



The lesser of two evils? A qualitative study of quetiapine use by family physicians

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Complete List of Authors:	Kelly, Martina ; University of Calgary, Department of Family Medicine Dornan, Timothy; Centre for Medical Education, Medical and Interprofessional Education Pringsheim, Tamara; University of Calgary, Clinical Neurosciences
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Abstract:	<p>Background: More than one in 10 Canadians received a prescription for quetiapine in 2012, often from family physicians, and usually off-label. Such high usage by generalists of a potent antipsychotic drug for non-standard indications requires explanation, particularly considering that quetiapine is no more effective for most indications than alternatives, causes neurological and metabolic harm, and is discouraged by opinion leaders. The aim of this research was to explore, in-depth, family physicians' reasons for this behavior.</p> <p>Methods: Qualitative interviews with fifteen urban family physicians in Alberta, Canada. Participants were purposively selected based on gender, years of experience, and practice type. Interviews explored participants' experiences prescribing quetiapine. Interviews were recorded, transcribed verbatim, and coded using thematic analysis.</p> <p>Results: A wish to support complex patients' day-to-day function without causing benzodiazepine addiction motivated participants to prescribe quetiapine. The indications were varied and, included incomplete symptom resolution, unclear or multiple mental health diagnoses, and complicated psychosocial problems. Family physicians benchmarked their prescribing against peers, whose prescriptions they were reluctant to stop. Limited knowledge of quetiapine's side effects led prescribers to choose low doses.</p> <p>Interpretation: Quetiapine helped family physicians treat patients with complex mental health problems without prescribing benzodiazepines. Using quetiapine off-label and in small doses, however, puts patients at risk for metabolic and neurological side effects. Guidelines focusing on a single diagnosis are unlikely to change prescribing patterns. Education about quetiapine should combine psychopharmacology with peer-led</p>

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	educational initiatives, which focus on symptom resolution, co-morbidity and non-drug options to promote more appropriate prescribing.

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COREQ (CONsolidated criteria for REporting Qualitative research) Checklist

A checklist of items that should be included in reports of qualitative research. You must report the page number in your manuscript where you consider each of the items listed in this checklist. If you have not included this information, either revise your manuscript accordingly before submitting or note N/A.

Topic	Item No.	Guide Questions/Description	Reported on Page No.
Domain 1: Research team and reflexivity			
<i>Personal characteristics</i>			
Interviewer/facilitator	1	Which author/s conducted the interview or focus group?	
Credentials	2	What were the researcher's credentials? E.g. PhD, MD	
Occupation	3	What was their occupation at the time of the study?	
Gender	4	Was the researcher male or female?	
Experience and training	5	What experience or training did the researcher have?	
<i>Relationship with participants</i>			
Relationship established	6	Was a relationship established prior to study commencement?	
Participant knowledge of the interviewer	7	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	
Interviewer characteristics	8	What characteristics were reported about the interviewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	
Domain 2: Study design			
<i>Theoretical framework</i>			
Methodological orientation and Theory	9	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	
<i>Participant selection</i>			
Sampling	10	How were participants selected? e.g. purposive, convenience, consecutive, snowball	
Method of approach	11	How were participants approached? e.g. face-to-face, telephone, mail, email	
Sample size	12	How many participants were in the study?	
Non-participation	13	How many people refused to participate or dropped out? Reasons?	
<i>Setting</i>			
Setting of data collection	14	Where was the data collected? e.g. home, clinic, workplace	
Presence of non-participants	15	Was anyone else present besides the participants and researchers?	
Description of sample	16	What are the important characteristics of the sample? e.g. demographic data, date	
<i>Data collection</i>			
Interview guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	
Repeat interviews	18	Were repeat interviews carried out? If yes, how many?	
Audio/visual recording	19	Did the research use audio or visual recording to collect the data?	
Field notes	20	Were field notes made during and/or after the interview or focus group?	
Duration	21	What was the duration of the interviews or focus group?	
Data saturation	22	Was data saturation discussed?	
Transcripts returned	23	Were transcripts returned to participants for comment and/or	

Topic	Item No.	Guide Questions/Description	Reported on Page No.
		correction?	
Domain 3: analysis and findings			
<i>Data analysis</i>			
Number of data coders	24	How many data coders coded the data?	
Description of the coding tree	25	Did authors provide a description of the coding tree?	
Derivation of themes	26	Were themes identified in advance or derived from the data?	
Software	27	What software, if applicable, was used to manage the data?	
Participant checking	28	Did participants provide feedback on the findings?	
<i>Reporting</i>			
Quotations presented	29	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	
Data and findings consistent	30	Was there consistency between the data presented and the findings?	
Clarity of major themes	31	Were major themes clearly presented in the findings?	
Clarity of minor themes	32	Is there a description of diverse cases or discussion of minor themes?	

