行動電話與汽車事故傷害之研究

A study of cellular phone use and motor vehicle injury

中文摘要

前言：汽車事故傷害發生不外乎人、車、路三因素，歐美相關研究顯示人爲因素佔 90%以上。人爲因素中，行車使用行動電話的頻率與日劇增，其與事故傷害的關聯性值得探討。目前國內相關的研究資料較少，但是國外許多研究指出開車使用行動電話常會造成駕駛人注意力分散，造成許多可避免的傷害。

目的：本研究之目的在探討國人駕駛中使用行動電話發生意外的相關危險因素之分析研究。

材料與方法：本研究使用病例對照研究(case control study)，探討汽車事故與行動電話使用的關係並找出相關之危險因素。研究對象以民國 90 年 2 月 1 日至 91 年 3 月 1 日台灣北部地區五所醫院中汽車事故至急診就醫的病患。資料收集主要以創傷登錄及電話訪談的資料爲主。以次數分配及百分比做描述性分析，單變項分析以卡方檢定作分析，多變項分析使用邏輯回歸分析使用行動電話造成汽車事故的危險因子。

結果：本研究共收集了 1353 件汽車事故的相關資料，其中男性 866 人；女性 487 人。在人的因素方面，年齡(p=0.03)、有無喝酒(p=0.02)、開車經驗(p=0.01)、違規的經驗(p=0.02)及傷害嚴重度(p=0.01)在有無使用行動電話間有顯著之差異。環境因素方面，氣候(p=0.01) 在有無使用行動電話間有顯著差異而事故發生地點(p=0.04)則無統計學之差異。使用手持式行動電話發生汽車事故的勝算比爲 2.24；而使用免持聽筒的行動電話發生汽車事故的勝算比爲 6.50。

結論與建議：行車使用行動電話不論手持式或免持聽筒會影響駕駛人之注意力，比不使用行動電話容易發生汽車事故，其中使用免持聽筒較手持式發生事故的機率更高。本研究建議相關單位審慎考慮行車中全面禁止使用行動電話，以減少許多可避免的傷害。

英文摘要

Back ground: Risk factors in motor vehicle injury have been well documented by researchers, and human factor contributed most. The relationship between cellular phone use and motor vehicle injury has been studied in other countries, but it is not clear in Taiwan. Cellular phone use may induce the inattention of driver and cause mishap.

Objectives: The objective of this study is to investigate the association of cellular phone use and motor vehicle injury in Taiwan.

Material and Method: The study population was collected from the emergency department of five regional hospitals in Northern Taiwan, dated from the first day of

February 2001 to the first day of March 2002 period. The data of injury pattern a was collected through the trauma registry of these hospitals. Further information was collected by questionnaire obtained through telephone interviewed by trained personnel. Copies of drivers' cellular phone billing records were obtained through individual phone companies under the consent of the patient. Descriptive analysis of driver characteristics, environmental condition and vehicle use was documented, and then we performed univariate and multiple regression analysis of the data obtained.
Results: A total of 1353 cases were collected in the time interval, including 487 female and 866 male patients. Significant difference was found in age group (p: 0.03), alcohol use (p: 0.02), driving experience (p: 0.01) traffic law breaking history (p: 0.02), severity of injury (p: 0.01), and weather condition in the use of cellular phone while driving. The odd ratio of having a collision using a hand held cellular phone while driving was 2.24 times(OR: 2.24) higher than not using a phone. The odd ratio of having a collision using a hand free cellular phone was 6.5 times (OR: 6.5) higher.
Conclusion: The use of cellular phone either hand-held or hand free in driving may distract the vision and alertness of driver, and associated with increase risk of collision. The odds of accident in the hand free phone are even higher than the hand-held setting. Future banning of hand free cellular phone use while driving is an issue to be considered.