Original Research Article

Prevalence of the side effects after starting SSRI in the primary care settingsin Saudi Arabia

Abstract

Background: Selective serotonin reuptake inhibitors (SSRIs) are widely prescribed for the treatment of mood disorders, including depression and anxiety. While SSRIs are generally well-tolerated, they can be associated with a range of side effects that can impact patient adherence and treatment outcomes.

Aim: The current study aimed to assess the prevalence of side effects after using SSRI medication in primary care clinics.

Methods: A descriptive cross-sectional study was in Saudi eastern province, focusing on patients on selective serotonin reuptake inhibitors (SSRIs). Patients aged 18 and above were included, while those using two or more antidepressants were excluded. Data was collected through a questionnaire, initiated by the study authors, to minimize data extraction error and interrater bias.

Results: In this study of 176 SSRI users in the Eastern Province of Saudi Arabia, participants ranged in age from 18 to over 60 years, with the largest group (38.1%) aged 31-40 years. Females represented 60.8% of the sample. The most commonly prescribed SSRI was Escitalopram (Cipralex) (30.7%), followed by Paroxetine (Seroxat) (21.0%) and Citalopram (Cipramil) (20.5%). Most users reported taking SSRIs for depression (75.6%) and anxiety/stress (39.2%). Regarding side effects, 61.9% of users reported no side effects, while 38.1% experienced at least one, with digestive symptoms being the most common (26.7%). The study also found that the duration of SSRI use was a significant factor, with those using SSRIs for less than 3 months reporting higher side effect prevalence (55.3%) compared to long-term users (14.3%) ($p = 0.049$). However, age, gender, SSRI type, and the reason for use did not significantly influence side effect occurrence (p-values > 0.05).

Conclusion: The study emphasizes the importance of monitoring side effects in patients taking SSRIs, as they can significantly impact treatment adherence and quality of life. Side effects are more prevalent in the early stages, but decrease as users adapt to the medication. Further research is needed to understand long-term effects and develop strategies for improved treatment adherence.

Keywords

Selective Serotonin Reuptake Inhibitors (SSRIs), side effects, prevalence, types, Saudi Arabia

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Introduction

Depression is the most widespread psychiatric condition globally, affecting approximately 4.4% of the population [1]. Depression is not a single condition but rather a group of disorders, each with distinct features. These include atypical features, anxious distress, mixed features, melancholic features, psychotic features, catatonia, peripartum onset, and a seasonal pattern [2, 3]. Different subtypes of depression may respond more effectively to specific pharmacological treatments. However, despite the variety of available treatment options, depression remains difficult to treat due to challenges such as high relapse rates and the unfavorable side effect profiles of many medications [4,5].

Selective serotonin reuptake inhibitors (SSRIs) are now commonly used as the first-line treatment for a range of psychiatric disorders, such as depression and anxiety [6, 7]. Given how widely SSRIs are prescribed, understanding their potential side effects is crucial for public health. While SSRIs generally have a more favorable side effect profile than older classes of antidepressants like monoamine oxidase inhibitors and tricyclic antidepressants, they are not without risks. Studies over the past few decades indicate that SSRIs are far from harmless, with 38% of patients reporting adverse effects, and 25% of those considering these side effects to be a significant issue in their treatment [8].

The main way that SSRIs work is by preventing serotonin from being reabsorbed at the serotonin transporter, which raises serotonin levels at the postsynaptic membrane in the serotonergic synapse [9]. Curiously, SSRIs' therapeutic effects cannot be fully summed up by merely blocking the serotonin transporter (SERT); therefore, additional mechanisms of action must be at play. According to a recent theory, SSRI-induced

neuronal stress results in a change in brain homeostasis, which causes SERTs to be upregulated in some parts of the brain and downregulated in others [10].

Some of the most common side effects include sexual dysfunction, drowsiness, weight gain, dry mouth, insomnia, fatigue, nausea, and dizziness. Additionally, some patients have reported issues related to involuntary movements, such as tremors. Case studies have also highlighted more serious movement-related side effects, known as extrapyramidal symptoms, which include dystonia, akathisia, and tremors [11-14].This study aimed to measure the prevalence of side effect after using SSRI medication in primary care clinic because of the lack of data around this topic in the eastern province of Saudi Arabia.

