid-19 pandemic is having a significant impact on the health sector in Indonesia. Before collecting the test findings, hospitals are required to take a patient who is suspected of having Covid-19 to the inpatient care for a period of up to ten days. If the patient is really infected, they should receive additional treatment approximately twenty-three days later before eventually being discharged from the hospital. Hospitals were already dealing with unbearable variability even before the epidemic struck because there was no consistency in the way that health care was delivered. (Heri Iswanto et al. 2021) Variability has the potential to have a detrimental impact on the costs of businesses. For the past few decades, there has been a substantial increase in the field of Professional Security and Fortification. Office of Health and Safety (OHS) works with a diverse range of stakeholders and concerns due to its status as a multifaceted and interdisciplinary field of research, policy, and practice. Beyond the conventional focus on physical harm, it now increasingly incorporates emotional and psychological health, as well as the consequences of safety for individual productivity and company success. This is a significant departure from the previous approach. Professional Security and Fortification research encompasses a wide range of disciplines, including epidemiology, industrial hygiene, toxicology, occupational medicine, and ergonomics. Additionally, it spans general management, organization studies, and human resource management and employment relations (HRM&ER), with the latter topic acting as the primary focus (Di Fan et al. 2020). The problem of hazardous occupational exposure, which can result in work-related disabilities, illnesses, and injuries, has been recognized as one of the issues that threatens health and safety in the workplace. This issue has been a focus of attention for a considerable amount of time by this point. According to Bahare et al. 2021, occupational hazards are linked to both evident and latent perceived dangers that have the potential to cause persons to experience severe psychological stress while they are at work, which can gradually diminish their well-being and have an impact on their health state. Total Quality Management (TQM), Zero Defects, Quality Circles, Continuous Quality Improvement (CQI), Continuous Process Improvement, and a great number of additional projects and programs have emerged as a result of the evolution of quality control. Despite the fact that each one may be technically distinct from the others, the majority of them entailed discovering flaws as they happened through inspection and quality control, as well as modifying processes in order to maintain the improvements (James et al. 2009).

3. RESEARCH METHODOLOGY:

Due to the fact that the purpose of research is to discover principles or processes for social studies, the conclusion of the research should include these. Collecting and tabulating facts is not research, despite the fact that it may serve as a preliminary step to study. To understand the Professional Security and Fortification using Six Sigma among Healthcare Nurses. To describe the Professional Security and Fortification using Six Sigma among Healthcare Nurses. To analysis the implementation of Professional Security and Fortification using Six Sigma among Healthcare Nurses. To factor the implementation of Professional Security and Fortification using Six Sigma among Healthcare Nurses. It is a quantitative research types with descriptive research design. The data were used to collected particulars and real survey that regarded as an existing manifestation. A structural questionnaire used to collect the data was conveyed in employees of nurses for five private healthcare in selected district at Tamil Nadu. A total of 151 respondents were chosen from in employees of nurses for five private healthcare in selected district at Tamil Nadu. The present study charity suitable by primary and secondary data to manage its objective. 151 data were collected in in employees of nurses for five private healthcare in selected district at Tamil Nadu. The following secondary data sources are included: books, journals, newspapers, the internet, and other sources. By utilizing these sources, researchers were able to build primary data gathering questionnaires. Using the statistical method known as purposeful sampling, 151 data were collected in employees of nurses for five private healthcare in selected district at Tamil Nadu. Furthermore, the researcher gathered questionnaire information from employees of nurses for five private healthcare in selected district at Tamil Nadu. The methods applied in this study include descriptive analysis and factor analysis, and data was obtained from nurse's employees using structured questionnaires with 5 constructions, including 10 demographic variables with 30 items set on a five-point Likert scale.

3.1. HYPOTHESIS:

H0- Six Sigma for Professional Security and Fortification towards the Awareness of Six Sigma among Nurses.

H1- Six Sigma for Professional Security and Fortification towards the Safety Practices among Nurses.

H2- Six Sigma for Professional Security and Fortification towards the Six Sigma in OHS Implementation among Nurses.

H3- Six Sigma for Professional Security and Fortification towards the Barriers and Opportunities among Nurses.

