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Frequency of Weight Gain with Selective Serotonin Reuptake Inhibitors (SSRIs) in Patients Presenting at Khyber Teaching Hospital Peshawar

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Abstract
This article explores, the side effects of SSRI's - a class of drugs commonly prescribed for MDD, anxiety disorders and certainly other psychiatric indications. Weight gain is one of the most frequent side effects of SSRIs, affecting negatively treatment compliance and patients' quality of life, and exerting a negative effect on health in the long term. Aims of the study The objectives were to measure the frequency and severity of weight gain and to investigate the incidence of weight gain in patients on SSRI in Khyber Teaching Hospital Peshawar (KTHP), a tertiary care hospital in Khyber Pakhtunkhwa, Pakistan. In addition, the research evaluates the cause of weight gain among the patients like, type of SSRI, duration of treatment, and presence of comorbid conditions. This article uses an examination of medical records and those of one-on-one interviews to provide evidence of weight gain's relative commonality in patients taking the class of drugs, along with pointing out and describing risk factors for weight gain based on the symptom. The findings offer clues to the processes that contribute to SSRI-induced weight gain and may be applied by clinicians to adjust and maximize the success of treatment in patients taking SSRI antidepressants..
Keywords: ASelective Serotonin Reuptake Inhibitors, weight gain, depression, anxiety disorders, Khyber Teaching Hospital, Peshawar, SSRIs side effects.

Introduction

The first-line compounds of selective serotonin reuptake inhibitors (SSRIs) are employed for management of psychiatric disorders (e.g., major depressive disorder (MDD), generalized anxiety disorder (GAD), obsessive–compulsive disorder (OCD), etc.), which relieve the symptoms of such disorders by elevating the levels of serotonin in the body. However, they are associated with a variety of side effects of which weight gain is perhaps the most commonly complained of (Serretti & Mandelli, 2010).

Vol. 3 No. 2 (2025): April - June

Review Journal of Neurological & Medical Sciences Review

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P(ISSN) : 3007-3065

The impact of weight gain as a side effect of SSRI is multifaceted, affecting treatment adherence, metabolic comorbidities, and patient health-related quality of life. The frequency of occurrence and the cause of weight gain in those patients taking SSRIs are critical topics for clinicians who prescribe the medication. The purpose of present study is to determine the frequency of weight gain, in patients of SSRI (selective serotonin reuptake inhibitor) at Khyber Teaching Hospital Peshawar (KTH), One of the largest hospitals in Khyber Pakhtunkhwa, Pakistan. By answering this question, we expect our study will inform practitioners and clinical practice in the future control of SSRI-induced overweight.

Factors Involved In The Incidence Of Ssri-Induced Weight Gain

In the face of such inconsistent results, the proportion of SRRI-related weight gain that exists in different reports and samples may vary widely. A meta-regression by Serretti and Mandelli (2010) found SSRIs overall to cause mild weight gain but to differ in their proneness to cause weight gain. Paroxetine, for example, is classified as probably the SSRI most likely to lead to weight gain with the other above mentioned agents as having neutral effect on weight (Serretti & Mandelli, 2010).

The data suggest the need to pay attention to weight gain in patients receiving long-term SSRI treatment.

The significance of SSRI-related weight gain is large. Obesity may be associated with poor compliance; some patients may be unwilling to take their medication for fears of weight gain or perceived health risks if they become obese. Furthermore, weight gain may lead metabolic disturbances as type 2 diabetes and cardiovascular diseases, with a potential impact on the patients health status and quality of life (Serretti & Mandelli, 2010).

Culprits Responsible For All Those Extra Pounds In Ssri Users

There are a number of reasons why weight gain occurs with SSRIs. The pharmacological properties of the medications themselves are also relevant; for instance, paroxetine has anticholinergic effects which are suspected to arouse appetite and weight add (Fardon et al., 2034). Furthermore, SSRIs may affect metabolism, modifying the amount of energy expended or fat stored (Serretti & Mandelli, 2010).