Developed from: Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

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The lesser of two evils? A qualitative study of quetiapine use by family physicians

Martina Kelly, MBBCh, MA, Tim Dornan, MD, PhD, Tamara Pringsheim MD, MSc

Martina Kelly is associate professor, Department of Family Medicine, Cumming School of Medicine, University of Calgary, Calgary, Alberta, Canada. makelly@ucalgary.ca

Tim Dornan is professor, School of Medicine, Dentistry and Biomedical Sciences, Queen's University, Belfast, Northern Ireland. timothy.dornan@gmail.com

Tamara Pringsheim is associate professor Department of Clinical Neurosciences, Psychiatry, Pediatrics and Community Health Sciences, Cumming School of Medicine, University of Calgary, Calgary, Alberta, Canada. tmprings@ucalgary.ca

Corresponding author: Martina Kelly, G329, Undergraduate Family Medicine, Cumming School of Medicine, Health Sciences Centre, 3330 Hospital Drive, Calgary, Alberta T2N 2N1 makelly@ucalgary.ca
00 1 403 210 6318

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Tables = 2, Figure = 1, Appendices = 2

Abstract

Background: More than one in 10 Canadians received a prescription for quetiapine in 2012, often from family physicians, and usually off-label. Such high usage by generalists of a potent antipsychotic drug for non-standard indications requires explanation, particularly considering that quetiapine is no more effective for most indications than alternatives, causes neurological and metabolic harm, and is discouraged by opinion leaders. The aim of this research was to explore, in-depth, family physicians' reasons for this behavior.

Methods: Qualitative interviews with fifteen urban family physicians in Alberta, Canada. Participants were purposively selected based on gender, years of experience, and practice type. Interviews explored participants' experiences prescribing quetiapine. Interviews were recorded, transcribed verbatim, and coded using thematic analysis.

Results: A wish to support complex patients' day-to-day function without causing benzodiazepine addiction motivated participants to prescribe quetiapine. The indications were varied and, included incomplete symptom resolution, unclear or multiple mental health diagnoses, and complicated psychosocial problems. Family physicians benchmarked their prescribing against peers, whose prescriptions they were reluctant to stop. Limited knowledge of quetiapine's side effects led prescribers to choose low doses.

Interpretation: Quetiapine helped family physicians treat patients with complex mental health problems without prescribing benzodiazepines. Using quetiapine off-label and in small doses, however, puts patients at risk for metabolic and neurological side effects. Guidelines focusing on a single diagnosis

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3 are unlikely to change prescribing patterns. Education about quetiapine should combine
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5 psychopharmacology with peer-led educational initiatives, which focus on symptom resolution, co-
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7 morbidity and non-drug options to promote more appropriate prescribing.
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12 **Key words:** family physicians, quetiapine, prescribing, qualitative research
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15 16 Introduction

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19 Quetiapine is the most widely prescribed antipsychotic in North America, costing billions of dollars per
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21 year.¹ Most of the twelve quetiapine prescriptions per 100 Canadian citizens per year are written by
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23 family physicians.^{2,3} Although quetiapine is licensed for treatment of schizophrenia, bipolar disorder,
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25 and as an adjunctive to antidepressants in moderate to severe depression, much prescribing of
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27 quetiapine by family physicians is off-label.^{4,5} Insomnia, anxiety and behavioral disturbance in elderly
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29 people and children, are common reasons for off-label use.^{4,6,7} Evidence of benefit for these indications
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31 is disputed.^{4,8,9} Metabolic, neurological, and cardiovascular side effects^{8,10} pose a significant risk of
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33 harm^{10,11}, as they do with other anti-psychotics, and drugs that are as effective and safer are available.¹²⁻
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37 ¹⁴ For those reasons, professional bodies caution physicians to use antipsychotics judiciously.¹⁵⁻¹⁷ The
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39 Choosing Wisely campaign made four recommendations for restricting the use of second generation
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41 antipsychotics, including quetiapine. And a number of guidelines on deprescribing antipsychotics have
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43 recently been published.^{18,19} Yet physicians prescribe quetiapine when there are good reasons for not
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45 doing so.
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51 Decisions to prescribe are not simply a matter of knowing the indications for drugs. These are influenced
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53 by characteristics of patients,²⁰ practitioners,^{21,22,23,24} the organizational settings in which physicians
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55 work,^{25,26} commercial influences,^{23,27} and interactions between those various factors. Continuing
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3 professional development is a means of influencing prescribing behavior but this calls for a clear
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5 understanding of the complex web of factors that cause questionable behaviors to exist and persist. The
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7 exploratory nature of qualitative research is well suited to scratching below the surface of non-ideal
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9 behaviors and identifying obstacles and facilitators to the adoption of desired behaviors. We therefore
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11 set out to explore, in depth, why and how family physicians prescribed quetiapine.
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17 Methods

