From Waste to Efficiency: Transforming OB ED Consumable Management through 5S Methodology

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Introduction:

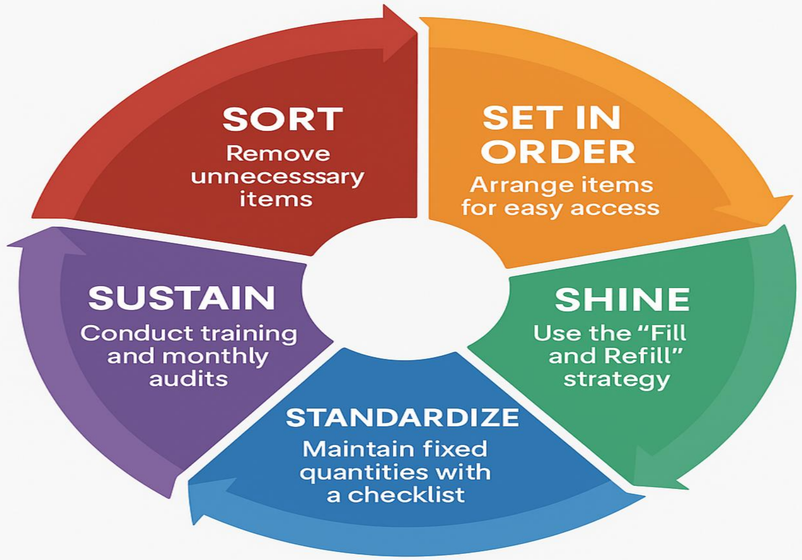
The Obstetrics Emergency Department (OB ED) faced significant challenges in managing consumable supplies, characterized by overcrowding, waste from expired items, and rising costs in light of increasing patient visits. To address these issues, the 5S methodology was implemented alongside a "Fill and Refill" inventory strategy to optimize supply management and enhance resource efficiency. The primary goals of this improvement initiative were to eliminate expired consumable items in the OB ED, reduce the annual costs of consumable supplies, and maintain quality and safety standards while accommodating a rise in patient volume.

Objectives:

The main purpose of this improvement initiative is To eliminate expired consumable items in the OB ED,To reduce the average annual cost of consumable supplies, andTo maintain quality and safety standards while accommodating increasing patient visits.

Methodology:

The project utilized the 5S methodology (Sort, Set in Order, Shine, Standardize, Sustain) to organize and improve inventory management processes. A "Fill and Refill" strategy ensured that supplies were replenished regularly based on real-time consumption data, which minimized overstocking and prevented items from expiring. Additionally, a standardized checklist was established to maintain fixed quantities of consumable supplies to meet demand. Staff underwent training on the revamped inventory management system, and compliance was monitored with monthly audits.



5 S Methodology Performed

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STORE CHECKLIST Month:

STORE	NO	EXPIRY DATE	1		2		3		4	
			TUESDAY	SATURDAY	TUESDAY	SATURDAY	TUESDAY	SATURDAY	TUESDAY	SATURDAY
VACUTAINER GREEN	100									
VACUTAINER PURPLE	100									
VACUTAINER RED	100									
VACUTAINER YELLOW	100									
VENTIL O	1 BOX									
WOUND DRESSING	20									
SYS CLEAR	200									
IV LABELS	100									
CTG PAPER	100									
URINE CATHTER	20									
CHLORHEXIDINE BATHSHELAST FEEDING ACCESSORIES	10									
DISPOSABLE PANTY	50									
HEAD COVER	50									
SHOES COVER	50									
PLASTIC COVER	50									
LINEN BAGS	100									
BLOOD STAINED	100									
CSSD COVER	100									
HOT WATER SOLUBLE BAGS	100									
CYSTOSIC WASTE BAGS	100									
INFECTIOUS WASTE BAGS	100									
SSS PEN	50									
BLUE PAD	100									
INFECTIOUS WASTE BAGS	100									
APRON	100									
SPECIMEN COVER	200									
DUST COVER	100									
TISSUE ROLL	50									
SURGICAL GOWN	20									
DELIVERY SET	20									
KIDNEY BASIN	50									

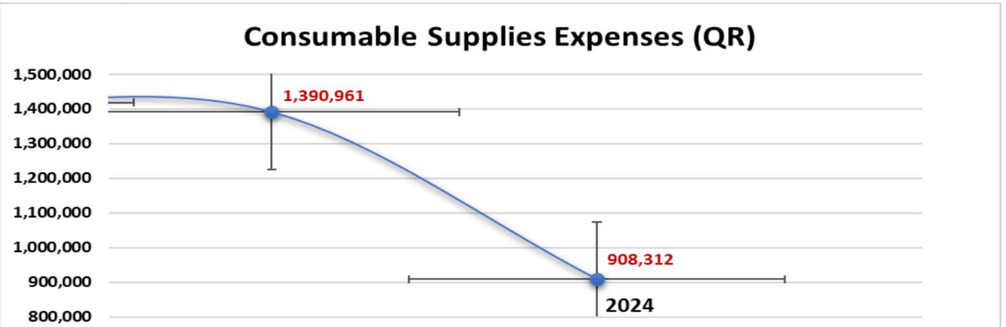
Image 1: Daily consumable supplies Checklist



Image 2: Consumable supplies were arranged and labelled for easy access

Results:

The initiative to eliminate expired consumable items in the Operating Room (OB) and Emergency Department (ED) led to significant financial achievements, with the average annual cost of consumable supplies decreasing from 1,418,260.63 QR in 2022 to 908,311.80 QR in 2024, representing a total cost reduction of 509,948.83 QR. This translates to an impressive percentage reduction of approximately 35.9%, highlighting the effectiveness of improved inventory management practices. This cost-saving occurred despite an increase in OB ED visits, rising from 28,730 in 2022 to 30,430 in 2024. The complete elimination of expired items not only streamlined supply usage but also underscored the importance of proactive financial strategies in healthcare, resulting in enhanced resource utilization without compromising the quality of patient care.



Graph 1:the average annual cost of consumable supplies decreasing from 1,418,260.63 QR in 2022 to 908,311.80 QR in 2024

Conclusion:

The successful implementation of the 5S methodology combined with the "Fill and Refill" strategy notably enhanced the efficiency of consumable supply management, reduced waste, and yielded substantial cost savings for the OB ED. This initiative demonstrates that lean methodologies can effectively optimize resource utilization while maintaining quality in healthcare settings, even amidst growing patient demand. The favorable results emphasize the significance of continuous improvement practices in healthcare operations management.

References:

- Hamada M, Ayame Y, Imafuku H, Kagawa Y, Araki K, Nakajima M. [5S activities in an operating room—using red tags for sorting equipment]. Shujyutsushitsu Ni Okeru 5S Katsudo - Akafuda Wo Shiyou Shita Kizai No Seiri Ni Tsuite. Nihon Shujyutsu Igakkaishi. 2007;28:118–20. Japanese.
- Kaplan GS. Advanced lean thinking: proven methods to reduce waste and improve quality in health care. Oakbrook Terrace: Joint Commission Resources; 2008.
-Balkhi B, Alshahrani A, Khan A. Just-in-time approach in healthcare inventory management: Does it really work? Saudi Pharm J. 2022 Dec;30(12):1830-1835. doi: 10.1016/j.jsps.2022.10.013. Epub 2022 Nov 3. PMID: 36601508; PMCID: PMC9805965.