Pica- A Case Report on Eating Disorder of Rural Adolescent Girl

Anita Puri Singh

Ph.D. Professor Psychology
Govt. M.L.B. Girls P.G. Autonomous College
Bhopal, M.P. India.

Abstract- This report is based on the interesting clinical case study of a teenage based in India with long - standing history of ingesting nonnutritive materials. She was initially non-selective, but later began more exclusively consuming mud obtained from a wall in the back yard of her house on regular basis. She suffered from a eating disorder known as pica. The DSM-IV defines pica as a form of feeding and eating disorder of infancy or early childhood ,characterized by "the persistent eating of non nutritive substance for a period of at least one month : inappropriate to the developmental level , not part of a culturally sanctioned practice and sufficiently severe enough to warrant independent attention." Currently there is no clearly established etiology for pica. This case particularly psychopathology of recurrent, unwanted ,thoughts of the mud wall and eating the mud ,feeling of distress and anxiousness that were relieved after consumption of mud and significant effect on her daily life from her uncontrollable need to return home and eat mud from the same wall of her back yard. These symptoms suggests obsessive thought distress consumption relief that is consistent with obsessive compulsive disorder. This case study reflects pica as a part of obsessive compulsive developing spectrum disorder. This case does not necessarily need generalization but is a subjected to mental health of adolescent girl.

Index Terms- **"** Pica ", " obsessive- compulsive disorder", "Sehore" ,"DSM –IV'.

I. Introduction

This case study is based on the interesting clinical case study of a 14 year –old girl from a village Deria of Sihore District ,Bhopal M.P. India .She belongs to low socio economical background with long - standing history of a eating disorder known as pica .

II. Literature review (Theoretical and Research Basis)

The puzzling phenomenon of pica has been recognized and described since ancient times. Pica has been observed in ethnic groups worldwide, in both primitive and modernized cultures, in both sexes, and in all age groups. The word pica comes from the Latin name for magpie, a bird known for its unusual and indiscriminate eating habits. Extensive research on the history and terminology of eating disorders from the 16th to the 20th century suggests that, historically, pica was regarded as a symptom of other disorders rather than a separate entity. (B Parry-Jones and W L Parry-Jones 1992)

In addition to humans, pica has been observed in other animals, including the chimpanzee. Pica in humans has many different subgroups, defined by the substance that is ingested. Some of the most commonly described types of pica are eating earth, soil or clay (geophagia), ice (pagophagia) and starch (amylophagia). However, pica involving dozens of other substances, including cigarette butts and ashes, hair, paint chips, and paper have also been reported.

Pica is considered developmentally normal Till two years of age in most of the cultures, beyond that there is cross cultural agreement that it is inappropriate. (Castiglia 1993). . Pica occasionally extends into adolescents, and rarely observed in adults who are not mentally normal .(Rose, Porcerelli and Neale 2000) Among the different substance like coin, pins, paint, paper, cosmetic product, glass are consumed as part of pica the geophagia (earth ,mud eating) is the most common. It is part particularly found in those living in poverty, in the tropics, and tribal oriented societies. (Robinson, Tolan, and Golding- Beeaher,1990). Pica is frequently observed in pregnant women irrespective of culture. In Indian rural villages it is observed more frequently than Urban cities.

The Diagnostic and Statistical Manual of Mental Disorder (DSM-IV) defines pica as a form of feeding and eating disorder of infancy or early childhood, characterized by "the persistent eating of non nutritive substance for a period of at least one month: inappropriate

to the developmental level, not part of a culturally sanctioned practice and sufficiently severe enough to warrant independent clinical attention." In the Draft of ICD-10, only anorexia nervosa and bulimia nervosa are listed under eating disorders. Pica in children, and feeding disorder in infancy and childhood, are incorporated with enuresis, encopresis, and feeding, movement and speech disorders in a separate "heterogeneous group of disorders". The *Handbook of Clinical Child Psychology* currently estimates that prevalence rates of pica range from 4%-26% among institutionalized populations. Research among non-institutionalized populations takes the form of individual case studies, making prevalence rates difficult to estimate.

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Some form of pica are linked with iron deficiency anemia, zinc deficiency, sickle cell anemia and family history.(Federman, Kirsner and federman,1997;Ivascu et al.,2001).Gastrointestinal tract complications associated with pica are most common ranging from mild or moderate symptoms of constipation to obstructions cause by bezoars formation and the presence of indigestible material to life threatening conditions such as hemorrhages, ulcerations and soil borne infections .(Rose et al.,2000) Robinson, Tolan, and Golding-Beeaher, (1990) found 70% rate of intestinal parasite in children with Pica .