H4- Six Sigma for Professional Security and Fortification towards the Use of Six Sigma in Safety among Nurses.

4. TOOLS USED FOR ANALYSIS:

4.1. DESCRIPTIVE ANALYSIS:

Characterizing and describing the key characteristics of a dataset is the purpose of descriptive statistical analysis. A succinct overview of the data is provided, which enables researchers to comprehend the characteristics of the data without making any assumptions about the population that is being studied. Before moving on to more in-depth studies, descriptive statistical analysis is typically the first phase in the data analysis process. This type of research offers an initial comprehension of the characteristics of the dataset. The ability to recognize outliers, comprehend the distribution of data, and make educated decisions regarding future studies or interpretations is afforded to researchers by this data.

Table -1 shows the percentage value and frequency value for personal factors of hospital nurses. The lower value in age below 25 frequency value are 75 and the percentage is 49.7 % and the higher value in age from above 45 frequency value is 12 and percentage value is 7.9 %. The highest value in marital status is Married of frequency value are 78 and the percentage is 51.7 % and the lowest value in marital status is unmarried of frequency value is 73 and percentage value is 48.3%. The lower value in gender is male of frequency value are 11 and the percentage is 7.3 % and the higher value in gender is female of frequency value is 140 and percentage value is 92.7%. The highest value in educational qualification in Undergraduates of frequency value are 62 and the percentage is 41.1% and the lowest value in in educational qualification in Postgraduates of frequency value is 8 and percentage value is 5.3%. The highest value in Experience from below 1yr of frequency value are 49 and the percentage is 32.5 % and the lowest value in in Experience from above 10yrs of frequency value is 29 and percentage value is 19.2%. The highest value in an income is below 15K of frequency value are 116 and the percentage is 76.8 % and the lowest value in in an income is 45K-60K of frequency value is 3 and percentage value is 2%.

Table -1 Descriptive Analysis.

VARIABLES	FREQ	PER %	MEAN (X)	SD
Age			1.75	.918
Below 25	75	49.7		

(26-35)	51	33.8		
(36-45)	13	8.6		
Above 45.	12	7.9		
Gender			1.93	.261
Male	11	7.3		
Female	140	92.7		
Marital Status			1.52	.501
Single	73	48.3		
Married	78	51.7		
Educational Qualification			2.46	.690
Certificate	9	6.0		
Diploma	72	47.7		
UG	62	41.1		
PG	8	5.3		
Experience			2.26	1.110
Below 1yr	49	32.5		
2-5yrs	43	28.5		
5-10yrs	30	19.9		
Above 10yrs	29	19.2		
Income (Salary) / PA			1.42	.912
Bel 4L	116	76.8		
4.1L-8L	17	11.3		
8.1L-12L	11	7.3		
12.1L-16L	3	2.0		
Above 16L.	4	2.6		

Table 2 Private hospital nurses' selected Tamil Nadu areas use Six Sigma for Professional Security and Fortification. “Reduced stress and burnout areas of OHS have improved since implementing Six Sigma.” was rated highest (rank1) among Professional Security and Fortification using Six Sigma statements ($m=2.42$, $SD=1.079$), while “Pareto Analysis is Six Sigma tools have been used to improve workplace safety in my workplace.” was rated lowest (rank 30).

TABLE 2:

Descriptive Statistics			
	Rank	Mean	SD
28. Reduced stress and burnout areas of OHS have improved since implementing Six Sigma.	1	2.42	1.079
23. In my organization implemented Six Sigma methodologies to improve OHS practices	2	2.35	.981
26. Safety data and incidents tracked and monitored very well in my organization	3	2.35	1.034
22. Better communication about safety initiatives additional support would I need to effectively implement Six Sigma for OHS improvement.	4	2.34	.951

