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Reviewing the Awareness of Mental Health Staff of the Possible Visual Side Effects of Antipsychotic Medications

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ABSTRACT

Objective: A staff awareness project was undertaken in order to assess the awareness of clinical staff working in a UK community psychiatry practice of the visual side effects of antipsychotic medications.

Study Design: A staff questionnaire was provided to assess baseline knowledge of the visual side effects of antipsychotic medication (the First Questionnaire). Subsequently, a short information sheet was provided regarding the visual side effects of antipsychotic medications. A Second Questionnaire for clinical staff was provided to assess reflections on knowledge gained.

Results: 100% of respondents to the Second Questionnaire found the information sheet informative in refreshing or providing knowledge. 100% of the respondents to the Second Questionnaire also found the information sheet had improved their knowledge of the impact of antipsychotic on vision, and how it can be managed. 100% of respondents stated the information provided would influence their care of patients on antipsychotics and how they might approach care.

Conclusion: Antipsychotic medications can cause ocular complications and visual side effects. Staff and patient education regarding these potential side effects can help promote patient safety.

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Keywords: Antipsychotics, Vision, Side Effects

Abbreviations
CPN: Community Psychiatric Nurse
A&E: Accident and Emergency
NICE: National Institute for Health and Care Excellence
UK: United Kingdom

Introduction

Antipsychotic medications are used in the treatment of a variety of psychiatric conditions, including bipolar disorder and schizophrenia [1]. Both typical and atypical antipsychotics can lead to pathologies of the eyelids, cornea, conjunctiva, uveal tract and retina [2-6]. Furthermore, antipsychotics can increase the risk or cause ophthalmic emergencies such as angle-closure glaucoma and oculogyric crisis [2-6].

Prescribing decisions around antipsychotics can be complex [7]. Adverse side effects may affect compliance to antipsychotic medications [8]. Even so, Sadykov et al noted that whilst the ophthalmic complications of antipsychotic medications have been documented, few clinicians monitor for psychotropic side effects by examining the patient [9]. Additionally, studies have demonstrated that mental health and care staff have limited knowledge regarding the side effects of antipsychotic medications [10–12]. This subsequently influences staff understanding of the possible impact of antipsychotics on patients, the need for monitoring of the side effects of antipsychotic medications, and the importance of ensuring patients make informed decisions regarding their care [13-15].

This staff awareness project was designed in order to inform and remind clinical staff working in a UK community psychiatry practice of the visual side effects of antipsychotic medication, thus promoting patient safety and wellbeing.

Methods

A questionnaire was designed to assess the knowledge and awareness of clinical staff on the visual side effects of antipsychotic medication. The questionnaire was reviewed by a Consultant Psychiatrist prior to being issued to members of the multidisciplinary team. This was termed the First Questionnaire. The questionnaire was then distributed to clinical members of the multidisciplinary team, of which 11 clinical staff members responded.

Following the First Questionnaire, the staff members were provided with a short information sheet regarding antipsychotics and the adverse effects of antipsychotics on the eyes [2-6]. Information was also provided on how to manage the risk to vision in those

commencing antipsychotics. Key terms were explained such as angle-closure glaucoma and oculogyric crisis.
Subsequently, a questionnaire, termed the Second Questionnaire, was provided to staff members. This questionnaire asked questions to assess whether the information provided in the information had improved or refreshed knowledge regarding the visual side effects of antipsychotic medications.

Appendix 1 illustrates the First Questionnaire, information sheet and Second Questionnaire. The data was collected in December 2023. The results of the study have been distributed to clinical staff at the practice.

Results

Clinical roles of the respondents to the questionnaires

Of the questionnaires provided, 11 staff members responded. One staff member did not indicate their role. The clinical roles of the respondents are highlighted in Figure 1.

Figure 1: Clinical roles of respondents to the questionnaires

Role	Number of Participants with this Role
Community Psychiatric Nurse	3
Recovery Worker	1
Health and Wellbeing practitioner	1
Honorary Assistant Psychologist	1
Clinical Psychologist	2
Doctor	2
Did not declare their role	1

Response to Question 1 and 2 of the First Questionnaire

1. Please tick all which apply to you:
a) I have been involved in the care of a patient taking an antipsychotic
b) I have prescribed an antipsychotic to a patient
c) I have administered an antipsychotic to a patient

2. For the question above, please outline which antipsychotics (name more than one as needed)

Respondents were asked whether they had been involved in the care of a patient taking an antipsychotic. 90.9% (10 out of 11 respondents) stated that they had been involved in the care of a patient taking an antipsychotic. 27.3% (3 out of 11 respondents) had prescribed an antipsychotic to a patient, whilst 54.5% (6 out of 11 respondents) had administered an antipsychotic to a patient.