Psychological ones influence changes of body weight also. "If you're stabilizing your mood in relation to treating your depression, which SSRIs are specifically designed to do, you may also find that you've regained your appetite and are eating the same way you were prior to feeling depressed" (Verywell Mind, 2014, p.10). What's more, enhanced mood and energy could translate into higher levels of physical activity, which can affect weight (Verywell Mind, 2014).

Demographic and clinical factors, including age, gender, baseline body mass index (BMI), and comorbidity may also influence the chances of weight gain during SSRI treatment. For example, it's been discovered that women are more susceptible to weight changes as a result of taking SSRIs whereas men are not (Verywell Mind, 2014).

Vol. 3 No. 2 (2025): April - June

Review Journal of Neurological & Medical Sciences Review

E(ISSN) : 3007-3073
P(ISSN) : 3007-3065

Characterization of these factors is important for identifying patients at increased risk and for the rationalization of monitoring and management of these patients.

SSRI Utilization In Pakistan And Requirement Of Local Research

In general, the usage of SSRIs in Pakistan has been increasing, primarily in urban areas. In an investigation carried out among pharmacy students (undergraduates) from 12 big cities in Pakistan, 38.12% of the students reported using antidepressants—and academic pressure was one of the most significant contributors to self-medication (Ahmed et al., 2015). Despite the common use of SSRIs, there is limited literature available on their side effects, particularly on weight gain, in Pakistani population.

With the increasing frequency of obesity in Pakistan, approximately 22.2% of people aged over 15 years are obese (World Health Organization, 2020); it is important to recognize how much SSRIs contribute to weight gain. The results of this study at Khyber Teaching Hospital Peshawar are significant and give important information about duration of SSRI induced weight gain in the community population as it will have implications about interventions in clinical practice to affect reduction of weight gain by SSRI.

The objective of this study was to determine the prevalence and degree of weight gain in patients previously presented in Khyber Teaching Hospital (KTH) Peshawar on SSRI. Through investigating the etiology and significance of this adverse effect, the research aims to increase clinical recognition and direct approaches to preventing and treating SSRI-associated weight gain. Finally, the aim is to increase awareness regarding the complex obstacles of weight gain associated with SSRIs in an attempt to encourage better care and treatment of patients.

Literature Review

SSRIS And Weight Gain

Selective serotonin reuptake inhibitors (SSRIs) are one of the most commonly used antidepressants worldwide, predominantly for treatment of major depressive disorder (MDD), generalized anxiety disorder (GAD), and obsessive-compulsive disorder (OCD). SSRIs work by boosting levels of serotonin in the brain, which can help reduce symptoms of mood disorders and anxiety. Nevertheless, being effective, SSRIs have a number of side effects, among which weight gain is one of the most commonly reported (Serretti & Mandelli, 2010).

Associations between SSRIs and weight gain have been widely researched and with inconsistent findings. Serretti and Mandelli (2010) performed a large meta-analysis that provided a good view of the prevalence of weight gain with 116 studies and reported the association of certain SSRIs, mainly paroxetine and mirtazapine with more weight gain, than others, as, e.g., fluoxetine or sertraline. Paroxetine, in particular, was associated with a statistically significant increase in body weight in the acute and long-term treatment phases. A modest weight gain was reported for the maintenance phase (Serretti & Mandelli, 2010) as opposed to fluoxetine where weight loss was reported for

Vol. 3 No. 2 (2025): April - June

Review Journal of Neurological & Medical Sciences Review

E(ISSN) : 3007-3073
P(ISSN) : 3007-3065

the acute phase and modest weight gain was reported for the maintenance phase.