Methodology

A record based descriptive cross-sectional study was conducted at the primary care sitting in eastern province, Saudi Arabia targeting All patient on selective serotonin reuptake inhibitors (SSRI). The study was conducted during the period from …….. to …….Patients aged 18 years or more and received selective serotonin reuptake inhibitors (SSRI) were included but other using 2 or more antidepressant medication were excluded. The requested data will be collected directly from the original database by the questionnaire,which was filled out by the patient in the primary care clinic. The study questionnaire was initiated by the study authors reference to all available data on patients' records. This data extraction questionnaire used to minimize data extraction error and interrater bias.

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Data analysis

The data were collected, reviewed, and then fed to Statistical Package for Social Sciences version 26 (Released 2019. Armonk, NY: IBM Corp). All statistical methods used were two-tailed with an alpha level of 0.05 considering significance if P value less than or equal to 0.05. Descriptive analysis for categorical data was done using frequencies and percentages, whereas numerical data were presented as mean with standard deviation. Also, participants experienced side effect rate was graphed while the experienced side effects data and their effect were tabulated. Cross tabulation for showing factors associated with SSRI side effects experience using Pearson Chi-Square test and exact probability test for small frequency distributions.

Results

A total of eligible 176 individuals in the Eastern Province were included in the study. The ages of the participants ranged from 18 to more than 60 years, with the largest group being between 31 and 40 years old (67 participants, 38.1%). This was followed by those aged 18-30 (55 participants, 31.3%). Smaller groups included individuals ages 41-50 (25 participants, 14.2%) and 51-60 (26 participants, 14.8%), while only 3 participants (1.7%) were over 60 years old. As for gender, 107 participants (60.8%) were females compared to 69 males (39.2%). The most frequently reported SSRI was Escitalopram (Cipralex), used by 54 participants (30.7%). Paroxetine (Seroxat) was reported by 37 participants (21.0%), Citalopram (Cipramil) by 36 participants (20.5%), Sertraline (Lustral) by 32 participants (18.2%), and Fluoxetine (Prozac or Oxactin) by 17 participants (9.7%). The primary reason most participants used SSRIs was for depression (133 participants, 75.6%), anxiety/stress (69 participants, 39.2%). Other indications included panic attacks (12 participants, 6.8%), irritable bowel syndrome (IBS) (11 participants, 6.3%), and

obsessive-compulsive disorder (OCD) (11 participants, 6.3%). Considering duration of SSRI use, it was for less than 3 months among 38 (21.6%) participants, 3-6 months among 46 (26.1%) users, 6-12 months among 58 (33%) but only 7 (4%) used for more than 2 years (Table 1).

As for the SSRI-associated side effects prevalence (Figure 1), most of the drug users (61.9%; 109) did not experience any side effects, and only 67 (38.1%) had at least 1 side effect.

Table 2. Types, duration, and effect of side associated with SSRI among users in Eastern Province, Saudi Arabia. As for reported side effects, the most reported included Digestive symptoms (26.7%), Neurological symptoms (6.8%), sexual symptoms (4.5%) and the least reported chest symptoms (0.6%) and Bone, muscle, and joint symptoms (0.6%). Side effects showed a severe effect on mental health and daily activities among 9 (13.4%) users, moderate among 22 (32.8%), and low effect among most of them (53.7%; 36). Side effects lasted for a few days among 32 (47.8%), for a few weeks among 25 (37.3%), and for 1-6 months among 10 (14.9%). Exact of 16 (23.9%) stopped taking the drugs due to experienced side effects. None of the SSRI users had any suicidal thoughts nor any dangerous thoughts about others (violating or killing) another person.

