Validation of the Johns Hopkins Observations of Psychosis Scale

AUTHORS:

CHLOE LAWYER: Johns Hopkins School Of Nursing, Baltimore, MD

ELIZABETH NOYES, RN, NP: Johns Hopkins Hospital, Baltimore, MD

TERRY EDMUNDSON, RN, MScN, Nurse Manager: Meyer 5, Johns Hopkins Hospital, Baltimore, MD

1 Background

Patients with acute psychotic illness compose a large portion of people living with psychotic illness within the US. The current method of tracking inpatient progress in psychiatric conditions relies largely on written and oral communication between interprofessional disciplines. Nursing observations tend to be transferred inefficiently, as the location of information is scattered. Dramatic behavior gets more attention than the absence of a behavior, and information is qualitative and difficult to track over time. Our goal is to develop an improved process of collecting and transferring data about these patients that will both facilitate clinical care and provide a tool for outcomes based research.

Most of the rating instruments that currently exist to assess the severity of symptoms in psychotic patients assume substantial cooperation from the subjects (Overall and Gorham, 1962) and require continuous calibration when replicated (Bark *et al*, 2011). To address the issues found in current scales used to rate psychotic symptoms, the Johns Hopkins Observations of Psychosis Scale (JHOPS) was developed. JHOPS is a quality improvement measure designed to provide a nurse-led, quantitative, observation-based rating of the behavior of psychiatric inpatients with psychotic disorders.

2 Objectives

There are two general objectives of the JHOPS:

- Improved clinical communication, including facilitation of concise information transfer between nurses during shift changes and between nurses and other clinicians, especially physicians, during routine rounds.
- Quantitative measurement of patient progress for clinical use in determining the success of a course of treatment.

3 Methods

The JHOPS scale was created to address concerns since existing scales were ill-suited for daily use on an acute inpatient unit. Scale items were chosen by a multi-disciplinary team of physicians and nurses. Eight items (Table 2) were included in the scale, each with a rating from 0 to 4, with 0 indicating no abnormality in behavior, 1 indicating mild abnormality, 2 indicating moderate abnormality, 3 indicating severe abnormality and 4 indicating extreme abnormality of behavior (See Table 1). The highest rating possible is 32 and the lowest is 0. Following unit leadership and IRB approval, the instrument was tested on an inpatient unit specializing in the care and treatment of patients diagnosed with psychotic disorders. Data was collected and the de-identified data was entered into a secured computer database for analysis.

Table 1. Example Items from Johns Hopkins Observational Psychosis Scale

Category	Description	Score
ADL	independent and appropriate	0
	Needs reminders to attend to ADLs OR somewhat disheveled	1
	Needs strong encouragement to attend to ADLs OR significantly disheveled	2
	Needs partial physical assistance OR specific instructions to attend to ADLs	3
	Needs full physical assistance OR refuses to attend to ADLs	4
Abnormal Motor Activitiy	None	0
	Activity infrequent and attracts little attention	1
	Activity frequent or attracts attention; requires infrequent verbal intervention	2
	Activity frequent or attracts attention; requires frequent verbal intervention	3
	Activity frequent or attracts attention; requires physical intervention	4

4 Results

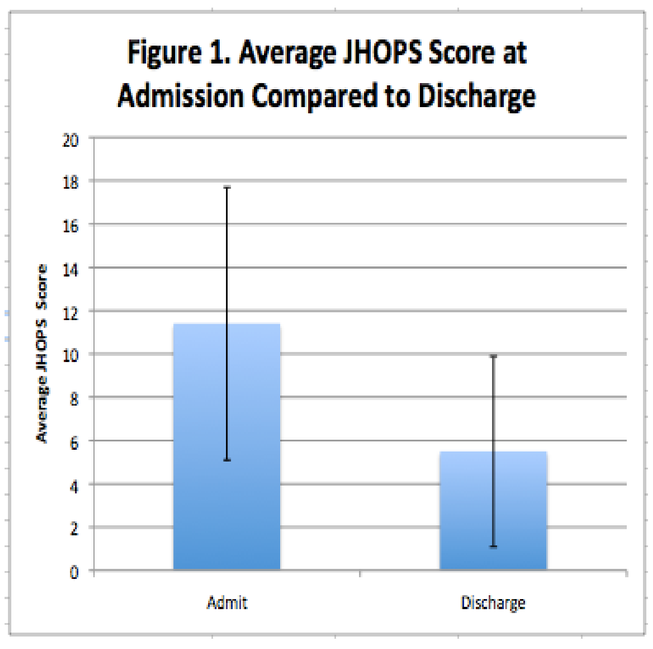
Data was collected and analyzed on a sample size of 26 patients (n=26). Of these 26, 73% were African American males with an average age of 36.8. An algorithm was created to establish reliability (Table 2). A p-value of <0.05 indicates significant reliability.

Table 2. Inter-Rater Reliability of Johns Hopkins Obeservational Psychosis Scale

Category	*p*
ADLs	0.269
Abnormal Motor Activity	0.292
Bizarre/Disorganized Behavior	0.349
Aggression	0.182
Medication Adherance	0.140
Quality of Social Interaction	0.257
Participation in Assessment	0.255
Observation Status	0.127
Total	0.830

The average JHOPS score at the time of admission was 11.4 with a SD of 6.3. The average JHOPS score at the time of discharge was 5.5 with a SD of 4.4 (Figure 1). Scores decreased by an average of 5.9 throughout the course of treatment on the inpatient unit.

Figure 1. Average JHOPS Score at Admission Compared to Discharge



5 Conclusions

Upon analysis of inter-rater reliability using an algorithm developed for this data set (D. Naiman, personal communication, August 6, 2015), the scale did not prove reliable (p=0.8303). Reliability was not significantly significant for any of the rating categories (Table 2). Though reliability was too poor to use the scale in its current form, the utility of the scale is promising. JHOPS scores at discharge were significantly less than scores at admission ($t=3.915$, $d.f.=24$, $p<0.001$). Given the poor inter-rater reliability of this scale, we have been working on extensive revisions to improve reliability. We have altered the scale to rate from 0 to 3 rather than 0 to 4 as nurses stated they felt comfortable rating the extremes but found numbers 1-3 to be too similar. We significantly altered the wording of the scale to clarify the scoring system. We created a new, focused training module that all RN staff completed consisting of 4 vignettes administered over 4 hours of training. In addition to these changes, we added a category of speech to the new scale to better capture psychotic symptoms. Data collection began with the new scale on June 22, 2015.

6 Future Directions

Currently, data is being collected for analysis. Preliminary statistics testing for reliability will be run when 25 complete data sets are compiled. The goal for project completion is 100 participants.

7 References

Bark, N., Florida, D., Gera, N., Varardi, R., Harghel, L., & Adlington, K. (2011). Evaluation of the routine clinical use of the Brief Psychiatric Rating Scale (BPRS) and the Abnormal Involuntary Movement Scale (AIMS). *Journal of Psychiatric Practice®, 17(4), 300-303.*

Overall, J. E., & Gorham, D. R. (1962). The brief psychiatric rating scale. *Psychological reports, 10(3), 799-812.*

Funding Source:

The Helene Fuld Leadership Program for the Advancement of Patient Care Quality and Safety

JOHNS HOPKINS
SCHOOL of NURSING