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**CASE REPORT**

- 8 Delusional disorder with depression and history of early trauma: A case report

*Aranas DR*

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## Delusional disorder with depression and history of early trauma: A case report

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### Abstract

#### BACKGROUND

The case report supports the recent findings regarding the correlation of posttraumatic stress disorder (PTSD) and schizophrenia. The report accomplished the following objectives: (1) To present a case of an adult female manifesting with somatic type of delusion (foul body odor) and history of PTSD; (2) To discuss the biopsychosocial factors, psychodynamics and management of the patient; and (3) To differentiate delusional disorder from schizophrenia according to recent studies. Schizophrenia and delusional disorder have certain defining features that separate the two. However, at times it may be difficult to actually classify one from the other. A psychiatrist must be able to carefully examine and assess the history of the patient, helping them share early life experiences of past traumatic events. The early past traumatic experiences and life events greatly influence the predisposition of a patient to develop schizophrenia. However, people with schizophrenia were known to underreport their trauma experience.

#### CASE SUMMARY

This is a case of a young adult female diagnosed with delusional disorder with a history of PTSD and associated depression. The patient manifested with somatic type of delusion with a fixed false belief that a foul body odor was coming from her underarms.

#### CONCLUSION

Developing a therapeutic alliance is vital in achieving therapy goals through empathy, support and warmth between the patient and physician. History of PTSD predisposes patients with schizophrenia to develop depressive disorders as a comorbidity.

**Key Words:** Delusional disorder; Depression; Posttraumatic stress disorder; Biopsychosocial formulation; Somatic delusion; Case report

**Core Tip:** Schizophrenia and delusional disorder have certain defining features that separate the two. However, at times it may be difficult to actually classify one from the other. One must be able to carefully examine and assess the history of the patient to help them share early life experiences of past traumatic events. Developing a therapeutic alliance is vital in achieving this goal through empathy, support and warmth between the patient and physician. History of posttraumatic stress disorder actually predisposes patients with schizophrenia to develop depressive disorders. This case report supports the recent studies associating the two disorders.

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## INTRODUCTION

This manuscript discusses an individual with delusional disorder with a history of posttraumatic stress disorder with associated depression. This report accomplished the following objectives: (1) To present a case of an adult female manifesting with somatic type of delusion (foul body odor) and history of posttraumatic stress disorder; (2) To discuss the biopsychosocial factors, psychodynamics and management of the patient; and (3) To differentiate delusional disorder from schizophrenia according to recent studies.

A recent study by González-Rodríguez *et al*[1] differentiated schizophrenia from delusional disorder according to the latest studies available. A summary of the comparisons between the two is presented in Table 1. Schizophrenia typically manifests with delusion. However, a pertinent feature is its characteristic of being bizarre. Unlike in delusional disorder (DD) in which the delusion is more understandable. The most common type of delusion for schizophrenia is persecutory in nature. For DD, it is jealous type followed by somatic delusion and then erotomanic type. Aside from that, schizophrenia has other prominent traits such as more persistent hallucinations and negative and cognitive symptoms. On the other hand, DD is more associated with a comorbidity of depressive disorders (21.0%-55.8%). Impairment in various areas of functioning is more notable with schizophrenia, while patients with DD have superior functional ability.

The lifetime prevalence of schizophrenia is 0.48%-1.00%, while DD is much rarer with only 0.2% prevalence. Furthermore, the age of onset for schizophrenia is during late teens and early adulthood, while DD is much later occurring at around middle age and above.

According to a recent observational registry-based cohort study completed in Sweden, the effective dose of haloperidol is 12.7 mg/d and 4.7 mg/d for schizophrenia and DD, respectively, and the average duration of treatment is 104 d for schizophrenia and 65 d for DD[2]. It shows that for DD it takes a much lower dose and fewer days of treatment. However, a systematic study was recommended for further studies to better support these findings. The recommended pharmacologic treatments for both are clozapine, olanzapine and long acting injectable drugs. Also, both disorders can be given adjunct treatment of antidepressants to help address symptoms of the patient. Lastly, the best recommended psychotherapy for both disorders is cognitive behavioral therapy.

