

# Antipsychotics and Physical Attractiveness

Mary V. Seeman<sup>1</sup>

## Abstract

**Background:** Antipsychotics are effective in treating the symptoms of schizophrenia, but they may induce adverse effects, some of which—those that impact negatively on physical appearance—have not been sufficiently discussed in the psychiatric literature. **Aim:** Through a narrative review, to catalog antipsychotic side effects that interfere with physical attractiveness and to suggest ways of addressing them. **Method:** PubMed databases were searched for information on the association between “antipsychotic side effects” and “attractiveness” using those two search phrases plus the following terms: “weight,” “teeth,” “skin,” “hair,” “eyes,” “gait,” “voice,” “odor.” Data from relevant qualitative and quantitative articles were considered, contextualized, and summarized. **Results:** Antipsychotics, as a group, increase weight and may lead to dry mouth and bad breath, cataracts, hirsutism, acne, and voice changes; they may disturb symmetry of gait and heighten the risk for tics and spasms and incontinence, potentially undermining a person’s attractiveness. **Conclusions:** Clinicians need to be aware of the impact of therapeutic drugs on appearance and how important this issue is to patients. Early in treatment, they need to plan preventive and therapeutic strategies.

**Key Words:** Schizophrenia, Antipsychotics, Side Effects, Physical Appearance, Attractiveness

## Introduction

Side effects that change outward appearance are rarely mentioned in the medical literature on antipsychotic medications, and yet they are extremely important to the persons experiencing them, not only to adolescents, as has been previously noted (1), but to women of all ages.

Physical appearance has long been associated with status and self-esteem, as well as social opportunity (2). Contemporary theory postulates that the aesthetic appeal of physical appearance influences how socially attractive one is perceived to be, how others respond, and, in turn, how that determines the quality of one’s life experiences. Attractive women have been judged happier, psychologically healthier, and prouder of themselves than those judged to be unattractive (3). There are many benefits to beauty, from higher average wages to a wider variety of mate choices (4), and even to better treatment by physicians (5). Burns and

Farina, in their analysis of this issue, found that attractiveness accounted for 6 to 16% of the variance in measures of subjectively perceived and interpersonally rated psychological adjustment (6). Improving one’s physical attractiveness has been shown to enhance both self-esteem and social interactions (7). Physical appearance, an index of personal identity (8), is a determinant of success, not only in youth, but throughout the lifespan (9).

Most humans feel the need to be perceived as attractive to others. In patients with schizophrenia, a negative appraisal of one’s physical appearance can lead to defeatist attitudes that further undermine already poor social functioning (10). Unfortunately, antipsychotic medications, the treatment of choice for schizophrenia, can have a negative impact on appearance in a number of ways. They can sometimes lead to weight gain, bad teeth and breath, unwanted facial hair, hair thinning on the scalp, acne, rash, tremor, stiff gait, unsightly mouth movements, voice changes, blank stares, and incontinence (11). The way in which safety and tolerability data are collected and reported in clinical studies unfortunately does not often allow for meaningful comparison of the effect of individual antipsychotic drugs on these specific adverse effects (12). Antipsychotics are not a homogeneous group (13). Not all antipsychotics at therapeutic doses exert these effects, and, when they do, it is not on all users.

<sup>1</sup> Department of Psychiatry, University of Toronto

Address for correspondence: Mary V. Seeman, MD, Professor Emerita,  
Department of Psychiatry, University of Toronto  
E-mail: mary.seeman@utoronto.ca

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### Clinical Implications

Being seen as attractive is important to everyone, perhaps especially to women. Antipsychotic side effects that mar appearance may also contribute to treatment nonadherence, although this connection has been well-studied only with respect to weight gain and movement disorders (116). As well as initiating specific prevention and treatment strategies for individual side effects, clinicians need to discuss with patients in advance, particularly with women, how antipsychotic treatment may affect their appearance and what means are available to preserve attractiveness. Anticipating an altered appearance has been critical in the adjustment of women with cancer (117, 118), but the same practices may not work in women with schizophrenia, especially since, in contrast to chemotherapy, antipsychotic medication usually needs to be taken indefinitely. However, the physician can practice anticipatory coping by mapping out preventive and therapeutic strategies that both preserve and enhance the patient's physical appearance (see Table 1). It is a significant aspect of the provision of comprehensive schizophrenia healthcare.

