Abstract

End stage renal disease patients undergoing haemodialysis treatment is often found to be non- compliant with their treatment regime including dialysis therapy, and recommended fluid intake. Poor fluid compliance leads to hypertension and cardiovascular complications, contributing to increased mortality among the haemodialysis population. Patient education is an advocated strategy to improve compliance. This study aims to 1) assess patient knowledge on fluid and salt control, 2) determine fluid compliance status and 3) evaluate the effectiveness of patient education on fluid compliance. This is a longitudinal study, conducted using a quasi-experimental, non-equivalent group design, which took place in five hospital-based dialysis centers and involved 291 chronic haemodialysis patients who met the stipulated eligibility criteria. The patients were divided into experimental (n=154) and control group (n=137).The study consisted of two phases, aquestionnaire survey and patient records review followed by educational intervention for theexperimental group. The educational intervention included one session of individual teaching and weekly follow up for three months. The outcome measures were interdialytic weight gain (IDWG), rate of fluid adherence (RFA) and mean predialysis blood pressure (MPBP), and were assessed at one, three- and six months post-intervention.Both experimentaland control groups had no significant difference in mean total knowledge scores in the pre-intervention phase. However, there was a significant difference in mean total knowledge scores in the post-interventionphase. The experimental group had higher oddsof knowledge improvement (OR3.94,95%CI 2.02-7.69) than the control group post- intervention phase. The multivariate logistic model indicated that the number of antihypertensive medication was the only significant predictor of knowledge improvement, with higher odds (OR2.27, 95% CI 1.08-4.77) in patients who were not on any antihypertensive medication. Higher compliance improvement was found

among the experimental groupatone, three- and six months post-intervention.The +experimental group had increased proportion of compliant patients in IDWG (62.8% *vs.* 33.3%) and RFA (50.3% *vs.* 20.5%)as compared to control group.There was improved compliance with regards to IDWGat 1-, 3- and6-month (1.98 kg, 1.99kg and 2.00kg respectively, $p<.001$) post- intervention for the experimental group.In the experimental group,RFA was improved ($p<.001$) compared to baseline (47.14%) at the 1- (68.54%), 3-(64.56%) and 6-(64.66%) month time –points.However, there were no significant differences($p< 0.91$)in improvement in MPBP between the experimental and control group at 1-(105.47mmHg *vs.* 105.41mmHg), 3-(105.34mmhg *vs.* 106.38mmHg) and 6- (104.70 *vs.* 105.15 mmHg)month post- intervention. There was no predictor identified in IDWG compliance improvement.

Education intervention resulted in improved knowledge and fluid compliance among haemodialysis patients. Nurses play an important role in providing ongoing education and encouragement to patients on fluid restriction and weight control. Structured and monthly scheduled education program for long-term non-compliant patients are effective in promoting and sustaining fluid compliance.

Abstrak

Pesakit renal peringkat akhir yang sedang menjalani rawatan hemodialisis kerapdidapati tidak mengakuri rejim rawatan, terapi dialysis dan pengambilan cecair.Keakurangan pengambilan cecair yang teruk mengakibatkan hipertensi dan komplikasi kardiovaskular,menyumbang kepada peningkatan kadar kematian dalam kalangan populasi hemodialisis. Pendidikan pesakit adalah strategi yang disarankan untuk meningkatkan keakuran.Kajian ini bertujuan untuk 1) menilai pengetahuan berkenaan kawalan cecair dan garam, 2)mengenalpasti status keakuran pengambilan cecair dan 3) menilai keberkesanan intervensi pendidikan keatas keakuran pengambilan cecair.Ini merupakan kajian*longitudinal,* yang dijalankan menggunakan rekabentuk kuasi-eksperimen, bukan bersamaan kumpulan.Kajian ini dijalankan di lima buah pusat dialysis berasaskan hospital ke atas 291 pesakit hemodialisis kronik yang memenuhi kriteria yang telah ditetapkan. Kajian ini mengandungi dua fasa, tinjauan berpandukan soalselidik dan pencarian maklumat daripada rekod pesakit, dan intervensi pendidikan diberikan kepada kumpulan eksperimen. Ukuran hasilkajian dinilai pada 1-,3- 6- bulan di antara kedua-dua kumpulan kawalan dan eksperimen dalam purata jumlah skor pengetahuan di fasa pra interventsi.Walaubagaimanapun, terdapat perbezaan yang signifikan dalam purata jumlah skor pengetahuan di fasa pos interventsi. Kumpulan eksperimen mempunyai kemungkinan yang lebih tinggi (*OR 3.94, 95%CI 2.02-7.69*)dalam peningkatan pengetahuan berbanding dengan kumpulan kawalan di fasa 3-bulan pos intervensi.Model logistic pelbagai varia menunjukkan jumlah ubatan antihipetensi merupakan peramal yang signifikan bagi peningkatan pengetahuan, dengan kemungkinan yang lebih tinggi (OR 2.27,95%CI 1.08-4.77) dalam kalangan pesakit yang tidak mengambil ubatan antihipertensi..Kumpulan eksperimen menunjukkan peningkatan keakuran lebih tinggi daripada kumpulan kawalan pada 1-,3- dan 6 bulan bulan pos intervensi. Kumpulan eksperimen mempunyai nisbah

meningkat dalam keakuran pesakit dari aspek IDWG (62.8% *vs* 33.3%) and RFA (50.3% *vs* 20.5%) berbanding dengan kumpulam kawalan.Terdapat peningkatan tambahan dalam keakuran IDWG pada1-,3- dan 6-bulan(1.98 kg, 1.99kg and 2.00kg masing-masing, *p*<.001)untuk kumpulan eksperimen. Dalam kumpulan ekeperimen,keakuran dalam RFA meningkat(*p*<.001berbandingasas (47.14%)dengan titik -masa1- (68.54%), 3- (64.56%) and 6- (64.66%) bulan.Walaubagaimanapun, tiada perbezaan signifikan(*p*< 0.91) didapati dalam peningkatan keakuran dalam MPBP antara kumpulan eksperimen dan kawalan pada1-(105.47mmHg *vs* 105.41mmHg), 3- (105.34mmhg *vs* 106.38mmHg) dan 6- (104.70 *vs* 105.15 mmHg) bulan pos inervensi. Tiada peramal yang dikenalpasti dalam peningkatan pematuhan Jururawat memainkan peranan penting dalam memberikan pendidikan berterusan dan galakan kepada pesakit dalam sekatan cecairdan mengawal berat badan. Program pendidikanberstruktur dan dijadualkan bulanan untuk pesakit ketidakakuran jangkapanjang adalah berkesan untuk menggalak dan mengekalkan keakuran pengambilan cecair.