The antipsychotics prescribed included both typical and atypical antipsychotics, oral tablets and antipsychotic depot injections (Figure 2). In response to question two, one respondent wrote 'all other antipsychotic depot injections' whilst another wrote 'first and second generation antipsychotics.' The other responses to question 2 are highlighted in Figure 2.

Figure 2: The antipsychotics listed by the respondents in reply to question 2

	Antipsychotics Prescribed
Typical Antipsychotics	Flupentixol Zuclopenthixol Haloperidol Chlorpromazine
Atypical Antipsychotics	Risperidone Quetiapine Aripiprazole Olanzapine Paliperidone Amisulpride Clozapine

Response to Question 3 and 4 of the First Questionnaire

3. *Are you aware that antipsychotic medication can have an impact on vision? Yes/No (please circle)*
4. *If the answer is yes, please could you name the adverse side effects that antipsychotic medications can have on the vision that you are aware of?*

When the respondents were asked if they were aware that antipsychotic medications can have an impact on vision, 63.6% (7 out of 11 respondents) stated that they were aware whereas 36.4% (4 out of 11 respondents) stated they were not aware.

For the respondents who were aware that antipsychotics can have visual side effects, the list of side effects believed to occur with antipsychotics are outlined in Figure 3.

Figure 3: Adverse side effects of antipsychotic medications as provided by clinical staff in response to question 4 of the First Questionnaire

Side effect	Number of respondents who listed this side effect	Evidence-based literature for this side effect*
Blurred Vision	6	Yes (18)
Exacerbation/ risk of developing angle-closure glaucoma	3	Yes (19,20)
Allergic reactions leading to glaucoma	1	Unable to comment(21) **
Headache	1	Yes (22)
Nausea	1	Yes (18)
Red eye	1	Yes (20)
Pain* **	1	Unable to determine
Retinal damage	1	Yes (18)
Oculogyric crisis	1	Yes(5)

*Note the side effect may be dependent on the specific antipsychotic used. The information provided in the table is if any antipsychotic can cause the side effect listed.
**Mechanism of action in which antipsychotics lead to glaucoma is not fully understood(21)
***Respondent did not specify if this was ocular pain, pain elsewhere in the body or generalised pain

The most common side effect listed was blurred vision, with the second most common being exacerbation or risk of developing angle-closure glaucoma. This may correlate to clinical practice, as blurred vision is listed as one of the questions to ask in determining the Glasgow Antipsychotic Side-effect Scale in patients (GASS) [16,17]. Figure 3 also highlights whether the side effects listed by the members of the multidisciplinary team are evidence based. Figure 4 is a summary of the responses to questions 3,5-8 of the First Questionnaire

Figure 4: Summary of responses to questions 3,5-8 of the First Questionnaire

Question Number	Question	Answer: Yes	Answer: No	Answer: Sometimes	Did not respond to question
3	Are you aware that antipsychotic medication can have an impact on vision?	63.6% (7 out of 11 respondents)	36.4% (4 out of 11 respondents)	Not applicable	Not applicable
5	Have you ever informed a patient that their vision could be impacted by antipsychotics?	27.3% (3 out of 11 respondents)	63.6% (7 out of 11 respondents)	9.1% (1 out of 11 respondents)	Not applicable
6	Have you ever informed a patient to monitor side effects to their vision after starting antipsychotics?	45.5% (5 out of 11 respondents)	54.5% (6 out of 11 respondents)	Not applicable	Not applicable
7	Have you ever provided information leaflets on antipsychotics to patients?	54.5% (6 out of 11 respondents)	45.5% (5 out of 11 respondents)	Not applicable	Not applicable
8	If yes to question 7, are you aware if any information was provided regarding antipsychotic side effects to vision?	45.5% (5 out of 11 respondents)	9.1% (1 out of 11 respondents)	Not applicable	18.2% (2 out of 11 respondents)

Response to question 5 of the First Questionnaire
5. *Have you ever informed a patient that their vision could be impacted by antipsychotics? Yes/No (please circle)*

In response to the question 5 as to whether the member of staff had informed the patient that their vision could be impacted by antipsychotics, 27.3% (3 out of 11 respondents) stated that they did, and 9.1% (1 out of 11 respondents) stated they did sometimes. One wrote that they encourage the patient to read the instructions of the medications. 54.5% (6 out of 11 respondents) stated that they had not informed patients about the visual side effects of antipsychotic medications.

