Risk Factors Associated with Pressure Ulcer in Hong Kong Private Nursing Homes

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Introduction

Shortened hospital stay in order to save health care cost leads to earlier discharge of patients who require assistive care in long term care settings. Consequentially, nursing homes have to accommodate residents with higher acuity and dependence levels, which are known risk factors for pressure ulcer formation.

Purpose of the Project

As part of the quality enhancement agenda, this study aims to understand the prevalence and incidence of pressure ulcer in private nursing homes in Hong Kong. Factors associated with pressure ulcer formation will be delineated to tailor-design pressure ulcer prevention strategies adaptable to nursing home settings.

Material & Methods

This is a prospective cohort study of 368 residents in four private nursing homes with similar resident capacity, level of care, nurse-resident and worker-resident ratios. Data were collected by using Demographic Data Collection Form, Cumulative Illness Rating Scale (CIRS), Bedford Alzheimer Nursing Severity Subscale (BANS-S), Personal Daily Life Activities (P-ADL), Modified Braden Scale (MBS), Skin Assessment Chart and Resident Observation Sheet. Each participant was observed over a period of 28 days upon obtaining voluntary consent from the resident or his/her family member. Final assessment was conducted and the cases would be closed when (1) no pressure ulcers developed after 28 days observation, (2) the residents have left the homes either temporarily (e.g. hospitalization) or permanently (e.g. death). Logistic regression was used to identify the contributory factors. For MBS score, chi-square and independent t-test was used to compare residents who had and had not developed pressure ulcer. ROC and cut-off points of MBS were examined by calculating the sensitivity and specificity. Cluster analysis was performed to identify the residents with the high, moderate, low risks groups which were statistically significant to pressure ulcer development. Content analysis of resident observations was conducted to identify the environment-related and care practice-related factors associated with pressure ulcer observed.

Results

Pressure ulcer prevalence was 7.6% in the four nursing homes. 21 residents (75%) who already have pressure ulcer developed new pressure ulcer; and 82 residents had first pressure ulcer (i.e. 31.8%) developed within the observation period. Residents who had poorer ADL, better cognitive function and who required assistance in feeding were likely to have pressure ulcer developed. Some practices prevalent in the nursing homes could increase pressure ulcer risks. The MBS cutoff score 22 (Sensitivity 72.80%, Specificity 63.55%) was identified to be optimal in pressure ulcer prediction.

Conclusions

Pressure ulcer prevention strategies will be proposed based on the observations of pressure ulcer occurrence in nursing homes and the patient-related, environment-related and care-practice related factors.