

Cross sectional study of medication adherence in a rural dialysis population in Northern British Columbia

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Background

- Dialysis patients have huge burden of taking multiple medication.
- Patients are often not aware of the role and importance of specific medication.
- Studies have shown high rate of nonadherence with dialysis patients and medications.

Objectives

- To determine the rate of non-adherence to prescription medications amongst dialysis patients
- To determine potential barriers patients may have with taking medications

Methods

- Nonadherence was estimated using 2 previously validated surveys: 4-item Morisky Green Levine test (MGLT-4) and the Modified Immunosuppressive Therapy Adherence Scale (ITAS-M).
- Barriers to adherence were determined in an open-ended manner by "In your own words, what (if any) barriers prevent you from taking your medications?"

Inclusion: HD or PD patients with care looked after by the Northern Health Kidney Program.

Exclusion: Initial screening took place by nurses at appointment. Patients who were not willing to participate or had severe hearing/visual or cognitive impairment were excluded.

Results

Baseline Characteristics and nonadherence results

	Total	Adherent with both tools	Adherent with one tool	Nonadherent both tools
	n (%)	n (%)	n (%)	n (%)
Population (n)	43	15	16	12
Age	65.4 (+/- 14.0)	74.8 (+/- 6.1)	62.4 (+/- 15)	57.5 (+/- 13.9)
Gender				
Male (n)	21 (49)	8 (53.3)	8 (50)	5 (41.7)
Female (n)	22 (51)	7 (46.7)	8 (50)	0 (0.0)
Education				
High school or lower (n)	9 (21)	1 (6.7)	6 (37.5)	2 (16.7)
High School Diploma (n)	19 (44)	9 (60.0)	7 (43.75)	3 (25.0)
Apprenticeship Diploma (n)	4 (9)	1 (6.7)	1 (6.25)	2 (16.7)
College Degree (n)	7 (16)	2 (13.3)	1 (6.25)	4 (33.3)
University Degree (n)	4 (9)	2 (13.3)	1 (6.25)	1 (8.3)
Living Situation				
Alone (n)	13 (30)	6 (40.0)	2 (12.5)	5 (41.7)
Spouse (n)	23 (53)	9 (60.0)	11 (68.75)	3 (25.0)
Family (n)	6 (14)	0 (0.0)	3 (18.75)	3 (25.0)
Shared housing (n)	1 (2)	0 (0.0)	0 (0)	1 (8.3)
Marital Status				
Single (n)	4 (9)	1 (6.7)	0 (0)	3 (25.0)
Partner (n)	3 (7)	0 (0.0)	2 (12.5)	1 (8.3)
Married (n)	23 (53)	9 (60.0)	10 (62.5)	4 (33.3)
Divorced (n)	6 (14)	1 (6.7)	2 (12.5)	3 (25.0)
Widowed (n)	7 (16)	4 (26.7)	2 (12.5)	1 (8.3)
Extended medical				
Yes	25 (58)	10 (66.7)	11 (68.75)	4 (33.3)
No	18 (42)	5 (33.3)	5 (31.25)	8 (66.7)
Dialysis Type				
Hospital Haemodialysis	30 (70)	9 (60.0)	11 (68.75)	10 (83.3)
Peritoneal dialysis	5 (12)	2 (13.3)	1 (6.25)	2 (16.7)
Community Haemodialysis	8 (19)	4 (26.7)	4 (25)	0 (0.0)
Pills per day (mean)	15.4 (+/- 5.4)	17.1 (+/- 6.4)	14.1 (+/- 7.11)	15.0 (+/- 7.6)
Days on dialysis (mean)	1267.1 (+/- 1259.6)	1,445.9 (+/- 1455.9)	814.8 (+/- 660.8)	1,646.7 (+/- 1264.3)
Hospitalizations*	5.9 (+/- 8.3)	7.9 (+/- 6.5)	3.5 (+/- 2.23)	17.0 (+/- 9.7)
MGLT-4 score (mean)	0.26 (+/- 0.26)	0.00 (+/- 0.0)	0.30 (+/- 0.36)	0.44 (+/- 0.4)
Nonadherent MGLT	28 (65.1)	0	16 (100)	12
ITAS-M score (mean)	10.2 (+/- 2.1)	11.9 (+/- 0.4)	10.6 (+/- 4.88)	7.6 (+/- 3.6)
Nonadherent ITAS-M	12 (67.4)	0	0 (0)	12

*Those who replied with "many" hospitalizations were excluded

- Out of 75 patients being provided care for at the time, 43 patients expressed interest in joining our survey

Barriers to adherence reported

Barrier	n
Forgetfulness	14
Travelling / out of the house	3
Cost	2
Side effects	1
Difficulty swallowing	1
Dislike of medications	1

Conclusion

- Rural patients that require dialysis have nonadherence rates vary from 28% to 67% using the ITAS-M and MGLT-4 nonadherence tools respectively..
- The primary barrier to adherence was a patient's forgetfulness to take a medication, which may be improved by blister packing medications or medication organizers.

Reference / Bibliography

- Matzke GR, Alexander ACM. Medication knowledge and compliance among patients receiving long-term dialysis. 1995;52:1895-900.
- Ghimire S, Castellino RL, Lioufas NM, Peterson GM, Zaidi STR. Nonadherence to medication therapy in haemodialysis patients: A systematic review. PLoS One. 2015;10(12):1-19.

Acknowledgement

Thank you to the kidney dialysis team in Northern Health Authority for allowing us to complete this work.