Table 3. assessedfactors that may affect experiencing side effects from SSRIs among users in the Eastern Province of Saudi Arabia. The data shows that agewas not a significant factor, with similar percentages across all age groups ($p = 0.987$). Similarly, gender doesn't significantly impact side effects, as both males (40.6%) and females (36.4%) report almost the same rates of side effects, with a p-value of 0.582. When it comes to the type of SSRI used, there's no reported difference in side

effectsexperienced(p-value of 0.666). Those who had been using SSRIs for less than three months reported side effects more frequently (55.3%), while those who had been on SSRIs for over two years reported side effects much less often (14.3%), with a p-value of 0.049. Finally, the reason for using the SSRI—whether for depression, anxiety, IBS, panic attacks, or OCDdidn't appear to affect side effect experience, as the p-value of 0.918.

Figure 2 provides an overview of the side effects reported by users of different SSRIs. For Citalopram (Cipramil), 58.3% of users reported no side effects. Among those who did experience side effects, digestive issues were the most common, affecting 27.8%—the highest rate for this symptom across all SSRIs. Sexual and neurological side effects were reported by 5.6% each, while 2.8% experienced weight changes and chest symptoms. Escitalopram (Cipralex) had the highest proportion of users reporting no side effects (68.5%). Digestive issues were the second most common side effect at 22.2%. Smaller percentages of users reported sexual symptoms (5.6%), neurological symptoms (3.7%), weight changes (1.9%), and bone, muscle, and joint issues (1.9%). With Fluoxetine (Prozac or Oxactin), only 52.9% of users were free from side effects, the lowest rate among the SSRIs. Digestive issues affected 23.5% of users, and neurological symptoms were notably high at 17.6%. Weight changes were also reported by 11.8% of users. For Paroxetine (Seroxat), 56.8% of users reported no side effects, but 35.1% experienced digestive symptoms, the highest for this category among the SSRIs. Paroxetine also had the highest rate of sexual side effects (8.1%) and smaller percentages of neurological symptoms (5.4%), weight changes (5.4%), and eating disorder symptoms (2.7%). Lastly, Sertraline (Lustral) was well-tolerated by 65.6% of users, with 25.0%

reporting digestive symptoms and 9.4% experiencing neurological issues. Notably, Sertraline had no reports of sexual symptoms, weight changes, chest symptoms, or eating disorders, which could make it a preferred choice for individuals particularly sensitive to these side effects.

Discussion

The study highlights the widespread use of selective serotonin reuptake inhibitors (SSRIs) in treating common psychiatric conditions like depression and anxiety. Escitalopram (Cipralex) was the most commonly reported SSRI, with 30.7% of participants using it, followed by Paroxetine (Seroxat) and Citalopram (20.5%).These findings are consistent with literature trend, where Escitalopram and Sertraline are also among the most frequently prescribed SSRIs, mainly for anxiety and depression [15, 16]. The preference for Escitalopram can likely be attributed to its favorable side-effect profile and its proven effectiveness in treating both depression and anxiety disorders [17]. Also, the study revealed that the most of the participants used SSRIs for depression and anxiety/stress besides other reasons including panic attacks, irritable bowel syndrome [IBS], and obsessive-compulsive disorder (OCD). SSRIs like Paroxetine and Sertraline are known for their effectiveness in managing anxiety and depression and are increasingly prescribed off-label for conditions like panic disorders [18, 19] and IBS [20]. This trend reflects the growing recognition of SSRIs' role in regulating serotonin levels in the gut, potentially benefiting gastrointestinal disorders [21].

Consideringthe duration of SSRI use, our study found that most participants had been using SSRIs for 6-12 months, with a smaller proportion using them for more than two years. These results areconsistent with treatment guidelines, which recommend that

SSRIs be used for at least six months in cases of depression or anxiety, with longer-term use advised for patients with recurrent symptoms [22]. The relatively small number of participants using SSRIs for more than two years could indicate either successful outcomes leading to treatment cessation or the challenges of managing long-term SSRI use, which can be affected by side effects or patient preferences [23].Several studies have highlighted SSRIs as the first-line treatment for both depression and anxiety disorders due to their proven efficacy and relatively mild side-effect profile [24]. However, long-term use of SSRIs has highlightedworries about withdrawal symptoms and dependency [25]. These concerns may explain the lower percentage of participants in our study using SSRIs for extended periods, reflecting findings from other research that suggest many patients discontinue treatment within the first year [26].

