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**Feasibility of Using a Web Application for Dietary Phosphate Control
Compared with 24-hour Food Takes Notes by Patients Undergoing Regular
Hemodialysis: A Quasi-Experimental Study Design.**

YUWADEE PATTANAMONTREE, BHAGAWAT TANGJATURONRASME

Department of Internal Medicine, Division of Clinical Nutrition, Department of Internal Medicine,
Phramongkutklao Hospital, Bangkok, Thailand

Objectives : Hyperphosphatemia presents a significant health risk for hemodialysis patients, necessitating meticulous dietary control to manage phosphorus levels and mitigate associated complications. The PhosPointer web application was developed as an alternative to conventional paper-based food records, aiming to enhance user experience, save time, and improve overall quality of life for patients and caregivers. The primary objective was to assess the feasibility of PhosPointer among these patients and to examine its impact on phosphorus levels.

Methods : In a quasi-experimental study from January to October 2023, we enrolled regular thrice-weekly hemodialysis patients aged 20 years or older, comparing PhosPointer with traditional 7-day food records over one week.

Results : 48 participants (68.8% male, mean age 46.8 years, mean BMI 24.8 kg/m²) demonstrated a significantly higher potential for PhosPointer utilization (62.6%) compared to 7-day food records (2.1%) ($p < 0.001$). Participants found the web application less time-consuming (70.8% versus 22.9%, $p < 0.001$), and satisfaction reached 72.9%. Serum phosphate levels exhibited a noteworthy decrease from 6.4 mg/dL (IQR 5.8-7.7 mg/dL) to 5.4 mg/dL (4.2-6.1 mg/dL) within one week of PhosPointer use ($p < 0.001$).

Conclusions : PhosPointer demonstrated clear feasibility and benefits for regular thrice-weekly hemodialysis patients, offering an improved approach to dietary management. This web application proved effective in enhancing user satisfaction and controlling serum phosphate levels, particularly among patients under 50 years old.

PhosPointer.jpg

This table shows patient feedback on web application compared with food record. (n=48)

	Phospointer‡	Food Record‡	P-value*
1. There was foods that I ate but didn't record			0.023
Every day	3 (6.2%)	14 (29.2%)	
Most day	5 (10.4%)	2 (4.2%)	
Some day	15 (31.3%)	14 (29.1%)	
Never	25 (52.1%)	18 (37.5%)	
2. Keeping the food record was embarrassing			0.0001
Not at all	30 (62.5%)	12 (25.0%)	
Slightly	13 (27.1%)	27 (56.2%)	
Moderately	5 (10.4%)	8 (16.7%)	
Extremely	0 (0.0%)	1 (2.1%)	
3. Keeping the food record was difficult			0.0003
Not at all	33 (68.8%)	23 (47.9%)	
Slightly	12 (25.0%)	16 (33.3%)	
Moderately	3 (6.2%)	9 (18.8%)	
Extremely	0 (0.0%)	0 (0.0%)	
4. Keeping the food record was time-consuming			<0.001
Not at all	34 (70.8%)	11 (22.9%)	
Slightly	6 (12.5%)	12 (25.0%)	
Moderately	7 (14.6%)	21 (43.8%)	
Extremely	1 (2.1%)	4 (8.3%)	
5. Keeping the food record was interesting			0.024
Not at all	26 (54.2%)	34 (70.8%)	
Slightly	11 (22.9%)	7 (14.6%)	
Moderately	8 (16.7%)	5 (10.4%)	
Extremely	3 (6.2%)	2 (4.2%)	
6. Keeping the food record was enjoyable			0.372
Not at all	31 (64.6%)	35 (72.9%)	
Slightly	9 (18.7%)	5 (10.4%)	
Moderately	7 (14.6%)	8 (16.7%)	
Extremely	1 (2.1%)	0 (0.0%)	
7. Keeping the food record was boring			0.0001
Not at all	34 (70.8%)	12 (25.0%)	
Slightly	6 (12.5%)	22 (45.8%)	
Moderately	7 (14.6%)	8 (16.7%)	
Extremely	1 (2.1%)	6 (12.5%)	
8. Keeping the food record was convenient			<0.001
Not at all	0 (0.0%)	5 (10.4%)	
Slightly	9 (18.7%)	28 (58.3%)	
Moderately	9 (18.7%)	14 (29.2%)	
Extremely	30 (62.6%)	1 (2.1%)	

* P-value obtained by Stuart–Maxwell test.

‡ Percentage by column.

PhosPointer.jpg

Information

Scan code to install. Learn how

PhosPointer

by T.Bhagawat

Phosphate tracker for dialysis patients

Inputs

Details

Summary

ปริมาณฟอสฟอรัสที่ได้รับวันนี้ (มก.)

1200

ถึงจุดนี้ได้รับปริมาณฟอสฟอรัสมากกว่า 1000 มก. !!

ปริมาณฟอสฟอรัสเฉลี่ย 3 วันเบื้องหลัง (มก.)

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