Short Communication

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Utilization Pattern of Anti-Depressants at a Tertiary Hospital in Oman: A Retrospective Analysis

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Abstract

Introduction: Antidepressants play a major role in managing depression and other conditions. The use of various classes of antidepressants varies from a country to another but information about the use of these agents in the developing countries is scarce.

Objective: To assess the use of different classes of antidepressant medications in a tertiary hospital in Oman.

Method: Data over four month period (January to April 2013) were retrieved retrospectively after obtaining ethical approval.

Results: A total number of 1416 prescriptions were analyzed. Of these 880 (62.1%) were for females and 536 (37.9%) were for males. Tricyclic antidepressant (TCAs), selective serotonin reuptake inhibitors (SSRIs), serotonin/ norepinephrine reuptake inhibitors (SNRIs) and mirtazapine accounted for 34.6%, 32.1%, 13.3% and 19.9% of prescriptions, respectively. Monotherapy accounted for 89.3% of prescriptions. The most used single antidepressant drug was amitriptyline (28.5%) followed by mirtazapine (19.9%) and paroxetine (17.9%). SSRIs, SNRIs and mirtazapine were mainly used for psychiatric conditions in 82.2%, 73.0% and 68.8% of the cases, respectively, while TCAs were mainly indicated (63.7%) for non-psychiatric conditions.

Conclusion: Monotherapy antidepressant is the preferred mode of therapy with SSRIs and mirtazapine as first line therapy for depression which is consistent with therapeutic guidelines recommendations.

Introduction

Depression, a mood disorder, is a highly prevalent disease that is expected to be the second largest source of global burden of diseases by the year 2020 [1,2]. Currently, the World Health Organization (WHO) list depression as the fourth leading cause of disability overtaking chronic diseases such as hypertension and diabetes [3]. It is also considered as the leading cause of premature death and disability among people from 18-60 years of age [4]. The health risks associated with depression demand cost-effective therapies. In this regards, antidepressant drugs considered the first line and the most widely used form of therapy for depression [5].

Antidepressant drugs have undergone remarkable evolution since their discovery in 1950s. This evolution has also lead to a continues changes in their prescribing patterns where the conventional agents like tricyclic antidepressants (TCA), and monoamine oxidase inhibitors (MAOI), selective serotonin reuptake inhibitors (SSRIs) being replaced by newer antidepressants like serotonin/ norepinephrine reuptake inhibitors (SNRIs), tetracyclic antidepressants and others. The trends in the usage of these agents, influenced by various factors, vary from a country to another [6-8].

In Oman and with the slow move towards modernization phase, depression is expected to increase rapidly and hence the prescribing of antidepressant drugs. WHO estimates that the people suffering from mental illnesses in Oman will rise from 1% (2006) to 5% by the year 2020 [3]. However, there are yet no solid epidemiological reports on the different types of mental illnesses especially depression in Oman or utilization patterns of psychopharmacological agents such as antidepressants. Therefore, the aim of this study is to assess the use of different classes of antidepressants in Oman by describing the clinical patterns of use of antidepressant medications in a tertiary hospital, Sultan Qaboos University Hospital (SQUH), in the four months period of January to April 2013.

Methods

The study was retrospective in nature where antidepressant drugs prescriptions for patient's ≥ 18 years of age attending SQUH, a tertiary health care facility in Oman, were reviewed. The information was retrieved from electronic patient records "TrakCare", the Hospital Information System, in the period of January to April 2013. A data collection sheet was designed and used to gather information about patients' demographic characteristics such as sex, age and weight; disease data such as type of disease, co-morbidities and duration and medications data such as type, concomitant drugs and recorded side effects. Diseases were classified according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) guide [9]. An ethical approval was obtained from Sultan Qaboos University Medical Ethics Committee before commencing the study.

Statistical Package of Social Sciences version 15 (SPSS, Inc., Chicago, IL, USA) was used for data entry and analysis. Results were expressed as means, percentages and percentiles depending on their distributions and tables were used to illustrate the data.

Age (Years)		18-29		30-40		41-50		51-60		>60	
	N	210		331		346		273		256	
		M	F	M	F	M	F	M	F	M	F
Paroxetine	254	30	29	41	41	21	46	15	19	5	7
Fluoxetine	201	22	22	32	29	15	21	12	26	7	15
Venlafaxine	112	9	9	16	14	12	25	3	11	4	9
Duloxetine	77	3	1	6	10	8	11	8	16	6	8
Amitriptyline	403	18	18	27	53	25	81	20	70	26	65
Clomipramine	44	9	1	11	4	4	5	1	5	1	3
Imipramine	43	5	13	-	7	3	5	-	5	-	5
Mirtazapine	282	7	14	20	20	26	38	24	38	34	61
Total	1416	103	107	153	178	114	232	83	190	83	173

Table 1: Age groups and gender distribution of antidepressant prescriptions

Condition	N	Paroxetine		Fluoxetine		Venlafaxine		Duloxetine		Amitriptyline		Clomipramine		Imipramine		Mirtazapine	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Depressive disorder	381	18	43	27	37	12	31	7	13	19	44	4	5	1	7	44	69
Mixed Anxiety and Depressive disorder	88	10	16	4	9	5	4	2	6	4	10	1	2	-	2	3	10
Schizophrenia with post schizophrenic depression	64	7	8	9	6	2	2	1	1	2	6	3	-	1	3	7	6
Obsessive compulsive disorder	83	11	20	13	11	2	6	2	1	2	1	6	3	-	-	1	4
Social phobia	40	18	3	5	1	4	-	2	-	-	-	4	1	-	1	1	
Panic disorder	24	3	7	2	2		3		1	-	-	1	1	-	-	1	3
Other Anxiety disorders	109	22	21	7	6	8	6	2	-	6	8	3	2	-	2	10	6
Acute and Transient psychotic disorder	21	4	1	1	3	1	2	-	-	2	-	-	-	-	1	3	3
Hyperkinetic disorder	5	-	-	1	-	-	-	-	-	2	1	-	-	1	-		
Bipolar Affective Disorder	40	2	2	2	5	3	2	1	1	1	3	-	1	1	-	5	11
Somatization Disorder	29	2	2	1	1	-	2	1	3	2	8	-	-	-	-	2	5
Others	533	15	19	15	32	7	10	13	21	76	206	4	3	4	19	34	54
Total	1416	112	142	88	113	44	68	31	46	116	287	26	18	8	35	111	171