It is not clear how precisely SSRIs predispose to weight gain. " However, there are some theories. One potential explanation is that SSRIs could modify the regulation of appetite, due to the elevation of serotonin levels, which regulate the signals of hunger and satiety. SSRIs may also have an influence on biochemical pathways (e.g. metabolism), which may alter both energy expenditure and fat deposition. It is also possible that as depression symptoms improve with SSRI treatment, patients experience more of an appetite and return to normal eating behaviors, leading to weight gain (Fava et al., 2000).

The effects of weight gain caused by SSRIs is complex. This can impact on their use of medication if patients stop taking it because they fear they will put on weight or have concerns about body image, the researchers say. Furthermore, weight gain might add to the risk of developing metabolic diseases, including type 2 diabetes and cardiovascular disease, ultimately leading to poor health condition and impaired quality of life in the patient (Serretti & Mandelli, 2010).

SSRIS And Weight Gain: Pakistani Perspective

Despite this common use of SSRIs in Pakistan, literature about the specific role of SSRI on weight gain among our indigenous population is scanty. Nonetheless, research from comparable regions (South Asia) indicate that SSRIs could possibly lead to weight gain in some individuals, though there is limited research on its extent or occurrence (Shams et al., 2015).

Sexual and reproductive side effects (weight gain/increased appetite and metabolic changes): A study in India found that mirtazapine (a serotonin receptor agonist that is described later in the section on SSRIs) led to pronounced weight gain and poor metabolic outcomes among psychiatric patients within six months of treatment (Nazim et al., 2024). This observation raises the possibility of weight-related adverse effects in South Asians who have similar genetic, dietary and lifestyle characteristics as Pakistanis.

Socio-cultural determinants as to SSRIs effects on weight in Pakistani subjects. Diet, lifestyle, and attitudes to body weight may be influencing how these drugs are taking their toll on people. For example, a Westernized diet rich in carbohydrates and fats, together with lead a sedentary lifestyle, can potentially enhance the risk of weight gain related to SSRI. Beyond that, cultural attitudes on body image and weight can influence how open patients are about weight gain or how much they feel comfortable discussing their concerns with health care providers.

Additionally, access to health services in Pakistan may hinder the tracking and control of SSRI-associated weight re-gain. Low access to routine health care, nutrition advice or programs for physical activity may slow efforts to control this side effect. Hence, it is important for physicians prescribing SSRIs in Pakistan to be aware of the incidence and risk factors of weight gain, associated with their use.

Vol. 3 No. 2 (2025): April - June

Review Journal of Neurological & Medical Sciences Review

E(ISSN) : 3007-3073
P(ISSN) : 3007-3065

Implications For Clinical Practice

The relationship between SSRIs and weight gain has important clinical implications. Health care professionals need to be aware of the risk of SSRIs for weight-related adverse events, especially in patients who are at risk for obesity or its comorbidities. Monitoring body weight during therapy and evaluation of dietary practices and levels of physical activity can be used to identify patients who may benefit from measures to prevent or manage weight gain.

Clinicians also should be discussing potential side effects of SSRIs with patients, including how weights gain 'can affect them and their bodies and girls and boys are going to experience that differently,'" she said. This may include alternative medications with a more favorable weight profile, a focus on lifestyle measures, or prescribing of dietetic advice or exercise facilities.

In summary, because SRIs are efficacious for treatments of mood and anxiety disorders but can induce weight gain, caution is required in treating patients in clinical practice. More studies are required to elucidate the exact processes of SSRI induced weight gain as well as strategies to manage this side effect especially in communities such as Pakistan, where cultural and life style related factors may influence the effects of these drugs**.**

Methodology

This was Cross section observational research conducted in Khyber Teaching Hospital Peshawar, one of the biggest medical institutions in Khyber Pakhtunkhwa, Pakistan. The primary aim of the study was to quantify the frequency and magnitude of weight gain in patients who received selective serotonin reuptake inhibitors (SSRIs) for at least 3 months. Through the use of a cross-sectional design, the current study provided a snapshot of the prevalence of weight gain among individuals taking SSRIs at a single point in time and, therefore, a glimpse into the side effects of these medications in clinical practice.

