

An Evaluation of a Sitter Reduction Program

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BACKGROUND

Hospitals have utilized sitters (also referred to as *companions*, *constant observation*, or *one-to-one patient care*) as an alternative to restraint application, to maintain a safe patient environment, to monitor patients for self-harm, & to reduce patient falls

In 2010 (annual), the study site spent \$1.2 million dollars (45.2 full-time equivalent sitters)

Research is minimal and inconsistencies are noted for sitter use in relation to patient outcomes:

- No correlation between sitter use to decreased fall rates 1-2
- 44% reduction in falls with sitter use 3
- Increased fall rates with use 4-5
- Dementia, delirium, schizophrenia, understaffing, higher nurse overtime, & nurse inexperience were associated with higher sitter use 6-7

With patients requiring more intense monitoring & costs associated with sitter use, greater knowledge is needed to determine effective interventions to assist hospitals to manage sitter costs & provide safe care

RESEARCH PURPOSES

The study purposes were to evaluate the effectiveness of a sitter reduction intervention & examine the differences among sitter use, restraints, & falls in critical care, step-down, & medical-surgical units pre-post intervention

Table 1: Pre-Post Sitter Intervention: Unit Categories Fall Rates, Restraint Rates, Sitter Cost-Savings & Expenses Attributable to Falls

Unit Category	Time Period	Fall Rate	Fall Rate- No Injury	Fall Rate- Minor Injury	Fall Rate- Major Injury	MS Restraint Rate	VSD Restraint Rate	Sitter Hours M (SD)	Sitter Costs	Expense Attributable to Falls (per patient day)	Cost- Savings from Reduce Sitter Hours (per patient day)	Total cost or Net Savings (per patient day)
Critical Care	Pre-Intervention	0.72	0.72	0	0	31.34	0.22	209.59 (166.35)	\$42,268.56	\$8.99	\$7.60	
	Post-Intervention	1.13 ($p < 0.001$)	0.75	0.38	0	45.71	1.36	27.19 (44.49)	\$4,945.03	\$14.13	\$0.93	+\$1.53
Step-Down	Pre-Intervention	4.61	4.61	0	0	0	0	112.44 (93.28)	\$8,865.26	\$57.68	\$3.72	
	Post-Intervention	2.14 ($p < 0.001$)	2.14	0	0	8.85	0	19.66 (18.27)	\$1,479.22	\$26.79	\$0.63	+\$33.98
Medical-Surgical	Pre-Intervention	2.57	2.06	0.47	0.04	45.05	0.52	434.18 (317.69)	\$194,746.14	\$32.13	\$8.34	
	Post-Intervention	3.48 ($p < 0.001$)	2.59	0.73	0.16	0.78	0.09	181.40 (134.46)	\$75,038.56	\$43.45	\$3.03	-\$6.01

METHODS

Research Design: Interventional

Setting: 633 bed, community acute care hospital located in a Southeastern state. The setting included five critical care units, two step-down units, and 11 medical-surgical units

Human Protection: WellStar's Nursing Research Committee & Kennesaw State University IRB Approvals

Data Collection Procedures: Data were collected (September 2010 to November 2010) & three months post- intervention (June 2011 to August 2011)

Variables: Medical surgical (MS) & violent self-destructive (VSD) restraint use (episode, hours, & hours per patient day-average hours/patient days X 100) from the hospital's quality database; falls (actual number, fall rate- falls X 1000 patient days/total patient days, & fall injury rates) from the hospital's on-line reporting system; sitter hours & sitter costs were obtained from KRONOS Analytics™ (payroll database); & patient days were obtained from finance

Definitions & calculations for falls & patient days were congruent with National Database of Nursing Quality Indicator (NDNQI®). A data collection log was used to record the above variables

Data Analysis: Data were analyzed with JMP® version 8 & Minitab® version 16 software. A p value of $\leq .05$ was considered statistically significant

INTERVENTION

In an effort to reduce sitter costs, a sitter reduction program was developed & included guidelines, tools, & training deployed to all healthcare providers March 2011. In addition, an educational fact sheet was provided to staff. The sitter program was implemented April 1, 2011. Input was received from shared governance councils & leadership in the development of the following:

Sitter Justification Assessment: Guidelines to assess physiological, psychosocial & pharmacological causes for behaviors that may require a sitter, & with before suggested interventions, & alternatives

Sitter Decision Tree: Step-by-step process for determining sitter need. Alternatives considered prior to obtaining a sitter (i.e., move patient closer to nurses station; adjust staffing to provide 1:1 care; place patient with another sitter patient; encourage family care or family provide sitter)

Family Script: Sample script for communicating with patient's family regarding need for a sitter

Family Letter: Letter to family explaining sitter need, sitter resources available, & encouragement of family care

Private Sitter List: List of agencies providing inpatient care

Sitter Justification Form: Completed by charge nurse or primary nurse caring for patient each shift & submitted to leadership prior to shift end. Charge nurse/primary nurse must be able provide responses to questions regarding alternatives attempted & review of risk factors

Sitter Evaluation Form: Completed at end of shift by primary nurse or charge nurse

FINDINGS

Total fall rates increased from 2.40 to 3.00 post-intervention ($Z = 46, p < 0.001$). The incidence of falls significantly increased with critical care ($p < 0.001$) & medical-surgical units ($p < 0.001$) & significantly decreased with step-down units ($p < 0.001$) post-intervention

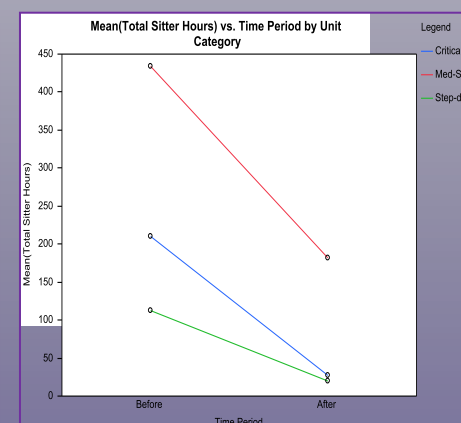
Falls that resulted in injuries increased in particular for medical-surgical units and slightly increased for critical care units post-intervention

Restraint use decreased for medical-surgical units but increased slightly for critical care & step-down units post-intervention

Mean sitter hours decreased from 756 to 228 hours post-intervention & costs decreased from \$245, 879.96 to \$81, 462.81 post-intervention for a total cost savings of \$164, 417.15

However, to account for the increased fall rates post-intervention, the following calculations illustrate the savings or additional cost per unit category. In 2009, the hospital conducted a cost analysis comparing patients that fell to the rest of the patient population & the average cost per fall was \$12,500. Based on this cost, a savings/cost analysis was computed & results were that critical care & step-down saved money due to the intervention, but the medical-surgical units incurred extra cost due to the increased falls rate. Overall, the medical-surgical result dominated (they were responsible for more than 85% of total falls after the intervention). There was a net cost of more than \$2 per patient day

The incidences of fall rates, fall injury rates, restraint rates, sitter cost-savings & expenses attributable to falls across varying categories are shown in Table 1



CONCLUSION

A sitter reduction program may be a cost-effective intervention; however, extra costs may be incurred due to increased fall rates

CONTACT

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