The current study found that the least common side effects were chest and musculoskeletal symptoms, each occurring in only 0.6% of cases. In contrast, digestive symptoms were the most frequently reported side effects, accounting for 26.7% of cases, followed by neurological symptoms at 6.8% and sexual symptoms at 4.5%. These findings align with global trends, indicating that users of SSRIs often experience digestive side effects [27,28]. However, there is a notable discrepancy regarding the prevalence of sexual side effects. In Western countries, sexual dysfunction is typically reported in 20% to 40% of cases [29, 30], whereas this study found it to be only 4.5%. This lower prevalence may be attributed to social or cultural factors, such as the stigma surrounding sexual health issues, which often leads to underreporting in conservative settings [31].

In Saudi Arabia, several studies conducted in Saudi Arabia have analyzed the side effects experienced by patients using selective serotonin reuptake inhibitors (SSRIs), revealing patterns that align with global trends. Commonly reported side effects among Saudi patients include sexual dysfunction, drowsiness, weight gain, gastrointestinal issues, and sleep disturbances. Alabdulwahab et al. [32] found that sexual dysfunction is particularly prevalent, with up to 56% of SSRI users reporting symptoms such as decreased libido, anorgasmia, and erectile dysfunction. Gastrointestinal disturbances including nausea, dry mouth, and diarrhea, are also frequently observed, affecting 25-30% of patients in Saudi Arabia, particularly those on Citalopram and Fluoxetine as reported by Alaradi et al., 2016 [33]. Also, weight gain is another significant side effect, especially with long-term SSRI use. A study by Alshammari et al. [34] found that 30% of patients on Paroxetine and Fluoxetine experienced weight gain, which often leads to treatment discontinuation, particularly among patients concerned about changes in body weight. Additionally, drowsiness and fatigue are common complaints, with 40% of patients using Escitalopram and Sertraline reporting excessive sleepiness that interferes with daily activities (Alshammari et al [35]. Neurological symptoms, such as dizziness and tremors, along with extrapyramidal symptoms (EPS) like akathisia and dystonia, have also been reported, though less frequently. In a study by Alsaadi et al. [36], about 10% of SSRI users, particularly those on Paroxetine and Sertraline, reported involuntary movements, which can be distressing for patients. Finally, sleep disturbances, such as insomnia, are commonly associated with SSRIs. About 20% of participants in a study by Al-Meshal et al. [37] reported difficulties sleeping while taking medications like Sertraline and Escitalopram.

The current study also showed that only the duration of having SSRI showed s significant relation with experiencing side effects that was higher among short-duration users than long-duration users. This suggests that side effects may occur more prominently in the early stages of treatment, possibly due to the body adjusting to the medication or experiencing initial, more temporary side effects. Many SSRI-related side effects, like gastrointestinal symptoms, drowsiness, and sexual dysfunction, are most common in the first weeks of therapy [38]. Long-term users may develop a tolerance or adjust to the medication, resulting in fewer or less intense side effects [39]. In Saudi Arabia, similar findings regarding SSRI side effects and the duration of use have been reported in several studies. Research indicates that short-term SSRI users often experience more pronounced side effects compared to long-term users[32, 34, 36, 40].

Conclusions and recommendations

The current study revealed the importance of monitoring side effects in patients taking SSRIs, as these effects can significantly impact treatment adherence and quality of life. Also, the study revealed that side effects tend to be more prevalent and more bothersome in the early stages of SSRI use. As users adapt to the medication, either through metabolic changes or psychological adjustment, the severity and frequency of side effects often decreaseAll these findings aresimilar to the literature about the reasons forusing SSRIs. The preferences for specific SSRIs, the indications for their use, and the duration of treatment follow patterns observed in clinical practice globally. Further research is needed to examine the long-term effects of SSRI use and to develop strategies that improve treatment adherence over time. Also, it recommended the importance of careful

monitoring and counseling, especially in the early phases of SSRI treatment, to ensure optimal therapeutic outcomes and improve adherence.