Schizophrenia is one of the psychotic disorders defined by abnormalities in one or more of the following five domains: Delusions; hallucinations; disorganized speech; grossly disorganized or abnormal motor behavior; and negative symptoms[3,4]. A recent meta-analysis study has shown that compared to the general population, those who are diagnosed with schizophrenia are more likely to experience trauma over the course of their lifetime either before or following the onset of their illness [5]. The most common consequence of trauma exposure is posttraumatic stress disorder (PTSD) with same prevalence among the general population and people with schizophrenia. However, people with schizophrenia or other severe mental disorders were known to underreport their trauma experience[6]. Recent studies have shown that trauma exposure and PTSD among people with schizophrenia are actually not related with more severe cognitive impairments but associated with more severe depression[6,7].

**Table 1 Differentiation of schizophrenia and delusional disorder**

	Schizophrenia	Delusional disorder
Clinical features	Delusional content: Bizarre; Most common: Persecutory type of delusion associated with prominent hallucinations, negative and cognitive symptoms; Functional ability: Severe dysfunction	Delusional content: More understandable; Most common: Jealous followed by somatic and erotomanic delusion; Comorbid: Depression (21.0%-55.8%); Functional ability: Superior
Epidemiological	Lifetime prevalence: 0.48%-1.00%; Age of onset: Late teens and early adulthood	Lifetime prevalence: 0.2%; Age of onset: Middle age and above
Treatment response: Observational registry-based cohort study (Swedish population)	Effective dose of haloperidol 12.7 mg/ d; Duration: 104 d; Pharmacologic: Clozapine, olanzapine, lai; Adjunct treatment: Antidepressants; Psychotherapy: Cognitive behavioral therapy	Effective dose of haloperidol 4.7 mg/ d; Duration: 65 d; Pharmacologic: Clozapine, olanzapine, lai; Adjunct treatment: Antidepressants; Psychotherapy: Cognitive behavioral therapy

lai: Long acting injectable.

## CASE PRESENTATION

### Chief complaints

The patient’s chief complaint was the foul body odor she believed she had.

### History of present illness

Seventeen years prior to consultation, the patient was with her elder sister when they were involved in a motor vehicular accident. The patient incurred multiple injuries including hip dislocation and open fracture in her left leg. She was hospitalized for 6 mo, and during her stay the patient had a normal reaction to the stressful situation. Pertinent negatives were no nightmares and flashbacks related to the accident and no other symptoms of PTSD. The patient was discharged fully recovered regaining her sensation and motor movement. PTSD symptoms only appeared upon passing by the site of accident, which persisted for 3 mo. The patient experienced palpitations while having intrusive and distressing memories of the accident when passing by the area of the accident. Since then, the patient avoided riding the bus as she feared that the accident might happen again. Also, the patient takes another route to avoid that area. Recurrent distressing thoughts of the accident occurred once or twice a week with associated poor sleep, palpitations and headache. The patient also noted to have problems in concentrating as she would be easily distracted by intrusive thoughts. The patient used to like visiting the town often. However, she lost interest in doing so as she constantly fears being in another accident. These posttraumatic symptoms persisted for almost 3 mo. The patient did not seek any psychiatric help and instead confided her struggles to her siblings. The patient was always accompanied by her elder sister to help her overcome the fear of going to the area of the accident. The patient would resort to praying and frequently attend bible studies to help her cope with her trauma. The patient noted that because of family support and her religion she was able to overcome her trauma.

