中文版五級急診檢傷分類電腦化系統之建構與臨床應用評估 **The Impacts of Development and Clinical Application Assessment of the Chinese Version of Five-Level Computer Triage System in the Emergency Department**

中文摘要

論文名稱：中文版五級急診檢傷分類電腦化系統之建構與臨床應用評估
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檢傷分類（Triage）的功能是依分類級數決定病患看診優先順序，使有效分流及確保病患處置之時效性與安全性，因此本研究目的旨在建構中文版五級急診檢傷分類電腦化標準系統（Chinese version of CTAS）與其信效度，並比較檢傷護理人員使用四級與五級檢傷分類電腦化標準系統之一致性及其分級正確性之差異。本研究採描述性比較設計，以北、中部之三家醫學中心急診檢傷人員爲研究對象，共 30 名，收集四級檢傷分類共收案 749 名個案，與五級檢傷分類共收案 800 名個案之資料。研究工具包括；中文版五級檢傷分類標準、急診檢傷模擬標準個案，資料收集後以 SPSS 12.0 version for Windows 套裝統計軟體進行資料處理。以描述性統計、單因子變異數分析及薛費法事後多重比較、再測信度、一致性百分比、卡方檢定、敏感性及特異性進行資料分析。研究結果顯示中文版五級急診檢傷分類系統之評量者一致性及再測信度高，且專家內容效度皆在 .8~1.0 之間，證明具良好信效度檢定。檢傷護理人員使用五級檢傷分類較四級檢傷分類判定級數之一致性高（percentage of agreement: 4L=55.7%；5L=87.6%），於四級檢傷分級中一致性最高的爲 A 醫院，而在五級檢傷分級一致性則以 C 醫院最高。檢傷分級結果與護理人員之檢傷工作年資無統計上顯著差異，經卡方檢定（Chi-square Test）後，顯示輕症個案之分級具統計上之顯著差異（$\chi 2$, $p< .05$）。比較臨床實際個案檢傷分級之正確性，結果顯示五級檢傷分類較四級之敏感性較高（Sensitivity: 4L=50.23%；5L=92.21%），且特異性亦較高（Specificity: 4L=79.46%；5L=97.32%）。檢傷護理人員使用五級檢傷分類分級結果高估（over-Triage: 4L=52.7%；5L=5.5%）或低估（under-Triage: 4L=0.3%；5L=3.9%）之差異性亦明顯降低。本研究結果證實中文版五級檢傷分類電腦標準化系統，較四級檢傷分類系統檢傷人員檢傷分級之一致性、正確性皆明顯較高。本研究針對使用四級與五級檢傷分類之一致性與正確性，因此本研究結果可作爲未來提升急診檢傷分類系統正確性之參考，及與國外以開發國家接軌的世界發展趨勢。

英文摘要

Title of thesis: Development and Clinical Application Assessment of the Chinese Version of Five-Level Triage Computer System in the Emergency Department
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The principle of effective triage is to determine patient priority to be seen by a physician to ensure that those with the highest level of severity or risk are seen in a timely manner, optimizing overall patient safety. The purposes of this study were firstly to verify the validity and reliability of the five-level triage system, a computerized Chinese Version Canadian Triage Acuity Scale (CVCTAS), and secondly to identify if there were differences in percentage of agreement and accuracy between the Taiwan four-level triage and CVCTAS. The design was a descriptive and conducted in three medical centers (A, B & C hospitals) of ED in Northern and Middle Taiwan. To verify the validity and reliability of the CVCTAS, a total of 30 emergency department (ED) triage nurses participated in the study. To identify the differences in percentage of agreement and correction between Taiwan four-level triage and the Chinese Version of CTAS five-level triage, a total of 749 patients and 800 patients participated in the study, respectively. Two instruments were used in this study which were CVCTAS and standardized patient scenarios. The Statistical Package for the Social Sciences (SPSS-PC) version 12.0 was used for data analysis and a significant level was set at p value of $< .05$. Descriptive statistics, unvaried analysis by Chi-square test for nominal variables, and by ANOVA, Scheffe`s post hoc test for continuous variables, test-retest reliability, percentage of agreement, sensitivity and specificity were also performed in this study. In terms of the validity and reliability of the CVCTAS, the results showed that fairly well expert content validity (CVI = .8-1.0), perfect test-retest reliability (CCI=1) and high percentage of agreement (87.6%). In terms of the differences in percentage of agreement between the Taiwan four-level triage and the CVCTAS, the results showed that hospital A and hospital C had 55.7 percentage of agreement and 87.6 percentage of agreement, respectively. Regarding the accuracy, the results showed that the CVCTAS had fairly high sensitivity (92.21%) and specificity (97.32%) than Taiwan four-level triage whose sensitivity and specificity was 50.23% and 79.46%, respectively. Further analysis the triage accuracy, the author found the CVCTAS had lower “over-triage” (5.5%) than Taiwan four-level triage (52.7%), but had slightly higher “under-triage” (3.9%) versus (0.3%), respectively. In conclusion, the computerized CVCTAS had higher percentage of agreement and accuracy than the Taiwan four-level triage system; Therefore, the findings of this study can provide information to improve the future accuracy of triage system in Taiwan, and to connect the global trend with other developed countries.