13. Six Sigma tools have been used to improve workplace safety in my hospital	5	2.33	.936
24. Six Sigma is used in my organization Define-Measure-Analyze-Improve-Control (DMAIC) process tools are applied to OHS	6	2.32	1.017
20. Access to better safety equipment additional support would I need to effectively implement Six Sigma for OHS improvement.	7	2.31	1.059
18. Lack of awareness or training are the primary barriers to improving Professional Security and Fortification in my hospital.	8	2.30	.937
27. Improved compliance with safety protocols of the following areas of OHS have improved since implementing Six Sigma.	9	2.30	1.038
1. I familiar in Six Sigma methodology.	10	2.29	1.049
15. I noticed any improvements in workplace safety since the implementation of Six Sigma-related OHS initiatives	11	2.27	.916
17. Insufficient staff or resources are the primary barriers to improving Professional Security and Fortification in my hospital.	12	2.27	.916
3. I believe that Six Sigma methodology could be beneficial in improving Professional Security and Fortification in my workplace.	13	2.25	1.041
2. I participated in any Six Sigma projects or initiatives within my workplace.	14	2.23	.927
14. I involved in the hospital's safety improvement initiatives.	15	2.23	.990
19. More training on Six Sigma principles additional support would I need to effectively implement Six Sigma for OHS improvement.	16	2.22	.937
7. I practices to the level of compliance with safety protocols in my workplace regularly.	17	2.21	.954
25. I believe Six Sigma has been in improving OHS practices in your workplace.	18	2.21	.838
5. I rate the very high effective of my workplace's Professional Security and Fortification practices.	19	2.20	.917
16. Lack of time to focus on safety initiatives are the primary barriers to improving Professional Security and Fortification in my hospital.	20	2.17	1.048
4. In my organization have protocols or policies in place to address these safety risks.	21	2.16	.865
21. Increased involvement of leadership additional support would I need to effectively implement Six Sigma for OHS improvement.	22	2.15	.962
29. Reduced workplace injuries (e.g., falls, needle-stick injuries) areas of OHS have improved since implementing Six Sigma.	23	2.15	.919
30. Increased staff awareness and participation in safety initiatives areas of OHS have improved since implementing Six Sigma.	24	2.15	.839
6. I participate in Professional Security and Fortification training regularly.	25	2.09	.975
9. Root Cause Analysis is Six Sigma tools have been used to improve workplace safety in my workplace.	26	2.09	.919
8. I feel there is adequate data collection on safety incidents (e.g., injury reports, near misses) in my workplace.	27	2.07	.924
11. Control Charts is Six Sigma tools have been used to improve workplace safety in my workplace.	28	2.02	.868
12. Process Mapping is Six Sigma tools have been used to improve workplace safety in my workplace.	29	2.01	.920
10. Pareto Analysis is Six Sigma tools have been used to improve workplace safety in my workplace.	30	1.99	.956

4.2. FACTOR ANALYSIS:

KMO, which stands for Kasier, Meyer, and Olkin, evaluated the sampling. The term "adequacy" refers to a metric that reflects the degree to which the value distribution is suitable for carrying out FA. An exceptional score is one that is greater than 0.9, a commendable score is greater than 0.8, a satisfactory score is greater than 0.7, a poor score is greater than 0.6, a terrible score is greater than 0.5, and a terrible score is 0.5. In the presence of an identity matrix, FA would be rendered completely useless. Due to the fact that they do not constitute an identity matrix, the data are considered to be multivariate normal and are eligible for FA when the significance threshold is set at 0.05. **Table 3** This demonstrates that the data had a value sampling adequacy of 0.883, which is regarded to be the level of average. The Bartlett's sphericity test is used to determine whether or not a collection of distributions exhibits multivariate normality. A further function of this component is to determine whether or not the correlation matrix utilized by the FA is an identity matrix. In the presence of an identity matrix, FA would be rendered completely useless. The fact that data with a significance level of 0.05 do not form an identity matrix, as stated by George and Mallery (2003), indicates that the data are multivariate, consistently distributed, and appropriate for FA. A significance level of 0.000 was assigned to the outcomes of the study, which suggests that FA may make use of the information gained.

TABLE 3:

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.883
Bartlett's Test of Sphericity	Approx. Chi-Square	2710.805
	Df	435
	Sig.	.000

Table 4 shows: Principal Component Analysis (PCA) with Varimax Rotation was used to analyze the first ten features, and the results showed that nine of the characteristics had Eigen values of 1. It was determined that these nine parameters were responsible for 62.698 percent of the overall variation.