Interval history revealed that her symptoms of PTSD did not recur anymore. However, the patient struggled with social interaction and preferred to be isolated as she feared rejection. The patient was able to finish her studies and pass the licensure examination for teachers. She also had a romantic partner who had a different religion than hers. Their relationship was kept as a secret to their families as the patient feared that her family would disapprove. The patient was then shocked by an unplanned pregnancy with her partner.

Two years prior to consultation, at around the 2<sup>nd</sup> trimester of the patient’s pregnancy, she falsely believed that an unpleasant odor, characterized as sour body odor, was coming from her underarms. The patient believed that the scent gradually worsened as her pregnancy progressed, becoming more noticeable by others thinking that the scent would be permanent. During this time, she became insecure about her own odor, making her not want to go out of the house anymore. She would even ask her husband to run simple errands, such as grocery shopping or going to the nearest store, because she was too ashamed to go out. The patient would also spend almost an hour inside the bathroom just to repeatedly wash her underarms. Even after several washes, the patient claimed that the odor persisted causing her to be frustrated. The patient then bought a variety of cleansing soaps and perfume. She would then test each of these products during baths thus spending almost an hour in the shower room. However, all of these failed as she still strongly believed that her foul body odor persisted. She searched online for a variety of deodorants and spent excessive amounts of money for these products. After applying the products bought online the patient was frustrated as it all failed to remove her foul odor.

The patient then sought consultation with a dermatologist where she was told that there was no foul odor coming from her. The patient was then given an unrecalled oral and topical supplement for skin care. After a week of taking the home medications, the patient felt frustrated once again as she believed all of it was ineffective. The patient also refused to believe the assessment done by her first dermatologist. Hence, the patient went to another dermatologist wherein she was only offered cleansers and

given an option of laser underarm treatment. Nothing was confirmed regarding her odor. She used the products given to her but again believed that they were ineffective. She was offered more aggressive options but declined the options as she did not want those to affect her pregnancy. Her worries regarding her odor persisted, making her more and more ashamed about going out. The patient decided to alternately go for follow-up consultations with the two dermatologists. When she asked her husband about her odor, he would always say that he did not smell anything. However, the patient insisted on her fixed false belief that she had a foul body odor. Pertinent negatives were no chronic headache, no seizure, no head trauma and no loss of consciousness noted. No depressive or manic episodes noted at this time.

In the interim, the patient was converted to Iglesia ni Cristo (INC) or Church of Christ in preparation for their wedding. The patient noted that she was actually not willing to change her religion as she was raised as a devout Pentecostal. The patient was also given a negative connotation about people practicing INC. Her aunts and uncles had told her during family meetings that once she would be converted her whole life would be dedicated for the INC religion. Relatives feared that she would no longer be the same as an INC. The patient felt anxious about entering the INC church. The patient was ambivalent about her decision but claimed she had no choice but to do it for the sake of her pregnancy. After converting to INC, the patient thought that her relatives would no longer treat her the same way and felt anxious about it. Soon after converting, the wedding was held in the INC church. During the wedding, the patient falsely believed that she had a foul-smelling underarm. The patient observed that the guests at the wedding, her husband's family and her own family were behaving in a civil manner but in her mind, she thought that the difference of religion caused them to be distant to each other. The patient also claimed that the husband's family was talking behind her back and that they noticed her foul body odor. The patient kept this to herself and decided to avoid interacting much with anyone at the reception. The wedding ended and made the patient feel relieved as she was no longer around many people.

Interval history revealed persistence of delusion of foul body odor. The patient was noted to be asocial and anxious persistently. No increased goal directed activities nor risky behaviors such as impulsive buying or excessive alcohol use nor illicit drug use were noted.

Five months prior to consultation, she requested another leave immediately after having her maternity leave but was only allowed for a short time. Upon returning back to work, she immediately requested another leave due to the fixed false belief of foul body odor.

