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Prospective study of provided smoking cessation care in an inpatient psychiatric setting

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ABSTRACT

Objective: People with mental health difficulties (MHD) are more likely to smoke and to have smoking-related diseases, yet little research has investigated the provision of smoking cessation care in psychiatric inpatient settings. This study aimed to evaluate current levels of cessation care provided, and 3-month quit-rates, in one such setting in Ireland.

Methods: From January to October 2016, inpatients across all 8 adult wards of St Patrick's University Hospital were recruited to participate in a baseline face-to-face survey ($N = 246$), assessing demographic information, smoking history and quit attempts, motivation to quit, nicotine dependence, attitudes towards cessation advice and actual care received. For baseline current smokers ($n = 84$) who consented, casenotes were also audited for documentation of smoking status and cessation care ($n = 77/84$) while quit rates were assessed at three months ($n = 72/84$), including a carbon monoxide test for those who reported quitting.

Results: Current smoking prevalence was 34% ($n = 84/246$). At baseline 75% of smokers wanted to quit and 48% reported they would like cessation advice while in hospital. Few reported receiving cessation advice from any healthcare professional in the past year (13%), while just 6% had smoking cessation care clearly documented in their casenotes. The 3-month quit-rate was 17%, with a 100% pass rate for those completing an objective CO validation test.

Conclusion: Despite a high current smoking prevalence among psychiatric inpatients, and similar motivation and quit rates to other populations, current cessation care rates are low. Smoking cessation care needs to be prioritised in psychiatric settings.

1. Introduction

At a population level increased rates of smoking and of smoking-related diseases have been demonstrated in individuals with mental health difficulties [1], while evidence from a meta-analysis revealed that the annual risk of death for those with mental disorders is more than twice that of the general population and people with serious mental illness die on average 10 years younger than the general population [2]. Recent inpatient psychiatry studies have found current smoking prevalences of 53.6–91.4% [3–9]. Yet in spite of the high levels of reported motivation to quit [3,9] and evidence that treatment of tobacco dependence in inpatient psychiatry can be effective [10], rates of patient-reported and documented cessation advice in inpatient psychiatric settings remain sub-optimal. Studies conducted in Canada and South Africa found that 36.2% and 43.4%, respectively, of psychiatric inpatients reported receiving smoking cessation advice [4,9]. In terms of what is sometimes considered more objective data, casenote audits in psychiatric hospital settings in Australia and the US have shown recording of nicotine dependence treatment in care plans to be negligible, at < 1% [11,12].

Given the lack of any data in relation to Irish psychiatric settings and the limitations of previous studies internationally with small samples [5,7,9], low population coverage [3] and response rates [7,8], a focus on recruitment of specific subgroups [8,9], sole reliance on casenotes (8, 9) or self-report (2, 7) and cross-sectional designs with no subsequent quit rates included [3–9], further, more comprehensive evidence is needed.

By replicating recent general inpatient studies in Ireland [13–15], this study aimed to address the limitations outlined above. We aimed to profile current levels of cessation care in psychiatric settings, attitudes

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of psychiatric patients towards quitting and advice, and actual quitting behaviour among this group. The RE-AIM (Reach, Effectiveness, Adoption, Implementation, Maintenance) evaluation framework, which has previously been employed in hospital based evaluations of smoking cessation care [16,17], was used to assess current levels of cessation care according to both self-report and casenotes in order to provide a complete profile of cessation care.

2. Methods

This study employed a cross-sectional survey design at baseline, with a longitudinal follow-up at 3 months post-baseline survey for current smokers. STROBE guidelines for observational studies were employed in reporting of both methodology and results [18].

2.1. Setting

St Patrick's University Hospital is an independent mental health hospital located in Dublin with a nationwide catchment area. It is Ireland's largest independent mental health service provider, providing both inpatient and outpatient services and includes 241 adult inpatient beds across eight wards. Ethical approval for the study was granted by the St Patrick's Mental Health Services ethics committee (Protocol 12/15).

2.2. Participants

Eligibility criteria were that participants must be current inpatients. Those with dementia or significant intellectual disability were excluded, as were those who were deemed acutely unwell at the time of the study, as advised by clinical staff (see Fig. 1). Informed consent was obtained from all individual participants included in the study. Baseline interviews were conducted on a ward-by-ward basis between January and October 2016, with smokers completing 3-month follow-up telephone interviews between April 2016 and March 2017.