Sayetta explained theoretical views on etiology which includes nutritional , sensory, physiologic, neuropsychiatric ,cultural and psychosocial perspective. DSM-IV only gives some epidemiological account that pica is frequently associated with developmental delay , poverty ,neglect and lack of parental supervision and doesn't make any suggestion of etiology or specific categorization. The adolescents without developmental delay raised the possibility that some form of it fit under the umbrella of obsessive compulsive spectrum disorder.(Hollander,1998) The obsessive compulsive spectrum disorder are divided into three subgroup ,First :Obsession with specific bodily sensation or appearance or Preoccupation such as body dysmorphic disorder, eating disorder and hypochondriasis ,Second :selected neurological disorders affecting basal gaglia that result in repetitive behavior such as Touretts's Syndrome ,Torticollis etc and Third :impulse control disorder ,impulsivity ,aggression ,and risk taking behavior such as like kleptomania ,pyromania, pathological gambling ect , etc. (Holland ,1998;Holland &Wong, O.Sullivan, Mansueto, Lernes, and Miguel 2000) These OCDS share symptomatology of Obsessive Compulsive disorder (OCD) itself. There are some evidences to support the possibility that pica can present as OCD itself. Gundogar , Demir , and Eren (20030 reported three cases of pica (two had impulse control disorder and one OCD).Five cases of pica and two cases of compulsions (OCD) and two compulse control disorder.(Stein ,Bouwer ,and Van Heeden 1996).Still Pica remains a phenomenon with little understood etiology and treatment approach ,pica may be consider as OCD particularly among those with no delay in development.

III. METHOD

Case Presentation

Veena is a 14 year –old girl from a village called Deria of Sihore District ,Bhopal of Madhya Pradesh India. She was referred to hospital of Bhopal with complain of severe abdominal distention, distress, constipation and abdominal cramps and pain. She confessed about ingesting mud on daily basis since her early childhood. The physical examination revealed multiple marks in the oral mucosa (due to injury from mud ,straws and small stones) but no other indications. There was no other remarkable findings ,surgery or complications. Pathology tests reported normal hemoglobin (as per Indian norms), electrolytes and differentials in white blood counts and no sickle cell disease/ anemia . Her stool examination reveals multiple parasites which were treated later by physician and referred to psychologist for follow up.

Presenting Complaints

Veena visited the OPD with her mother and Uncle . The interview was conducted with Veena in Hindi language and local dialectics . The information collected from mother revealed that Veena started ingested nonfood item such as soil /mud and anything from floor in early childhood which was observed in most of the peer children of village but after two years of age mud became most preferred substance for Veena where as her peer group of children had stopped ingesting. None of the family members could stop her from eating mud and with age her consumption of mud increased and she stared eating the mud wall from backside of their house and her single ingestion went up to 200 grams of mud a day at the time of assessment.

History

Veena explained that since past 4 years she had been aware of her problem of ingestions and also it has increased with thoughts and images of mud of wall and eating it. .She reported that it is not normal to ingest mud but with time her frequency of thoughts and desire to ingest mud wall has increased. She was aware that ingestions were related to her increasing images and thoughts of mud wall and eating it longingly. The thoughts were frequent and last for minutes and with time it was increasing (around two hours a day). Those thoughts and images were strong, destructive and intrusive, even when she tries to resist or control herself ,she fails and give up trying and forcefully coupled to go at back side of her house and ingests mud greedily from particular wall. After getting relief from intrusive thoughts and images ,she would stop ingestion .She would tries to hide herself from her parents for any confrontation .Following that she gets abdominal discomfort and detention that would lead to regretful for ingestion and feels embarrassed. She was gives herbal laxative and local treatment .As her problem was not cured she came to Bhopal for treatment with her parents .She has

increased amount of distress ,anxiety and she was unhappy to leave her village but at the same time she was motivated to seek treatment.

IV. Assessment

The general screenings and assessment at Bhopal hospital revealed she had no neurovegetative abnormality, no psychotic features, no substance abuse, no delayed development, no mental retardation and has adequate sociability and personality but showed dysphoric. She had anxiety induced by the thoughts and images of mud and mud eating. There were no symptoms of generalized anxiety, attention deficient or hyperactive difficulties .There was history of multiple parasitosis and abdominal distension. There was no OCDS . There was no family history of pica. She had no dimorphic features ,no history of childhood trauma, no involvement in love affaire, no suicidal or self injurious ideas or impulse. She wanted to solve her problem ,she knew her behavior was normal and compelling but was helpless to change it. Based on DSM-IV she was diagnosed with pica and further with obsessive compulsive disorder.

Her Mother revealed developmental history of Veena that she was born after full term, the pregnancy and delivery of child was normal .There was no postpartum depression in Mother .SHe had no anomaly at the time of birth , no dismorphic features , normal reflexes and normal in intelligence. She touched all developmental milestone on time .Her social development was normal ,adjusted with peer group . No childhood trauma or peer bulling. No suicidal ideation or self injurious ideas or impulse. She was aware of her problem and wanted to get rid of it.

As per DSM –IV she was diagnosed with pica by psychiatrist as age inappropriate mud ingestion of mud and was further diagnosis OCD. The OCD diagnosis by psychologist was leveled moderate.

V. Case Conceptualization

Veena has pica and hallmark of features of OCD are clearly present: the mud wall and mud eating were persistent thoughts and images that were experienced as intrusive and inappropriate. Effort to ignore and suppress this obsession failed, leaving her with marked anxiety and distress, leading to compulsive behavior strategies to prevent and reduce anxiety and distress by ingesting mud from particular wall. Her obsession and compulsion were increasingly distressing ,time consuming and were disrupting her adolescent life.