Interval history revealed symptoms of depressive episode such as depressed mood for most of the week, poor sleep and appetite, feeling fatigue for most of the day, anhedonia in taking care of herself and her family and asociality. The patient had inappropriate guilt of causing trouble to her family and officemates believing she was burdening them about her foul odor. The patient was able to cope with stress by talking to her immediate family and her husband. A month prior to consultation, the patient had thoughts of death with suicidal ideation, as she could not get rid of the unpleasant odor. A week prior to consultation, the patient asked her husband to submit her resignation letter to the school head on her behalf. The school head was alarmed and bothered about this and instead offered her a proposition. Her resignation was not approved and instead was offered a 6 mo leave to seek help about her behavior, leading to our consultation.

### ***History of past illness***

Patient had no allergies to food or drugs and no other comorbidities like hypertension, diabetes, cardiac disease or thyroid disease. She had no other previous psychiatric consultation and denies history of self-injurious behavior or suicide attempts and no previous psychiatric medications nor admissions. The patient also denies any substance use.

### ***Personal and family history***

No psychiatric diagnosis was present in the family. However, her father had a possible paranoid personality disorder traits and alcohol use disorder. Since infancy to early childhood, the family struggled with domestic violence from the father being inappropriately jealous and suspicious towards her mother. Her father would accuse the mother of having an affair with another man, which was not true. Aside from experiencing domestic violence, the mother also had poor prenatal care while carrying the patient. Her mother underwent significant stress during her pregnancy with the patient. Later on, the patient had an irregularly present mother due to working as a market vendor, and she was left most of the time under the care of her elder sisters. The patient felt neglected and missed her mother during these times. The patient was raised by strict disciplinarian parents. The patient experienced corporal punishments whenever she would fail to meet the standards of cleaning by her father. She felt anxious about the presence of her father and had poor self-esteem as a child. The patient and her sisters were also mandated to practice Pentecostal religion strictly and to avoid having male friends. The patient struggled with social interaction upon entering school as she would prefer to be isolated most of the time as she was anxious of being rejected by her peers.

### **Physical examination**

Patient had an unremarkable physical and neurologic exam.

### **Laboratory examinations**

Laboratory tests requested were all unremarkable as well.

### **Imaging examinations**

Imaging tests requested were all unremarkable as well.

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## **FINAL DIAGNOSIS**

Patient had a final diagnosis of international classification of diseases-10 DD, severe depressive episode with psychotic symptoms and PTSD (resolved). The diagnostic and statistical manual of mental disorders diagnosis was DD (somatic type, continuous, severe), major depressive disorder (single episode, severe with mood-congruent psychotic features) and PTSD with delayed expression (resolved).

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## **TREATMENT**

For the management, the biological treatment of choice given for the patient was olanzapine. According to studies of Leucht *et al*[8], for second-generation antipsychotics, olanzapine, clozapine and amisulpride were found to be more efficacious than aripiprazole, quetiapine and risperidone. Olanzapine was found out to be the most efficacious, however with the most adverse metabolic effects. The patient was mesomorph in build with a normal body mass index of 21. Patient had no history of diabetes, hypertension or heart diseases. Hence, the benefit outweighed the said risks related with olanzapine. The patient started on the minimum dose to check efficacy and was able to go low and slow in the dosaging of her medications. Olanzapine 10 mg/tab ODHS was started for the patient. The increase in dosage was done after 5-6 wk of administration with refractory response.

Psychological treatment given to the patient was personal therapy that followed the phases as recommended by Gabbard[9]. Initial phase focused on clinical stabilization of symptoms, development of therapeutic alliance and provision of basic psychoeducation.

For the intermediate phase, awareness of the internal affective cues associated with the stressors must be achieved. By this time, social skills training, exercises in relaxation and training to enhance social perception may begin. For the long-term phase, provision for opportunities of introspection will be given. Guidance for principles of conflict resolution and criticism management would also be provided at this phase.