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20 This qualitative interview study was set in urban family practice in Alberta, Canada. The researchers
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22 were a family physician (MK), a specialist physician with an interest in pharmacoepidemiology and
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24 mental health (TP), and a senior physician education researcher (TD). All have experience of conducting
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26 qualitative research.
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30 **Sampling and Recruitment:** Study information comprising an introductory email, cover letter, and
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32 informed consent, were disseminated via faculty email lists (Department of Family Medicine, University
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34 of Calgary). We constructed a sampling frame to obtain a purposive sample by gender, years of
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36 experience, and practice type. We contacted volunteers by telephone to give more information, answer
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38 questions, ensure anonymity, and arrange an interview. Sampling in the later stages was influenced,
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40 also, by the findings of interim analysis.
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44 **Data collection:** To minimize any social desirability bias that might result from group interaction and
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46 ensure physicians felt comfortable providing in-depth descriptions of their prescribing practices, we
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48 chose one-to-one interviews to collect data. MK or TP conducted interviews in person (12 interviews) or
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50 by telephone (2 interviews), for which they offered participants an honorarium. A semi-structured
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52 interview schedule was developed, piloted, and amended (see Appendix A). The interview opened by
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54 asking participants to describe their clinical practice and general approach to patients presenting with
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3 mental health concerns. Following this, participants described their experiences of prescribing
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mental health concerns. Following this, participants described their experiences of prescribing
quetiapine. We followed up on issues they raised and asked additional questions about patterns of
quetiapine use, resources, prescribing influences, and patient factors.

Analysis: Data collection and analysis were iterative and used to inform ongoing sampling and interview
modification. Interviews were recorded, transcribed and coded, using template analysis. This is a flexible
form of thematic analysis²⁸ in which an initial template was devised based on a priori codes developed
from the literature. This was modified in response to open coding of transcripts. Transcripts were read
independently, and initial codes identified. MK and TP met to discuss and refine the preliminary
template. We then applied the template to further data and refined it progressively until we had arrived
at a final template. To prevent the findings being unduly influenced by our individual preconceptions,
we discussed our responses to the data and recorded field notes after each meeting to capture our
different perspectives as generalist and specialist physician respectively. A senior physician, experienced
in qualitative prescribing research (TD) gave us additional help to respond reflexively to the data by
discussing and challenging the interpretation, during the initial phase of analysis, mid-way, and at its
final stage. Analysis continued until we felt we had a comprehensive understanding of family physicians'
use of quetiapine, which indicated our sample was sufficient.²⁹

Ethics: This study received approval from the Conjoint Health Research Ethics Board (CHREB), University
of Calgary.

Results

Participants: Fifteen physicians (8 men, 7 women) participated. Interviews lasted 29-66 minutes
(average 40 minutes) and were conducted in locations determined by participants, which included their
practices, homes, coffee shops, or the researchers' offices. Twelve participants worked as family
physicians in the community and three were family physicians working part-time (1) or full-time (2) as

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3 hospitalists. Four participants worked in clinics designed to support patients with complex psychosocial
4 needs such as chronic mental illness, low income, unemployment, and homelessness. Table 1 details
5 participants' years of experience and types of practice. Most participants worked in extended primary
6 care teams, which included behavioral health consultants (13 interviewees), social workers (6
7 interviewees), and joint physician-psychologist appointments (3 interviewees).
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16 Our final template, which details themes and subthemes that summarize participants' use of quetiapine,
17 is shown in Table 2. This narrative elaborates those themes. Further exemplar quotations are provided
18 in Appendix B. Participants were torn between feeling responsible for relieving patients' symptoms so
19 they could function in society, and giving them benzodiazepines to which they might become addicted.
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Quetiapine seemed to balance efficacy against safety (Figure 1).

Mental health plus – a solution for complex patients?

Participants did not see quetiapine as a first line treatment for depression, anxiety, behavioral disorders,
or insomnia. They reserved it for patients unresponsive to first line therapies, patients with multiple
psychiatric diagnoses, or patients with challenging psychological or social histories. Quetiapine was able
to 'calm', 'take the edge off', or 'settle' agitated or distressed patients. One physician described this as
'*mental health plus*'. The decision to use quetiapine was based on physicians' belief that it relieved
distressing symptoms and helped patients retain some semblance of normality – be it to remain in work,
take care of their families, or keep their hostel bed.

So most of us family docs are used to using zopiclone for sleep and so the reason I think, I think
I'm seeing so much quetiapine is because there's another psychiatric aspect to what they're
seeing, so it's not just sleep....There's either an anxiety component, an agitation component,
there's something else. It's sleep plus. (Interview 2, L 177-180)

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3 I would see patients who I guess were primarily coming out of jail and a lot of those patients
4 would be on quetiapine for aggressive behavior, for sleep, for anxiety, and some of them would
5 even say, some of those patients would say that it helped them sort of quell their addictions, so
6 that's probably where I got exposed to it the most. (Interview 7, L103-108)
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12 Choosing cautiously – the lesser of two evils

