STUDY ON THE PRESCRIBING PATTERNS OF ANTIPSYCHOTIC MEDICATION IN A RURAL ENGLAND COMMUNITY MENTAL HEALTH TEAM

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SUMMARY

Introduction: Providing comprehensive services for about 400 patients in the South Herefordshire area, the community mental health team manages cases of varying severity and complexity, ranging from Schizophrenia, to neuroses and disorders of adult personality. Antipsychotic medication remains a mainstay of treatment and management for patients under the team case load; hence a need exists for a detailed look into the prescription patterns of such medications.

Aim: The aim of this study was to look into the prescribing patterns of antipsychotics for a sample of 50 patients in the South Herefordshire community team during the year of 2016 (from Jan 2016 to Dec 2016), as well as investigate whether these antipsychotics were licensed to be used for the corresponding diagnoses of these patients. We also looked into whether patients were prescribed antipsychotics within BNF limits. As a part of this audit we looked into whether patients were made aware that they were on unlicensed antipsychotics or on above the BNF maximum doses of antipsychotics.

Methodology: A random sample of 50 patients was taken from the case load of the South community team as is documented on RIO. The mean age of the patients in the sample was 46.1 (SD= ±14.6) Sample selection was done by selecting every seventh patient in the patient case load (if not using antipsychotics the next patient was chosen). Patients studied involved those with F1-F19 Mental and behavioural disorders due to psychoactive substance use, F20-F29 Schizophrenia/Schizotypal/Delusional disorder, F31 Bipolar affective disorders, F32 Depression, F40-F48 Anxiety Neurotic and stress related disorders and somatoform disorders, F50-F59 Behaviour syndromes associated with physiological disturbances and physical factors, F60-F69 Disorders of adult personality and behaviour. The patients selected had to be followed up by the recovery team during the year 2016 and they had to be on an anti-psychotic medication at any point during that time period. A scale was utilized to help the orderly collection of information as dose, patient diagnoses, comorbid substance use etc. SPC was relied upon for investigating the licensing of the different antipsychotics.

Results: It was found that the most commonly prescribed antipsychotic was Quetiapine (28.07%) followed by Olanzapine (24.56%), Aripiprazole (14.04%) and Depot drugs (12.28%). It was found that the most commonly used depot drugs were Modecate and Depixol. It was also found that 14% of our patients were prescribed two antipsychotics at the same time. Unlicensed antipsychotics made up 17.54% of all prescribed antipsychotics. It was also found that no documentation on the system evidenced that patients were told about the use of unlicensed antipsychotics. Quetiapine and olanzapine made up 60 % of the unlicensed antipsychotics followed by risperidone and aripiprazole 40%. The conditions that were found to be given unlicensed medications were anxiety neurotic and stress related disorders and somatoform disorders (F40-48), disorders of adult personality and behaviour (F60-F69) and multiple conditions. The most common daily doses prescribed for Aripiprazole were found to be 5, 10 and 15 mg doses. For Quetiapine, it was the 300mg dose and for Olanzapine it was found to be the 10mg dose. In all but one patient antipsychotics were prescribed within BNF limits. One patient was prescribed Olanzapine 25 mg (BNF maximum dose 20 mg). Polypharmacy was found to be used more in the multiple diagnosis and schizophrenia conditions. Patients with schizophrenia and adult personality disorders were found to be the most patients who abused alcohol, cannabis and prescription opioid analgesic medications.

Conclusion: Antipsychotics have a range of central nervous system effects and there are situations where it becomes necessary to use them off-license. However, it is essential to explain to the patient about the unlicensed use of antipsychotics and document this on the system. The effects of unlicensed antipsychotics need to be carefully monitored and their benefits regularly assessed and recorded. Antipsychotics interact with physical health medication and could adversely affect the physical health condition. Hence it is necessary to look into healthier means of pain management and review the long term prescription of opioid analgesics. It is important to investigate more into how to manage comorbidities such as substance misuse of alcohol and cannabis and whether cross referral between services is the best way to address this issue. Further audits can look into the follow up of patients on polypharmacy, and on the general effect on disease prognosis, and physical health side effects of such regimens.