For the social aspect of treatment, psychoeducation is vital in developing the alliance of the family to the therapeutic regimen. Stepwise and gradual encouragement must be done to achieve this. The ultimate goal is to be able to reintegrate the patient to the community. However, the minimum expectation for the patient is to be able to maintain good work and social functioning and prevent relapse to an acute phase.

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## **OUTCOME AND FOLLOW-UP**

Patient had persistent delusion upon follow-up consultation. Hence, continued with the treatment plans.

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## **DISCUSSION**

The biopsychosocial model in understanding a mental illness is vital to explain the phenomena of how the disorder developed or is maintained. Examining all the relevant biological, psychological and social factors contributing to the condition is required.

First, the biological factors predisposing the patient were as follows. Abdelmalik *et al*[10] stated that certain physical disorders such as effects of head injury may lead to development of schizophrenia, which happened in the patient when she was involved in a car accident. She incurred head trauma and even lost consciousness on top of multiple physical injuries. According to Wahlberg *et al*[11], genetics play a key role in the development of schizophrenia in the offspring, and in this case the father had a possible paranoid personality trait wherein he had a preoccupation that the mother was having an affair with another man. He had certain negative symptoms of asociality from not participating in social activities including church services and had been withdrawn and lacked affection towards family. In

addition, the study of Tienari *et al*[12] showed that there is an interactive effect of genetic risk and the rearing environment. In this case, there is a higher risk of development of schizophrenia as there was exposure to a stressful environment as early as at the stage of mother's pregnancy wherein she had poor maternal/prenatal care, and the mother was exposed to domestic violence while carrying the patient.

Next, the psychological factors predisposing the development of schizophrenia would be the avoidant personality type of the patient grounded on the poor resolution of psychosocial conflict of trust *vs* mistrust in early development. Freud suggested that neurosis of patients with schizophrenia was based on withdrawal of ego boundary cathexis wherein patients had an impaired transference attachment[13]. Patients manifest with anxieties involving contact with others grounded on the fear of fusion with others hence patients would tend to isolate themselves. This was manifested by this patient when she would tend to isolate herself most of the time than interact with others.

Furthermore, the social factors predisposing the patient would be early exposure to a severely dysfunctional family environment, which lead to a higher risk of developing schizophrenia. The exposure of the mother to severe stress during the first trimester of pregnancy was also attributed to a higher risk of developing schizophrenia. Based on the study of Khashan *et al*[14], severe stressors in the environment may interact with combined effects of multiple susceptibility genes to influence neurodevelopment at the fetoplacental-maternal interface. Later on, there was continuous exposure to a stressful family environment wherein the patient experienced domestic violence and high criticism from her father. In addition, the patient experienced a traumatic event (the motor vehicular accident) in her childhood years.

Chronic stress in the life of the patient also contributed to the biological precipitation of her schizophrenia as the study of Spitzer[15] showed continuous exposure to stress can lead to dysregulation of the dopaminergic system. The patient had various stressors in life starting with domestic violence, motor vehicular accident and a rapid cycle of changes from unplanned pregnancy to sudden shifting of her religion.

Based on Freud's ego psychology, the patient experienced intrapsychic conflict from the psychosocial stressors of unplanned pregnancy and being forced to change her religion[13]. The superego of the patient wanted to preserve the internalized expectations of their culture and the demands of her parents while her id wanted to preserve her relationship with her partner under the demands of pleasure principle. Hence, the ego disintegrated due to this unresolved conflict. The patient had feelings of shame as she viewed herself as sinful.

According to McFarlane[16], a high rate of change in life events and disruption of social supports in a short span of time can precipitate development of schizophrenia. Unplanned pregnancy led to an adjustment to a new religion of the patient causing disruption in the family dynamics and the pressure from their community about maintaining her religion were too much to handle for the patient in a short span of time. According to Kalayasiri *et al*[17], the biological factor perpetuating the condition is the continuous disturbed dopaminergic neurotransmission specifically hyperdopaminergic activity that will result in an increased signal-noise difference in the neural network.

