

Physical health of people with severe mental illness: Don't just screen... intervene!

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Abstract

Introduction: A growing number of studies suggest a causal relationship between antipsychotic treatment and metabolic disturbances. The most frequent problems linked to antipsychotic drugs have been abnormalities of glucose metabolism such as insulin resistance, hyperglycaemia or new onset diabetes mellitus and dyslipidemia, including increased levels of total cholesterol, LDL-cholesterol and triglycerides. The study was aimed at reviewing the practice regarding the routine monitoring of physical health of service users on antipsychotic treatment. The study set out to reduce the cardio-metabolic effect of antipsychotic medication in service users. The study was also aimed at contributing to a reduction in the mortality rates in people with severe mental illness as well as testing out approaches to improve the physical health of people with serious mental illness who are receiving care from the Early Intervention in Psychosis Teams. The promotion of a more integrated approach to the physical health care of people with a SMI was also targeted. **Methods:** In November 2012, the Warrington and Halton Early Intervention in Psychosis service (EIP) conducted the initial audit, designed by AQuA as a baseline measure of the current standard of physical health screening amongst the Early Intervention patients in the two boroughs. The recommendations from the National Institute for Health and Care Excellence (NICE) and Maudsley prescribing guidelines were the frameworks for the AQuA design. The Research and Audit Governance Group in the 5 Boroughs Partnership NHS Foundation Trust approved the audit. A retrospective review of the clinical records of all patients opens to the EIP, who were prescribed antipsychotics, was undertaken. Six physical health parameters were examined and these include; serum lipid profile and blood glucose levels. Others measures were body weight, height, Body Mass Index (BMI) and blood pressure. These parameters were entered into the survey monkey audit tool developed by AQuA. Recommendations were made following the initial audit. A re-audit was carried out in May 2013.

Results: The re-audit in May 2013 showed an increase in the number of service users being screened and monitoring for the six identified parameters. A robust and comprehensive recording system has been developed, resulting in more service users receiving appropriate screening and physical health monitoring. Better links and working relationships have been established with primary care services and there is increased awareness of the need for physical health monitoring in professionals and service users. Regular and well-equipped physical health clinics with well-trained staff have been established across both localities. Other secondary care agencies within the Trust are now more aware of the requirements for physical health screenings.

An audit and re-audit on the monitoring of the physical health of patients on antipsychotic medication in the Early Intervention in Psychosis Service of the 5 Boroughs Partnership NHS Foundation Trust

Introduction

A growing number of studies suggest a causal relationship between antipsychotic treatment and metabolic disturbances. The most frequent problems linked to antipsychotic drugs have been abnormalities of glucose metabolism such as insulin resistance, hyperglycaemia or new onset diabetes mellitus and dyslipidemia, including increased levels of total cholesterol, LDL-cholesterol and triglycerides.¹

Developing effective models of identifying and managing physical ill health among mental health service users has increasingly become a concern for psychiatric service providers.

Individuals with Serious Mental Illness (SMI) defined as any Diagnostic and Statistical Manual (DSM) mental disorder leading to substantial functional impairment, have higher than expected risks of physical morbidity and mortality in comparison with members of the general population.² People with mental health problems such as Schizophrenia or Bipolar Disorder have been shown to die on average 16 to 25 years sooner than the general population.³ One set of explanations for these vulnerabilities points to the lifestyles of people with serious mental illnesses, which are often associated with poor dietary habits, obesity, high rates of smoking, and the use of alcohol and street drugs.⁴ Illness related factors have also been cited. It has been suggested that individuals with serious mental illness are less likely to spontaneously report physical symptoms.⁵ Poor physical activity has also been shown to be a common occurrence in people with serious mental illness.^{6,7}

A greater inherent predisposition to develop metabolic abnormalities coupled with metabolic adverse effects of antipsychotic drug treatments may negatively influence physical health.⁸ Many of these problems can be avoided if close attention is paid to the physical health of patients on antipsychotic treatment. A longstanding debate persists concerning who is responsible for the physical care of patients with serious mental illness. Psychiatrists and physicians are advised to play an active role in ensuring that patients with mental illness are not disadvantaged.⁹