Three of these individuals stated that the reason for this was that they did not know antipsychotic medications had visual side effects. However, three respondents who previously stated that they did know that antipsychotics can cause visual side effects stated that they did not inform patients of this. One of the individuals responded to this question by stating 'not applicable' after responding that they did not know that antipsychotics can impact the vision.

Response to question 6 of the First Questionnaire

6. *Have you ever informed a patient to monitor side effects to their vision after starting antipsychotics? Yes/No (please circle)*

45.5% (5 out of 11 respondents) stated that they had informed patients to monitor side effects to their vision in response to question 6, whilst 54.5% (6 out of 11 respondents) stated that had not.

Response to question 7 of the First Questionnaire

7. *Have you ever provided information leaflets on antipsychotics to patients? Yes/No (please circle)*

When the respondents were asked if they had ever provided information leaflets on antipsychotic medications, 54.5% (6 out of 11 respondents) stated that they had whilst 45.5% (5 out of 11 respondents) stated that had not.

Response to question 8 of the First Questionnaire

8. *If yes to question 7, are you aware if any information was provided regarding antipsychotic side effects to vision? Yes/No (please circle) Please specify any details below*

Of the six respondents who stated that they had provided information leaflets on antipsychotic medications, 45.5% (5 out of 11 respondents) stated that information that was provided regarding antipsychotic side effects to vision whilst 9.1%, (1 out of 11 respondents) stated they were not.

Of the five individuals who stated that they had not provided information leaflets, one stated that they were aware that information was provided regarding antipsychotic side effects to vision (9.1% of respondents) whilst another respondent stated they were not aware of this (9.1% of respondents). Two of the respondents who stated no to question 7 did not answer question 8 (18.2%, 2 out of 11 respondents), whilst one person who did not answer question 7 wrote 'not applicable' for question 8 (9.1%, 1 out of 11 respondents).

The questionnaire also asked for members of the multidisciplinary team to specify details in response to question 8. These are outlined in Appendix 2.

Responses to the Second Questionnaire

Following the information provided in the information sheet, three free text questions were posed in the Second Questionnaire (please see responses in Appendix 2). One respondent did not answer these follow up questions.

Of the answering respondents, 100% found the information sheet informative in reminding them of the visual side effects of antipsychotic medication or highlighting this to them. 100% of the answering respondents also found that the information had improved or refreshed their knowledge on the impact of antipsychotics on vision and how it can be managed.

In responding to the question 3 of the Second Questionnaire, which asked whether the staff members felt the information provided would influence their care of patients and how they might approach care, 100% of the comments were positive. Respondents outlined how this information would help them continue with their current practice, reflect on practice or add to their practice.

Limitations of This Staff Awareness Project

There are several limitations to this staff awareness project. Firstly, the sample size of 11 respondents is small, which acts as an important limiting factor in interpreting the results of the study. Another limitation of this study is that one individual did not state their role, whilst another answered the questions in the First Questionnaire however did not answer the questions in the Second Questionnaire. This may further skew the results of the study.

As well as this, it may be difficult to compare the knowledge of different members of the multidisciplinary team. For example, some clinicians may have a less direct role in the initiation and monitoring of antipsychotic medications, thus their knowledge of the subject may not be comparable to other clinicians, such as the Consultant Psychiatrist. Even so, a general understanding of the side effects of antipsychotic medications is important in order to support patient care and safety.

Discussion

There is limited guidance on the management of patients who develop visual side effects as a consequence of antipsychotic medications. Therefore they may be some confusion regarding the monitoring of vision in patients commenced on antipsychotics, as well as the management of patients who develop ocular complications secondary to antipsychotics. Even so, listening to the patient's concerns, gaining input from members of the multidisciplinary team and specialist advice as needed is beneficial in supporting patient care.