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Table 1. Bio-demographic characteristics of study participants on SSRI, Eastern Province, Saudi Arabia (n=176)

Bio-demographic data	No	%
Age in years		
18-30	55	31.3%
31-40	67	38.1%
41-50	25	14.2%
51-60	26	14.8%
> 60	3	1.7%
Gender		
Male	69	39.2%
Female	107	60.8%
Type of SSRI		
Escitalopram (Cipralex)	54	30.7%
Paroxetine (Seroxat)	37	21.0%
Citalopram (Cipramil)	36	20.5%
Sertraline (Lustral)	32	18.2%
Fluoxetine (Prozac or Oxactin)	17	9.7%
What is the reason you are using a medicine?		
Depression	133	75.6%
Anxiety / stress	69	39.2%
Panic attacks	12	6.8%

IBS	11	6.3%
Obsessive compulsive disorder	11	6.3%
Duration of having SSRI		
< 3 months	38	21.6%
3-6 months	46	26.1%
6-12 months	58	33.0%
1-2 years	27	15.3%
> 2 years	7	4.0%

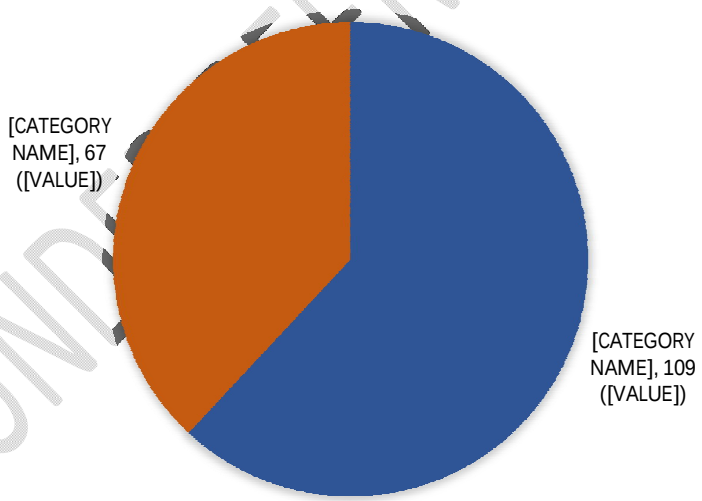

Figure 1. Prevalence of f side effect after using SSRI medication in primary care clinic in the eastern province of Saudi Arabia

Table 2. Types, duration and effect of side associated with SSRI among users in Eastern Province, Saudi Arabia (n=176)

SE	No	%
Experienced side effects due to SSRI		
No side effects	109	61.9%
Digestive symptoms	47	26.7%
Neurological symptoms	12	6.8%
Sexual symptoms	8	4.5%
Weight change (weight gain or weight loss)	6	3.4%
Symptoms of eating disorders	2	1.1%
Chest symptoms	1	.6%
Bone, muscle and joint symptoms	1	.6%
Severity of side effect on mental health and daily activities (n=67)		
Low effect	36	53.7%
Moderate effect	22	32.8%
Severe effect	9	13.4%
Duration of experienced side effect (n=67)		
Few days (< 1 week)	32	47.8%
Few weeks (less than 1 month)	25	37.3%

1-6 months	10	14.9%
If you experienced any of these symptoms, did these side effects make you stop taking the medication or change the medication to another medication? (n=67)		
Yes	16	23.9%
No	51	76.1%
While using the medication, did you have any suicidal thoughts (to end your life)?		
No	176	100.0%
While you were using the medication, did you have any dangerous thoughts about others (violating or killing) another person?		
No	176	100.0%

Table 3. Factors associated with SSRI side effects experience among users in Eastern Province, Saudi Arabia