The Warrington and Halton Early Intervention in Psychosis Team is based in the 5 Boroughs Partnership (5BP) NHS Foundation Trust in the North West region of the United Kingdom, and in collaboration with Advancing Quality Alliance (AQuA), they embarked on a joint audit between November 2012 and May 2013 with the aim of reviewing the practice regarding the routine monitoring of physical health of service users on antipsychotic treatment. The study set out to reduce the cardio-metabolic effect of antipsychotic medication in service users. The study was also aimed at contributing to a reduction in the mortality rates in people with severe mental illness as well as testing out approaches to improve the physical health of people with serious mental illness who are receiving care from the Early Intervention in Psychosis Teams. The promotion of a more integrated approach to the physical health care of people with a SMI was also targeted.

Method

In November 2012, the Warrington and Halton Early Intervention in Psychosis service (EIP) conducted the initial audit, designed by AQuA as a baseline measure of the current standard of physical health screening amongst the Early Intervention patients in the two boroughs. The recommendations from the National Institute for Health and Care Excellence (NICE) and Maudsley prescribing guidelines were the frameworks for the AQuA design. The Research and Audit Governance Group in the 5 Boroughs Partnership NHS Foundation Trust approved the audit.

A retrospective review of the clinical records of all patients opens to the EIP, who were prescribed antipsychotics, was undertaken. Six physical health parameters were examined and these include; serum lipid profile and blood glucose levels. Others measures were body weight, height, Body Mass Index (BMI) and blood pressure. These parameters were entered into the survey monkey audit tool developed by AQuA.

Other items audited were the frequency of screening, the number of physical health parameters evaluated at each period of recording and the smoking status of the service users. Clinical records were checked for documented history of physical illness in all patients. The number of service users receiving physical health interventions as a result of the screening and the number of service users who were offered physical health interventions at the screening but either refused treatment or did not respond to the referral was also recorded. The results were presented at a

Trust-wide forum and recommendations were made, and disseminated shortly afterwards. A re-audit was done in May 2013.

Results

Table 1, summarises the demographic details of patients at baseline and re-audit. 55 patients were involved in the baseline audit and 52 patients were involved in the re-audit. No significant differences were observed in both audits in terms of gender distribution and age. Majority of the patients involved in both audits were of white British ethnicity.

Table 1: Demographic details of patients at baseline audit and re-audit

	Nov 2012	May 2013
Total number of patients		
Male : female	35:20	22:30
Age	14-36	15-36
White British Ethnicity	52	48

Baseline audit: November 2012

Screening and monitoring

The table below indicates the number of service users receiving a screening for weight, height, BMI, glucose blood levels, lipid blood levels and blood pressure at the 4 week, 3 month, 12 month and 24 month assessments.

Table 2: Physical health screening of service users at baseline

	4 weeks recorded screening	3 months recorded screening	12 months recorded screening	24 months recorded screening
1 type of screening	5 (9.1%)	12 (21.8%)	18 (32.7%)	18 (32.7%)
2 types of screening	14 (25.5%)	17 (30.9%)	5 (9.1%)	5 (9.1%)
3 types of screening	4 (7.3%)	4 (7.3%)	3 (5.5%)	6 (10.9%)
4 types of screening	5 (9.1%)	3 (5.5%)	5 (9.1%)	3 (5.5%)
5 types of screening	4 (7.3%)	0	1 (1.8%)	4 (7.3%)
6 types of screening	4 (7.3%)	3 (5.5%)	4 (7.3%)	2 (3.6)

There was no screening recorded for 19 (34.5%) patients at 4 weeks, 16 (29%) patients at 3 months, 19 (34.5%) patients at 12 months and 17 (30.9%) patients at 24 months.

Smoking status of service users

Based on the analysis of those referred to the smoking cessation service, it was concluded that around 35% of service users within the EIP Service smoke. The findings from this data also indicate high refusal rates to smoking cessation programmes (at over 80% of those service users who confirmed that they smoke).

Documented history of physical illness

The presence or absence of physical illness was documented in the records of 35 patients. Where physical health problems were identified, patients were offered a number of interventions. These include referral to the dietician/exercise programmes, smoking cessation and referral to primary care services for illnesses such as, hypertension, diabetes and hyperlipidemia.

