



Research paper

Oral health impacts of medications used to treat mental illness

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ABSTRACT

Background: Many psychotropic medications affect oral health. This review identified oral side effects for antidepressant, antipsychotic, anticonvulsant, anti-anxiety and sedative drugs that are recommended in Australia for the management of common mental illnesses and provides recommendations to manage these side-effects.

Methods: The Australian Therapeutic Guidelines and the Australian Medicines Handbook were searched for medications used to treat common mental health conditions. For each medication, the generic name, class, and drug company reported side-effects were extracted from the online Monthly Index of Medical Specialties (eMIMS) and UpToDate databases. Meyler's Side Effect of Drugs Encyclopaedia was used to identify additional oral adverse reactions to these medications.

Results: Fifty-seven drugs were identified: 23 antidepressants, 22 antipsychotics or mood stabilisers, and 12 anxiolytic or sedative medications. Xerostomia (91%) the most commonly reported side effect among all classes of medications of the 28 identified symptoms. Other commonly reported adverse effects included dysgeusia (65%) for antidepressants, and tardive dyskinesia (94%) or increased salivation (78%) for antipsychotic medications.

Conclusions: While xerostomia has often been reported as a common adverse effect of psychotropic drugs, this review has identified additional side effects including dysgeusia from antidepressants and tardive dyskinesia and increased salivation from antipsychotics. Clinicians should consider oral consequences of psychotropic medication in addition to other side-effects when prescribing. For antidepressants, this would mean choosing duloxetine, agomelatine and any of the serotonin re-uptake inhibitors except sertraline. In the case of antipsychotics and mood stabilisers, atypical agents have less oral side effects than older alternatives.

1. Introduction

Mental health disorders affect 45% of Australians at some point in their lives, and in 20%, symptoms last for a year or longer (Australian Bureau of Statistics, 2007). The most prevalent disorders include depressive episodes, social phobia and post-traumatic stress disorder (Australian Bureau of Statistics, 2007).

Pharmacotherapy is an important part of management. In depressive disorders, antidepressants including selective serotonin reuptake inhibitors (SSRIs) and serotonin and noradrenaline reuptake inhibitors (SNRIs) are first-line treatment options; and tricyclic antidepressants and monoamine oxidase inhibitors (MAOIs) second-line treatment options (Health Communication Network, 2016a; Therapeutic Guidelines Limited, 2013c). Dependent upon the anxiety disorder (including general anxiety, posttraumatic stress, obsessive or panic disorders), antidepressants, antipsychotics and benzodiazepines are typically used in

either the short or long term (Health Communication Network, 2016a; Therapeutic Guidelines Limited, 2013c). Rarer conditions such as schizophrenia or bipolar disorders are managed with single or combination therapy of antidepressants, antipsychotics and anticonvulsants as mood stabilisers.

The oral health of people with mental health conditions is poorer than the general population, with higher rates of decayed, missing and filled teeth, dry mouth and soft tissue lesions (Kisely et al., 2011; Kisely et al., 2016; Longley and Doyle, 2002). This disparity may be due to compounding issues of homelessness, poorer diet and sweet drink consumption, tobacco smoking, disabilities, dental phobias and barriers to accessing dental care (Ford et al., 2014; Longley and Doyle, 2002; Prince et al., 2007). However, side effects from psychotropic medication also contribute. For instance, the impact of anticholinergic drugs on saliva production has been well documented, and dry mouth as a result of antidepressant and antipsychotic drugs has been reported

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Table 1
Common mental health conditions and the drug types used in pharmacological treatment.