Particularly distressing to clinicians is seeing attractive young people in their first episode of psychosis transformed over short periods of time into overweight, unkempt, “chronic” patients. If distressing to clinicians, how much more so must it be for families, and for patients themselves? The underlying reasons are factors inherent in the illness (i.e., loss of motivation, self-neglect), or in the social situation (i.e., poverty, homelessness, isolation) or in the relaxation of expectations and social pressures legitimized by the “sick role.” Young people developing schizophrenia may make unhealthy lifestyle choices with respect to personal hygiene, diet, grooming, smoking, or substance use that negatively affect their appearance (14, 15). Antipsychotics do, however, contribute to the problem.

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PubMed databases (all years, in English, French, Polish, German) were searched for information on the association between antipsychotic “side effects” and “attractiveness,” using those two search phrases plus the following attributes of attractiveness, as discussed in Etcoff (16): weight, teeth, breath, skin, hair, eyes, gait, voice, odor. Data and reference lists from searched articles were considered, contextualized, and summarized in the form of a narrative review. Most of the articles searched were case reports, not clinical trials. They were included if they showed an association between an attribute of attractiveness and the prior use of antipsychotics. In most cases, it was not possible to compare antipsychotics in the degree to which they individually contributed to specific side effects (12). Nor was it possible to clarify the role of drug interactions.

### Body Shape

Since the advent of chlorpromazine in the 1950s, it has been recognized that antipsychotics lead to weight gain (17, 18), although the exact causal mechanisms are still being debated (19). This issue has become especially problematic in recent years because the whole developed world is facing an obesity epidemic. Body shape, specifically the waist-to-hip ratio, which begins to approximate unity when too much weight is gained, has been correlated with the perception of good looks in women. One of the most cited findings in human behavioral ecology is the fact that a waist-hip ratio (WHR) of approximately 0.7 in women correlates with perceived attractiveness—perhaps because this ratio implies fecundity. The universality of this finding has been disputed (21, 22), but WHR and body mass index (BMI) are correlated, and both influence the perception of female beauty (23-25). It has been reported that even health professionals evaluate obese patients more negatively than they do normal weight patients (26), perhaps because obesity is known to be harmful to physical and mental health (27-29).

Olanzapine, quetiapine, and clozapine are the antipsychotics that are most often associated with weight gain (30). Weight and waist size need to be regularly monitored, and a collaboration established with relevant colleagues in order to implement structured protocols (i.e., diet, exercise, drugs, surgery) for clinically significant weight gain and metabolic sequelae (31-33).

### Teeth

Oral health is poor among patients with schizophrenia. A Danish study has reported that only 43% of patients with schizophrenia compared to 68% in the general adult population visited the dentist in 2006. Regular psychiatric follow-up, including treatment with atypical antipsychotics, was associated with better dental care (34).

Dry mouth, a side effect of many antipsychotics, contributes to poor oral health in that saliva lubricates, cleanses, remineralizes, buffers, and protects against infection (35).

Lack of sufficient saliva leads not only to dental caries, but also to periodontitis, stomatitis, gingivitis and candidiasis. Long-term users of xerogenic medications not infrequently end up with missing teeth, and also with bad breath (36). Because of the course of their illness, patients suffering from schizophrenia stay on such medications (i.e., antipsychotics, anticholinergics, antidepressants) for long periods and are, therefore, subject to these effects (37).

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Good teeth are needed to produce an attractive smile—generally acknowledged to be an extremely important asset in any interpersonal encounter (38). For a smile to be rated as attractive, it has been demonstrated that all maxillary anterior teeth have to be showing, and in A-1 condition (39). Tooth grinding or bruxism secondary to antipsychotics, as well as oral-buccal dyskinesias, mar facial appearance and, while these side effects are less prevalent with second-generation antipsychotics than with older drugs, they can still occur (40-42).

Health professionals need to pay attention to the dental healthcare of patients with schizophrenia, actively encouraging patients to regularly visit the dentist, and tend to their oral hygiene (43). Dry mouth can be counteracted by frequent hydration or artificial saliva or sugarless candy or gum. There are many ways to stop bad breath (44), and a tooth guard at night protects against the adverse effects of tooth grinding. Tardive dyskinesias are harder to manage; prevention is probably easier and can be achieved by keeping antipsychotic doses low and by a judicious choice of antipsychotic. Botulinum toxin can be helpful for dystonias (45).

