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The Origin Of Delusion: An Indication Towards A Need Of An Inclusive Approach For Understanding Delusion

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Abstract

Delusion is a very intriguing topic in psychiatry. Its origin is a mystery. Many research studies have been done but it still is not completely understandable. This article is an effort for providing comprehensive review on the origin of delusion. Many relevant research studies have been reviewed and it has been concluded that an inclusive approach would bring us closer to a better understanding of the origin of delusions.

Key Words: Delusion, Delusion formation, Jasperian View, Jumping to Conclusion, Confirmation bias, Emotion, Stress, Worry, Anxiety, Schizophrenia, Paranoia

Introduction

Schizophrenia is one of the most debilitating mental disorder which completely disrupts the normal functionality of its sufferer. DSM-5 has included schizophrenia in the schizophrenia spectrum and other psychotic disorders category which is marked by abnormalities of delusions, hallucinations, disorganized thinking (speech), grossly disorganized or abnormal motor behaviour (including catatonia), and negative symptoms.

Delusion is a very remarkable symptom in schizophrenia spectrum and other psychotic disorders. A delusion is a false belief which is held by the patient with unshakable conviction and it lacks any grounding in reality. It means that delusion is a belief which is outrightly wrong and its contents do not account for by the person's social, cultural and educational background. Fish (1967) defines delusion as a false, unshakable belief which is out of keeping with person's social, cultural and educational background. Being false in nature is not the essential feature of a delusion. It could happen that held false belief is accidently true but that would not make this belief a non- delusional belief if that belief fulfils the other criteria of a delusion. Jasper (1962) has proposed three criteria of delusion: (i) It is a belief which is held with extraordinary conviction, with an incomparable subjective certainty; (ii) There is an imperviousness to other experiences and to compelling counterargument; and (iii) The content of belief is impossible. It can be seen that conviction with which a false belief is held by the person is the key feature of delusion. The degree of conviction helps in distinguishing it from overvalued ideas. As delusion is not amenable to evidences against the belief. Delusional belief is held by the patient in spite of clear evidence against the belief. If there is false belief held but that is amenable to doubts put in by counterevidence, that is overvalued idea. Overvalued ideas due to its associated feeling tone come forward and take precedence over all other ideas and maintain this precedence permanently or for longer period of time (Fish, 1967)

Kendler et al. (1983) have proposed the following poorly correlated dimensions or vectors of delusional severity.

- **Conviction**: The degree to which the patient is convinced of the reality of the delusional beliefs.
- **Extension**: The degree to which the delusional belief involves areas of the patient's life.
- **Bizarreness:** The degree to which the delusional beliefs depart from culturally determined consensual reality.
- **Disorganization**: The degree to which the delusional beliefs are internally consistent, logical and systematized.
- **Pressure**: The degree to which the patient is preoccupied and concerned with the expressed delusional beliefs.
- **Affective response**: The degree to which the patient's emotions are involved with such beliefs.

- **Deviant behaviour resulting from delusions**: Patients sometimes, but not always, act on their delusions.

The stages of delusion formation

Conard has proposed five stages in the development of delusional psychosis.

- **Trema**: Delusional mood representing a total change in perception of the world.
- **Apophany**: A search for, and the finding of, new meaning for psychological events.
- **Anastrophy**: Heightening of the psychosis.
- **Consolidation**: Forming of a new world or psychological set based on new meanings.
- **Residuum**: Eventual autistic state.

Paleologic Reasoning

Delusion has always been capturing attention of philosophers and psychiatric community. It is so mysterious in its origin that resolution of this will lead to greater understanding of human mind. The strange and even bizarre nature of delusions sometimes raises doubts about healthy functioning of thinking process in deluded patient. Von Domarus (1944) showed the loophole in thinking process in schizophrenic patients. Schizophrenic patients tend to break Aristotelian logic and tend to identify two different objects on the basis of similarity between predicate instead of subject. It was named as Von Domarus principle. Arieti (1955) came to a conclusion that this type of reasoning is actually primitive logic or paleologic logic which similar to Freudian dream mechanism. It is certain that such primitive or paleological reasoning already exist in human being (Piaget, 1929) and get activated under certain circumstances. The purpose of return of such primitive reasoning is an escape from anxiety. There is a famous example of Von Domarus principle by Arieti (1955), "The Virgin Mary was a virgin; I am a virgin; therefore, I am the Virgin Mary." The schizophrenic patient who claimed to be Virgin Marry on account of the identical predicate that both the patient and Virgin Marry were virgin. The identification with Virgin Marry relieve the patient of its anxiety. Formal logic would never give freedom to identify with any divine entity. Hence, paleological reasoning is the only left resort to retreat to a safe world. Similar hypothesis was proposed by Robert (1991) that delusion could be an adaptive response to the experience under psychosis. An example is mentioned in Sims (2015) that a patient with delusion claimed to be Jesus and this identification gave him solace.