There are also some variations in the monitoring of vision in patients commenced on antipsychotics. For example, the American Academy of Ophthalmology have highlighted that those over the age of 40 should have annual eye checks, whilst those less than 40 should have their eyes checked every two years if on typical antipsychotics [18]. In the UK, the NHS offers free eye tests every 2 years, but checks can be undertaken more frequently if clinically indicated [19]. It is not clear how often patients commenced on antipsychotics should have eye checks in the UK, however this may be patient dependant and the decision may involve input from specialists, such as optometrists or ophthalmologists. Further research and guidance on the gold standard practice of monitoring of vision and management of visual complications for patients on antipsychotics is needed.

Recommendations

This staff awareness project demonstrated two key areas for improvement; patient education regarding the visual side effects of antipsychotic medications and staff education.

Appendix 3 highlights an example checklist that staff members can use when thinking about the information that needs to be shared with a patient regarding the visual side effects of antipsychotic medications. This is further divided into the factors to consider when commencing antipsychotics and on subsequent review.

Furthermore, Appendix 4 provides an example checklist for clinicians to use when reflecting on their own practice, and the questions they can ask themselves to ensure their knowledge regarding the visual side effects of antipsychotic medications are

up to date. This can be used annually or more frequently as needed.

Conclusion

Within the limitations of this staff awareness project, the results provide insight into the need for continual professional education and review of patients on antipsychotic medication with regards to their vision. Patient education should include discussions around the possible visual side effects of antipsychotic medications, to ensure they are able to make informed decisions and thus provide a more holistic approach to care [20-32].