Furthermore, according to Fromm-Reichmann[18], patients with schizophrenia are not happy in their withdrawn state. They are fundamentally lonely people who cannot overcome their fear and distrust of others because of adverse experiences early in life. The denial and poor insight lead to feelings of worthlessness. The patient then chose to engage in under stimulating factors that perpetuate negative symptoms and worsen disability. These include factors such as isolating self and restriction of productive work. These factors tend to lead to clinical deterioration such as inactivity, blunted affect, loss of social competence and self-neglect. As in this case, the patient chose to resign from her work and would typically isolate herself from friends and family. Lastly, the presence of co-occurring diagnoses, particularly depression, may be an additional factor that negatively influences the course of the disorder.

On the other hand, a social factor perpetuating the condition as stated by Rosenfarb *et al*[19] is face-to-face contact between people and families who display high levels of expressed emotion, which increases the likelihood of relapse of acute symptoms. The concept of expressed emotion include hostility and critical comments. The overly strict and religious parents fulfill the exposure of the patient to highly expressed emotion as she experienced an abusive and critical father in her childhood years. Presently, the husband had been critical of her because of the burnout as a caregiver to her excessive demands and her maltreatment of their only child. This now resulted in the hesitation of the patient to share her present condition with her family.

In the study of Gonzales-Rodriguez *et al*[1], it was shown that female sex and the reproductive age are actually protective factors against development of delusions because these groups of people possess the protective effects of estrogen. Psychological factors protecting the patient would be the presence of precipitating factors attributed to a better outcome on recent studies[1,12]. Furthermore, McFarlane[16] stated that a good social support is a protective factor for schizophrenia. Acknowledgement and support from the husband and siblings for the need of psychiatric treatment were given. Also, her husband provided financial support for medications and basic needs as she was on sick leave.

Freud's psychosexual theory of development states that it is driven by conflictual process between biological/sexual drives *vs* social expectations. Over the course of childhood, sexual impulses shift their focus as the name of each stage implies. He stressed the importance of personality development in

childhood, which has life-long effects during adulthood. Therefore, if a person is fixated at a certain stage of psychosexual development it would manifest negatively later in life[13]. In each stage of Freud's psychosexual developments there is a corresponding Erik Erickson's psychosocial development, which largely focus on the effects of culture and society in the development of personality[20].

The first stage, which is oral stage, occurs from birth to 18 mo of age. The focus of libido is at the mouth so oral gratification is the primary concern at this stage. An infant would be satisfied by feeding, rooting and sucking. With the demands of feeding being fulfilled appropriately by the mother, this stage would be resolved[13]. However, in this case, the mother of the patient had a divided attention being a working mother and not able to fulfill the demands of the patient at this stage.

The study of Olin *et al*[21] identified that faulty mothering would lead to an anxiety-laden self in the infant, which will cause profound damage to self-esteem. In this case, the patient was left under the care of young elder siblings whenever the mother would work as a market vendor. Hence, oral gratification was not fulfilled appropriately.

Furthermore, Erikson's concept of trust *vs* mistrust in early development states that individuals who never went through the healthy experience of having his or her needs satisfied by a significant relationship, which is the mother would result in an inadequate development of the virtue of hope[20]. Also, exposure to a distressing family set up like domestic violence would also worsen lack of trust in relationships. This now would manifest as insecurity and anxiety. The patient had been anxious ever since childhood in socializing with other people. The patient was noted to have struggles with social interactions up to present.

The next stage wherein the patient had failed resolution was the anal stage. This occurs at 1-3 years of age with the focus of libidinal drive is at the anus related with the experience of toilet training[13]. The patient was raised by parents who were overly strict disciplinarians, being particular with cleanliness and devout Pentecostals. According to Kosky *et al*[22], the concept of highly expressed emotion includes hostility and critical comments that greatly increases the risk for psychosis. The critical father in her childhood years with maltreatment led to the inadequate resolution of this phase. The patient poorly developed the virtue of will or independence leading to feelings of shame or doubt in her abilities.

