General Hospital Psychiatry 37 (2015) 606–612

Contents lists available at ScienceDirect

General Hospital Psychiatry

journal homepage: http://www.ghpjournal.com

Describing the precursors to and management of medication nonadherence on acute psychiatric wards

Michelle Richardson, B.A., M.Res., D.Phil. [a,*], Geoffrey Brennan, B.A. (Hons), R.M.N., R.N.L.D. [b], Karen James, B.A., M.Sc. [c], Mary Lavelle, B.Sc. (Hons), M.Sc., Ph.D. [d], Laoise Renwick, R.M.N., B.N.S., Ph.D. [e], Duncan Stewart, B.A., Ph.D. [f], Len Bowers, R.M.N., Ph.D. [d]

[a] Evidence for Policy and Practice Information and Coordinating (EPPI)-Centre, Social Science Research Unit, UCL Institute of Education, London, UK
[b] Verita Consultants LLP, 53 Frith Street, London UK/Star Wards
[c] The McPin Foundation, London
[d] Section of Mental Health Nursing, Health Services and Population Research, Institute of Psychiatry, King's College London
[e] School of Nursing, Midwifery and Social Work, University of Manchester
[f] School of Psychology, Social Work and Human Sciences, University of West London

ARTICLE INFO

Article history:
Received 6 February 2015
Revised 22 June 2015
Accepted 23 June 2015

Keywords:
Medication
Nonadherence
Conflict
Containment
Psychiatric

ABSTRACT

Objective: This study aims to (a) describe what conflict (aggression, absconding etc.) and containment (de-escalation, restraining etc.) events occur before and after events of medication nonadherence on acute psychiatric wards and (b) identify which patient characteristics are associated with medication nonadherence.
Method: Conflict and containment events for each shift over the first 2 weeks of admission were coded retrospectively from nursing records for a sample of 522 adult psychiatric inpatients. The frequency and order of the conflict and containment events were identified. Univariate logistic regression models were conducted to examine which patient characteristics were linked with medication noncompliance.
Results: Medication refusals were commonly preceded by aggression whereas demands for pro re nata (PRN) (psychotropic) were commonly preceded by the same patient having been given PRN medication. Refusals and demands for medication were commonly followed by de-escalation and given PRN (psychotropic) medication. Only refusal of PRN medication was commonly followed by forced (intramuscular) medication. Ethnicity, previous self-harm and physical health problems were also linked to nonadherence.
Conclusions: Greater attention to the conflict and containment events that precede and follow medication nonadherence may reduce the likelihood of medication nonadherence.

1. Introduction

The treatment of patients with the use of psychotropic medication is a core function of acute psychiatry [1]. However, nonadherence to psychotropic medication, defined as refusal of regular medication (RRM), refusal of pro re nata (RPRN) (as needed) medication and inappropriate demand of pro re nata medication (DPRN), is a common problem with serious consequences [2]. Rates of nonadherence range between 28% and 52% for major depressive disorder, 20%–50% for bipolar disorder and 20%–72% for schizophrenia depending on the definition of medication refusal, type of admission and methodology employed [3]. The problem of nonadherence is compounded by the fact that on most wards, in certain circumstances, medication can be administered without consent from the patient.

Previous research has focused on patient characteristics as risk factors to medication adherence. Few characteristics, however, have consistently been linked with nonadherence among psychiatric populations [3]. There is mixed evidence on the impact of ethnicity with some studies reporting that a greater percentage of Caucasians refused medication compared to other ethnic groups [4,5] while others reported that Afro-Caribbeans refused more medication than other groups [6]. Patients diagnosed with schizophrenia and schizoaffective disorder, patients with previous admission and patients with a history of refusal have also been identified with higher rates of medication nonadherence. A recent review indicates that refusers and acceptors of medication did not significantly differ on characteristics encompassing gender, marital status, age and the legal status at admission [3].

The few patient features associated with medication refusal support the idea that regular medication refusal in acute psychiatry is situational rather than determined by features of a patient's gender or other characteristics. This is consistent with research that links medication noncompliance with higher rates of conflict (aggression, absconding etc.) and containment (de-escalation, restraining etc.). For example, Bowers and et al. report positive associations between medication nonadherence and a range of passive resistant patient behaviors (e.g., verbal aggression and refusing either food or drinks) and administration of pro re nata (PRN) medication [2]. Surprisingly, however, given the frequency of

* Corresponding author.
E-mail address: m.richardson@ioe.ac.uk (M. Richardson).

http://dx.doi.org/10.1016/j.genhosppsych.2015.06.017
0163-8343/

regular and PRN medication usage in inpatient settings, few studies have explored the role of medication relative to issues of conflict and containment. Those that do have adopted a cross-sectional design with no attention to the order of events over time. However, understanding the sequences of conflict and containment events before and after medication nonadherence may help pinpoint where alternative approaches to nursing practice may be helpful.

In this paper, the sequence of conflict and containment events that precede and follow medication nonadherence (RRM, RPRN and DPRN) over the course of 2 weeks was examined. Univariate logistic regression models were also conducted to examine which patient demographic (age, gender, ethnicity and marital status) and clinical characteristics (first admission, diagnoses, history of substance misuse, physical health problem, previous self-harm) were linked with the occurrence of medication noncompliance.