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References

1. Royal College of Psychiatrists (2024) Antipsychotics https://www.rcpsych.ac.uk/mental-health/treatments-and-wellbeing/antipsychotics.
2. Richa S, Yazbek J-C (2010) Ocular adverse effects of common psychotropic agents: a review. CNS Drugs 24: 501-526.
3. Sönmez İ, Aykan Ü (2014) Psychotropic Drugs and Ocular Side Effects. Turkish J Ophthalmol 44: 144-150.
4. Dixitha V, Abhilash B, Bhavya HU, Babu M, Sudhakar N (2023) Quantitative Analysis of Tear Film in Patients on Atypical Antipsychotics, Ocular Immunology and Inflammation. Ocul Immunol Inflamm 28: 1-6.
5. Hadler NL, Roh YA, Nissan DA (2023) Oculogyric Crisis after Initiation of Aripiprazole: A Case Report of an Active Duty Service Member. Case Rep Psychiatry https://doi.org/10.1155/2023/9440028.
6. Khanom T, Hossain S, Tanveer MS, Islam MM, Morshed A (2021) Pattern of Ocular Toxicity in Patients on Long-term Antipsychotic Drug. Saudi J Med Pharm Sci 7: 195-199.
7. Barley M, Pope C, Chilvers R, Sipos A, Harrison G (2008) Guidelines or mindlines? A qualitative study exploring what knowledge informs psychiatrists decisions about antipsychotic prescribing, Journal of Mental Health. J Ment Heal 17: 9-17.
8. Freudenreich O, Cather C (2012) Antipsychotic Medication Nonadherence: Risk Factors and Remedies. J Lifelong Learn Psychiatry 10.
9. Sadykov E, Studnička J, Hosák L, Siligardou MR, Elfurjani H, et al. (2019) The Interface between Psychiatry and Ophthalmology. Acta Medica Cordoba 62: 45-51.
10. Begum F, Mutsatsa S, Gul N, Thomas B, Flood C (2020) Antipsychotic medication side effects knowledge amongst registered mental health nurses in England: A national survey. J Psychiatr Ment Health Nurs 27: 521-532.
11. Lemay C, Mazor K, Field T, Donovan J, Kanaan A, et al. (2013) Knowledge of and perceived need for evidence-based education about antipsychotic medications among nursing home leadership and staff. J Am Med Dir Assoc 14: 895-900.
12. Nosè M, Mazzi M, Esposito E, Bianchini M, Petrosemolo P, et al. (2012) Adverse effects of antipsychotic drugs: survey of doctors' versus patients' perspective. Soc Psychiatry Psychiatr Epidemiol 47: 157-164.
13. Hynes C, McWilliams S, Clarke M, Fitzgerald I, Feeney L, et al. (2020) Check the effects: systematic assessment of antipsychotic side-effects in an inpatient cohort. Ther Adv Psychopharmacol 10: 1-11.
14. Read J, Williams J (2019) Positive and Negative Effects of Antipsychotic Medication: An International Online Survey of 832 Recipients. Curr Drug Saf 14: 173-181.
15. Morrison P, Meehan T, Stomski N (2016) Australian mental health staff response to antipsychotic medication side effects – the perceptions of consumers. Promot Prev Early Interv 14: 4-13.
16. NHS Somerset ICB (2021) Glasgow Antipsychotic Side-effect Scale (GASS) https://www.somersetccg.nhs.uk/wp-content/uploads/2021/09/GASS-Scale.pdf.
17. Sterritt J (2021) Monitoring side-effects of antipsychotics using the glasgow antipsychotic side-effect scale. BJPsych Open 7: S106-S107.
18. American Academy of Ophthalmology. 2020–2021 BCSC Basic and Clinical Science Course: Section 1-Update on General Medicine, Chapter 11: Behavioral and Neurologic Disorders, Pharmacologic Treatment of Psychiatric Disorders https://www.aao.org/education/bcscsnippetdetail.aspx?id=57c8511d-8570-4bf5-97c7-8c5061e675d3.
19. NHS (2023) How often can I have a free NHS sight test? https://www.nhs.uk/nhs-services/opticians/how-often-can-i-have-a-free-nhs-eye-test/.
20. National Institute for Health and Care Excellence (2023) Bipolar disorder: Antipsychotics https://cks.nice.org.uk/topics/bipolar-disorder/prescribing-information/antipsychotics/.
21. Vallee A, Vallee J-N, Lecarpentier Y (2021) Lithium and Atypical Antipsychotics: The Possible WNT/β Pathway Target in Glaucoma. Biomedicines 9: 473.
22. NHS (2024) Risperidone https://www.nhs.uk/medicines/risperidone/.
23. Mind (2023) Antipsychotics: What side effects can antipsychotics cause? https://www.mind.org.uk/information-support/drugs-and-treatments/antipsychotics/side-effects/#:~:text=All antipsychotics also have the,especially those with antimuscarinic effects. %0D%0A%0D%0A.
24. NICE (2022) Dementia: Antipsychotics https://cks.nice.org.uk/topics/dementia/prescribing-information/antipsychotics/.
25. Mind (2023) Antipsychotics [Internet]. 2023 [cited 2023 Nov 21]. Available from: https://www.mind.org.uk/information-support/drugs-and-treatments/antipsychotics/about-antipsychotics/
26. Leucht S, Corves C, Arbter D, Engel RR, Li C, et al. (2009) Second-generation versus first-generation antipsychotic drugs for schizophrenia: a meta-analysis. Lancet 373: 31-41.
27. National Institute for Health and Care Excellence (2021) Psychosis and schizophrenia: Available antipsychotics https://cks.nice.org.uk/topics/psychosis-schizophrenia/prescribing-information/available-antipsychotics/.
28. NHS (2019) Treatment - Psychosis.
29. Porter D, McKinney JK (2023) What Is Chronic Angle-Closure Glaucoma? American Academy of Ophthalmology. https://www.aao.org/eye-health/d NICE. Dementia: Antipsychotics https://cks.nice.org.uk/topics/dementia/prescribing-information/antipsychotics/iseases/what-is-chronic-angle-closure-glaucoma.
30. Kaleem M (2023) Glaucoma. Johns Hopkins Medicine.
31. National Institute for Health and Care Excellence (2023) What are the risk factors for developing primary glaucoma? https://cks.nice.org.uk/topics/glaucoma/background-information/risk-factors/.
32. Bindal M, Raviskanthan S, Lee AG, Mortensen PW, Al-Zubidi N, et al. (2023) Oculogyric Crisis [Internet]. EyeWiki American Academy of Ophthalmology. https://eyewiki.org/Oculogyric_Crisis.

Appendices

Appendix 1: Questionnaire on staff awareness of the visual side effects of antipsychotic medication**

First Questionnaire

Date: …….

Role (e.g. Nurse, Psychologist, Doctor, Support Worker etc): ……..

Location:

1. Please tick all which apply to you:
a) I have been involved in the care of a patient taking an antipsychotic
b) I have prescribed an antipsychotic to a patient
c) I have administered an antipsychotic to a patient

2. For the question above, please outline which antipsychotics (name more than one as needed)

……

……

……

……

3. Are you aware that antipsychotic medication can have an impact on vision? Yes/No (please circle)

4. If the answer is yes, please could you name the adverse side effects that antipsychotic effects can have on the vision that you are aware of?