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15 Participants selected quetiapine because of its non-addictive nature and they felt it was less likely to be
16 abused. They wanted to avoid benzodiazepines, so quetiapine was 'the lesser of two evils' (IV 4, L468).
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20 You need to stay away as much as possible from benzodiazepines or zopiclone or anything in
21 that class because of the addictive properties and, well dependence really, and the interference
22 with sleep architecture. Now admittedly, I don't fully understand how quetiapine either
23 augments or disrupts sleep architecture so that I don't know. I don't know anything about the
24 long-term effects but as a result of us needing to move away from benzos, etc., it seems like
25 quetiapine has moved into that vacuum that was created. (Interview 5, L126-131)
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34 Participants were unfamiliar with quetiapine's mechanism of action and knew variable amounts about
35 its adverse effects. Most believed it was a reasonably safe option and were comfortable to prescribe it
36 at a dose of 25 to 50 mg per day. Since they thought this was safe, they did not monitor patients for
37 adverse effects.
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44 They seem to do fine so I'm not very worried about 50 or 100 [milligrams]. (Interview 10, L 457)
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47 Well I'm embarrassed to admit, I'm not even sure about the relationship between quetiapine
48 and diabetes so if they've had some blood tests, I check and see what their blood sugar is, and
49 obviously take a look at their weight, but I don't routinely check a blood sugar after they've
50 been on it for a while. (Interview 10, L274-276)
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3 Few participants informed patients that quetiapine was an antipsychotic and, if they did, couched it as
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5 'not being used for that' and emphasized that the dose was low.
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8 Prescribing influences 9

10 Other physicians, such as psychiatrists, colleagues in family medicine, and preceptors were the people
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12 who most often guided participants towards using quetiapine. Participants did not identify messaging
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14 from pharmaceutical companies or demand from patients as significant prescribing influences.
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18 If I were to hazard a guess, it would be, if it's becoming more popular, that it would be just
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20 something that you're seeing your colleagues using and you're seeing specialists using so you
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22 tend to use it a bit more. (Interview 12, L 544-546)
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25 Caring for patients on quetiapine initiated by another physician created dilemmas. Participants usually
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27 continued prescriptions initiated in hospital, particularly if started by a psychiatrist, although they did
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29 not always know who had started it, or why. When another family physician had started quetiapine,
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31 participants did not routinely re-evaluate its use before renewing the prescription. Some participants
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33 said patients were reluctant to stop quetiapine and, since it had seemed to provide therapeutic benefit,
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35 chose to continue it.
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39 I've renewed it in patients who have had it for awhile and they're stable on their medications, I
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41 certainly renew it, though when I do, I ask why they're taking the medication and often times
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43 they don't really know why they're on it. (Interview 6, L 124-126)
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47 Discussion 48

49 Main results 50

51 Family physicians' quetiapine prescribing was much less paradoxical, at the level of the individual
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53 physician and patient, than evidence at an epidemiological level could ever suggest. Physician and
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3 patient were between the rock of mental ill-health, which first line medications had not relieved, and
4 the hard place of benzodiazepine addiction. Participants perceived low dose quetiapine as relatively
5 safe, effective, and they were under the impression that fellow family physicians and psychiatrists
6 thought the same. Widespread prescribing of quetiapine for off-label indications could too easily give
7 the impression of indiscriminate use. Participants in this research felt they prescribed quetiapine
8 carefully, taking account of patients' symptoms, and social situations. Their knowledge however, of the
9 mechanism of action of quetiapine, its side-effects and the need for monitoring was poor. This
10 knowledge gap contributed to the preferential use of quetiapine over other drugs, and likely a failure to
11 recognize and properly attribute quetiapine induced adverse effects to the drug.
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23 Related studies

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25 These findings resonate with previous prescribing studies which indicate that physicians' prescribing
26 decisions are strongly impacted by personal experience,^{21, 23, 24} social influences and healthcare
27 systems.^{22, 30} The role of social factors influencing the implementation of Choosing Wisely
28 recommendations and in particular, prescribing recommendations, is supported in a recent survey of
29 family physicians and primary care workers in the US.²⁰ Notably, the recommendations health care
30 workers felt would be the most problematic related to caring for symptomatic patients, because of
31 potential negative impact on the doctor-patient relationship. In our study, family physicians negotiated
32 use of quetiapine – to address the patient's immediate symptoms, while building rapport with a view to
33 developing long-term management strategies.
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45 A key benefit identified by our participants was the calming effect of quetiapine. Family physicians
46 perceived quetiapine as a safe and effective alternative to potentially addictive medication.¹ Quetiapine
47 appeared to fill the niche previously occupied by benzodiazepines.³¹ Yet our participants' knowledge of
48 the mechanism of action of quetiapine and safety concerns was limited – despite recent educational
49 campaigns^{16, 17}. Family physicians mitigated this gap, through use of low doses and, in keeping with
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3 previous literature on guideline use^{32,33}, prioritized real world experience by colleagues, both peers and
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5 specialists over information.
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10 *Strengths and limitations*

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12 One strength is use of qualitative methods to explore family physicians' experiences with quetiapine.
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14 This allowed family physicians to detail their use of quetiapine, which enabled us to investigate what
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16 they said they did, rather than their opinions of what they should do. Their frankness and willingness to
17
18 admit ignorance gave us confidence in the validity of their accounts of their practices. Our
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20 complementary perspectives of family physician and specialist helped us both understand and challenge
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22 each other during the analysis. Further, we gauged the trustworthiness of our findings by presenting
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24 them at meetings of family physicians and sending them to participants as a form of member checking.
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28 This is an exploratory study, our sample consisted of physicians from a single urban centre. We
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30 continued interviewing until we had reached sufficiency and analyzed our data until we had a good
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32 understanding of our dataset. Although four of our participants worked with vulnerable populations, all
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34 of our participants described quetiapine use for complex patients. Whilst our study design was in line
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36 with qualitative research practice, a more exhaustive sample size might have added extra insights.
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41 *Implications*

