The Effect of Contact-free Continuous Monitoring System on Reducing Falls, Pressure Ulcers in Aged Care Facilities

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Introduction

Background: In the skilled nursing facility, acute changes in condition can result in unplanned hospitalizations for the elderly, often due to falls with injury, or as the result of the onset of an acute medical illness. The introduction of new technological solutions that incorporate continuous vital sign monitoring and surveillance of patient activity in bed can be utilized to improve outcomes among the nursing home population.

Objective: To assess the effects of continuous monitoring in reducing hospitalizations of post-acute care residents in a skilled nursing facility. This was studied using Vitalerter, a contactless patient monitoring system that continuously transmits real-time information on pulse, respiratory rate, and level of activity in bed directly to the nursing staff, and instantly alerts when these values fall outside of pre-set parameters.

Methods

This study was conducted at the Goldencare Geriatric Center, a 300-bed facility in Southern Tel-Aviv in Israel.
A 6 months monitoring period was compared to observe before-after outcome information.
Data on patients' falls, bed sores and re-admissions to hospital rates, were collected.

Contactless sensors that monitor patient heart and respiratory rates, and in/out of bed status, were utilized.

All data was provided to caregivers on monitors and at the nursing station. Alerts regarding changes in vital signs or bed exits were transmitted to nurses for further assessment and intervention.

Results & Conclusions

We reviewed 81 patient records for our evaluation vs 81 checked before the test. The falls decreased by 67% and pressure ulcers decreased by 75%.

Goldencare Geriatric Center - Outcome data				
	Before evaluation (without		Evaluation (monitored	Improvement %
# of Residents	81		81	
Men	45	54,4%	42	44.10%	
Women	36	45,6%	39	55.90%	
Age (Avg)	78		79	
Results				
Bed-side Falls	12	14.81%	4	4.94%	-67%
Pressure Ulcers	4	4.94%	1	1.23%	-75%

In this study, the implementation of Vitalerter, a continuous patient monitoring system has demonstrated **a significant decrease in the total number of falls, pressure ulcers and a trend towards reduction in the transfer rate to hospitals,** thus improving the overall quality of care for the elderly.

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