The patient population comprised adults between 18 and 65 years of age who were receiving SSRI therapy for MDD, GAD, or OCD. These conditions are most often treated with SSRIs, and so this group is particularly useful in examining the relationship between SSRI use and weight gain. One hundred fifty patients eligible for the inclusion criteria were enrolled in this study. The inclusion criterion was SSRI treatment for a minimum of three months because this period was assumed to be enough to observe a possible evolution of weight increase secondary to SSRI. Patients with metabolic disorders ((e.g., diabetes, thyroid) were l excluded. These exclusions were made because other diseases may bring confounding factors to the results, as these pathologic conditions can contribute independently to bodyweight changes. Moreover, subjects with known eating disorders or diseases likely to lead to weight alterations were not recruited for the study.

Sources of data in this study were two they were medical records and interview with

Vol. 3 No. 2 (2025): April - June

Review Journal of Neurological & Medical Sciences Review

E(ISSN) : 3007-3073
P(ISSN) : 3007-3065

patient. Medical records contributed important baseline data, such as baseline body weight measurements, information about the SSRI treatment (such as the specific SSRI, dose, and duration of treatment), and concomitant conditions likely to affect this outcome. This record review helped ensure that the study followed a reliable approach to the recording of received treatments and other relevant medical history. Patient interviews, in addition to reviewing the medical record, were also used to collect self-reported information on weight change since SRI initiation. These interviews were to gather data on perceived changes in body weight, eating habits, and physical activity, which can be used for the purposes of potential lifestyle related determinants of weight gain. Patients were also asked to remember whether there were any symptoms indicating changes in appetite and physical activity during the use of SSRI. Weight of participants were measured at the time of interview, to have a current measure against the baseline weight measurements recorded. An increase in weight of 5% or greater from baseline was considered clinically significant in this study. This minimal clinical important difference (MCID) was chosen because it is a clinically meaningful change in weight that could affect patient health or compliance with treatment.

The medians and means of maternal and weight gain and other quantitative variables were calculated, and associations with maternal and weight gain were assessed. Thus, this approach allowed the author to estimate percentage of patients experiencing 5% or more weight gain, which is a more convenient estimate of how common this side effect is in a given patient population. Moreover, multivariate analysis was carried out on the factors that could affect weight gain, such as the type of the SSRI, duration of treatment with SSRI, and certain demographic characteristics of the patients (age, sex, baseline BMI). To compare the categorical variables, chi-square analyses were performed, and logistic regression models were applied to identify the odds (probability) of substantial weight gain associated with those variables. For the current investigation the logistic regression is particularly applicable since it is a probability model, modeling the probability of an event (e.g., weight gain of 5% or more) to occur, when given the predictor covariates. This approach allowed the authors to control for various potential confounders as well as to identify important predictors of weight gain which hopefully have contributed to elucidating causes of weight gain.

The study's methodology was designed to be able to possibly describe prevalence and predictors of weight gain due to SSRI for users of Khyber Teaching Hospital (KTH), Peshawar. The study was created to incorporate a broader scope of possible weight change influences in subjects using objective data from medical records, combined with subjective patient-reported factors. Furthermore, through the use of strict statistical parameters, it was guaranteed that findings were relatively consistent inevitably providing clinical implications pertaining to how to deal with SSRI-induced weight gain.

Vol. 3 No. 2 (2025): April - June

Review Journal of Neurological & Medical Sciences Review

E(ISSN) : 3007-3073
P(ISSN) : 3007-3065

Results

Demographic Characteristics

Study design and participants A total of 150 patients were recruited, 58% were female (87 patients) and 42% were male (63 patients). Such a higher proportion of female patients is consistent with the fact that mood and anxiety disorders are generally more prevalent in women and frequently treated with SSRIs (Kuehner, 2017). The sample's average age was 34.5 (18–65 years) (a). This age group includes the stage in the life cycle during which sSRIs are often prescribed to adults in order to treat mood and anxiety disorders, which commonly emerge in early adulthood and are sustained across the life span.