## Skin

After shape and smile, healthy-looking facial skin is probably the next most important index of attractiveness because it signals good health (46). The appearance of one's skin can be spoiled by unwanted hair, protuberances, blemishes, and pigmentation (47, 48).

## Hirsutism

A percentage of women with schizophrenia are hypoesrogenic even when drug naive (49-51) and about 25% show hyperprolactinemia prior to beginning drug treatment (52). This is made worse by antipsychotic medication, and leads

to excess hair in androgen-dependent areas such as lips and chin (53, 54). Obesity, smoking, oral contraceptives, and polycystic ovary syndrome all heighten the risk of hirsutism, a condition that is extremely distressing to women (54). It is due to the effect of androgens on hair follicles. The quantity of secreted androgens, the peripheral conversion of androgens to its end products, the amount of free androgens in circulating blood, the metabolic clearance rate, and the sensitivity of the hair follicles are all major contributors to hirsutism, which is seen as unfeminine and, therefore, unattractive in women (55).

Because hirsutism is a sensitive topic for women, it may not be reported and, consequently, needs to be inquired about. Hirsutism can be prevented by the use of antipsychotic medications that do not raise prolactin levels (56).

## Acne

Acne has been described as psychologically damaging because of its detrimental effect on appearance (57). It, too, is caused by androgen excess that can be brought on by drug-induced hyperprolactinemia. Other drug-related skin eruptions include acute urticaria and angioedema, as well as pigmentary changes (58, 59).

Schizophrenia patients suffer from increased photo aging because of unprotected sun exposure. Repeated exposure to solar ultraviolet radiation leads to cutaneous damage, facilitated by some antipsychotic medications, especially phenothiazines (60).

Patients with schizophrenia require sun safety education and attention paid to preventing and treating acne and other skin conditions. It is interesting to note that minocycline, an antibiotic that is used in the treatment of acne, is thought to have potential adjunctive value in treating schizophrenia via caspase inhibition and downgrading of nitric oxide-induced signaling (61). Unfortunately, minocycline can also cause skin pigmentation (62). Drug-induced skin pigmentation is sometimes cosmetically disfiguring (63), but laser treatments help to remove patches of hyperpigmented skin.

## Hair Loss

Scalp hair has been called a woman's "crowning glory" and its loss has been reported as the most disturbing anticipated side effect of cancer treatment, with 8% of women stating that they considered avoiding treatment altogether because of the possibility of temporarily losing their hair (64). Women with hair loss after chemotherapy report a decline in self-esteem, an impairment in body image, and a decrease in quality of life.

Antipsychotics, as well as many other drugs, have induced hair loss, not only from the scalp but also from eyebrows (65-70). Hair loss from eyebrows is especially likely

to affect the perception of facial beauty (71). Drug-induced hair loss causes hair follicles to go into their resting phase (telogen) and to fall out prematurely; usually there is a loss of 100–150 hairs a day that begins within two to four months after starting the offending drug. The severity of hair loss depends partly on dose, but mainly on individual sensitivity (72). Discontinuation of the medication at fault (which may not be the antipsychotic [73]) or dose reduction almost always leads to complete hair regrowth. The therapeutic value of mineral supplements remains unclear. Adequate healthy hair product formulation is a challenge because of the many variations of hair texture and quality, but new products are being developed to promote hair growth and clinicians need to learn about them (74).

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### Voice

Attractiveness in women depends on a mix of facial, vocal, body shape, and scent features (75). Vocal attractiveness has a profound influence on listeners, with a bias toward “what sounds beautiful is good” (76), and subsequent impact on the person’s success at mating and employment. The prevailing view is that attractive voices signal desirable attributes in a potential mate (e.g., low pitch in male voices, high pitch in female voices); more recently, however, vocal attractiveness has been shown to increase when pitch is averaged. The closer the voice sounds to an average voice, the more attractive it is perceived to be (77).

Antipsychotics can sometimes cause laryngeal dystonia, with slurred speech and abnormalities of vocal pitch (78-80). In fact, any ingested substance is capable of causing voice dysfunction (81-83) and schizophrenia itself may impair speech production (84).

Affected patients need voice-hygiene advice. The best-known method of remediation is called the Accent Method, which is based on abdominal breathing exercises. Phonation is linked to breathing through voice exercises that result in improved elasticity of the vocal cords and underlying muscles. The method has been shown to be effective in functional dysphonia (85).

### Eyes

Eyes are a very significant feature of facial attractiveness (86, 87), but antipsychotics can make them unattractive in a variety of ways—by causing blepharospasm, cataracts and oculogyric crises (88).