The formulation of OCD diagnosis in veena case ;to distinguish from an impulsive control disorder, patient did not drive gratification through mud –eating impulse or compulsion , it did not bring her relief but eventually she was regretful and wanted to seek help.The early onset and long period of pica behavior would have resulted in some desensitization and habituation of the behaviors. Although she did not have usual risk factors like genetic predisposition ,mood fluctuations ,anxiety ,apprehensions ,or environment stressors or childhood trauma ,peer victimizations etc. Thus it is possible that a subset of pica can manifest as OCD and this subset may be best represented in the nondevelopmentally delayed in population.

It is conceptualizes that Veena's Pica started as childhood maladaptive habit but OCD may have played the role in perpetuating it. With age pica became socially unaccepted behavior but she continued it. It is possible that she was vulnerable to develop Pica to begin with and her ongoing pica conveniently provided the content of her OCD illness. There is no prevalent agreement on the etiology of pica. Veena had attempted to correct herself of the mud eating behavior over the years and failed, the clinic would be in the position to teach her behavior approach more effectively.

Course of Treatment and Assessment of Progress
(Therapeutic procedure)

.Veena along with her Mother was given psycho-education in their native language on the condition on pica and OCD along with pharmacotherapy(serotonin-enhancing medication) recommended by psychiatrist.During her weekly session /assessment using clinical interview and impression as primary tool. She was scheduled with 30 min session , encouraged to use thought diary and thought shaping ,to monitor relief from obsession thought of mud ingestion. She was encouraged to narrate thoughts and thought stopping technique (cognitive behavioral model) was used to monitor and relive her obsession thought. She started the psychotherapy positively which she narrated help her a lot but was not persistent in her approach. By the end of fifth week she noticed improvement and attributed to medicines. She started spending more time with peer groups and cousins as she was free from the thought of consuming mud. After 6 months she reported complete stoppage of pica and occasional unwanted thoughts and images of mud eating ,which were under control. She was happy with the present situation.

Follow up

Veena continued her medication till six months .She came to hospital till six months then stopped coming to clinic due to distance from village and commuting problems. She was visited by Author in seventh month she was active and happy . Her mother reported that Veena still try to go at back side of House and stands in front of mud wall and she(mother) keeps a check over Veena and follows her whenever she goes at the backside of the house. She reported that my Veena is able to control her ingestion and related behavior. She was advised to continue medicines and sessions.

Discussion

Veena ,s pica was likely to started out in early childhood maladaptive habit which was initially neglected by her parents as normal childhood behavior ,but OCD may have played a role in perpetuating it .As she started growing pica became problem and socially less acceptable .She did not have the usual OCD risk factor (Lochner et al..'2002) or peer victimizer .(Storch et al.,2005).There are diagnostic complexities ,in this case she was finally diagnosed with subset of pica manifest with OCD.

There is no prevalence agreement on the etiology of pica. Most of pica in early adolescent and adolescent are found with developmental delay and the behavior modification approach is most effective (McAdam, et al.,2004) , but with non developmental delay it is not so effective. Schwartz et al.,(1996) have demonstrated using brain imaging technique ,that behavior technique therapy for OCD can have direct brain chemistry change. Veena made many attempt to correct herself for mud eating behavior but failed. Thus cognitive behavioral therapy was applied .The weekly session using clinical interview and impression as primary tool was applied. During session she was encouraged to use the thought diary and thought stopping techniques ,to monitor and relieve obsessive thoughts ,images of mud ingestion The technique was effective and improvement was noticed and reported by Veena and her mother in terms of having less anxiety inducing obsessive thoughts and images and able to delay and decrease the amount of mud ingested. In Indian medical scenario patients are more confident in taking pills then to continue psychotherapy.

The outcome lends support to diagnostic formation of OCD and responded positive to treatment although limited literature for cases are found.(Gundogar et al.,2003; stein et l ;1996) The pharmacology treatment alone seem to worked for stretch of time but sustained improvement could be achieved with psychotherapy. There are encouraging treatment are found with psychotherapy.The habit reversal approach such as awareness training ,self monitoring ,relaxation training, healthy competing response training ,and contingency management can Help in anxiety ,obsession, compulsion, impulse control related problems such as OCD in patients.(Diefenbach et,al 2000.; Luselli, 1996; Wilhelm et al 2003.) This case study reveals that there is possible etiological link between OCD and pica and treatment of pica iseffective with cognitive behavior therapy and pharmacology support.

VI. Conclusion

Veena showed good response to pharmacotherapy and hasn't continued all the cognitive behavior therapy session. It is possible that more sustainable improvement could be achieved if more behavior based psychotherapy were feasible with her.
This case study reflects pica as a part of obsessive compulsive disorder (OCD) . This case does not necessarily need generalization but is a subjected to mental health of adolescence girl and needs family and peer group intervention .

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