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Weight Gain on Psychotropic Drugs: Has the Obesity Community been Paying Attention?

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Abstract

Weight gain is a well-known side effect of treatment with psychotropic drugs. More than fifty years ago, drugs such as amitriptyline (Elavil) and lithium were known to be associated with substantial increases in weight and despite new generations of psychotropic drugs, this unwelcome side effect has persisted [1-3]. How much weight is gained varies but in general mood stabilizers and antipsychotics drugs cause more substantial weight gain than antidepressants. Two antipsychotics, clozapine (Clozaril) and olanzapine (Zyprexa) are associated with the greatest prevalence of weight gain; up to 31% of patients treated with clozapine and 40% with olanzapine increase their weight during treatment [3]. Some mood stabilizers such as valproate (Depakote) [3] also are associated with a similarly high incidence of weight gain. Mirtazapine (Remeron) and paroxetine (Paxil) are two antidepressants with the greatest weight gain potential among the anti-depressants although except for buproprion (Wellbutrin) weight gain has been reported among all of the other drugs in this category [4]. The amount of weight gained varies depending on dose and duration of treatment. In White, Luthin and Cates 's review of studies looking at weight gain with antipsychotic agents, weight gain with olanzapine was as high as 9.4 kg with an average weight gain of 4.5 kg [3]. Patients gained on average 2.3 kg/month on olanzapine, 1.7 kg/ month on clozapine, and 1.8 kg/month on quetiapine according to studies reported by Akhtar et al. [5]. The mood stabilizer, valproic acid also caused substantial weight gain; i.e. 5 kg over a six month treatment period [4]. Treatment with the antidepressant mirtazapine was associated with an average weight gain of 1.74 kg during the acute 4-12 week treatment phase and another 2.59 kg during the maintenance phase. Similar amounts of weight have been gained during treatment with paroxetine [4] but this particular drug has the potential to cause even greater weight gain. In a comparison study of weight gain risk with SSRI therapies, Fava et al. found that patients taking paroxetine gained more than 7% of their baseline weight in about six months [6. The options available to prevent continual weight gain are by and large limited to switching patients to alternative medications [3]. However this practice is not always possible due to the risk of withdrawal effects, relapse, drug interaction and altered efficacy of the alternative drug. As a consequence patients may choose to discontinue their psychotropic medication because becoming fat seems a worse alternative than depression or bipolar disorder [9]. Given the prevalence of psychotropic drug use, it is surprising that weight loss strategies specifically directed toward this sub-group of obese individuals have not developed. According to the Medco Health Survey, in 2010 [10], But among the multitude of interventions for weight loss, few if any programs are designed for the specific needs of this subgroup. Should they need to lose weight, recommendations include reduced calorie diets, eliminating calorically - dense foods, portion control, increased physical activity and group support from local weight loss organizations along with the occasional prescription for metformin [3]. In short, the interventions are no different than those given to those whose weight was not gained as a side effect of their medication. There are several problems with this approach. To begin with, there is now well defined disturbance in the eating patterns of this sub group that may not characterize the overeating of other obese individuals. The weight gain associated with the use of psychotropic drugs is the consequence of an increased appetite for carbohydrate-rich foods, especially those with a high fat content [11,12] and a decrease in satiety. Uncontrolled hunger is not the problem. The problem these individuals experience is the absence of satiety; they don't feel full after eating quantities of food that prior to drug treatment would have satisfied them. This change in their eating behavior may result from blockage by the

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psychotropic drugs of the serotonergic 5-HT 2c receptors [11-13] that mediate satiety. The tendency of many current diet regimens is to remove or limit carbohydrate from meals and snacks. This is understandable since carbohydrates are components of foods which have a high fat content (doughnuts, cookies, potato chips, chocolate, ice-cream) and are thus calorically dense. (This unfortunately also eliminates the many fatfree, nutrient- and fiber-rich carbohydrates from the weight loss regimen). Significant weight was lost over 12 weeks by patients following this regimen, despite their concurrent treatment with the drugs that had caused their previous overeating. Prior to gaining weight on the psychotropic drugs, many of our patients had normal BMIs and followed a healthy lifestyle: They made nutritionally appropriate food choices and engaged in regular physical activity. Overeating was not a problem, and indeed until they gained weight, they had never dieted. Thus many of the weight loss support and behavioral modification programs aimed at the traditionally obese were irrelevant. Problems that many lifetime obese individuals struggle with such as emotional overeating and resistance to exercise were never an issue. Conversely finding themselves in an unfamiliar obese body and dealing with society's attitudes toward the obese was a problem with which many of them struggled. Indeed a few of our patients had become semi-recluses because of embarrassment over their excessive size.

Given the paucity of weight management programs designed to help this sub-group of obese individuals, the obesity community must do more to help. Strategies to prevent weight gain and support weight loss among patients on psychotropic drugs need to be developed and communicated to those who work with the obese so they understand the special needs of this group [1]. The BMIs of this sub group of obese individuals may be the same as those who did not gain weight as a side effect of their medication but this does not mean that interventions to help them lose weight should be the same. It is critical to identify the obesity of these individuals as resulting from the weight gaining side effects of their medication and give them the dietary and social support they need to help them return to their pre-medication weight.

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