Key words: *mental health - off-license prescribing - antipsychotics*

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INTRODUCTION

Providing comprehensive services for about 400 patients in the South Herefordshire area, the community mental health team (Herefordshire Recovery Services) manages cases of varying severity and complexity, ranging from Schizophrenia, to neuroses and disorders of adult personality. Patients are usually referred by the General Practitioners for advice and management of a wide range of mental health issues. Patients are usually

assessed by the Consultant Psychiatrists or other team members in the community. Medication remains the mainstay of treatment. Once recommended, General Practitioners continue these medications in the community for longer periods. Hence a need exists for a detailed look into the prescription patterns of such medications.

Antipsychotic medications are licensed for the treatment of psychotic disorders, acute manic episodes, severe depression with psychotic symptoms and mood stabilisation. Only one antipsychotic; i.e. Quetiapine is licensed for monotherapy of depression at the dose of 300 mg per day.

Due to the wide range of actions on the central nervous system, antipsychotic medication affects multiple symptoms ranging from anxiety, insomnia, mood stability and antidepressant effect. However, it is not uncommon for them to be used in a variety of situations. Although patients may get short term benefits with these medications due to the nature of mental health issues, there are the side effect profile of these medications to consider and patients might experience undesirable effects (both in the short term as well as long term).

Licensing authorities (MHRA in England and Wales) closely review the profile of medication and license them. These are included in the Summary and Product Characteristics of medicines (SPC). These are available with the manufacturers. Electronic Medicines Compendium (Electronic Medicines Compendium 1999) also updates this information periodically. In addition, the BNF (British National Formulary 2017) also includes necessary information for safe prescribing. Department of Health clearly guides professionals to use licensed medication as much as possible as licensed medicines meet acceptable standards of efficacy, safety and quality (Dept. of Health 2009). There are situations where there is a need to use medication off-license (also known as off-label); however this should be in patient's best interest and is decided carefully, based on the available evidence (Medicines and Healthcare products Regulatory Agency 2009). Professional bodies like General Medical Council, UK (GMC) and Nursing and Midwifery Council (NMC) have issued clearcut guidelines on the responsibilities of practitioners in relation to prescribing medicines. They also stress that this should be done with fully informed consent of the patient (GMC 2015).

In this study, we focussed on the prescribing patterns of antipsychotic medication in the South Recovery team. We used Summary and product characteristics of individual antipsychotic medication to ascertain the license. We also checked BNF for the appropriate dose range for these medications.

AIMS AND OBJECTIVES

To find out the prescribing patterns of antipsychotic medication for patients in the community for the Herefordshire South Community team for the year 2016.

To find out whether the use of the antipsychotic is licensed or unlicensed for the diagnosed condition.

If the use was unlicensed, whether patients were informed about the same.

We also looked into the dosage of antipsychotics prescribed with reference to BNF maximum dose recommendations.

METHODOLOGY

A random sample of 50 patients was taken from the case load of the South Herefordshire community mental health teams.

The patients selected had to be followed up by the recovery team during the year 2016 and they had to be on an antipsychotic medication at any point during that time period and subjected to a scale designed in this research to collect the desired information.

Sample selection was done by selecting every seventh patient in the patient case load (if not using antipsychotics the next patient was chosen).

A scale was utilized to help the orderly collection of information as dose, patient diagnoses, comorbid substance use etc. SPC was relied upon for investigating the licensing of the different antipsychotics.

Electronic records were checked thoroughly to extract the data.

The information collected was analysed using Microsoft Excel.

