

AIMS Screening: A Procedure Evaluation

Virginia Bradley, MSN RN-BC, DNP-c PMHNP-BC & Florence Weierbach, PhD, MSN MPH-RN



Purpose

- To evaluate adherence to an organization's procedure for Tardive Dyskinesia (TD)
- Data from the electronic medical record (EMR) was analyzed to determine the number of times clinicians completed the electronic Abnormal Involuntary Movement Scale (AIMS)

Background and Significance

Tardive Dyskinesia:

- Newer antipsychotic medications from the 80s up to recent years significantly decreased tardive dyskinesia.
- TD affects an estimated 500,000 people in the U.S., 60-70 % of all cases are mild
- Approximately 30 % are moderate to extreme and of these more than 40 % have extreme anxiety related to their symptoms.
- Approximately 3 % of cases are severe
- Screening using AIMS can reduce these statistic.1
- VMAT2 drugs treat TD

Antipsychotic Medication Benefit:

- Provide a better quality of a life for patient with severe mental illnesses
- Provide relief of symptoms of anxiety, depression, irritability, sleep difficulty

Antipsychotic Medication Risk:

- Cause metabolic diseases such as diabetes and heart disease
- Cause long term movement disorders

AIMS

- A screening instrument designed to detect TD with a Cronbach alpha score of r-0.97
- Evidence-based practice recommends annual AIMS screening for all patients taking antipsychotics

Methods

- Inclusion criteria all patient/provider encounters for clients who were taking antipsychotic medications between August 19, 2020 and November 26, 2020
- De-identified data included at least one of the top five most frequently prescribed antipsychotic medications;
- Data included provider type, practice settings, encounter date, and whether an EMR AIMS assessment was completed.

AIMS Instrument

		hnormal Involuntary Movem			c -	al.	~ (Α.		-1								
	А	bnormal Involuntary Moven	ien		SC	ale	9 (All	IVI:	5)								
	Patient Name Date of Visit																	
Movement Ratings:	Co	ode: 0 = None 1 = Minimal 2 =	Mild		3		VIO	dera	ate		4 =		eve	re	: BAT			
 Rate highest severity obse 	uru	pon activation one point less than those	DATE				DA	E			DAI	Ē			DAT	E		
I FACIAL & ORAL MOVEMENTS	1.	Musdes of Facial Expression e.g. movements of forehead, eyebrows, periorbital area, cheeks, including frowning, blinking, smiling, grimacing	0 1	2	3	4	0	1 2	2 3	4	0	1	2 3	4	0	1	2 3	4
	2.	Lips and Perioral Area e.g. puckering, pouting, smacking	0 1								0							4
	3.	Jaw Biting, clenching, chewing, mouth opening , lateral movement	0 1			4	0	1 2	2 3	4	0	1	2 3	4				4
	4.	Tongue Rate only increases in movement both in and out of mouth. NOT inability to sustain movement. Darting in and out of	0 1	2	3	4					0				0	1	2 3	4
II EXTREMITY	5.	mouth Upper (arms, wrists, hands, fingers)	0 1	2	3	4	0	1 2	2 3	4	0	1	2 3	4	0	1	2 3	4
MOVEMENTS		Include choreic movements (i.e. rapid objectively purposeless, irregular, sportaneous) athetoid movements. DO NOT INCLUDE TREMOR (i.e. repetitive, regular, rhythmic)																
	6.	Lower (legs, knees, ankles, toes) Lateral knee movement, foot tapping, heel dropping, foot squirming, inversion and	0 1	2	3	4	0	1 2	2 3	4	0	1	2 3	4	0	1	2 3	4
	_	eversion of foot	_	_	_	_	_	_	_	_	_	_		_	1	_	_	_
III TRUNK MOVEMENTS	7.	Neck, shoulders and hips Rocking, twisting, squirming, pelvic gyrations	0 1	1 2	3	4	0	1 2	2 3	4	0	1	2 3	4	0	1	2 3	4
IV GLOBAL	8.	Severity of abnormal movements overall	0 1	2	3	4	0	1 2	2 3	4	0	1	2 3	4	0	1	2 3	4
JUDGEMENT	9.	Incapacitation due to abnormal movements	0 1	2	3	4	0	1 2	2 3	4	0	1	2 3	4	0	1	2 3	4
	10.	Patient's awareness of abnormal movements. Rate only patients report: No Awareness = 0 Aware, no distress = 1	0 1	2	3	4	0	1 2	2 3	4	0	1	2 3	4	0	1	2 3	4
		Aware, mild distress = 2 Aware, moderate distress = 3 Aware, severe distress = 4																
V DENTAL STATUS	11.	Current problems with teeth and/or dentures		S				ΈS			1	_	N		١	ÆS	N	0
	12	Are dentures usually worn		5				ΈS			Y		N		1	ÆS	N	0
		. Endentia?	YE	5	N	0	١	ŒS	N	D	Y	ES	N	0	١	ÆS	N	0
	14	Do movements disappear with sleep?	YE	ς	NO)	,	ΈS	N	2	v	TE	N	0		/ES	N	n