The experiences of past trauma and influence of sociocultural input led to inadequate resolution of psychosocial conflicts namely trust *vs* mistrust that led to the development of an avoidant personality trait in the patient. Autonomy *vs* self-doubt leading to feelings of shame in the patient led to the poor responses of the patient to life stressors, such as unplanned pregnancy, change in religion and expectation from relatives and cultural beliefs.

These led to intrapsychic conflicts. The superego that functions under the moral principle dictated to the patient to preserve her moral obligations as a devout Pentecostal and pressured the patient with shame from the unplanned pregnancy. On the other hand, the id functions under the pleasure principle dictating the preservation of the relationship with her husband and go against her cultural belief and expectations from parents and relatives, which compelled her to change her religion. The ego that functions as a mediator between the two would have a hard time creating a compromise, hence leading to ego disintegration.

Freud suggested that neurosis of patients with schizophrenia is based on withdrawal of the ego boundary cathexis wherein patients have an impaired transference attachment[13]. Patients with paranoid schizophrenia suffer from a deficit in understanding correctly what others think about the patient and what their future attitudes or actions towards the patient might be[23]. Patients manifest with anxieties involving contact with others grounded on the fear of fusion with others hence patients tend to isolate themselves. This was manifested by the patient as she would tend to isolate herself than interact with others.

Patients with schizophrenia believe that they are bad or evil persons and have ruined their family. They may claim to have committed an unpardonable sin and be ashamed of themselves. This was manifested in the patient as she had feelings of shame in regards to her actions.

The theory of mind deficit on the other hand states that delusions of reference can be explained, at least in part, by the patient's inability to put themselves in another person's place and thus correctly assess their behavior and intentions[23]. It is the reduced ability to form a valid hypothesis about another person's state of mind with regard to oneself. Paranoia or more generally speaking delusional ideation in this view is a result of disturbed cognitive and social metarepresentation. Thus, these theories explain the paranoid perception of ridicule from others by the patient thereby manifesting as low self-esteem with social withdrawal.

The severe preoccupation to her foul body odor was related to her paranoid perception of ridicule from others through mechanisms of introjection and projection. The patient internalized the expectations and demands of her parents to be a strict devout Pentecostal and be an extremely conservative woman in her early life. Thus, the patient projected to people around her including family, coworkers and even strangers whom she perceived as persecuting objects judging her negatively for her over valued belief that she did something wrong for changing her religion and getting pregnant before being married. When the persecuting objects reintrojected, they became an internal persecutor in the form of foul body odor.

The emergence of delusion of foul body odor led to the formulation of other defense mechanisms such as denial wherein the patient avoided awareness of aspects of external reality that were difficult to face by disregarding sensory data. The patient had a strong conviction and denied the absence of foul body odor, which led to the persistence of the delusion and causing a strained marital relationship. The patient also manifested displacement as the patient was angry at herself, which was displaced from her husband and child. This may explain the possible child neglect and maltreatment.

The persistence of the delusion, strained marital relationship and child neglect and maltreatment by the patient led to the development of post-psychotic depression. The patient also manifested with sublimation wherein she had increased goal directed activities in an attempt to control anger outbursts and prevent harm to self and others. She chose to tire herself out by doing household chores repeatedly. All of these manifestations fulfill the classical picture of DD.

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## CONCLUSION

Schizophrenia and DD have certain defining features that separate the two. However, at times it may be difficult to actually classify one from the other. One must be able to carefully examine and assess the history of the patient to help them share early life experiences of past traumatic events. Developing a therapeutic alliance is vital in achieving this goal through empathy, support and warmth between the patient and physician. History of PTSD actually predisposes patients with schizophrenia to develop depressive disorders. This case report supported the recent studies associating the two disorders.

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## FOOTNOTES

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