應用模糊決策模式建立飲食營養分析輔助雛形系統

Application of Fuzzy Decision Model to the Dietary and Nutrition Analysis Supporting Prototype

中文摘要

本研究基於營養師資訊化需求，運用網際網路爲媒介，建立營養師與病患之間營養諮詢與溝通的平台。目前營養師對於營養資料的電子化與營養諮詢相關功能需求提高，促使本研究設計飲食營養分析系統，提供營養相關服務。目前此系統扮演的主要角色爲引導營養師透過系統設計的流程與提供的資料，並根據患者填寫的飲食記錄與國人膳食營養素參考攝取量，協助營養師判斷飲食建議。本研究完成以下項目：

1.提供正確與即時的營養資料查詢：包含相關營養資訊的查詢與保持資訊正確性。

2.協助營養諮詢流程的便利性：好的介面與資訊流程促使營養諮詢互動工作更爲簡單。

3.可即的諮詢互動工作：提供網頁爲基礎之系統平台，患者與營養師不受時間與空間限制使用本系統。

4.利用模糊決策演算法運算出建議料理：依據患者之飲食紀錄與個人資料，模糊決策模式推演出最合適的料理提供給營養師參考。營養師規劃患者的飲食計畫時，將有更多的資源可運用。

最後以問卷方式請專家作系統功能與相關服務評價，並且針對模糊決策模式所挑選出的建議料理與利用統計相關係數兩者的方法去比較分析結果。最終期望本研究能做爲未來相關研究營養諮詢系統的雛形。

英文摘要

According to the dietician need for nutrition information, we provide a web-based platform for nutrition consultation and for communication between dietician and patient. The requirement of electronic nutrition information and systems for nutrition consulting are increasing. These requirements encourage this research to develop the dietary and nutrition analysis system. The system can record patient’s diet and compare that to the dietary reference intakes. It finally provides feasible recipe recommendations to dietician. The system has capability described below:

1.Provide correct and immediate nutrition data: The user can search the nutrition data and keep it accuracy.

2.Facilitate the flow of nutrition consulting: Its friendly interface and information flow make the interaction of nutrition consultation easier.

3.Accessibility of nutrition consultation: The system is on the Internet. The access is not restricted to space and time.
4.A fuzzy decision model for recipe recommendations: The model takes the input of patient’s dietary record, reasons with fuzzy decision model, outputs multiple recipe choices for dietician to plan patient intake suggestion.

A questionnaire was used to evaluate the system functions and services by experts. We also compared the results from our fuzzy model with the statistical correlation model. Hope the research results can be the prototype of future dietary consultation system.