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43 One implication of this study is that guidelines targeting a single diagnosis may have limited applicability
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45 to the cohort of patients most likely to be prescribed quetiapine. For many patients, psychoeducation,
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47 talking therapies and SSRIs had already been tried. Guidance that helps family physicians tease out
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49 symptoms in relation to specific diagnosis, recognizes coexisting illness, and focuses on effective second
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51 or even third line management options may be more helpful. While family physicians awareness of the
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53 need to avoid medications with addictive potential is laudable, there is a risk that this single message,
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3 may lead to physicians making inappropriate choices. There is a clear need for increased awareness of
4 safety and monitoring of patients on quetiapine, yet disseminating information on its own is likely to be
5 insufficient. Rather peer-led educational sessions using complex cases, which challenge family
6 physicians to explore alternatives, may be more beneficial. Cases that incorporate multi-morbidity and
7 social complexity could act as a useful springboard for reflection to explore appropriate therapeutic
8 alternatives. Better communication about medication choices between physicians, and between
9 physicians and patients, could promote more judicious prescribing of quetiapine. There was an
10 assumption among hospitalists, family physicians and psychiatrists that patients were prescribed
11 quetiapine for clear indications, but these were poorly communicated. Hospital doctors expected family
12 doctors to know when to stop quetiapine yet the latter were reluctant to discontinue psychotropic
13 medications for fear of causing mental distress or relapses. Clearer instructions on drug reconciliation
14 discharge summaries could address this. There is also a need for better involvement of patients when
15 making prescribing decisions. Should family physicians decide to prescribe quetiapine off-label, this
16 should be in partnership with patients, to include baseline assessment and ongoing monitoring.³⁴
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18 Further research is needed to understand, why, with resources in hand, physicians felt pressure to
19 choose between the 'lesser of two evils', both of which were classes of drugs.
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Table 1. Participants

Gender	Experience (years)	Practice type
M	< 5	Full-time community practice
M	5-9	Comprehensive care to vulnerable populations
M	5-9	Locum, sessional work at walk-in clinics
F	5-9	Sessional work, walk-in clinic
F	5-9	Part-time hospitalist, part-time community practice
M	10-14	Full-time hospitalist
M	10-14	Comprehensive care to vulnerable populations
F	10-14	Part-time hospitalist, part-time community practice
F	10-14	Full-time community practice
M	>15	Full time community practice, resident preceptor
M	>15	Full-time community practice, resident preceptor, interest in mental health
M	>15	Part-time community practice in aboriginal health
F	>15	Community practice
F	>15	Full-time community practice with an interest in integrative care
F	>15	Full time community practice, with an interest in eating disorders

Table 2. Themes and subthemes describing family physicians use of quetiapine

Main theme	Subtheme	Codes
1. Mental health plus	1.1 General use – it takes the edge off	1.1.1 Psychosis 1.1.2 Depression 1.1.3 Anxiety 1.1.4 Behavioural disorders 1.1.5 Insomnia/sleep disturbances
	1.2 Complex Conditions of Use	1.2.1 Patients who are unresponsive to first line therapy 1.2.2 Patients with multiple/unclear psychiatric diagnoses or psychological and social complexity
2. Choose cautiously – the lesser of two evils	2.1 Avoid addictive medication	2.1.1 Avoiding benzodiazepines 2.2.1 Less harmful than alternatives
3. My patients are fine on low doses		3.1.1 Use of low dose 3.1.2 Side-effects 3.1.3 Monitoring
4. Prescribing influences		4.1 Learning in general 4.2 Learning through peers 4.3 Learning with psychiatrist 4.4 Pharma not perceived as an influence