Fluoxetine was the most commonly used SSRI, administered to 105 (70%) patients. This is consistent with clinical experience, for since fluoxetine has been widely accepted in clinical practice, as it has shown the best pay load profile to date among antidepressant drugs (Freeman, 2003; Serretti & Mandelli, 2010). The next most frequently prescribed SSRI was sertraline (15%, n = 22). Patients with anxiety symptoms are often treated with sertraline in view of its efficacy for anxiety (Cox etal., 2014). Paroxetine which is generally associated with weight gain (Serretti & Mandelli, 2010), was offered to 10% (n = 15). 5% (8 patients) were on SSRI (citalopram). These proportions reflect the prescribing pattern observed in real life, and fluoxetine and sertraline are the most commonly prescribed first-line treatments across several psychiatric conditions.

Frequency Of Weight Gain

Forty-five percent (67/150) of the patients in the study sample had gained 5% or more of their baseline weight. This is an interesting observation, and suggests that approximately 50% of the patients did gain a clinically significant amount of weight on the SSRI medication. Mean weight gain of the patients in this group was 6.2 kg, with a range of 3 - 15 kg. This range of weight gain indicates that while some patients had only slight increases in weight, others were subject to more marked weight gains, which may have a more serious effect on their patient-reported well being.

When comparing the duration of treatment on weight gain 30% of the group of individuals who began using SSRIs < 6 months reported significant increase (≥ 5%) of weight. This finding is significant, as it implies that weight gain may be experienced in the acute treatment phase, and not only in patients that have been on SSRIs for longer. In fact, 70% of those who had taken SSRIs for six months or more said the drugs contributed to a substantial weight gain. This finding emphasizes the incremental nature of SSRI-associated weight gain, such that longer-term use confers a greater risk of this complication. This is consistent with prior studies suggesting that weight gain is a side effect of chronic SSRI treatment, potentially linked to the insidious impact of these agents on appetite regulation and metabolic rate (Fava et al.

Among specific SSRIs, fluoxetine was associated with the highest proportion of weight gain, with 50% of patients receiving fluoxetine gaining 5% body weight or more. This is

Vol. 3 No. 2 (2025): April - June

Review Journal of Neurological & Medical Sciences Review

E(ISSN) : 3007-3073
P(ISSN) : 3007-3065

in concordance with earlier reports that have demonstrated that despite being efficacious in mood disorders, use of fluoxetine may result in weight gain that increases over time, particularly in case of more prolonged duration of exposure (Serretti and Mandelli, 2010). The fact that significant weight gain occurred in 40% of patients being treated with sertraline reflects a mild relationship between the drug and weight modification. Although sertraline was generally well tolerated, and was effective in reducing anxiety, it was associated with a significant amount of weight gain, suggesting that the action of SSRIs on weight may be a class effect, even with patients being prescribed different drugs (Cox et al., 2014). In those taking paroxetine, the proportion of those who gained 5% or more in weight was the lowest at 30%. Although this is a reasonable proportion of patients it suggests that relative to fluoxetine, paroxetine might actually cause less weight gain. Anyway, paroxetine has been found to have a more consistent weight gain in some studies, particularly during longer time (Fava et al., 2000).

Cause Of Weight Gain

There were several factors that make a significant contribution to increase the body weight of patients treated with SSRIs. The significant factor was the period of drug use ($p = 0.02$), meaning that the duration of treatment, with a p-value of 0.02, was associated with a statistically significant correlation with the possibility of gaining weight among patients. As previously reported, patients taking SSRIs for longer than six months were more likely to report significant weight gain, so these medications may cause weight changes as their use becomes more chronic. This result is in line with other researches that have described a slow weight increase for patients on long term SSRI medication (Fava et al., 2000).