Table 3, summarises the types of interventions available for patients when physical health issues were identified. A number of patients (N/A) required no interventions, as physical problems were not identified.

Number of service users receiving physical health interventions

Table 3: Physical health interventions

	Yes	No	N/A
Referral to dietician/exercise programme	15 (28.8%)	26 (50%)	14 (25.5%)
Treatment for Diabetes	0	22 (45.8%)	33 (60%)
Treatment for Hyperlipidemia	2 (4.2%)	23 (47.9%)	30 (54.5%)
Treatment for Hypertension	0	22 (45.8%)	33 (60%)
Help with smoking cessation	12 (24.5%)	19 (38.8%)	24 (43.6%)

Re-audit: May 2013

Screening and monitoring

The table below indicates the number of service users receiving a screening for weight, height, BMI, glucose blood levels, lipid blood levels and blood pressure at the 4 week, 3 month, 12 month and 24 month assessments. The table shows that 29 patients had their screening recorded at 4 weeks, 19 (66%) of which had 6 types of screening. At 24 months, out of the 16 patients who had their screening recorded, 15 (95%) had 6 types of screening. Patients with no screening parameters were omitted.

Table 4: Physical health screening of service users at re-audit

	4 weeks recorded screening	3 months recorded screening	12 months recorded screening	24 months recorded screening
1 type of screening	2 (7%)	0	0	0
2 types of screening	2 (7%)	2 (8%)	1 (4%)	1 (5%)
3 types of screening	1 (3%)	1 (4%)	3 (11%)	0
4 types of screening	3 (10%)	3 (12%)	1 (4%)	0
5 types of screening	2 (7%)	1 (4%)	1 (4%)	0
6 types of screening	19 (66%)	18 (72%)	21 (77%)	15 (95%)

Smoking status of service users

The overall data confirms that 25 patients, who were identified as smokers, were offered smoking cessation, 19 of which refused, thus giving an overall refusal rate of 76%

The table below compares the results of both audits with respect to “6 types of screening” done at 4 weeks, 3 months, 12 months and 24 months. The result shows an overall improvement over the audit period.

Comparing results of both audits with respect to “6 types of screening”

Table 5: Comparison of screening results

	November 2012	May 2013
4 weeks	4 (7.4%)	19 (66%)
3 months	3 (5.5%)	18 (72%)
12 months	4 (7.4%)	21 (77%)
24 months	2 (3.7%)	15 (95%)

Discussion

The first audit revealed a suboptimal screening of the 6 targeted parameters at 4 weeks, 3 months, 12 months and 24 months in the service users audited when compared to the recommendations of the Maudsley guidelines (See Table 3). Some of the issues identified are summarised in the table below;

Table 6: Issues identified following the first audit

Sporadic health and wellbeing sessions
Ad-hoc physical health checks prior to commencing antipsychotics
Physical health screening was not perceived as priority
Physical screening were unsystematic and erratic
Poor referral links with local health promotion programmes
Poor attendance to physical health screening appointments
Poor recording of screening tests
Inadequate links with primary care services
Psychiatric clinics poorly equipped with instruments for basic health screening
No clarity about who takes responsibility for screening: Psychiatrists or GP?
Patients’ lack of interest and motivation in the screening process
SMI register not up-to-date

Recommendations made following the initial audit are outlined in the table below;

Table 7: Recommendations following the first audit

Need to find a comprehensive screening tool
Development of a documentation system
Building an alert system to remind when physical health checks are due
Improvement of links with primary care services
A more robust approach to ensure patient’s attendance at screening clinics
Improvement of links within secondary care agencies
Identification of further skills needed within the team e.g. venipuncture, ECG

A Plan, Do, Study, Act (PDSA) model was used which was useful in clarifying issues and actions needed.¹⁰ It helped us to identify issues and actions needed including:

1. Establishing physical health as a priority within the EIP
2. Involvement of primary care and health promotion
3. Establishing a database for physical health monitoring
4. Making physical health monitoring part of care planning

To tackle the identified issues a local project group was constituted. This group was made up of a consultant psychiatrist, business manager, nurse consultant, team manager, an occupational therapist (OT), a support worker (STR), a pharmacist, social services, public health leads, wellbeing nurses, a service user representative, and a locally based General Practitioner. The group had monthly meetings.