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5 **Appendix A. Interview Guide**
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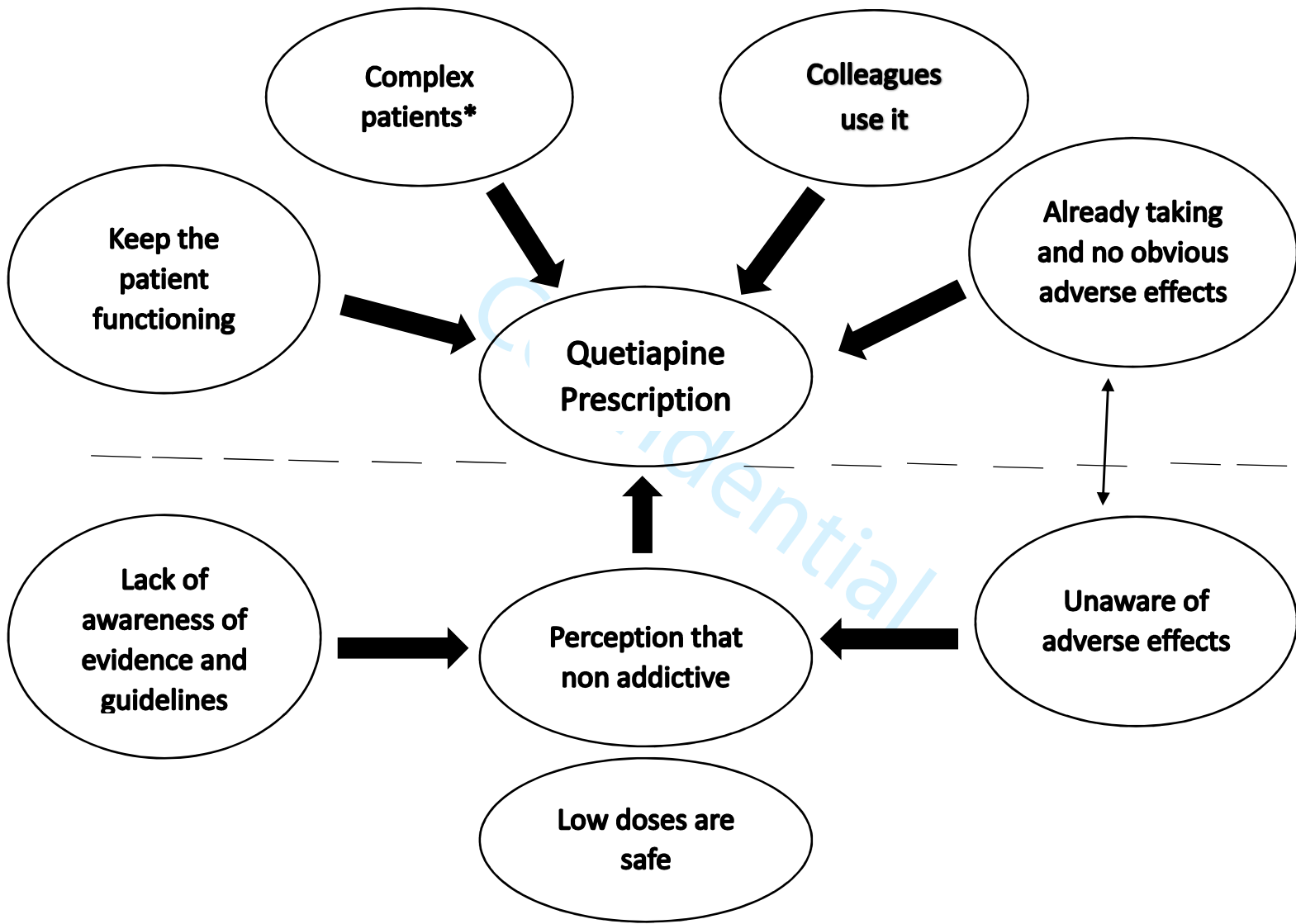
Main Topic Area	Specific Approach
Interview set up	Greeting, safe environment, study overview, purpose, consent and anonymity issues and express thanks.
Lead in (general exploratory question)	Can you tell me a little bit about the number and types of mental health patients you see in your practice?
Focus on prescribing	What are your tendencies when it comes to prescribing medication? If you can, walk me through your thought processes. <i>(Probe gently, this is a sensitive area)</i>
Focus on quetiapine	<p>In the last few years, quetiapine, has been used by some family physicians. Have you prescribed quetiapine for any of your patients?</p> <p>Probes:</p> <ul style="list-style-type: none"> - Can you give me some examples? (e.g. condition, if continuation, initiation) - What has been your experience of using quetiapine? <i>(ask for details, repeated examples)</i> <p>In what situations would you consider quetiapine the drug of choice, or alternatively, the drug to avoid of in this patient population?</p> <p>Probes:</p> <ol style="list-style-type: none"> a. How do you follow up patients on quetiapine...specifics b. Can you describe how you have come to use quetiapine? (influences – probes – patient request, pharma)
Wrap up	Anything you'd like to add?
	Thank you and end interview

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Figure 1. Influences that promote off-label use of quetiapine



*Complex patients have incomplete symptom resolution on a single agent, have multiple mental health diagnosis and may also live in unstable environments

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3 **Appendix B: Additional quotes to illustrate themes and subthemes**
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5 IV=interview

Main theme	Subtheme	Additional quotes
1.Mental health plus	1.1 General use – it takes the edge off	<p>Mhm, so to me the most common reason for using quetiapine would be as a sedative...(IV4, L244)</p> <p>So its definitely, it's not kind of my standard approach to somebody with anxiety..... I mean I obviously have a bit of a concern that I'm using it, you know, sort of off-label. I mean it's not been prescribed as a sleep aid. (IV 7, L257-8)</p> <p>...it really helps. I'm not too sure how it works but it does. (IV 11, L772)</p> <p>So I mean most of the reason in any situation that I've used quetiapine has been to like take advantage of the sedative properties, so situations where you kind of want that benefit and possibly, you know, any other, I don't know, people just seem to find it calming. (IV 15, L357-60)</p>
	1.2 Complex Conditions of Use	<p><i>1.2.1 Patients who are unresponsive to first line therapy</i></p> <p>The niche for me is that patient with depression who still has issues either with some, any depressive symptoms that are lingering... That depressed patient maybe who still ruminates a lot at night and, therefore, they have a hard time going to sleep and it's related to kind of their mind not shutting down, and I've seen it work quite nicely for that. (IV 9, L 142-147)</p> <p>So I usually start with an antidepressant and if there is, if there's still a fair bit of anxiety or agitation or sleep disturbance, that's when I will often add quetiapine. (IV 10, L88-90)</p> <p><i>1.2.2 Patients with multiple/unclear psychiatric diagnoses or psychological and social complexity</i></p>