2. Methods

2.1. Design and participants

All potential participants were recruited for a larger study [7] and had been admitted onto one of 84 acute psychiatric wards or psychiatric intensive care unit (PICU) in London and surrounding areas between July 2009 and March 2010. The first 2 weeks of the current admission was set as a standardized data collection period. Patients were eligible to participate if they were (a) inpatients of the selected acute wards, (b) were 18–65 years old, (c) had stayed in hospital for 2 weeks or more, (d) were present on the ward when the survey was conducted, (e) were safe and well enough to be approached as judged by the ward staff and (f) gave informed consent to take part in the study. Six patients per ward that met these inclusion criteria were randomly selected to participate (six patients were judged to be the maximum that could be recruited per researcher day). Of the 1902 patients eligible to participate, 522 adult inpatients were recruited. Nine hundred seventy-three patients were too ill to safely approach or were off the ward at the time of the researcher's visit (e.g., on leave). A further 407 eligible patients refused to participate. Over half the recruited samples (54%) were men, White (68%) and admitted voluntary (60%). The mean (SD) age was 41.1 (13.0) years. Data collection was approved by Kings College Hospital Research Ethics Committee.

2.2. Measures

Incidents of medication nonadherence (RRM, RPRN and DPRN) and other conflict and containment events were assessed using an updated, electronic version of the Patient–Staff Conflict Checklist (PCC) [8]. Conflict is defined as patient behaviors likely to harm self or others (e.g., verbal aggression, physical aggression against others, refusing to eat) and containment as actions taken by staff to protect patients and others from harm [e.g., de-escalation, time out, show of force, manual restraint, enforced intramuscular (IM) medication]. The definitions of medication nonadherence are reported in Table 1, and good interrater reliability for the PCC has been shown [9]. For each patient, the PCC was used to extract information on conflict and containment events retrospectively from the patient's case notes. The total number of events for each shift (morning, afternoon and night) during the first 2 weeks of the current admission was extracted. Shifts with no conflict or containment were recorded as null events. Demographic and patient history information were also extracted including age, gender, ethnicity, diagnosis, previous admissions, history of substance use, history of aggression toward self or others and whether admission was formal or voluntary.

2.3. Procedure

Two university researchers and 18 Mental Health Research Network Clinical Studies Officers were trained to collect data from the participating wards. At each ward, the researcher first liaised with the nursing staff to identify eligible patients. Patients who agreed to discuss the study were given an information sheet and had the opportunity to raise any concerns about the study with the researcher, before being asked to consent. After informed consent was obtained, the researcher accessed the patient's case notes for approximately 60 min to complete the PCC. Data were extracted retrospectively for the first 2 weeks of the current admission and recorded electronically using a laptop computer.

2.4. Analytic strategy

Analyses were conducted in three phases. In Phase 1, descriptive statistics were calculated for frequency of nonadherence medication events within and across patients. In Phase 2, the sequence of events that preceded and followed an incident of medication nonadherence (RRM, RPRN and DPRN) over the course of 2 weeks was examined. For each nonadherence event, data were organized so that each patient in the study had 42 rows in the data set, each representing a shift (am, pm, night) during the first 2 weeks of their admission. Each row detailed the order and type of conflict and containment events (if any) for that shift. Sequences of events were established by counting the frequency of events relating to RRM, RPRN and DPRN. Events that occurred before and after each medication nonadherence incident (RRM, RPRN and DPRN) were categorized into five stages defined as (a) the first event of the shift (sequence start), (b) all precursors during the shift, (c) the most proximal event prior, (d) the most proximal events immediately after and (e) all events that occurred after (sequence end). If more than one of the focal medication nonadherence events was recorded in a day, the sequence of events for each was analyzed separately (i.e., the number of sequences equals the number of refusals of RRM, DPRN and PRN). Infrequent events recorded in the notes as occurring simultaneously (e.g. PRN involving refusal of PRN) were excluded from the sequence analysis. In Phase 3, patients with one or more incidents of medication nonadherence (RRM, RPRN and DPRN) during the first 2 weeks of admission were compared with the remainder of the sample for whom these events were not recorded during this period. A series of univariate logistic regression models were conducted to explore if demographic (age, gender, ethnicity and marital status) and clinical characteristics (first admission, diagnoses, history of substance misuse, physical health problem, previous self-harm) were linked with the occurrence (yes/no) of medication nonadherence (RRM, DPRN, RPRN).

3. Results

3.1. Descriptive statistics (Phase 1)

A total of 9691 events were recorded among the sample of 522 inpatients. The total number of medication nonadherence events during the first 2 weeks of admission was RRM (592; 6.2%); RPRN (178; 1.8%) and

Table 1
Labels and definitions of medication nonadherence behaviors.

Refusing regular medication (RRM)	Psychotropic medication (not analgesia, antacids, anti-Parkinsonian etc.). *Note:* Include initial refusal even if followed by eventual compliance. Also includes the discovery of pouching or hoarding.
Refusing pro re nata (RPRN)	Psychotropic medication (not analgesia, antacids, anti-Parkinsonian etc.). *Note:* Include initial refusal even if followed by eventual compliance. Also includes the discovery of pouching or hoarding.
Demanding pro re nata (DPRN)	Asking for, requesting or demanding PRN medication when it is not required or justified (psychotropic only)