When there is an evolution from sign to symbol such primitive thinking emerges and man becomes symbolic animal (Arieti, 1956). Paleological reasoning did have a survival function in primitive days. It was important to know with certainty that where food can be available and where it is safe to stay. For this purpose, it was important to remember signs of food and safe place availability. With certain amount of confidence in signs for its validity for what it meant for; primitive human beings stepped into development of symbols. Hence, when things are symbolized by other things, they actually produce same physiological response (Arieti, 1956). It can be seen why such paleologic reasoning helps deluded patients from anxiety and fear as when identity by similarity of predicate is established, it produces certain kind of physiological response. If someone believes in God and by paleologic reasoning identify oneself with God then it certainly will provide immediate comfort to that person.

Delusion as a defence theory by Bentall et al. (1994) also proposes delusion to be like defence against low self-esteem and it leads to same line of thinking where paleological reasoning was understood in terms of its function of providing an escape from anxiety.

Later on, it was established that Von Domarus principle is not specific to schizophrenia and it was seen in normal persons also (Gottesman & Chapman 1960; Williams 1964) but it is used by schizophrenic patients. It still is to be established that how schizophrenic and normal individuals uses this type of thinking. The finding by Gottesman and Chapman (1960) indicates that there are more factors involved in the origin of delusion beside paleologic reasoning.

There is more than one factor which has been found to be associated with delusions. These factors could be contributing in the formation and maintenance of delusion by interacting with one another.

Short historical overview of different approaches for understanding delusion

People from psychiatric community wanted to understand delusion and, in this process, different contrary theories were proposed. German psychiatry departed from older broader approach for understanding mental illness. It was domain focused approach which was assimilated by German and British psychiatry in twentieth century. This approach become very popular in European countries and USA also. The older approach which was widely used in France, was more comprehensive as it treated human mind to be composite of different functions which works in collaboration. Hence, illness was tried to be understood in

a comprehensive way. German and British psychiatric approach was domain-based approach which conceptualized delusion to be based in thinking domain (Jasper, 1997). Older French approach for illness was more inclusive and permeated across various domain of human mind. Every approach left some questions unanswered and kept the psychiatry community baffled.

Jasperian approach tried to resolve the much-debated origin of delusion to be thought content based whereas Bleuler had an inclusive and integrated approach for the understanding of delusion formation and maintenance. Bleuler conceptualized affect to be playing vital role in the origin of delusions. Jasper proposed that illness causes subtle changes in personality which further foster conditions for the development of delusional atmosphere. And delusional intuition arises in this delusional atmosphere. Gruhel (1915) suggests delusional perception to be the most important wherein a new meaning is assigned to perceived object which terrifically distort the usual meaning of the world of the patient. Schneider has also given importance to delusional perception and proposed it to be the key to the understanding of delusion. Hagen has also proposed delusional atmosphere to be the most important in understanding of delusions as delusional atmosphere creates confusion which is resolved by creating delusion (Sims, 2015). The uncertainty created by delusional atmosphere is less tolerable than certainty of delusional belief for the patient. Hence, delusion arises as a resolution to the confused state created by delusional atmosphere. Bleuler's approach for studying delusion was very comprehensive. He conceptualized that there are four type of symptoms in schizophrenia.