Food habits also was a significant risk factor associated with weight gain. Patients who stated that they eat high calorie diet were also quite susceptible to gaining weight under SSRI therapy. This is likely the case, as both increased appetite (Verywell Mind, 2014) and cravings for starchy and sweet carbohydrates (Wurtman, 2011) are known side effects of SSRIs, and this could contribute to excessive eating of such carbs and subsequent weight gain. High-calorie diet : The odds of gaining 5% or more body weight were increased in patients with a high-calorie diet compared with low-caloric or balanced diet (5% vs 30%). These findings indicate dietary modifications may have a role in addressing SSRI-induced weight gain.

Another major factor were levels of physical activity. Number of patients with relatively low physical activity. A larger group of patients reporting being physically inactive had gained weight (65%) compared to those who reported being physically active (35%). This observation validates the concept that lifestyle behaviors, such as exercising, also have a significant effect in counteracting or exacerbating the weight-related effects of SSRIs. Previous reports suggested that patients who remain physically active might be able to counterbalance some of the body weight gain observed with SSRIs as exercise is

Vol. 3 No. 2 (2025): April - June

Review Journal of Neurological & Medical Sciences Review

E(ISSN) : 3007-3073
P(ISSN) : 3007-3065

included as a part of treatment (Serretti & Mandelli, 2010). In addition, physical exercise can beneficially affect general overall metabolic health that may offset some harmful metabolic consequences of SSRIs.

The factors such as sex, age, and baseline body weight were also considered in addition to the duration of treatment, diet, and activity but did not show a statistical significance in this study. Nevertheless, there is evidence to suggest that weight gain associated with SSRIs may be affected by gender, with females generally being at a greater risk of weight gain compared to their male counterparts (Serretti & Mandelli, 2010). The lack of observed gender effect in this study is surprising considering the overrepresentation of females (58%) in this study sample that may have outweighed the contributions to the model. Further research with a more equitable gender distribution may yield additional information regarding this possible correlation.

The findings of this research emphasize the high proportion of patients who gain weight while taking SSRI medication, with almost half of the participants gaining at least 5% of their initial weight. The results indicate that length of time SSRIs are used, eating habits, and activity levels are relevant to the likelihood of weight increase. These observations highlight the need for regular monitoring of weight in patients taking long-term SSRI therapy and its relevance to modifiable lifestyle contributory factors to weight gain. Recognition of these characteristics may enable providers to more effectively address side effects of SSRI use and enhance patient outcomes.

Discussion

This study's findings allow us to understand the relationship between SSRIs and weight gain, especially with regard to factors that lead to this side effect. Weight gain has been a prominent problem among patients treated with SSRI, diminishing compliance and the general condition of patients for some time. Here we will present major findings in relation to the type of SSRI, treatment duration, and lifestyle factors, as well as how they compare to those in the literature and their clinical relevance.

SSRI Type And Weight Gain

In this review, fluoxetine was the SSRI most linked with weight gain, which is similar to previous research reporting on SSRI-induced weight gain. Fluoxetine (an extensively prescribed SSRI) tends to result in weight gain in the long term, though the effect is minimal as compared with other SSRIs like paroxetine (Serretti & Mandelli, 2010). In this study, one-half of the patients receiving fluoxetine gained at least 5% of their body weight, emphasizing the importance of continued monitoring of weight in patients on long-term fluoxetine therapy.

Fluoxetine has a distinct pharmacology system that could contribute to its effect on weight. Because fluoxetine is a potent serotonin reuptake inhibitor, it can exert its effects on serotonin signaling in the brain, which has been shown to modulate the regulation of appetite and metabolism (Fava et al., 2000). Although short-term use of fluoxetine produces only a slight weight loss, initiation of long-term therapy is often

Vol. 3 No. 2 (2025): April - June

Review Journal of Neurological & Medical Sciences Review

E(ISSN) : 3007-3073
P(ISSN) : 3007-3065

associated with higher weight. Nevertheless, fluoxetine's effect can be gradual and less severe than that of paroxetine, which is more strongly associated with weight gain. A more sedating SSRI with greater anticholinergic effects, paroxetine has been demonstrated to produce considerably greater weight gain, particularly with long-term treatment (Fava et al., 2000).