Factors	Experienced side effects due to SSRI				p-value
	Yes		No		
	No	%	No	%	
Age in years					
18-30	21	38.2%	34	61.8%	.987^
31-40	27	40.3%	40	59.7%	
41-50	9	36.0%	16	64.0%	
51-60	9	34.6%	17	65.4%	
> 60	1	33.3%	2	66.7%	
Gender					
Male	28	40.6%	41	59.4%	.582
Female	39	36.4%	68	63.6%	
Type of SSRI					
Citalopram (Cipramil)	15	41.7%	21	58.3%	.666
Escitalopram (Cipralex)	17	31.5%	37	68.5%	
Fluoxetine (Prozac or Oxactin)	8	47.1%	9	52.9%	
Paroxetine (Seroxat)	16	43.2%	21	56.8%	

Sertraline (Lustral)	11	34.4%	21	65.6%	
Duration of having SSRI					
< 3 months	21	55.3%	17	44.7%	.049*^
3-6 months	18	39.1%	28	60.9%	
6-12 months	18	31.0%	40	69.0%	
1-2 years	9	33.3%	18	66.7%	
> 2 years	1	14.3%	6	85.7%	
What is the reason you are using a medicine?					
Depression	53	39.8%	80	60.2%	.918^
Anxiety / stress	26	37.7%	43	62.3%	
IBS	4	36.4%	7	63.6%	
Panic attacks	4	33.3%	8	66.7%	
Obsessive compulsive disorder	3	27.3%	8	72.7%	

P: Pearson X^2 test *^: Exact probability test*

** P < 0.05 (significant)*

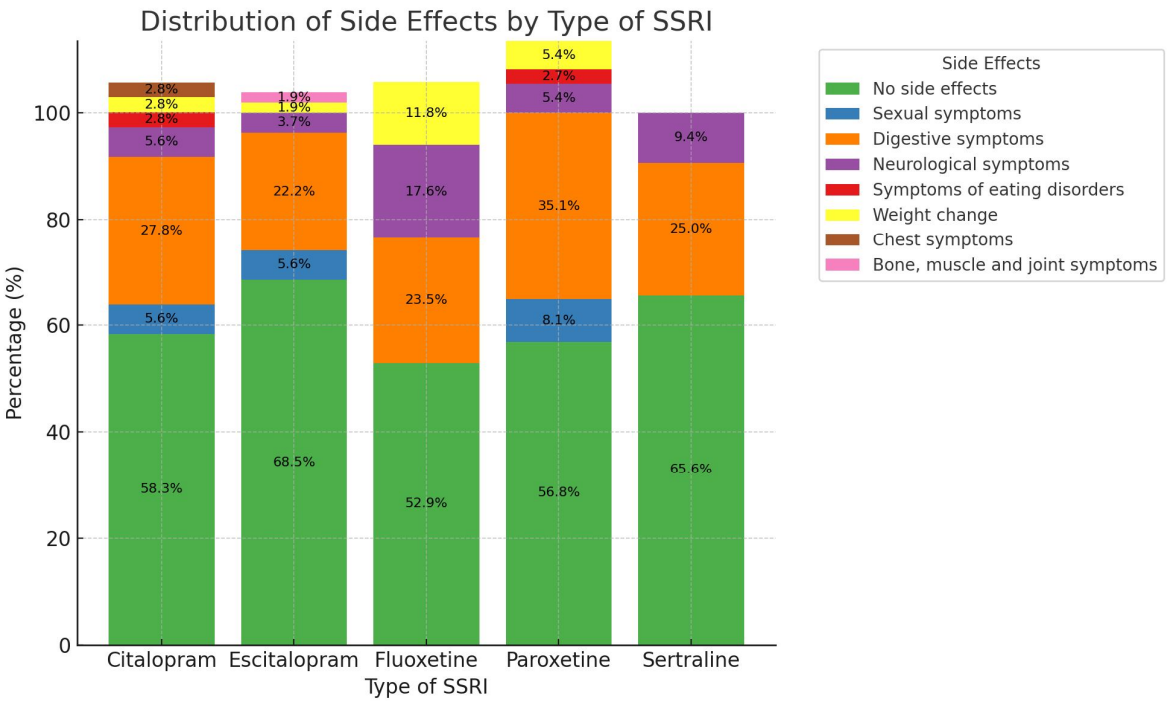

Figure 2. Percentage distribution of reported side effect by the type of used SSRI, Eastern Province, Saudi Arabia