With respect to cataract formation, most antipsychotics

have been implicated (89). In a clinic survey, 26 out of 80 schizophrenia patients were found to have a cataract; this was more prevalent in the group on first-generation than on second-generation antipsychotics (90). Ocular pigmentation has been observed with chlorpromazine, thioridazine and clozapine treatment (91).

Drug-induced parkinsonism leads to a reduction in eye movement and a staring appearance that can be interpreted as menacing and can evoke negative interpersonal responses. Dystonic and oculogyric reactions have been reported even with clozapine (92) and with very new antipsychotics (93-96). Parkinsonism and dystonias need to be prevented or treated through a change of medication or the addition of anticholinergics. Particular attention needs to be paid to exposure of eyes to sunlight in patients on antipsychotic drugs; sunglasses and wide-brimmed hats are recommended.

### Gait

The way a person moves elicits social perceptions and judgments of attractiveness (97); information regarding female fertility appears to be encoded in gait (98).

Antipsychotics interfere with the flow of walking, not only because of the extra weight gain, but also because of parkinsonian rigidity (99). Many patients with schizophrenia walk like patients with Parkinson disease. When compared to controls, they show a significantly decreased velocity, predominantly due to a shorter stride length. This is especially marked in patients treated with first-generation antipsychotics (100). The risk is lower with the use of second-generation drugs, but is not entirely eliminated (101). In addition to obesity and parkinsonism, gait in schizophrenia can be disturbed by dystonic reactions (102) and dyskinesias (103).

Parkinsonian drug reactions that affect gait are preventable through appropriate choice of medication and close monitoring, as well as treatment with anticholinergic medications.

### Odor

Partly due to the apathy induced by the illness and the sedation brought on by antipsychotics (104), many patients with schizophrenia fail to wash, brush teeth, change clothes, or use deodorants. All of this causes unpleasant body odor, which can be made worse by drug-induced incontinence. Many drugs, including antipsychotics, increase the risk of incontinence, especially in older people (105, 106).

Urinary incontinence secondary to antipsychotics was first reported in 1955 (107). There have been many reports since, associated with essentially all classes of antipsychotics. Incontinence can occur within hours of initiating an antipsychotic (108). The bladder is vulnerable to the adverse effects of drugs because of its complex control and the

frequent excretion of drug metabolites in the urine. Incontinence is especially a problem for women. Stress incontinence may worsen with the drop in estrogen that comes after menopause. Women experience urinary incontinence twice as often as men (109). In fact, up to two-thirds of women are affected at some time of life, although only one in four seeks treatment (110). The incidence of clozapine-induced urinary incontinence varies according to the report, from 1 to 48% (108). The mechanism is thought to be the effect of alpha-adrenergic blockade on sphincter tone. Double incontinence (urinary and fecal) has been reported with risperidone, olanzapine, and clozapine (111-113).

Few physicians routinely ask about incontinence (108) and, yet, incontinence is cured or, at least, much improved through appropriate treatment. Education, Kegel exercises, biofeedback, scheduled voiding, and positive reinforcement all help. There are also some pharmacological agents, such as ephedrine and desmopressin, that have proven useful (114, 115). The serotonin-norepinephrine reuptake inhibitor, duloxetine, has been used and is believed to enhance pudendal nerve stimulation of the pelvic floor. However, duloxetine has been reported to increase the risk of suicide twofold. As a result, the U.S. Food and Drug Administration has denied its approval for the treatment of stress incontinence (110).

**Table 1** Interventions Needed to Improve Appearance When on Antipsychotics

Acne	Change antipsychotic, antibiotic
Bruxism	Tooth guard
Dry Mouth	Oral hygiene, hydration, dental care
Dystonia	Anticholinergics, Botulinum toxin
Eye	Eye exams, sun safety
Gait	Anticholinergic medication
Hair loss	Change antipsychotic
Hirsutism	Change antipsychotic
Incontinence	Kegel exercises, scheduled voiding, desmopressin
Photoaging	Sun safety precautions, laser Rx
Tardive dyskinesia	Change antipsychotic
Voice problems	Voice hygiene
Weight	Diet, exercise, change antipsychotic

## Conclusions

Being seen as attractive is important to everyone, perhaps especially to women. The side effects that mar appearance may also contribute to treatment nonadherence, although this connection has been well-studied only with respect to weight gain and movement disorders (116).

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