RESULTS

Age Distribution

The mean age of the patients in the sample was 46.1 (SD= $\pm$14.6) and the mode was 40.
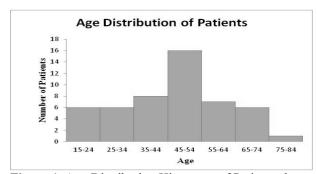

Figure 1. Age Distribution Histogram of Patients shows a near normal distribution pattern

Range of Disorders

Patients studied involved those with Schizophrenia, Depression, Delusional disorders and personality and behavioural disorders. Figure 2 shows the incidence of the different diagnosed psychiatric disorders amongst our sample of patients. It can be seen that 15 patients suffered from schizophrenia and 14 suffered from multiple disorders.
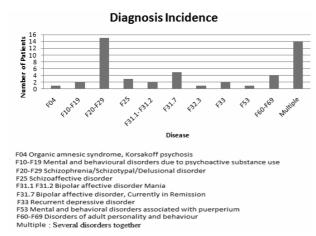
F04 Organic amnesic syndrome, Korsakoff psychosis
F10-F19 Mental and behavioural disorders due to psychoactive substance use
F20-F29 Schizophrenia/Schizotypal/Delusional disorder
F25 Schizoaffective disorder
F31.1 F31.2 Bipolar affective disorder Mania
F31.7 Bipolar affective disorder, Currently in Remission
F33 Recurrent depressive disorder
F53 Mental and behavioral disorders associated with puerperium
F60-F69 Disorders of adult personality and behaviour
Multiple : Several disorders together

Figure 2. The incidence of the different disorders diagnosed

Prescribing Patterns of Antipsychotic Medication

The antipsychotics prescribed were studied as well as the number prescribed per patient was noted. Figure 3 shows the variety of antipsychotics prescribed in the team. It was found that the most commonly used antipsychotic was Quetiapine (16 patients) followed by Olanzapine (14 patients), Aripiprazole (8 patients) and Depot drugs (4 patients). The more prevalently used depot drug was studied and represented in the pie chart in figure 4. Modecate, Paliperidone and Depixol were used equally while Haloperidol was less utilized. It was also found that 7 out of 50 patients (14%) are prescribed two antipsychotics at the same time.
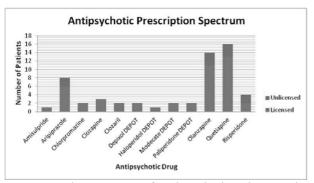

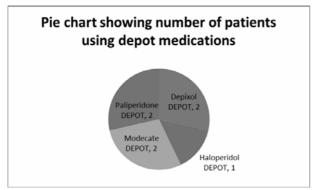**Figure 3.** The spectrum of antipsychotics given to the sample of patients

Figure 4. Depot Drugs used in service

Antipsychotic Drug Doses

The prescribed doses for the most used antipsychotic drugs was also investigated as shown in Figure 5, 6, 7 and 8 for Aripiprazole, Quetiapine, Olanzapine and Risperidone, respectively. It was found that the most common daily doses prescribed for Aripiprazole were the 5, 10 and 15 mg doses. For Quetiapine, it was the 300mg dose and for Olanzapine it was found to be the 10mg dose.

In England and Wales, most of the Psychiatrists adhere to the maximum doses of antipsychotic medication recommended by the BNF. However, in some situations this could be different to the maximum doses recommended by the manufacturer. In this study, we found that in all but one patient, antipsychotics were prescribed within BNF limits. One patient was prescribed Olanzapine 25 mg (BNF maximum dose 20 mg/day). However, this was discussed with the patient and documented in the notes.
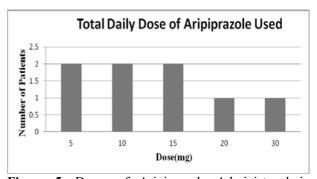

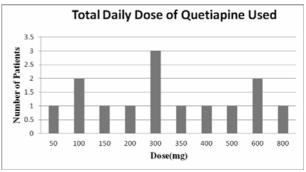**Figure 5.** Doses of Aripiprazole Administered in service
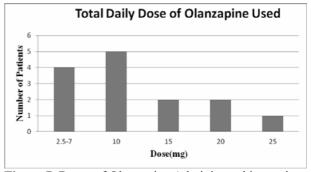

Figure 6. Doses of Quetiapine Administered in service

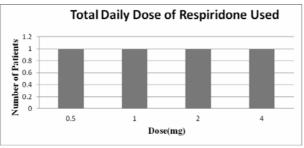**Figure 7.** Doses of Olanzapine Administered in service