……

……

……

5. Have you ever informed a patient that their vision could be impacted by antipsychotics? Yes/No (please circle)

6. Have you ever informed a patient to monitor side effects to their vision after starting antipsychotics? Yes/No (please circle)

7. Have you ever provided information leaflets on antipsychotics to patients? Yes/No (please circle)

8. If yes to question 7, are you aware if any information was provided regarding antipsychotic side effects to vision? Yes/No (please circle) Please specify any details below

……

……

……

Staff information leaflet Antipsychotic Information

Antipsychotics: A brief recap!

Antipsychotics can be classed into first generation (typical) antipsychotics (for example chlorpromazine and haloperidol) and

second generation (atypical) antipsychotics (for example olanzapine, clozapine, risperidone and aripiprazole)(25,26). They are used in the treatment of mania, anxiety, psychosis. Second generation antipsychotics cause fewer extrapyramidal side effects than first generation antipsychotics (27,28).

What are the adverse effects of antipsychotics on the eyes?

1. NICE recommend that antipsychotics should be used in caution in those at risk of angle closure-glaucoma(20)
2. Oculogyric crisis and diplopia (double vision) can be a side effect of aripiprazole (though uncommon)(20)
3. Blurry vision(18)
4. Retinal degeneration (18) (the retina is the layer of the eye which helps convert light stimuli to electrical impulses, carried via the optic nerve to the brain)
5. Corneal and lens granular deposits (18)

Some key terms explained:
What is angle-closure glaucoma?
The angle between structures of the eye which drain fluid in the front of the eye is narrowed, leading to increasing pressure in the eye which can damage the optic nerve (the nerve which allows us to 'see', connecting the eye to the brain)(29,30). Risk factors include being female, being of Asian background, ageing, shorter eyes and having a family history of the condition(31).

What is oculogyric crisis?
Oculogyric crisis describes sudden spasmodic eye muscles so that the eye moves and fixes into a position (for example upwards) which can be painful and usually lasts for a few minutes(18,32).

How should we manage the risk to vision in those commencing antipsychotics?
Although NICE do not specify, it can be beneficial to ask patients about their past medical history or family history of eye conditions, to ascertain their risk of developing complications after starting an antipsychotic. Discuss with their Consultant Psychiatrist if there is concern regarding commencing antipsychotics and risk to their vision (e.g. in developing glaucoma).

It may also be beneficial to continue to encourage patients to monitor their symptoms, including any visual changes. If the patients do experience visual changes, ask them to seek appropriate medical advice, for example seeking review by their GP or optician and discuss the case with their Consultant Psychiatrist. The patient can be discussed and/or may be referred to A&E if any serious concerns.

Second Questionnaire

Following the information provided:

1. Did you find the information in this booklet informative? If so in what way?

……

……

……

2. Do you think this information booklet has improved your knowledge on the impact of antipsychotics on vision, and how this can be managed? Please explain your answer below

……

……

……

3. Do you think the information provided in this leaflet will influence your care to patients or how you might approach care? Please explain your answer

……

.....

.....

Thank you for your time!

** This information was written with support of local guidance, and as such, some of the names of the institutions that individuals can be referred to have been removed from the advice in order to protect anonymity

Appendix 2: Answers to free text questions from the First and Second Questionnaire