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		<p>Yeah, then I got the borderline personality sometimes. They don't react to the simple SSRIs so I mix them with a low dose of quetiapine. (IV 11, L320-21)</p> <p>Mhm, so a patient comes in with, so middle-aged patient, either female or male coming in with predominantly generalized anxiety, some depressive features, some insomnia, who is suffering most acutely from the insomnia and the fatigue as a result which then ends up fueling the anxiety and depressive symptoms, so would then start at a low dose concurrently an antidepressant in addition to very low dose, say 12.5 mg, of quetiapine at night just to help with the sleep initiation. (IV 5, L75-79)</p> <p>[regarding use for insomnia] On the other hand, that's one complaint that I think we struggle with addressing because you just don't have a lot of options that actually are reliably effective and don't come with a host of other problems, so there's certainly been times where I think we've prescribed quetiapine just as a sleeping aid simply because we don't want to prescribe anything else and the encounter is not going to end, you know, we sort of have to give up a prescription for that in order to meet other goals. (IV 8, L76-85)</p>
<p>2. Choosing cautiously, the lesser of two evils</p>	<p>Need to avoid addictive medications</p>	<p>No. No, I think because there's not any alternatives, right? It's sort of like what do you do with somebody who's got a personality disorder, has impulsivity, has addictions, has anger management problems, and you don't want to put them on a benzodiazepine, right? Like there's not a lot of other options. IV 7, L548-550)</p> <p>Okay, I don't want an addictive medication, I don't want to get them on a Z-drug, I don't think the trazodone is going to, to get to the dose I would need, I don't think it's really what they're after. What else is not addictive that might be kind of conking them out a little bit and maybe have the side effect of helping with their anxiety and that's where I come to quetiapine. (IV 14, L234-237)</p>
<p>3. My patients seem fine on low doses</p>	<p>3.1 Low doses are OK</p>	<p>I certainly have some concerns but at small doses, and I guess I don't know that this is technically correct, but I think of it as being at small doses, the most common concerns with quetiapine are quite mitigated, so like, you know, the weight gain, the metabolic syndrome, diabetes would all be, I think not as significant on the small doses. (IV 13, L258-266)</p>

		<p>Ah yes, oh, oh yeah, totally forgot about that whole side of things. Yes, we do worry about weight gain and diabetes and all of that stuff with quetiapine but that's more for the patients that are on the higher doses, like if they're on 12.5, not as worried. (IV 2, L565-568)</p>
	3.2 Monitoring	<p>I don't think I have a set schedule, it might depend on age, other risk factors, availability, what else? And how much they're on, so I mean if the patient is on a low dose, I'll probably be aware, okay, when did I last check? Okay, a couple of years ago, that's fine. Um, somebody who maybe has a lot of, who I know has got some risk factors and maybe they're on a high dose of it and they're going to be on it for the foreseeable future because they have a chronic illness that's not getting better, they might need to be screened annually and checked regularly that way. (IV 8, L269-275)</p> <p>Okay, so I've never gone into very higher doses, so the dose that I typically use is 25-50 mg at night. I will tell patients that it can be quite sedating but that's okay, taking it in the evening. The other, I usually won't titrate it up. I think I will just start at 25 and then go to 50, not any kind of slow titration. I will advise patients that it can, and I must admit I can't remember off the top of my head whether at that dose it can but it can have metabolic effects on things like weight, lipids and glucose. (IV 9, L 106-110)</p> <p>Uh, so I don't routinely like monitor in terms of, you know, like CBC every 3 months, looking to see if their white count is down, something, I don't but I guess I do give it a thought and again, more in, if I see people who are like on higher doses of it, and I don't see actually that many of those people, but I would be doing things like checking their cholesterol or like making sure it's been checked and same with like diabetes screening but I don't have like a hard and fast, you know, like every 3 months. I mean that would be overkill for those things and yeah, I don't do regular like, yeah like liver, like ALT monitoring or anything like that. (IV 13, L 323-329)</p> <p>No, you know, when I was in the hospital, I would do ECGs and I suppose that if somebody would be on a bigger dose of quetiapine, I would, you know, definitely probably do an ECG every year or something like that. If there was a big dose change, I would consider that but honestly, I haven't seen many people recently to</p>