Figure 8. Doses of Risperidone Administered in service

Pattern of Unlicensed Antipsychotics Prescribed

In this study, we also investigated the percentage of unlicensed antipsychotics that were prescribed to patients. Nine patients out of fifty were prescribed unlicensed antipsychotics as shown in figure 9.
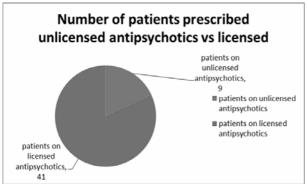

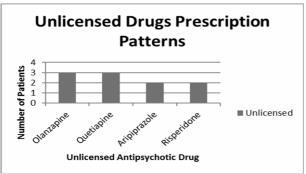**Figure 9.** The number of patients on unlicensed antipsychotics vs. licensed

Figure 10. Bar chart showing the most commonly prescribed unlicensed drug

It was also found out that the unlicensed prescriptions were not discussed (as per RiO documentation) with the patient in any of the unlicensed cases studied i.e. patients were not told they were unlicensed. Figure 10 shows the most common antipsychotics that were unlicensed and prescribed to patients. It was found that 3 patients used Quetiapine, 3 used Olanzapine, 2 used Risperidone and 2 used Aripiprazole. The diagnosed conditions that might be factors in affecting the decision to prescribe the unlicensed drugs were also investigated for any relation to such decision. The conditions that were found to be given unlicensed medications were anxiety neurotic and stress related disorders and soma-

toform disorders (F40-48), disorders of adult personality and behaviour F60-F69) and multiple conditions. This is illustrated in figure 11.

Figure 12 also shows the different unlicensed antipsychotics used by different patients with F60-F69 diagnoses. 3 patients are using Quetiapine, 1 is using Olanzapine, one is using Risperidone, 1 Aripiprazole, as well as 1 patient receiving a combination of Aripiprazole and Olanzapine. This means that Quetiapine is the most commonly prescribed off license antipsychotic within our sample for F60-F69 disorders.
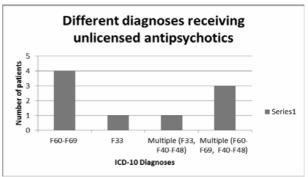

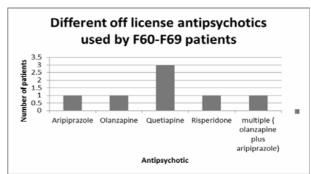**Figure 11.** Chart showing the ICD diagnoses prescribed most unlicensed drugs

Figure 12. Most prescribed antipsychotics for F60-69 Disorders of adult personality

Polypharmacy

In this research, we also investigated the incidence of polypharmacy and its relation to the diagnosed disorder. It was found that polypharmacy was more evident in the multiple diagnosis and F20-F29 conditions as shown in figure 13.

Other Findings

Other observations worth noting include the number of patients misusing substances, the most common substance of abuse and the diagnoses of patients misusing substances (Figure 14).

It was found that the most common substance of misuse in the audit sample was alcohol, followed by cannabis as shown in figure 15. F20-29 Schizophrenia/Schizoaffective patients misused the most substances followed by F60-69 Disorders of adult personality as shown in figure 16.
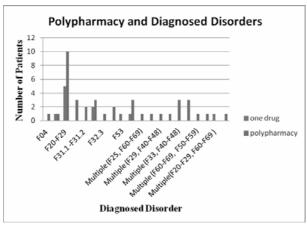
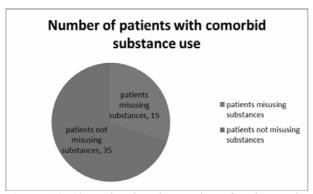**Figure 13.** The incidence of polypharmacy in the various diagnosed disorders

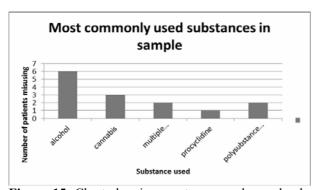**Figure 14.** Chart showing the number of patients misusing substances in the sample

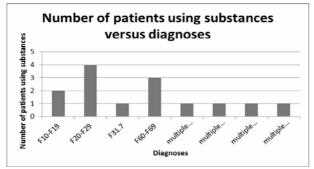**Figure 15.** Chart showing most commonly used substances in the audit sample

