智慧型無線生理訊號監測系統

林清壽[a]、湯朝強[b]、韓日盛[b]

[a] *南開科技大學福祉科技與服務管理研究所助理教授*

[b] *南開科技大學福祉科技與服務管理研究所研究生*

[*] *通訊作者：湯朝強，ray5429@yahoo.com.tw*

摘要

過去十年來台灣人口老化的速度越來越嚴重，而且根據衛生署調查統計，77%的老人均罹患一種以上的慢性病，大部份高齡者寧願選擇在宅老化，也不願去安養機構或者護理之家。基此原因，如何開發出一套適合高齡者居家健康管理的系統，就有迫切的需求性。傳統的生理量測設備均是獨立的，所量測的資料無法集中管理儲存，而造成無法進行分析管理使用，因此本研究係透過整合不同的生理量測設備如體溫計，血壓計，血氧濃度等，運用 Zigbee 無線通訊技術，將量測訊號傳送到個人電腦進行統計分析處理與儲存，如發現高齡者所量測的訊號超過正常值，除會適時提供相關的衛教知識與建議，亦會自動透過電子郵件與簡訊通知家人、照護者或家屬，提供適時的關懷。

關鍵字：Zigbee、RS232、居家照護

Abstract

There is a question of aging of population in a lot of countries of whole world. The aging speed of the population. in Taiwan has been rising rapidly over the past decade. According to the official census, 77% of elderly people have one or more chronic diseases and most of them prefer to stay at home for the rest of their lives rather than go to long term care institution or nursing home. Based on this reason, it is urgently necessary to have a home health care system to monitor the health status of the elderly and provide some medical recommendation and remind the family members in case of health abnormality. The traditional home care system was sensor independent or used RS232 connector to link with computer to manage the vital signs. These biosensors were fixed at some place and less mobile. The paper is to use ZigBee based wireless devices to integrate the biosensors to monitor the vital data such as body temperature, blood pressure, heart rate and SPO2 at anytime and anywhere. The proposed home care system also can popup alerts if the vital data is abnormal and send the email and SMS to notice the default family members.

***Keywords**: Zigbee, RS232 , home health care*