睡眠障礙病患之臨床表徵關連性研究

A Study on the Relationship of Clinical Manifestations in Sleep Disorder Patient

中文摘要

睡眠是人的基本需求，充足的睡眠是身體健康的重要因素，睡眠不足是部份慢性疾病的成因之一，也會影響人的集中力及精神狀況，許多意外事故的發生與此有關。近年來，國內醫療機構紛紛成立睡眠醫學中心。睡眠醫學中心為睡眠障礙患者進行多項測量，做為診斷的依據，包括患者基本資料，自填式的睡眠問卷，與使用多頻道睡眠記錄儀所測量的電生理訊號。本研究所使用之睡眠醫學中心收集的資料，包括了個案的基本資料，問卷，整夜多頻道睡眠記錄儀的摘要資訊和多頻道睡眠記錄儀檢查報告。

睡眠檢查因為設備昂貴稀少，施測費用高，臨床資料相對取得不易，目前睡眠相關領域的研究，鮮少運用資料探勘，本研究使用關聯規則中之 Apriori 演算法分析臨床資料，並尋找主觀資料(問卷)與客觀資料(Polysomnography 資料)之間的關聯性，並探討產生之結果在臨床實務上的意義。

本研究利用關聯模型，建立一個知識架構，並且與目前睡眠醫學知識比較。結果顯示所建立之關聯規則與目前之醫學見解相吻合，這表示本方法可適用於分析睡眠臨床資料。本研究之結果將有助於對睡眠障礙病患以及臨床人員診斷之參考。

英文摘要

Sleep is essential to human life, adequate and high quality of sleep is an important factor for good health. Insufficient sleep can be the causes of some chronic diseases and affect person''s concentration and mental state that may be connected to some of traffic accidents. In recent years, many domestic medical institutions have set up their own sleep medical center (SMC). In SMC, patients with sleep disorders are diagnosed based on the procedures of a serial of inspections. The measurement usually includes the patients basic information, self-administered questionnaire regarding sleep status, and the data generated by Polysomnography (PSG) from measuring the electrophysiological signals. The data we used in this study included the basic information of the patients, questionnaires, all night PSG summary and PSG inspection report.

Because of the expensive equipments and the cost of the complex procedures, comprehensive clinical record obtained from patients with sleep disorder is not very common. Very few studies related to sleep disorder have adopted data mining methods on data analysis. In this study, we used Apriori algorithm (a method of association rule) to analyze the clinical data and try to find the relationship between

the subjective (questionnaires) and objective (PSG Data) information. The significance of our results applied to clinical practice were also be discussed. We have build a knowledge architecture based on the association model and compared rules to the current understanding and evidences of sleep medicine. The results show that association is a suitable methods used for the analysis of sleep disorder clinical data. We believe that the results of this study will be beneficial to the sleep disorder patient in treatment and diagnosis as well as the clinician to get a more deep insight.