Regular monthly prescription with knowledge of each medicine may improve drug adherence in hemodialysis patients

Sir,

Non-adherence is a common problem in patients with end-stage renal failure on hemodialysis.[1], and leads poor blood sugar, blood pressure and phosphate control. Some of the factors are pill burden, psychosocial factors and literacy. One modifiable factor is non-availability of updated prescription and lack of knowledge of purpose of medicines.[2,3] The issue of non-adherence is compounded in countries like ours, where pharmacy do not have the record of patient's prescription and the pharmacy shops are "open market," where patients can go anywhere and buy drugs. In our country, patients prefer to buy drugs in parts rather than for a month and refill when short, which invariably leads to missed dose for few days. It is worth looking at and modifying factors, which can improve drug adherence in such patients.

An audit of adherence of medicines was planned in our dialysis unit. All adult hemodialysis patients were interviewed for adherence of medicines prescribed to them in the previous month. Non-adherence was defined by missing of a dose as evidenced by self-assessment on review of medication list or absence from the supplies brought by the patient during the visit. The medicines were divided into six categories: (1) anti-diabetics, (2) anti-hypertensives, (3) iron and vitamins, (4) phosphate binders and vitamin D3, (5) cardiac drugs including antiplatelets and (6) others. The number of non-compliant patients and the number of different drugs missed were noted.

A fresh prescription was issued every month with updated medicines in a tabulated form including their frequency of administration and explained in local language. Re-auditing was carried out after 3 months. Again a column of purpose of each medicine was included in the prescription and repeat auditing was carried out after 3 months for adherence of medicines. The compliance at baseline was assessed and then the effect of intervention was compared with baseline after each intervention by Chi-square test.

A total of 71 patients were included in the study. Mean age was 50.32 ± 13.04 with 62% males. About 75% patients were on iron and vitamin supplements, 70% were on anti-hypertensive medicines, 34% on anti-diabetic medicines, 62% on phosphate binders and/or vitamin D and 52% were on cardiac drugs.

When compliance was looked into at baseline, 26.8% patients (19/71) were non-adherent in one or more medicines. After 3 months of detailed prescription and further 3 months of elaborate prescription with a column of "purpose" of medicines, percentage of patients non-adherent for medicines were 21.1% (15/71) and 14.1%* (10/71, $P = 0.06$) respectively. At baseline, cardiac medicines were more commonly missed than other categories, but at 3 and 6 months, phosphate binders were more commonly missed without statistical significance.

Our audit found 26.8% patients were non-compliant in their medicine consumption at baseline. Review of literature shows varying non-compliance from 3% to 80%.[4] Of several factors related to non-compliance, psychosocial factors are more likely to affect adherence than demographic or clinical factors.[5] In our study, at 6 months, with regular prescription and detailing, there was a trend toward improvement in non-compliance ($P = 0.06$). Psycho-educational intervention had resulted in improvements in adherence in the study by Karamanidou *et al*. also.[5] The cause for non-adherence was not looked into systematically and was a limitation of this audit. However, the limited data available showed finances, lack of knowledge and "no reason" was few common causes for non-adherence to medicines. We conclude that monthly detailed prescription with knowledge of medicines should be provided to all dialysis patients to improve compliance of oral medicines.

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