TABLE 4:

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.000	100.000	100.000	1.000	100.000	100.000	1.000	100.000	100.000
2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

1	11.13 1	37.104	37.104	11.13 1	37.104	37.104	7.31 6	24.388	24.388
2	3.825	12.749	49.853	3.825	12.749	49.853	5.99 7	19.989	44.377
3	1.451	4.835	54.688	1.451	4.835	54.688	2.46 6	8.218	52.595
4	1.212	4.041	58.729	1.212	4.041	58.729	1.69 4	5.648	58.243
5	1.191	3.969	62.698	1.191	3.969	62.698	1.33 7	4.455	62.698
6	.907	3.023	65.721						
7	.854	2.847	68.569						
8	.791	2.638	71.206						
9	.724	2.414	73.620						
10	.694	2.312	75.933						
11	.670	2.234	78.167						
12	.586	1.954	80.121						
13	.564	1.880	82.000						
14	.558	1.861	83.861						
15	.505	1.684	85.546						
16	.478	1.592	87.138						
17	.457	1.524	88.662						
18	.441	1.470	90.132						
19	.380	1.267	91.399						
20	.373	1.242	92.640						
21	.353	1.177	93.818						
22	.311	1.036	94.854						
23	.263	.878	95.732						
24	.245	.818	96.549						
25	.226	.753	97.302						
26	.217	.723	98.026						
27	.184	.615	98.640						
28	.181	.605	99.245						
29	.121	.404	99.649						
30	.105	.351	100.000						

Extraction Method: Principal Component Analysis.

Table 5 the results of the FA are displayed here. 0.784 to 0.524 was the range of the factor loadings that were found. There is a correlation between the number of qualities that are reflected or quantified by a test and the factor loading of that test. As an example, the feature that has the largest loading is the one that determines the names of each set of traits. For example, risk-taking is included in group I. In addition, in the inquiry that is currently being conducted, an interpretation of characteristics was carried out using components that had significant loadings of 0.50 or higher.

TABLE 5:

Rotated Component Matrix	Component				
	1	2	3	4	5
24. Six Sigma is used in my organization Define-Measure-Analyze-Improve-Control (DMAIC) process tools are applied to OHS	.784				
22. Better communication about safety initiatives additional support would I need to effectively implement Six Sigma for OHS improvement.	.777				
27. Improved compliance with safety protocols of the following areas of OHS have improved since implementing Six Sigma.	.759				
23. In my organization implemented Six Sigma methodologies to improve OHS practices	.744				
28. Reduced stress and burnout areas of OHS have improved since implementing Six Sigma.	.739				
16. Lack of time to focus on safety initiatives are the primary barriers to improving Professional Security and Fortification in my hospital.	.739				
21. Increased involvement of leadership additional support would I need to effectively implement Six Sigma for OHS improvement.	.730				
26. Safety data and incidents tracked and monitored very well in my organization	.724				
20. Access to better safety equipment additional support would I need to effectively implement Six Sigma for OHS improvement.	.715				
19. More training on Six Sigma principles additional support would I need to effectively implement Six Sigma for OHS improvement.	.681				
25. I believe Six Sigma has been in improving OHS practices in your workplace.	.675				
17. Insufficient staff or resources are the primary barriers to improving Professional Security and Fortification in my hospital.	.656				
13. Six Sigma tools have been used to improve workplace safety in my hospital	.526	.524			
10. Pareto Analysis is Six Sigma tools have been used to improve workplace safety in my workplace.		.717			
8. I feel there is adequate data collection on safety incidents (e.g., injury reports, near misses) in my workplace.		.708			
5. I rate the very high effective of my workplace's Professional Security and Fortification practices.		.707			
4. In my organization have protocols or policies in place to address these safety risks.		.706			
6. I participate in Professional Security and Fortification training regularly.		.685			
3. I believe that Six Sigma methodology could be beneficial in improving Professional Security and Fortification in my workplace.		.681			
14. I involved in the hospital's safety improvement initiatives.		.655			
7. I practices to the level of compliance with safety protocols in my workplace regularly.		.637			
15. I noticed any improvements in workplace safety since the implementation of Six Sigma-related OHS initiatives		.606			