1. Fundamental symptoms
2. Accessory symptoms
3. Primary symptoms
4. Secondary symptoms

Bleuler's four A's Alogia, Autism, Ambivalence and Affect are considered fundamental symptoms as they are fundamentally present throughout the illness. Beluler explains that alogia has a neurological origin among all the fundamental symptoms. Hence, alogia is primary and rest of all is secondary. Logical thoughts become weaker in alogia and affects predominates the thinking process. A thought process dominated by emotion leads to autistic style of thinking and patients withdraw from the surrounding (Arantes-Gonçalves, Gama Marques, & Telles-Correia, 2018). Bleuler believed that affect play a vital role in the psychic inner

life of mentally ill persons and it creates the foundation for delusion formation. As per Bleuler traumatic memories contains emotional energy and creates conflict with reality. The condition created by such conflict resembles Hagen's delusional atmosphere. The confusion and conflict created by delusional atmosphere or Bleuler's emotional traumatic memories is resolved by formation of delusions. Bleuler believed that autistic style of thinking is also very important for delusion formation as this type of thinking is fantasy thinking and manifests in a very illogical manner to the rational minds. Modern cognitive and affect related research on delusion has provided significant inkling into the possible complex phenomenon of delusion formation and contribution of multiple factors in its formation.

Reasoning and emotion in the origin of delusion

A very important finding was published by Huq et al. (1988) about information processing in schizophrenic patients. They found that deluded patients tend to come to a conclusion with less information with higher certainty. Deluded patients tend to show over confidence in estimating future events and they show over reliance on information immediately present. Fine et al. (2007) has found that there are clear evidences that jumping to conclusion is a feature of thinking process of deluded patients. It seems like jumping to conclusion is like a trait which is relatively stable and are not easily prone to change by treatment provided for psychosis. Though they lose strength in function as under full blown psychosis. This trait is liable to delusions. It is found in people at risk for psychosis as well as in patients in remission but in an attenuated form. Jumping to conclusion is associated with delusion and it picks up strength in effect during acute psychosis (Garety & Freeman, 2013).

Broome et al. (2007) and Lincoln et al. (2010) suggest that anxiety and working memory deficit may be contributing factors in the formation of delusion. Beside jumping to conclusion, poor belief flexibility is also associated to delusion. Jumping to conclusion and poor belief flexibility seems like traits due to their relatively stable nature and both have been found to be associated with delusion formation (Garety et al., 2005; So et al., 2012; Ross, Freeman, Dunn & Garety., 2011; Waller, Freeman, Jolley, Dunn & Garety., 2011).Moritz, Woodward &Mint (2006) reported the bias against confirmatory evidence (BACE) in schizophrenic patients.

Some theorist believes that delusions are like defences against poor self-esteem. Bentall et al. (1994) proposed a “delusion as a defence” theory which protect the patient from extremely low self-esteem by creation of delusion. There are many recent researches which assert that there is an association of emotion with delusions. Low self-esteem is associated with delusion (Wissen, Bentall, Lecomte, Van Os & Myin-Germey, 2008; Bentall et al., 2009). Garety and Freeman (2013) found depression and overt low self-esteem to be associated with persecutory delusion. Freeman et al. (2012) found depressive cognition is associated with paranoid thinking. Patients suffering from delusions have been found to be having clinical symptoms of severe depression (Campbell, 2001) and deep anxiety (Grzywa & Gronkowski, 2010).

There are evidences which suggest that patients with persecutory delusion may be extremely critical for themselves (Hutton, Kelly, Lowens, Taylor &Tai, 2013)

Urbanicity has a positive association with schizophrenia. Risk for schizophrenia is increased in urban birth or upbringing (Kelly et al, 2010). Negative self-view makes the individual prone to negative self-evaluation in relation to others. Urban area has more life stressor which takes a toll on any individual. People with negative self-concept would feel extreme distress in such environment. Paranoia is associated with negative self-concept (Kesting & Lincoln, 2013 Tiernan, Tracey, & Shannon, 2014; Garety &Freeman, 2013) and low self-esteem, negative view of self can make anyone feel vulnerable. Such feeling of vulnerability makes the individual susceptible to paranoia (Vorontsova, Garety & Freeman, 2013; Fowler et al, 2012).

There are studies which shows that treating self-esteem reduces delusion and hallucination in psychotic patients (Hall & Tarrier, 2003; Lecomte et al.,1999).

Emotion may play direct role in causing delusion (Freeman, Grety, Kuipers, Fowler & Bebbington, 2002). It was found in an experimental study that increase in anxiety results in more paranoid thinking (Lincoln, Lange, Buras, Exner & Muritz, 2010). Ben-Zeev, Morris, Swendson, and Granholm (2012) showed that increase in anxiety increases occurrence of paranoia. Jones, Rodger, Murray and Marmot (1994) found anxiety as a predictor of subsequent psychosis. Worry also play important role in delusion formation (Startup, Freeman & Garety., 2007; Freeman et al., 2012). Worry has been found to be associated with delusion (Hepworth, Startup & Freeman, 2011; Hartley, Haddock, Vasconcelos, Emsley, Barrowclough, 2013; Startup, Freeman, Garety, 2007).