Figure 16. Bar Chart Showing ICD diagnoses using the most substances

On 2 occasions, the substances of misuse appear to be the over prescription of opioid based pain medications. In these 2 occasions, again patients were F60-F69 Disorders of adult personality and behaviour who are at higher risk of substance misuse. It appeared the prescriptions were historic and long term, and are not regularly reviewed in collaboration with pain management services. There would seem to be a historic cause for opioid prescription to be started, then over the years, the doses seem to increase and more than one opioid pain killer is prescribed (Weaver 2003, NICE 2016, Giraudon 2013).

CONCLUSIONS

- Unlicensed antipsychotics make up about 17% of all prescribed antipsychotics in this sample.

- There was no record on the system detailing that patients have been told that unlicensed antipsychotics were prescribed for their conditions.

- Quetiapine is one of the most commonly prescribed off-licence antipsychotics for F60-F69 Disorders of adult personality followed by Olanzapine, and studies have yet to prove the efficacy of such prescriptions (Stoffers 2010).

- In England and Wales, most of the psychiatrists adhere to the maximum doses of antipsychotic medication recommended by the BNF. However in some situations this could be different to the maximum doses recommended by the manufacturer. In this study, we found that in all but one patient, antipsychotics were prescribed within BNF limits. One patient was prescribed Olanzapine 25 mg (BNF maximum dose 20 mg/day). However, this was discussed with the patient and documented in the notes.

Follow up and recommendations

- The findings of the study were presented to forums and groups in the Trust.

- The findings were also forwarded to the Trust Drugs and Therapeutics Committee.

- To educate the teams as well as Care coordinators about the findings and off-license prescribing.

- To document unlicensed antipsychotics as such on the system and document that patients are aware that they are unlicensed.

- There are Trust guidelines on off-license prescribing, available on the intranet. It is good practice to educate the patient and issue the 'off-license prescribing' leaflet available on the intranet.

- For unlicensed antipsychotics, the effect needs to be carefully monitored and their benefits regularly assessed and recorded.

- To carefully observe and document any real improvement using said antipsychotics (Quetiapine and Olanzapine) and if not, to review its prescription in the services.

- To repeat the study for the year 2017-2018, to check for more robust documentation with regards to off licence antipsychotics, and to observe any changes in patterns of prescription following the presentation of this audit.

DISCUSSION

Antipsychotics have a range of central nervous system effects and there are situations where it becomes necessary to use them off-license. However, it is essential to explain to the patient about the unlicensed use of Antipsychotics and document this on the system. The effects of unlicensed Antipsychotics need to be carefully monitored and their benefits regularly assessed and recorded. Antipsychotics interact with physical health medication and could adversely affect the physical health condition. Hence, it is necessary to look into healthier means of pain management and review the long term prescription of opioid analgesics. It is important to investigate more into how to manage comorbidities such as substance misuse of alcohol and cannabis and whether cross referral between services is the best way to address this issue. Further studies can look into the follow up of patients on polypharmacy, and on the general effect on disease prognosis, and physical health side effects of such regimens.

Appendix 1. Audit Scale For Antipsychotic Prescription Patterns in the community Audit

NHS number		
RIO		
Age		
Name of Anti-Psychotic		
Dose		
Other Medications		
Comorbid substance use	Yes	No
	Substances used:	
DIAGNOSIS ICD-10		
	Licensed	Unlicensed
F20-F29 **Schizophrenia/Schizotypal/Delusional disorder**		
F25 **Schizoaffective disorder**		
F31 **Bipolar**		
F31.1 F31.2 Mania		
F31.4 f31.5 Depression		
F31.7 Maintenance		
F32 Depression		
F32.3 Used to control psychosis		
F32.2 Antidepressant use		
F40–F48 **Anxiety Neurotic and stress related disorders and somatoform disorders**		
F50-F59 **Behaviour syndromes associated with physiological disturbances and physical factors**		
F60-F69 **Disorders of adult personality and behaviour**		
If unlicensed use- has it been discussed with the patients	Yes	No

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