Table 2: Indication for the use of antidepressant drugs

Results

A total number of 1416prescriptions were analyzed. Of these 880 (62.1%) were for females and 536 (37.9%) were for males. The age group 41-50 years constitutes 24.4% of all prescription followed by 23.4% and 19.3% for the age groups 30-40 and 51-60 years, respectively (Table 1).

	N	M	F
Headache	84	16	68
Neuropathic pain	54	13	41
Diabetes/Hypertension related neuro/nephropathies	59	26	33
Alzheimer	32		32
Urinary incontinence	21		21
Bowel diseases	28	10	18
Malignancy	18		18
Post-operative	12		12
Mental growth retardation	8		8
Nephropathies	15	15	
Epilepsy	5	5	
Parkinson	6	6	
Dementia	11	11	
Insomnia and other sleep disorders	12	12	
Others	5	5	

Table 3: Non psychiatric indication of antidepressant agents (N=370)

More than one third of prescriptions (490, 34.6%) were for TCAs and another third were for SSRIs (455, 32.1%). The most used single antidepressant was amitriptyline (28.5%) followed by mirtazapine (19.9%) and paroxetine (17.9%). Monotherapy accounted for the majority of prescriptions (89.3%). Venlafaxine and mirtazapine were the most common prescribed combination (16) followed by fluoxetine and mirtazapine (9) and amitriptyline and mirtazapine (6). There were no gender differences in the use of antidepressant drugs (Table 1). SSRIs, SNRIs and mirtazapine were mainly used for psychiatric conditions in 82.2%, 73.0% and 68.8% of the cases, respectively, while TCAs were mainly indicated (63.7%) for non-psychiatric conditions such as headache and neuropathic pain. The most common psychiatric indication for use of antidepressant was depressive disorders (381,26.9%) followed by anxiety disorders (104,7.7%) and mixed anxiety and depressive disorders (88, 6.2%). Other indications included obsessive compulsive disorders, social phobia and panic disorders (Table 2). Headache was the most common non-psychiatric indication for antidepressant drugs (84,22.7%) followed by diabetes and hypertension-related neuro/nephropathy(59,15.9%) and neuropathic pain (54, 14.6%) (Table 3).

Discussion

In this retrospective evaluation of prescriptions at a tertiary hospital in Oman four main antidepressant groups were identified; TCAs (amitriptyline, imipramine, clomipramine), SSRIs (paroxetine, fluoxetine), SNRIs (venlafaxine, duloxetine) and the atypical antidepressant mirtazapine. Amitriptyline was the most (28.5%) prescribed single agent among all antidepressant drugs in this study. However, it is use was mainly indicated for non-psychiatric conditions such as headache and neuropathy. The analgesic effect of TCAs in several chronic painful conditions is discussed in details in the literature [10-11]. SSRIs, on the other hand, were the most common group (125, 32.8%) used for the treatment of depression followed by mirtazapine (113, 29.7%) (Table 2). This result is compatible with most clinical guidelines for treatment of depression and similar to utilization studies conducted in some developed countries [6,7,12-14]. Furthermore, the use of mirtazapine is increasing due its efficacy and safety over other classes especially in regards to sexual adverse effects [15]. Depressive disorders, anxiety disorders and mixed anxiety and depressive disorders were the most common indications for antidepressant use, accounting for 40.8% of the total prescriptions. This finding is also similar to other studies conducted elsewhere [12-14,16-18]. Antidepressants were prescribed more in females than in males, a finding that is similar to what is observed in some Western countries [12-14]. The age distribution showed that most of the patients (47.8%) lie in the age group 30-50 years of age. This is consistent with other global findings [12-16]. However, in the East Asia the majority of prescriptions were for those older than 40 years of age [18].

Like other studies, monotherapy was the preferred mode of therapy in our population [11-17]. The majority of prescriptions (89.3%) were for a single antidepressant drug. This finding is reassuring as there is little evidence on the efficacy of combining antidepressant agents.

Among polytherapy, venlafaxine and mirtazapine were the most prescribed drug combinations. They accounted for 16(21.4%) of combinations followed by fluoxetine and mirtazapine for 9 patients.

Limitations

Because of the retrospective nature of this analysis, the study has several limitations. For example the study does not address patient outcomes. Correlation of several demographic characteristics and drug therapy or dosage regimen were not possible due to lack of data. Finally, extending the results of this study to all country cannot be made with confidence as the utilization of antidepressants at this tertiary hospital might not represent all Oman.

Conclusion

Psychiatric conditions are the main indications for the use of antidepressants in our population. SSRIs, SNRIs and mirtazapine are the most used drugs for such purpose while TCAs were mainly used for non-psychiatric disorders. Monotherapy was the main mode of therapy employed by our physicians.

Declaration

The authors declare that they have no conflict of interest to disclose. We confirm that we have read the journal position on issues involved in ethical publication and affirm that this report is consistent with these guidelines.

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