Results-AIMS

Table 1: Patient Encounters and AIMS									
		Patient encounters (n)	Percentage (%)						
Total visits without A	AIMS completed	2059	95						
Number of AIMS cor	mpleted	108	5						
Total		2167	100						

The data did not reflect any of the AIMS assessment forms that were manually completed.

Other Results

AIMS and Medications								
Medication	AIMS completed	AIMS not completed	Total					
aripiprazole	27	591	618					
olanzapine	23	402	425					
risperidone	31	433	464					
quetiapine	26	384	410					
clozapine	1	249	250					
Total	108	2059	2167					

2167 patients treated with antipsychotic agents in an outpatient behavioral health clinic.

Provider Type Completing AIMS

Provider Type	AIMS Yes	AIMS No	Visits	Percent	Percent per visits
MD	16	765	781	14.8	1.6
DNP	50	364	414	46.3	8.9
PA	42	924	966	38.9	3,3
unknown	0	6	6	0	0
Total	108	2059	2169	100	

Five of the most used antipsychotic medications were selected from a list of 21 medications.

Conclusion

5% of 2167 encounters resulted in AIMS Provider-types:

- MD=Psychiatrists
- PMHNP = psychiatric and mental health nurse practitioner
- PA=Physician's assistants

(4 MDs, 1 PMHNP, and 6 PAs)

Of the 2169 encounters

- 781were with MDs
- 966 with a PA
- 414 with the NP (19 %), 12.1 % resulted in an AIMS screening 46.3 % of the total no. of AIMS

Discussion

Recommendations:

- Continuous evaluation of adherence to clinical practice recommendations
- Give incentives for increased use of the electronic AIMS form
- Generate quarterly reports from the electronic health record to show percentage AIMS completed electronically

Sustainability and recommendations:

- Develop a system to alert the clinician to complete monitoring assessments
- Remove paper AIMS forms from clinical setting
- Provide AIMS education module
- Extend AIMS completion to counselors

Future Needs:

- Conclusive studies showing benefit of screening
- Improved scoring and
- Consistent and ongoing training for all staff to create a more collaborative approach to medication management

Contact Information

Communication:

bradleyvf@etsu.edu Virginia F. Bradley

704-214-8660

Weierbach@mail.etsu.edu

References

1 Psychiatric Times. Tardive dyskinesia facts and figures. May 30, 2019

https://www.psychiatrictimes.com/view/tardi vedyskinesia-facts-and-figures

2 National Institute of Mental Health. (1976).

Abnormal involuntary movement scale

[AIMS]Psychopharmacology Research Branch. Guy W. (1976). ECDEU assessment manual for psychopharmacology. Rev. Rockville, MD: U.S.

National Institute of Health, Psychopharmacology Research Branch. Pg. 534-537