12. Process Mapping is Six Sigma tools have been used to improve workplace safety in my workplace.		.586		
29. Reduced workplace injuries (e.g., falls, needle-stick injuries) areas of OHS have improved since implementing Six Sigma.			.709	
30. Increased staff awareness and participation in safety initiatives areas of OHS have improved since implementing Six Sigma.			.633	
9. Root Cause Analysis is Six Sigma tools have been used to improve workplace safety in my workplace.			.623	
18. Lack of awareness or training are the primary barriers to improving Professional Security and Fortification in my hospital.			.620	
1. I familiar in Six Sigma methodology.				.670
2. I participated in any Six Sigma projects or initiatives within my workplace.		.554		.585
11. Control Charts is Six Sigma tools have been used to improve workplace safety in my workplace.				.780

5. RESULTS AND DISCUSSION:

This work is coinciding with the motivations found by authors for the use of Six Sigma, Time Reductions, Costs, and Errors (Angels et. al 2020). Emily et al. 2020 suggest interpreting data in two ways: the individual's involvement and the organization's role in safety culture. The percentage value and frequency value for personal factors of hospital nurses. The higher value in age from above 45 frequency value is 12 and percentage value is 7.9 %. The highest value in marital status is Married of frequency value are 78 and the percentage is 51.7 %. The higher value in gender is female of frequency value is 140 and percentage value is 92.7%. The highest value in educational qualification in Undergraduates of frequency value are 62 and the percentage is 41.1% The highest value in Experience from below 1yr of frequency value are 49 and the percentage is 32.5 %. The highest value in an income is below 15K of frequency value are 116 and the percentage is 76.8 %. Private hospital nurses' selected Tamil Nadu areas use Six Sigma for Professional Security and Fortification. "Reduced stress and burnout areas of OHS have improved since implementing Six Sigma." was rated highest (rank1) among Professional Security and Fortification using Six Sigma statements ($m=2.42$, $SD=1.079$), while "Pareto Analysis is Six Sigma tools have been used to improve workplace safety in my workplace." was rated lowest (rank 30). This demonstrates that the data had a value sampling adequacy of 0.883, which is regarded to be the level of average. Principal Component Analysis (PCA) with Varimax Rotation was used to analyze the first ten features, and the results showed that nine of the characteristics had Eigen values of 1. It was determined that these six parameters were responsible for 62.698 percent of the overall variation. the results of the FA are displayed here. 0.784 to 0.524 was the range of the

factor loadings that were found. There is a correlation between the number of qualities that are reflected or quantified by a test and the factor loading of that test.

6. CONCLUSION, LIMITATION AND FUTURE RESEARCH:

This study is an understand the Professional Security and Fortification using Six Sigma by Healthcare Nurses. This study was described the Professional Security and Fortification using Six Sigma by Healthcare Nurses. This study was analyzed the implementation of Professional Security and Fortification using Six Sigma by Healthcare Nurses. This study was factorized the implementation of Professional Security and Fortification using Six Sigma among Healthcare Nurses. It is a quantitative research types with descriptive research design. The data were used to collected particulars and real survey that regarded as an existing manifestation. A structural questionnaire used to collect the data was conveyed in employees of nurses for five private healthcare in selected district at Tamil Nadu. A total of 151 respondents were chosen from in employees of nurses for five private healthcare in selected district at Tamil Nadu. The present study charity suitable by primary and secondary data to manage its objective. 151 data were collected in in employees of nurses for five private healthcare in selected district at Tamil Nadu. Private hospital nurses' selected Tamil Nadu areas use Six Sigma for Professional Security and Fortification. "Reduced stress and burnout areas of OHS have improved since implementing Six Sigma." was rated highest (rank1) among Professional Security and Fortification using Six Sigma statements. There is a correlation between the number of qualities that are reflected or quantified by a test and the factor loading of that test. There is a significant possibility that future human resources research may be able to generate a significantly more robust understanding of Professional Security and Fortification concerns for overseas workers.

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