FALLS IN COMMUNITY-DWELLING WOMEN WITH BIPOLAR DISORDER

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BACKGROUND & AIM

Psychotropic medications commonly used in the treatment of bipolar disorder and comorbid conditions, in particular sedatives/hypnotics, antidepressants and both short- and long-acting benzodiazepines, have been associated with increased falls in the elderly[1].

Falls are common among those diagnosed with bipolar disorder in both inpatient[2] and clinical settings[3], however research regarding falls risk among women with bipolar disorder outside an inpatient setting is sparse. Thus, we aimed to investigate falls in a community-dwelling sample of women with bipolar disorder.

METHODS

Women with a history of bipolar disorder (n=123) were recruited and non-bipolar disorder controls were drawn from the Geelong Osteoporosis Study (n=779). Lifetime history of mood disorder was identified using a semi-structured clinical interview (SCID-I/NP).

A fall was defined as "when you suddenly find yourself on the ground, without intending to get there, after you were in either a lying, sitting or standing position"[4]. Participants were classified as fallers if they had fallen to the ground at least twice during the previous 12-months.

Medication use (antidepressants, benzodiazepines, sedatives/hypnotics), alcohol consumption, mobility, health status and walking aid use were self-reported. Anthropometry, blood pressure and timed up-and-go (TUG) were measured, and area-based socioeconomic status determined.

Odds ratios (OR, with 95% confidence intervals, CI) were determined using logistic regression to determine the likelihood of falling among those with bipolar disorder compared to controls.

The study was approved by Barwon Health Human Research Ethics Committee.

RESULTS

Among the sample of 902 women, 268 (29.7%) reported a fall during the previous 12 months, and 70 (7.8%) were classified as fallers (two or more falls). Fallers and non-fallers differed in weight, the TUG, antidepressant use, mobility, health status and history of bipolar disorder, otherwise the groups were similar (Table 1).

Bipolar disorder cases had an increased odds of falling compared to controls [OR 3.3, (95%CI 1.9-5.7), p<0.001]. This relationship was attenuated following adjustment for mobility and antidepressant use, however, the odds of falling remained two-fold greater for bipolar disorder cases compared to controls [OR 2.1, (1.2-3.9), p=0.019]. No other confounders were identified.

Post hoc analyses revealed a greater risk of falling among women with bipolar disorder compared to controls when those with a history of other mood disorders were removed [OR 5.2 95%CI (2.7, 9.9), p<0.001]. These results also were attenuated following adjustment for mobility and antidepressant use [OR 3.2, 95%CI (1.5, 6.7), p=0.002].

Table 1- Participant characteristics for the total group, non-fallers and fallers (2 or more falls). Results are presented as median (IQR), mean (std) or n (%).

	Total group n=902	Non-fallers n=832	Fallers n=70	P value
Age (yr)	55.5 (41.6-68.2)	55.3 (22.5-68.0)	56.8 (45.5-70.0)	0.507
Weight (kg)	72.1 (62.7-84.7)	71.9 (62.4-84.2)	76.6 (66.1-90.7)	0.046
Diastolic BP (mmHg)	76.9 (10.6)	76.7 (10.7)	78.7 (10.5)	0.141
Systolic BP (mmHg)	131 (17.9)	131.6 (17.8)	135.6 (18.9)	0.092
TUG > 10 seconds	131 (15.7%)	115 (14.9%)	16 (25.0%)	0.033
Walking aid (current)	57 (6.4%)	49 (5.9%)	8 (11.6%)	0.063
Health status				
Excellent	495 (55.2%)	465 (56.2%)	40 (43.5%)	
Good	308 (34.3%)	283 (34.2%)	25 (36.2%)	0.012
Poor	94 (10.5%)	80 (9.7%)	14 (20.3%)	
Mobility (current)				
Active	639 (71.9%)	599 (73.0%)	40 (58.8%)	
Sedentary	176 (19.8%)	162 (19.7%)	14 (20.6%)	0.001
Limited	74 (8.3%)	60 (7.3%)	14 (20.6%)	
Alcohol consumption				
Never	225 (25.3%)	204 (24.9%)	21 (30.0%)	
Less than once a week	268 (30.2%)	254 (31.0%)	14 (20.0%)	
Once or twice a week	190 (21.4%)	176 (21.5%)	14 (20.0%)	0.147
Several times per week	124 (14.0)	114 (13.9%)	10 (14.3%)	
Every day	82 (9.2%)	71 (8.7%)	11 (15.7%)	
Socio-economic status				
Quintile 1 (most disadvantaged)	135 (15.4%)	127 (15.6%)	8 (12.7%)	
Quintile 2	101 (11.5%)	91 (11.2%)	10 (15.9%)	
Quintile 3	336 (38.4%)	312 (38.4%)	24 (38.1%)	0.596
Quintile 4	165 (18.9%)	151 (18.6%)	14 (22.2%)	
Quintile 5	138 (15.8%)	131 (16.1%)	7 (11.1%)	
Medication use (current)				
Benzodiazepine use	85 (9.4%)	75 (9.0%)	10 (14.3%)	0.147
Antidepressant use	184 (20.4%)	149 (17.9%)	35 (50.0%)	<0.001
Sedative/hypnotic use	31 (3.4%)	27 (3.3%)	4 (5.7%)	0.276
History of mood disorders				
Bipolar disorder	123 (13.6%)	101 (12.1%)	22 (31.4%)	
Other mood disorder	282 (31.3%)	254 (30.5%)	28 (40.0%)	<0.001
No history of mood disorder	497 (55.1%)	477 (57.3%)	20 (28.6%)	

Missing values- weight n=32, blood pressure n=37, mobility n=13, walking aid n=5, health status n=5, socio-economic status n=27, alcohol use n=13, TUG n=68.

DISCUSSION

Falls risk was greater among women with a history of bipolar disorder compared to non-bipolar disorder controls.

Underlying mechanisms, including confidence, and gait disturbances, contributing to the increased risk of falls among those with bipolar disorder need to be investigated.

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