2.3. Procedure

2.3.1. Baseline

Participants were recruited on a ward-by-ward basis with the researcher taking regular advice from clinical staff on patient eligibility. The aim was to approach every patient who met eligibility criteria, however due to limited resources and patients transferring to other wards, single night admissions, day leave, spending time off wards or patients not responding to bedroom calls, it was usually not possible to invite every patient to participate. In the case of the Special Care Unit the researcher had to approach patients and conduct surveys accompanied by a member of staff.

Patients were informed of the purpose of the study, provided with an information sheet, and once written consent was provided, participants were interviewed by the researcher. In the case of those not participating, reasons for exclusion were recorded. Interviews lasted 5–10 min and included assessment of demographic details, smoking history, recent quitting history, acceptability of advice, beliefs about quitting and recall of smoking status questions and cessation advice during the current admission as well as from any healthcare professional (HCP) in the past 12 months. Other scales were also included and are outlined below. Questions about advice at baseline were limited to the preceding 12 months due to potential recall bias [19,20]. During the interviews it became clear that the original closed questions in relation to smoking cessation care were being interpreted in different ways by respondents. We therefore recorded all information provided, and prior to analysis recoded the information to form new variables in order to better capture care reported in a more meaningful way. Results are presented for both original and recoded variables.

2.3.2. Casenote audit

Current smokers were also asked if their casenotes could be audited. Data relating to admission and discharge dates, primary diagnosis at baseline admission [21], medical history, prescribed medications; smoking status and smoking cessation advice or assistance (including relevant prescriptions [NRT, bupropion, varenicline]) were extracted. All casenote documents within the 12 months preceding baseline interview, including the current admission, were audited, as well as the period between baseline and follow-up where relevant. Partial reviews were competed for 3 of the 77 participants who consented, as complete casenotes for all relevant admissions could not be located.

Medical history data collected were coded for presence of smoking-related disease diagnoses including cardiovascular disease (including hypercholesterolemia, hypertension, stroke and myocardial infarction), respiratory disease (asthma, emphysema, COPD) and smoking-related cancers [1].

All prescribed medications during the relevant study period were recorded by the researcher and coded by a pharmacist for the presence of potentially clinically significant interactions (i.e. Clozapine, Olanzapine, Fluvoxamine, Thioridazine or Agomelatine) with smoking or smoking cessation [22–26].

2.3.3. Follow-up survey 3-months post baseline

Current smokers at baseline who consented were also contacted 3 months later for a follow-up telephone survey which assessed smoking status, quit attempts since baseline interview, receipt of smoking cessation advice since baseline interview, and planned future quit attempts. Those who reported that they had quit smoking at the 3-month follow-up were asked to provide a breath sample using a carbon monoxide monitor to objectively validate cessation. Seven respondents were not tested due to logistical issues (Fig. 1). For two participants follow-up was completed face-to-face as they were current inpatients at the time and this was preferred, while for one participant, who was too unwell to participate, a proxy report of his status was supplied by a spouse.

2.4. Measures

2.4.1. Smoking status

Current smokers were those who had smoked 100 cigarettes and reported they were currently smoking ‘some days’ or ‘every day’.

2.4.2. Motivation to Stop Scale (MTSS)

A single-item measure with 7 response categories, the MTSS aims to provide an ordinal measure of motivation to stop smoking and is said to assess all relevant aspects of motivation including intention, desire and belief [27].

2.4.3. Fagerström test for Cigarette Dependence (FTCD)

The FTCD [28], is a 6-item measure widely used for assessing level of physical dependence on nicotine. Possible scores range from 0 to 10 and indicate very low (1–2) to very high (≥ 8) dependence. Cronbach's alpha in the current study was 0.61, equivalent to that found by Heatherton et al. when revising the scale to its current form [29], and indicating moderate internal consistency.

2.4.4. Status at baseline (Stage of change)

A single-item measure based on the Stages of Change Model [30], with four response categories designed to assess current status in relation to quitting smoking tapping into the precontemplation, contemplation, preparation and action stages. Respondents were asked ‘Are you currently trying to quit; actively planning to quit; thinking about quitting but not planning too; or not thinking about quitting?’ The measure has been used in previous studies in Ireland [15,31].