

# Critical appraisal research paper

[Health & Medicine](#), [Nursing](#)



## **Introduction**

The article “ predictors of fracture from falls reported in hospital and residential care facilities: A cross-sectional study” is a detailed analysis of a study conducted to identify the predictive association between fall related factors in health facilities and the fracture outcomes for those clinical fall incidents that are routinely reported. The study is a retrospective study with findings analyzed through logistic regression analysis. The study was done on a total of 197 public health care institutions in Queensland, Australia. The study had two sets of participants picked from these institutions. The first group of participants was comprised of 24, 218 adult patients admitted in hospitals with a total of 229 reported fractures. The second group comprised of 8980 participants of classified under aged-care with 74 fracture reported incidents. The study was in the period running between January 2007 and November 2009. The expected primary and secondary outcomes were solely based on the possible fall-related fracture predictors (Chari et al., 2013).

This paper seeks to provide a critical analysis of the study with major focus being on the achievability of objectives. The paper will focus on unearthing the efficacy and eligibility of the methodology applied across the data collection and data analysis processes as well as the final results, discussion and conclusions. The analysis will be based on the ability applicability of the findings in a practical setting and the quality or value of the study to the nursing profession (Ontario Public Health Libraries Association (OPHLA), 2008). The purpose of nursing research is always to improve the quality of healthcare by discovering new applicable techniques that are beneficial to

the patient outcome. Thus if any research has no value to the practical care settings, then it has no significance to the healthcare sector (Lawson, 2010).

## **Methods**

The research used data collected from Queensland health which 167 facilities, of which 15 facilities are situated within the metropolitan, 78 in regional areas, and 74 in remote areas. Within all these facilities a predictive relationship between fracture outcomes and fall-related factors was established using a logistic regression analysis. The research utilized the clinical incident reporting system also known as 'PRIME' reporting system in collection of data. The entire system is made accessible to all staff members of Queensland Health. Data on individuals was entered into drop-down information fields for all the incidences of fall. This study however, proceeded after obtaining an approval from the hospital's ethics review committee. Data analysis was majorly confined to statistical since the study was quantitative. This was aided by the use of Microsoft Excel and Statcorp Stata SE V. 10. Multivariate and univariate logistic regression was used to establish a relationship between the fractures and predictor variables (Chari et al., 2013).

The viability of any study hugely depends on the methods used or employed during data collection and recording. The successful attainment of the deliverables of the study is solely determined by the robustness of the study design which takes in factors such as the participants (sample size), data collection methods, and analysis (Ontario Public Health Libraries Association (OPHLA), 2008).

Critically, this study may be termed effective in meeting its objectives. The

study uses a comparatively large sample which increases chances of inaccuracy. Moreover, a large number of participants increase the viability of a study. In essence, the results obtained during this study may be used to develop evidence practices that are applicable in practical situations. This study should be guided by a strict adherence to nursing ethics. The study was ethical since it first sought endorsement or approval from the ethics committee (Lawson, 2010). The data analysis methods were in line with the nature of the study and the objectives. The study was quantitative and statistical analysis is a robust tool which was utilized during the study. Correlative statistics such as the Multivariate and univariate logistic regression was utilized which increases the credibility of the data analysis employed by this study.

Use of an online system, the 'PRIME' reporting system which was accessible to all staff members added on to the accuracy of the study. Since the system is accessible to all staff members, it is presumable that it minimized manipulation. Moreover, the use of this system made data collection easy. Queensland Health operates many facilities which are geographically scattered. The use of a common system for all the 167 facilities made data collection easy.

The study took a relatively long time and involved a large sample size which increases its validity. Large sample sizes have an overall effect of making data analysis credible (Lawson, 2010).

Overall, one weakness that may compromise the study is inconsistencies in reporting fall and fracture incidences. Errors during data collection and

entering the particulars in the drop-down fields may significantly compromise data analysis and subsequently the results.

## **Results**

The results indicated that hospital patients who received screening on their risk of falling at the time of admission had lower incidences of fracture resulting from a fall as compared to those who did not receive any form of screening at the time of admission. Similarly, the study reported that falls resulting from standing and walking had higher fracture odds than any other falls resulting from other activities. In adjusted residential-care mode, the study results indicated that falls resulting from walking or standing were predictive of fracture cases. The report further concludes that screening of patients at the time of admission could significantly reduce the falling risks as well as play a major role in the prevention of injuries related to falls. In another perspective, the study explains that fractures that result from upright posture falls have a higher chance of occurrence as compared to those that occur from other falls within healthcare settings or facilities. A logical regression analysis was used to draw relationships between the different variables that had been identified as being crucial in the study (Chari et al., 2013).

The study also noted that certain physical locations had a higher association with fracture outcomes from falls as compared to other physical locations. For instance, the results indicated that witnessed falls within healthcare settings were more likely to have fracture outcomes as compared to those that occurred away from healthcare settings. These results are consistent with the objectives of the study which was aimed at exploring and identifying

the relationship between fracture outcomes and the factors related to falls. On the other hand, the application of powerful computerized statistical analysis to draw the relationships between variables meant that there were high chances of accuracy of relationships and thus making the results legible for the discussion and recommendations from the study (Lawson, 2010).

## **Conclusion**

The credibility of the study is affirmed by existence of similar results from similar studies. The results obtained from this study agree with results from similar studies. Analytically this study is indisputably effective in informing future research and nursing practice. The results and subsequently the results may be used to establish evidence-based approach in future nursing and provision of medical care for patients during hospitalization periods (Lawson, 2010). The results paint a clear picture of the various risk factors which exist within medical facilities and hence need to fashion our health facilities in a manner that minimizes fall and improved hospitalization outcomes.

## **References**

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