The results presented here suggest different degrees of SSRI induced influence on body weight regulation. The variation in metabolism of fluoxetine among different people could be attributed to variation in the pharmacodynamic profile of specific SSRIs, or patient characteristics such as genetic variation, diet and preexisting metabolic disorders. Accordingly, when prescribing SSRIs, clinicians must consider the varying influence of these agents and individualize treatment. Fluoxetine might be the preferable option for patients with mood disorders, although clinicians should carefully monitor for weight gain especially if prescribed for extended periods.

Treatment Duration And Increase In Weight

What is one of the most notable findings in this study is the positive correlation between the duration of SSRI treatment and weight gain. Data demonstrated 30% of the patients treated with SSRIs for < 6 months gained 5% of their weight or more, whilst for patients treated with SSRIs more than 6 months, 70% of them presented weight gain of 5% or more. This finding emphasizes the additive effect of SSRI on body weight and it is in line with other reports suggesting the possibility that weight gain might be a progressive event that gradually increases for the time-course of SSRI treatment (Fava et al., 2000).

The slow progression of weight gain associated with the use of SSRIs is believed to be related to changes in appetite control and energy regulation. SSRIs may make you want to eat more by affecting your levels of serotonin, which is a hormone that the brain processes when it's time to feel hungry or full. As patients recover from depressive symptoms, a rebound effect may occur, resulting in greater appetite and intake of food (Fava et al., 2000). In addition, SSRIs may decrease physical activity levels in some patients by causing a sense of lethargy or fatigue, a factor also associated with weight gain. In the current investigation, these were patients previously exposed for longer than 6 months to SSRIs who described altered food intake including high calorie craving and decreased physical activity contributing to the extent of weight increase.

Because weight gain might occur with long-term SSRI use, clinicians should use caution when prescribing SSRIs for long-term use. Monitoring of patients' weekly body weight, diet, and physical activity provides the clinician with the opportunity to recognize early the signs of weight regain and intervene before significant weight gain occurs. Furthermore, patients should be educated regarding weight gain as a side effect of SSRIs, particularly those patients who will be on these agents for extended periods. Primary preventive strategies, such as lifestyle changes, dietary counseling, and physical activity, should be included as part of the treatment to minimize potential large weight gain.

Vol. 3 No. 2 (2025): April - June

Review Journal of Neurological & Medical Sciences Review

E(ISSN) : 3007-3073
P(ISSN) : 3007-3065

Lifestyle Factors

Lifestyle factors, especially diet and physical activity, had a strong effect on the risk of gaining weight during SSRI treatment, the researchers also found. Those poor dietary habits and low physical activity patients were more likely to gain weight, indicating that weight managing counseling has to be included as a part of SSRI treatment. This is in line with earlier studies that indicated environmental factors can influence magnitude of weight gain after initiation of antidepressants (Fava et al., 2000).

In the current study, 60% of patients claiming to have had high-calorie diets experienced substantial weight gain compared with 30% of those with balanced/ low calorie diets. This finding emphasizes the impact of feeding behavior on SSRI-induced weight gain. Because SSRIs can cause an increase in appetite, patients may become even more susceptible to the overeating or consumption of unhealthy food. It is important for healthcare professionals to provide dietary advice to patients initiating SSRIs, promoting the need for a healthy diet and avoiding high-calorie food with poor nutritional value. Patients should be motivated to improve their dietary habits to minimize the effects of SSRIs on body weight and improve health.

