血液透析與腹膜透析病患身體活動度、骨密度、疲憊感與體適能比較之探討

A Comparative Study of Physical Activity, Bone Mineral Density, Fatigue and Physical Fitness Between Hemodialysis and Peritoneal Dialysis Patients

中文摘要

本研究的主要目的：(一）建立國內血液透析和腹膜透析患者身體活動度、體適能、疲憊和骨密度之資料。(二）比較血液透析和腹膜透析患者身體活動度、體適能、疲憊和骨密度之差異。(三）分析身體活動度對體適能、疲憊和骨密度之影響。期望結果可以作爲制定透析患者健康政策及提升照護品質之依據。

本研究採橫斷面的相關性研究。採立意取樣法，收集血液透析(n=44)和腹膜透析患者(n=44)，並從家屬中招募年齡、性別配對符合之健康成人 44 位作爲對照組。研究結果以 SPSS/PC+13.0 版進行資料建檔與分析，統計方法依研究目的及變項的性質，描述性統計以次數分配、百分比、平均值、標準差、序位等呈現。推論統計，採獨立 t-檢定、單因子變異數分析、卡方檢定及線性複迴歸分析等統計方法進行檢定各變項間的差異。

研究結果發現：一、骨質密度在健康族群及血液透析患者顯著高於腹膜透析患者(F= 12.33, p< .0001)。二、每週相對身體活動量爲健康族群高於血液透析患者及腹膜透析患者，達統計上顯著差異(F= 4.65, p= .011)。三、疲憊總平均在血液透析患者及腹膜透析患者皆高於健康族群，統計上達顯著差異(F= 8.75, p < .0001)。四、體脂肪百分比均分數爲：健康族群高於血液透析及腹膜透析病患(F= 5.22, p= .007)；坐姿體前彎爲健康族群及血液透析患者皆高於腹膜透析患者(F= 4.71, p= .011)；六分鐘走距爲健康族群及血液透析病患高於腹膜透析病患(F= 9.41, p< .0001)；30 秒坐椅站立爲健康族群高於血液透析及腹膜透析病患(F= 7.59, p= .001)。

血液透析病患的每週相對中重度活動與骨密度呈正相關；腹膜透析病患的每週相對中重度活動與骨密度、六分鐘走距、30 秒坐椅站立次數呈正相關、與疲憊及體脂肪呈負相關。血液透析病患骨密度的主要預測因子是每週相對中重度活動；腹膜透析病患骨密度、疲憊、有氧適能及肌肉適能的主要預測因子是每週相對中重度活動。

本研究結果可提供護理人員在擬定透析病人身體活動相關護理措施之依據，以提升透析病人健康照護之品質。

英文摘要

The main purpose of this study was to (1) establish data for physical activity status, physical fitness, fatigue, and bone mineral density of hemodialysis and continuous ambulatory peritoneal dialysis (CAPD) patient; (2) compare the difference in physical activity status, physical fitness, fatigue, and bone mineral density between hemodialysis and CAPD patient; (3) analyze the impacts of physical activity status on physical fitness, fatigue, and bone mineral density of hemodialysis and CAPD patient. The results can be used to make the healthy policy for CAPD patient and improvement for quality of caring accordingly.

The research was conducted by using the cross-sectional cohort design. The hemodialysis ($n=44$) and CAPD patients ($n=44$) were recruited by purposive sampling and 44 healthy adults matched in age and gender from families were selected as the comparison group. The data were analyzed by frequency, percentage, mean, rang, independent t-test, one way ANOVA, chi-square test, and linear multiple regression using SPSS Window 13.0 version statistical software package.

The results found, (1) In bone mineral density, the healthy and hemodialysis subjects was significantly better than the CAPD patient. ($F= 12.33$, $p< .0001$), (2) In physical activity, the healthy was significantly better than the dialysis patient. ($F= 4.65$, $p= .011$), (3) In fatigue, the healthy subjects was significantly better than the dialysis patient. ($F= 8.75$, $p< .0001$), (4) In percentage of body fat, the healthy was significantly higher than the dialysis patient. ($F= 5.22$, $p= .007$). In sit-and-reach test, the healthy and hemodialysis subjects were significantly better than the CAPD patient. ($F= 4.71$, $p= .011$). In six-minute walk test, the healthy and hemodialysis subjects were significantly better than the CAPD patient. ($F= 9.41$, $p< .0001$). The 30-sec chair sit-to-stand test, the healthy subjects were significantly higher than the dialysis patient. ($F= 7.59$, $p= .001$). In hemodialysis patient, the relative amount of moderate to vigorous physical activity significantly correlated with bone mineral density. In CAPD patient, the relative amount of moderate to vigorous physical activity significantly correlated with bone mineral density, six-minute walk test, and 30-sec chair sit-to-stand test; relative amount of moderate to vigorous physical activity was negatively correlated to fatigue and percentage of body fat.

The relative amount of moderate to vigorous physical activity is a predictive factor for the bone mineral density in hemodialysis patients. The relative amount of moderate to vigorous physical activity is a predictive factor for the bone mineral density, fatigue, aerobic fitness, and muscular fitness in CAPD patients. The results would be valuable in promoting the physical activity among dialysis patients and enhancing the quality of care.