	Free Text Questions
	First Questionnaire
8. If yes to question 7, are you aware if any information was provided regarding antipsychotic side effects to vision? Yes/No (please circle) Please specify any details below	• 'Information provided as part of initial psychoeducation and advised to patient and carers.' • 'When patients start clozapine they are informed of risks.' • 'Visual issues including blurring of vision are mentioned.' • 'Medication info leaflets' • 'Before prescribing any medication to a patient it is the consultant/nurse who should inform patients of antipsychotic side effect via - text, leaflet, face to face, via mail.'
	Second Questionnaire
1: Did you find the information in this booklet informative? If so, in what way?	• 'The information gives you insight into various side effects of the antipsychotic meds.' • 'Yes-refreshing knowledge' • 'Yes' • 'Yes. Covers all topics and very clear.' • 'Yes- good to refresh myself on info.' • 'Yes, the information provided is a clear and concise explanation of side effects and also ways this can be monitored.' • 'It provided me with information I was not previously aware of, as I am not from a medical background.' • 'Yes, updated my knowledge on visual side effects.' • 'Yes, I know now antipsychotics affect the vision. If a patient tells me his/her vision is blurry, I am aware that this could be potentially side effect of antipsychotic.' • 'Yes it was helpful as I wasn't aware of the risk with vision.'
2. Do you think this information booklet has improved your knowledge on the impact of antipsychotics on vision, and how this can be managed?	• 'It has refreshened my memory on this type of medication. So this is very good.' • 'Yes- will always ensure patients are made aware to monitor vision' • 'Yes, a timely reminder to remember discussing this with patients' • Yes. Clear details.' • As part of psychoeducation it good to share as it can risk non concordance due to anxiety about treatment.' • 'Yes, I wasn't aware of this side effect or the groups of people who were more at risk of eye problems due to anti-psychotics.' • 'Yes- it has informed me of the side effect and this is something I can keep in mind when working with service users prescribed antipsychotics.' • 'Yes, I will be more aware of this possibility which sometimes can be overlooked.' • 'Yes. By asking patients if their vision is fine when they attend depot clinics.' • 'Yes it was very informative about the risks and possibilities and how to go about it.'

3. Do you think the information provided in this leaflet will influence your care to patients or how you might approach care?	• 'This information makes you reflect on what could possibly go wrong whilst starting on antipsychotics. With the information given hopefully. Patients have a choice whether they want it or not.' • 'Yes- adding visual effects to all other side effects and information given' • 'Yes, it has increased my awareness to remind myself regarding discussion with patients' • 'Yes I will monitor closely.' • 'I will continue to provide this important information' • 'Yes I will keep in mind to ask patients about side effects and inform them what actions to take if they experience any side effects.' • 'It will enable me to think holistically about a client's care, and help me to understand their symptoms better. It will help me to raise more questions with medical colleagues about the potential for side effects.' • 'Yes' • 'Yes. I will make sure to document the concern re: vision and inform the responsible clinician/consultant of the concern and the CPN as well.' • 'Yes as I would check history of eye/vision problems or any risk factors more.'

Appendix 3: Example of a staff checklist for monitoring visual symptoms in patients taking antipsychotics

	Points to consider
During initial consultation	□ I have screened the patient for risk factors for developing visual complications, such as a personal history of any eye conditions and family history of eye conditions such as glaucoma □ I have discussed with patients the possible side effects of antipsychotic medications, including on the vision □ I have provided information leaflets to patient and/or directed them to patient-appropriate resources about antipsychotics. The resources also outline possible side effects of the medications, including to vision □ I have provided safety netting advice regarding what to do if the patient experiences any side effects, including relating to their vision □ I have discussed red flag symptoms with the patient regarding their vision, for example if their eye appears 'stuck in one position' or if they develop a painful red eye. In these instances, I have advised them to seek urgent medical advice, attend the accident and emergency department or eye casualty □ I have advised patients to continue having regular eye checks □ I have informed members of the multi-disciplinary team and documented the above steps taken
During follow up consultations/ reviews of patients	□ I have discussed with the patients how they are feeling following commencing antipsychotic medications □ I have asked patients on antipsychotic medications if they have experienced any side effects, including changes to their vision □ If the patient has experienced changes to their vision, I have clarified what these are □ If the patient has experienced changes to their vision, I have sought senior input (for example from the Consultant Psychiatrist) and also specialist input as needed (for example from Ophthalmologists) regarding the best management plan □ I have continued to provide information regarding the side effects of antipsychotic medication and safety net advice to the patient

Appendix 4: Example of A Staff Checklist for Refreshing or Maintaining Knowledge Regarding the Possible Visual Side Effects of Antipsychotic Medication

	Points to consider
Staff checklist for refreshing or maintaining knowledge regarding the possible visual side effects of antipsychotic medication	☐ I have reflected on my current practice ☐ I have familiarised myself with the side effects of antipsychotic medications, including the possible visual side effects and ocular complications ☐ I have looked at guidance from appropriate sources such as the National Institute of Health and Care Excellence (NICE) and the Royal College of Psychiatry to further develop and/or maintain my knowledge ☐ I have discussed with colleagues or more experienced members of the multi-disciplinary team when I am uncertain or would like support with regards to the management of a patient on antipsychotics experiencing side effects, including visual side effects and how best to monitor these patients