Disorder	Line of treatment	Drug class	Recommended by Australia Medicines Handbook and Australian Therapeutic Guidelines
Depression	1	Antidepressant	SSRI Citalopram, Escitalopram, Fluoxetine, Fluvoxamine, Paroxetine, Sertraline SNRI Desvenlafaxine, Duloxetine, Venlafaxine Other Mirtazapine, Vortioxetine ^a
	2	Antidepressant	Other Agomelatine, Moclobemide, Reboxetine, Mianserin Tricyclic Amitriptyline, Clomipramine Dothiepin, Doxepin, Imipramine, Nortriptyline, Trimipramine ^b MAOIs Phenelzine, Tranylcypromine
General anxiety disorder	1	Antidepressant	SSRIs Citalopram, Escitalopram, Fluoxetine, Fluvoxamine, Paroxetine, Sertraline
	2	Antidepressant	SNRI Duloxetine, Venlafaxine Tricyclic Imipramine Diazepam
Post-traumatic stress disorder	1	Antidepressant	Other Mirtazapine
	2	Antidepressant	Tricyclic Amitriptyline
Panic disorder	1	Antidepressant	SSRI Clomipramine Tricyclic Imipramine
	2	Antidepressant	SNRI Venlafaxine
Obsessive compulsive disorder	1	Antidepressant	SSRI Clomipramine
Bulimia	1	Antidepressant	SSRI Fluoxetine, Citalopram
	2	Antidepressant	Fluvoxamine, Sertraline
Insomnia	1	Anxiolytic	Sedatives Temazepam, Alprazolam ^a , Bromazepam ^a , Clobazam ^a , Flunitrazepam ^a , Lorazepam ^a , Nitrazepam ^a , Oxazepam ^a Zolpidem, Zopiclone, Melatonin
	1	Antipsychotic agent	1st gen Haloperidol 2nd gen Olanzapine, Risperidone
Schizophrenia	1	Antipsychotic agent	2nd gen Aripiprazole, Amisumpride, Olanzapine, Paliperidone, Quetiapine, Risperidone, Ziprasidone Diazepam
	2	Antipsychotic agent	2nd gen Asenapine, Clozapine, Sertindole ^b
	Depot	Antipsychotic agent	1st gen Chlorpromazine, Haloperidol, Pericyazine, trifluperazine
		Antipsychotic agent	1st gen Flupenthixol, Fluphenazine, haloperidol 2nd gen Paliperidone, risperidone, zuclopenthixol, olanzapine
Bipolar disorder: prophylaxis	1	Antipsychotic agent	Other Lithium carbonate 2nd gen Aripiprazole, Asenapine, Olanzapine, Paliperidone, Quetiapine, Risperidone, Ziprasidone
	2	Anticonvulsant	Lamotrigine Sodium valproate, Carbamazepine
Bipolar depression	1	Antidepressant	Antipsychotic agent 2nd gen Quetiapine
Bipolar disorder: acute Mania	1	Antipsychotic agent	1st gen Olanzapine, risperidone
	2	Antipsychotic agent	1st gen Haloperidol 2nd gen Aripiprazole, Asenapine, Paliperidone, Quetiapine, Ziprasidone Other Lithium carbonate
		Anticonvulsant	Sodium valproate, Carbamazepine

^a Drugs listed only in Australian medicines handbook (Health Communication Network, 2016a).

^b Listed in Australian Therapeutic guidelines (Therapeutic Guidelines Limited, 2013c) but has been withdrawn from sale in Australia and no longer found on the Monthly Index of Medical Specialties (MIMS) electronic database (Australia MIMS, 2008).

(Rafaelsen et al., 1981; Scully, 2003; Stiefel et al., 1990; Turner and Ship, 2007). A reduction in saliva due to pharmacological management of mental health, places oral health at risk. This is due to the critical protective role played by saliva for the teeth and soft tissues of the mouth (Scully, 2003). We therefore reviewed the reported oral side effects of psychotropic drugs recommended for common mental health conditions in Australia.

2. Methods

The Australian Therapeutic Guidelines and the Australian Medicines Handbook were searched for drugs used in the treatment of common mental health conditions including depression, anxiety, panic, post-traumatic stress, obsessive compulsive, bulimia, insomnia, delirium, schizophrenia and bipolar disorders (Table 1). For these common mental health conditions, recommended pharmacological treatment includes antidepressants, antipsychotics, anticonvulsant, anxiolytic and sedative drugs (Table 1) (Health Communication Network, 2016a; Therapeutic Guidelines Limited, 2013c). The drugs identified from these sources are listed in Table 1. Both reresources are evidence-based

guidelines and are written principally to assist prescribing in contemporary Australian practice (Health Communication Network, 2016b; Therapeutic Guidelines Limited, 2013b).

The Monthly Index of Medical Specialties (MIMS) electronic database (Australia MIMS, 2008) and UpToDate (UpToDate Database, 2017) was used to search and classify drugs as described in Table 1. Three drugs (Buspirone, Trimipramine and Sertindole) listed in The Australian Therapeutic Guidelines have been withdrawn from sale in Australia and were not found in the Monthly Index of Medical Specialties (MIMS) electronic or UpToDate database. These drugs were excluded from this study. The reported oral side effects for antidepressant, antipsychotic, anticonvulsant, anxiolytic and sedative drugs were identified. As defined by MIMS and UpToDate, these were categorised as very common (≥ 10%), common (≥ 1%) and uncommon (< 1%) oral side effects (Australia MIMS, 2008). MIMS and UpToDate resources provide drug side effects as reported by drug company sponsors. Meyler's Side Effects of Drugs Encyclopaedia was used to identify additional oral health adverse effects reported in primary and secondary literature (Aronson, 2016).

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