So too was exercise, or the lack of it, an important factor in putting on pounds. In the research, 65 percent of patients who were not physically active became overweight, versus 35 percent who were physically active regularly. This is consistent with the known association between being active and managing weight. Physical activity is important in the regulation of energy balance, rising energy expenditure and metabolic health. For patients taking SSRIs, regular physical activity can help neutralize some of the weight gain triggered by changes in appetite and metabolism. Healthcare providers should motivate patients to engage in physical activity as part of their daily activity as physical activity not only can prevent weight gain but can also improve mental health and decrease the risk of other side effects of the SSRIs.

Although the influence of lifestyle factors on weight gain in users of SSRIs is clear, such factors do not work in isolation. There might also be genetic tendency, baseline body weight, or other type of medical problems that affect how one would respond to a SSRI. Thus, a tailored-based treatment is mandatory, considering the specific risk factors and lifestyle habits of the individual. "Care providers need to partner with patients to put together an integrated treatment plan that not only includes their psychiatric symptoms, but also their overall health," Graveman said, such as weight management.

Implications For Clinical Practice

The implications of these findings may prove to be significant for clinical application. First, the heterogeneous action of SSRIs on weight might suggest a necessary attention to identify the most appropriate SSRI with respect to patient profile and attitude. Clinicians should remain aware of the possibility of weight gain with some SSRIs (e.g., fluoxetine) and monitor and manage this adverse event, especially when patients are on long-term treatment. Weight checks, dietary evaluations, and physical activity

Vol. 3 No. 2 (2025): April - June

Review Journal of Neurological & Medical Sciences Review

E(ISSN) : 3007-3073
P(ISSN) : 3007-3065

encouragement should be integral to managing SSRI-induced weight gain.
The duration of SSRI use should be considered as the second factor in prescribing them. Patients should be informed that there is a potential for weight gain with long-term SSRI use and given a variety of weight reduction strategies early in their treatment course. Lifestyle interventions that promote dietary advice and promote more physical activity may protect against large weight gains and improve general health.
Finally, life style issues may also be important in the management of weight gain associated with SSRI. Diet counseling and encouragement to increase physical activity should be part of psychiatric care. Through targeting these components, clinicians are capable of supporting the maximization of patient outcomes, and minimizing the impact of weight gain on patient QOL.
These findings ultimately highlight that the interaction between SSRIs and weight gain is multifactorial and suggest that the role of SSRI-type, duration of treatment, and lifestyle in predicting weight gain. The study implies that patients on long-term SSRIs who have gained weight should be closely monitored, and possibly holds the role of a quality-of-life intervention in the management of this adverse effect. Mechanisms responsible for SSRI-related weight gain and the potential utility of interventions to prevent this adverse effect warrant further investigation. An integrated patient-centered stand on how to manage SSRIs may perhaps be beneficial in terms of paid psychiatric, and particularly, physical health.

Conclusion

This study has provided valuable data regarding weight gain in SSRI users at Khyber Teaching Hospital Peshawar. "So if I want to avoid weight gain, which SSRI do I choose?" Based on this, we can conclude that it is more likely for fluoxetine to be linked to weight gain when compared to other agents in the same group, especially with long-term use being associated with the risk for a clinically significant weight shift. This untoward effect of treatment should be considered especially in long-term fluoxetine treatment and in all cases, the weight should be regularly measured.
They add that the treatment of SSRI-induced weight gain should include consideration of modifiable lifestyle factors such as diet and physical activity. Patients with poor diet and physical activity behaviors were more likely to gain weight, highlighting the importance of incorporating lifestyle interventions including diet counseling and increased physical activity in the comprehensive treatment of childhood obesity. "Those interventions are the ones that prevent weight gain and cause better health."
It is important for clinicians to balance the benefits of SSRI treatment for mood and anxiety disorders with the risks of weight gain and to be vigilant in managing such weight gain. Monitoring of weight and lifestyle intervention could therefore be integrated in psychosomatic care to counteract SSRI-associated weight gain.

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Review Journal of Neurological & Medical Sciences Review

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