Fowler et al (2012) reported a predominant relationship from affect to paranoia in a longitudinal study. Deluded patients have problem in identifying facial expressions (Breen, Caine, & Colheart, 2002). They can recognize few emotions mostly fear and sadness but not happiness (Tsoi et al., 2008). Deluded patients have problem in regulation of emotion (Westermann, Rief, & Lincoln, 2014).

Cognitive theorists try to understand delusion both from top down and bottom-up approach. Top down approach suggests abnormalities of reasoning and language whereas bottom-up approach conjectures delusions to be rational explanation to anomalous experience.

Delusional belief indeed raises question mark on the reasoning ability of the deluded patients (Huq et al, 1988; Garety and Hemsley 1994). So, by assumption such patients should be bad at formal reasoning. There are few researches which provides contrary results regarding the assumption that deluded patients should have poor reasoning abilities. Coming to the "jumping to conclusion," Menon et al. (2006) found that jumping to conclusion is not necessarily always present in deluded patients. When role of memory is taken into account jumping to conclusion disappears (Cardella & Gangemi, 2015) same as both normal and deluded patients performs alike when IQ and education is matched on syllogistic reasoning (William, 1964; Maher, 1992). Mirian et al. (2011) also found that deluded patients underperformed on syllogistic reasoning task due to general cognitive deficit and not due to impairment in reasoning ability. There is another study which indicate schizophrenic patients to be better reasoners than normal controls. Owen et al. (2007) reported that schizophrenic patients were weak at practical reasoning and better at theoretical reasoning in their study. Cardella and Gangemi (2015) discussed about a study by Conway et al. (2002) where paranoid patients showed jumping to conclusion tendency but they were correct in their responses and took shorter time for responding. Conway et al. (2002) argued that this type of cognitive style is advantageous in some situations. For example, it is good to come to a decision by using limited information in shorter time. Such cognitive style helps schizophrenic patients to protect themselves by coming to a decision in shorter time acting upon the mechanism of "better be safe than sorry." Kemp et al. (1997) showed that schizophrenic patients tend to rely less on representative heuristic and conjunction fallacies which makes them better reasoners. Mellet et al. (2006) reported that schizophrenic patients have impairment in contextual processing and this give them benefit of being a better theoretical reasoner on conditional reasoning tasks. But Kemp

et al. (1997) found deluded patients to be performing worse on conditional reasoning task under negative emotion.

Conclusion

Above discussion indicates that delusion is not born out of reasoning abnormalities only. Emotion have a vital role to play in the origin of delusions as the same is indicated by various research. Deluded patients are bad at day to day reasoning as they tend to rely more on theoretical reasoning which make them kind of hyper logical. But excess of logic doesn't help them to fit in the society which usually is run by practical reasoning under contextual processing. Anxiety, worry and depressive symptoms are associated with psychosis. Cognitive style like jumping to conclusion, poor belief flexibility (both of this resembles trait), confirmatory bias along with avoidance behaviour causes formation and maintenance of delusions. Negative self-concept makes individuals feel vulnerable and provide space for development of paranoia. Environmental stress and race for self-development in modern world demands a confidant stance while dealing with the world. Negative self- concept as found in psychosis causes extreme distress in stressful environment in patients with delusion and even cause relapse. It appears like at deeper psychic level deluded patients faces persistent threat which is dealt by jumping to conclusion mechanism which helps in forming delusion in return. Future research need to study delusion in the light of findings like, presence of good theoretical reasoning sometime, jumping to conclusion cognitive style though not always, confirmation bias, poor belief flexibility, poor performance on conditional reasoning under emotional conditions, paleologic reasoning, negative view of self and world, low self-esteem, role of anxiety and worry in increasing and predicting paranoia, in schizophrenic patients, These all indicates towards possible complex of distressful emotion, specific cognitive style and bias, environmental stress and trait which interact with one another for formation of delusion. Hence, it is suggested that a better understanding of delusion would come with an inclusive approach for the study of delusion.

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