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		<p>think about but yeah, I would probably do, again, the metabolic stuff, you know, cholesterol and liver if somebody was on it for a long time. (IV 6, L 393-396)</p> <p>And I think if I were using larger doses, the few that I've used it in tend to be younger people and people who I'm not concerned about metabolic effects, at least for the short term. I think I would monitor things like weight and lipids and glucose if they were somebody who had issues with those problems. (IV 9, L 127-9)</p>
4.Prescribing influences	Role models (psychiatrists and peers)	<p>I don't actually know how I ended up prescribing quetiapine. Like I really don't remember going to an in-service on this is a great thing to add or, it kind of slipped in and I think it was, I think I was grasping at straws and not sure what else to try and I figured, okay, this patient population is probably a pretty safe thing to try, it's a pretty safe thing to stop, um, just give it a go and I think that, in my case, that's how I ended up doing it. (IV 14, L473-477)</p> <p>I think it does, I mean because there's a lot of, you know, when you get a patient like mine sent back from the specialist on this, there's definitely an impulse just to continue that treatment unless there's clearly a problem with it. If you see that happening repeatedly, there may be an increasing drive to, especially if you've had a message that this medicine works for this and you see that the specialists are doing it, that's certainly reinforcing a tendency to actually do that prescription. (IV 8, L 352-356)</p> <p>Um, so prescribing is, I would say, informed by clinical practice guidelines in addition to any CME, be it through journals or conferences but more so by practice of peers and practice of specialists, so again because of my mix of clinical work both in the hospital and within a primary care clinic that has access to specialists who also provide consultation in house, it's through those interactions, you know, with the inpatient psychiatrists as well as the consulting psychiatrists in our community practice that color or inform how I prescribe. (IV 5, L 26-31)</p> <p>Because we're taught that. We're taught that by the psychiatrists. Add a little quetiapine, add a little, you know, before it was the T3, you know, it's like yeah, yeah, but now it's add a little quetiapine. (IV 1, L 553-556)</p>

		<p>Usually psychiatrists in quetiapine's case, so you just get lots of consults back where they're using quetiapine for various reasons in people who aren't psychotic which, I mean in my view, would be sort of that sort of, was its primary indication when it came out, I think the depression and the bipolar are sort of secondary. (IV 7, L 341-345)</p> <p>In my residency program when we did our psychiatry, the psychiatrists were using it a fair amount and so it's just, you kind of got familiar with it and with quetiapine, especially like it, I don't know, for some reason I was always less scared about it than like risperidone or the other atypical antipsychotics and we were kind of taught, you know, olanzapine causes a ton of metabolic issues but low doses of quetiapine, again, I don't know if this is correct but might not have the same effect so. (IV 15, L 653-658)</p>
	<p>Initiating versus continuing quetiapine prescriptions</p>	<p>She was being treated by a psychiatrist who has now transferred the care back to me but without me having, I sort of see the patient before getting any information from the psychiatrist and they're on a prescription for, among other things, quetiapine, so then I'm stuck in that position of okay, do I continue this medication? I haven't had a chance to really assess this patient. They report, oh yeah, I'm doing much better than I was. How much of that is due to that, and that particular patient was actually quite young as well so she's actually probably younger than the quetiapine has an official indication for any kind of antidepressant effect. She's still a teenager where there's sort of warnings about, so she's now on an SSRI and an antipsychotic, and a benzodiazepine and kind of leaves me, you know, sort of pressured to continue all of those medications but I actually still haven't got, I have received an initial assessment from the psychiatrist. I haven't received any note where they've actually started those medicines and have agreed that yes, I think that this would be a good thing to be continuing on them and then I haven't gotten their final note where they say, I think I can stop seeing this person and transfer their care, so, um. (IV 8, L 140-152)</p> <p>There are some patients that I inherit that are on it and our first step is to get them off of it, but you ask them how they got on it and why are they using it and mostly it's their family doc started them on it and why are they using it? Well they think it's</p>

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	<p>the sleep but mostly they really don't know. It's for nerves or to sleep, so you say, well, you know, I think there's other things we can do and let's try these other things and they don't seem to miss it. (IV 3, L 117-124)</p> <p>Um, I think I would probably leave them on them. I don't think I would change them off of that. I don't, yeah, usually most of my patients are coming, you know, from a psychiatrist. If they were coming from sort of another family physician and they were on quetiapine, I would probably leave them on it but I would usually sort of look to see who initiated it and if there was sort of say like a reasonable indication for it. (IV 7, L 531-535)</p> <p>I do tend to just continue. I think the only time that I would necessarily reevaluate, I reevaluate their mood on a regular basis but I think the only time that I would reevaluate their medications is if their mood was not as good as we would like it to be. (IV 2, L 396-398)</p> <p>I've had patients who have been on it a long time and they are counseled by me on the risks of staying on it long-term and they say, doctor, I want it, it helps me sleep and I feel better and my mood is better and I, they accept the risk and they want to stay on it. (IV 2, L 133-136)</p> <p>I've renewed it in patients who have had it for awhile and they're stable on their medications, I certainly renew it, though when I do, I ask why they're taking the medication and often times they don't really know why they're on it, and if somebody is taking it purely as a sleep aid where they don't have sort of, again, an axis I disorder, then I question whether we should continue it or not. (IV 6, L 124-127)</p> <p>Also depends on the patient's comfort because when they suffer so significantly from mood disorders, there is a significant reluctance to playing with psychotropic medications when they feel like they've made some progress and stabilize. (IV 5, L 250-252)</p>
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