Patients in the Warrington and Halton Early Intervention in Psychosis Service were screened using the 5 Boroughs Partnership (5BP) Comprehensive Physical Health Assessment tool. This tool covered the 6 parameters targeted in the audit and other relevant health information such as, smoking, diet, exercise, sexual health, sleep, dental and optical health, ECGs, and other routine bloods checks. An in-house database in which results could be recorded was devised and implemented. A notification list which alerted on computer when a screening is due was developed; a GP DVD and information leaflet for the GP website and the Clinical Commissioning Group (CCG) Newsletter were produced. Wellbeing Nurse-led clinics were held in Halton and a STR-led physical health clinic was initiated in Warrington. Access into the path labs for both localities was established to help facilitate prompt access to blood results. Regular AQUA meetings took place in Salford, Manchester, and links were established with the Medical Director and the Clinical Commissioning Group, who were regularly, provided progress reports.

The re-audit in May 2013 showed an increase in the number of service users being screened and monitoring for the six identified parameters (see Table 8). A robust and comprehensive recording system has been developed, resulting in more service users receiving appropriate screening and physical health monitoring. Better links and working relationships have been established with primary care services and there is increased awareness of the need for physical health monitoring in professionals and service users. Regular and well-equipped physical health clinics with well-trained staff have been established across both localities. Other secondary care agencies within the Trust are now more aware of the requirements for physical health screenings.

Why should we be doing regular physical health monitoring? The benefits of monitoring the physical health of individuals with serious mental illness cannot be overemphasised; it allows early identification and subsequent management of cardiovascular and other risk factors in a timely manner.¹¹ The Maudsley Guidelines recommend monitoring of blood lipids at baseline, at 3 months and yearly. Similar recommendations are made for the weight, which includes BMI and waist size when possible. Plasma glucose measurements are recommended at baseline, at 4 to 6 months and yearly. Blood pressure measurements are recommended at baseline and frequently during dose titration. Full blood count and electrolyte measurements are recommended at baseline and yearly.¹² In the last few years, agencies worldwide have also developed clinical guidelines. In the United States, the American Diabetes

Association, American Psychiatric Association, American Association of Clinical Endocrinologist and the North American Association for the Study of Obesity have released joint guidelines.¹³

Even though the side effects of antipsychotics are well established, many mental health services today have yet to adopt a practice of regular blood monitoring as recommended by international guidelines.¹⁴ The issue of responsibility for monitoring metabolic abnormalities remains a much debated topic today.⁹ The primary responsibility for managing the physical health of individuals with severe mental illness has been said to lie with primary care.⁷ Another side of the debate, however, exists, and two consensus conferences have called on mental health care providers to take responsibility for the physical health of their patients.⁸ It is widely recognized that mental health teams have a role to play in the monitoring of the physical health of their service users; however, many psychiatrists still consider psychiatric symptom control as their primary responsibility.¹⁴ ¹⁵ Studies have also shown that Individuals with Serious Mental Illness do not readily access primary care.¹⁶ Despite the availability of Clinical Guidelines, screening for and monitoring of metabolic problems in patients with serious mental illness remains suboptimal.¹¹

The usual practice in most centers for monitoring physical health parameters and guidelines used vary and are rarely regulated. Local resource availability is likely to play a significant role in guideline selection. Physical equipment, staffing levels and other resource issues may need to be taken into consideration prior to devising a local guideline. Development of a specialised phlebotomy service, for example, to the outpatient clinics will be a welcome addition, introduction of a key worker system as seen in the Warrington and Halton Early Intervention in Psychosis Team and consideration of the physical health needs of patients as part of the key worker's duties, a simple one-page monitoring prompt attached to the patient's medical file, educational intervention and oversight by the senior clinicians may all increase the adherence to routine blood testing guidelines. Regular liaison with General Practitioners regarding a joint approach to physical health monitoring would also help improve adherence to the guidelines.

Competing Interests

None declared

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