

# Monitoring of physical health parameters for inpatients on a child and adolescent mental health unit receiving regular antipsychotic therapy

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## Abstract

Physical health monitoring of patients receiving antipsychotics is vital. Overall it is estimated that individuals suffering with conditions like schizophrenia have a 20% shorter life expectancy than the average population, moreover antipsychotic use has been linked to a number of conditions including diabetes, obesity, and cardiovascular disease.[1-4]

The severity of possible adverse effects to antipsychotics in adults has raised awareness of the importance of monitoring physical health in this population. However, there is little literature available as to the adverse effects of these medications in the child and adolescent community, which make physical health monitoring in this predominantly antipsychotic naïve population even more important.

An expert group meeting in the UK has laid down recommendations in regards to screening and management of adult patients receiving antipsychotics, however no specific guidelines have been put in place for the child and adolescent age group.[5]

The aim of this audit was to establish whether in-patients receiving antipsychotics had the following investigations pre-treatment and 12 weeks after treatment initiation: body mass index, hip-waist circumference, blood pressure, ECG, urea and electrolytes, full blood count, lipid profile, random glucose level, liver function test, and prolactin. This is in addition to a pre-treatment VTE risk assessment. These standards were derived from local trust guidelines, NICE guidelines on schizophrenia [6] and The Maudsley Prescribing Guidelines.[7]

We retrospectively reviewed 39 electronic case notes in total, of which 24 cases were post intervention. Intervention included the use of a prompting tool. This tool was filed in the physical health files of all patients receiving antipsychotics which was intended as a reminder to doctors regarding their patient's need for physical health monitoring. Professionals involved in the monitoring of such parameters were educated in the importance and purpose of its use. Following this intervention re-audit occurred after 6 and 16 months of the initial audit to establish whether the use of the prompting tool caused any significant change in clinical practice.

Overall performance in monitoring physical health parameters was initially poor, however we were able to demonstrate that with the help of a single prompt sheet there was a significant improvement following post intervention audit for the majority of parameters being monitored.

## Problem

In spite of a known link between antipsychotics and adverse effects on physical health, monitoring of patients taking such medication is often not in accordance with guidelines. We realised this was a problem in a child and adolescent inpatient unit in South London when, as junior doctors on the ward, we were finding it difficult to establish whether certain investigations had been performed. There was no current system to keep track of what investigations had been done, when they were done, and which ones were pending.

## Background

Physical health monitoring of patients receiving antipsychotics is vital. Overall it is estimated that individuals suffering with conditions like schizophrenia have a 20% shorter life expectancy than the average population. Furthermore, antipsychotic use has been linked to a number of conditions including: diabetes, obesity, and cardiovascular disease.

On our ward, there was no evidence that the issue of monitoring physical health had been addressed in the past. Nationally there was evidence to suggest that a similar problem existed in an adult population in an outpatient setting. There is evidence to suggest that the use of prompt sheets and check lists can be useful in a health care setting.

## Baseline measurement

A pre-intervention audit was carried out in order to assess the scale of the problem. This was to establish whether inpatients receiving antipsychotics were being correctly monitored in accordance with guidelines. These standards were derived from local trust guidelines, NICE guidelines on Schizophrenia, and The Maudsley Prescribing Guidelines.

We reviewed the notes and electronic documents of 15 patients who were on antipsychotic medication. We looked at which of the recommended physical health parameters had been documented as assessed before the initiation of treatment and after 6 and 12

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weeks of treatment. Results expressed this as a percentage of frequency (see tables 1, 2, and 3).

The results showed that the baseline measurements for VTE prophylaxis was 0%. Parameters which were measured most often included BMI and Hip to waist circumference; however these still only had a monitoring rate of 60%.

See supplementary file: ds5417.docx - "Pre-intervention results"

### Design

We realised there were a number of issues contributing to the difficulty in monitoring patients:

- A large range of physical health parameters needed to be measured
- There were a large number of patients who were on antipsychotics
- Some patients had a longer length of stay, therefore requiring repeat monitoring at various time intervals.

To address these issues, we decided that it would be useful to have a prompt sheet at the front of each patient's physical health records. This would be beneficial as it would remind anyone opening the records of what had already been monitored, what needed to be monitored and when.

### Strategy

PDSA cycle 1: The prompt sheet was shown to the consultant child psychiatrist as well as the ward pharmacist and staff nurses. Initially the design utilised a tick box approach whereby a tick would be placed next to the parameters which had been tested. However, an invaluable point was raised by the staff nurses who felt that a date and the initials of the person who had ensured those parameters had been monitored should be placed in each box, in order to ascertain who had been responsible for the monitoring of each parameter and when.

PDSA cycle 2: The prompt sheet was subsequently trialled on the ward for one month, with the nursing staff and junior doctors after the form had been redesigned. The feedback from the users was positive. Post-intervention measurements were carried out after six months of rolling out the prompt sheet.

PDSA cycle 3: A useful suggestion made by the consultant psychiatrist was that the six week post treatment monitoring was an unnecessary addition to the monitoring schedule. The six week post treatment monitoring was a standard derived from the adult NICE guidelines on schizophrenia. As this was not a standard which had been set by the local trust we decided to remove this entity from the monitoring schedule.

PDSA cycle 4: The prompt sheet was then trialled for two months. There was no negative feedback. Post-Intervention measurements

were again carried out after 16 months of rolling out the prompt sheet.

### Results

To assess the effect of the intervention, post-intervention measurements were carried out after 6 and 16 months of the introduction of the prompt sheet. A total of 24 post-intervention case notes were reviewed; seven of these patients remained on the ward until 12 weeks post the initiation of treatment.

The greatest improvement was seen in the parameters assessed before the initiation of treatment. There was a significant improvement in the measurement of 10 out of the 11 recommended parameters, as demonstrated in figure one. The only parameter that was not measured significantly more post-intervention was hip-waist-ratio. This may have been because on the prompt sheet it shared a box with height and weight so would be easy to overlook.

There was also a significant improvement in the recording of five of the nine parameters recommended 12 weeks after the initiation of treatment (see figure 2).

See supplementary file: ds5418.docx - "Post-intervention results"

### Lessons and limitations

One of the limitations of the study was that there was insufficient time allowed between the intervention and data collection for the second audit cycle. It is also possible that the improvement in the monitoring was not related to our intervention but rather a result of increased awareness within the service due to local policy national guidelines. The sample size was limited, reflecting the small population size typical of an inpatient psychiatric child and adolescent unit. It is also important to note that this study focused on a single inpatient CAMHS unit in Southwest London.

Our suggestions for improving physical monitoring in psychiatric inpatient units include: regular audit of current practices within the service, the incorporation of prompt sheets and monitoring tools within clinical notes, and adequate training of team members (especially doctors) as part of their educational programs.

We have learnt the importance of communication within the multidisciplinary team whenever initiating a new change in practice.

### Conclusion

In the adolescent unit, we identified a significant lack of physical health monitoring in this high risk age group. A single paged prompt sheet has been shown to significantly improve physical health monitoring in the majority of parameters. Anecdotally, keeping record of health monitoring in young people requiring prolonged admission has been more efficient and easier in a busy adolescent unit. By using the prompt sheet the unit is closer to adhering fully to national guidelines, which is vital for patient safety when taking antipsychotics.

## References

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## Declaration of interests

Nothing to declare.

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## Ethical approval

Not applicable