Cases which were treated by giving grounds to delusion: What is client-centered medical care?

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Abstract
Delusion is a subjective belief, which is based on a mistaken judgment without any grounds. We thought the symptoms from the perspective of cognitive science. In the process of discovering the grounds by which delusions occur in patients, by the setting of goals which are not restricted by others, and by enhancing the presence such that new frame construction with integrity can be continuously possible, we report the case that delusion has disappeared and has been cured. When considering what client-centered medical care is, it is necessary to reconsider the mechanism of cognition of patients from the perspective of information fields which occur within relationships, and to support patients so that they can select what they want to do from the standpoint of the goals they seek.

Keywords
client-centered, cognitive science, delusion, integrity

1 INTRODUCTION

Problems occurring in some patients can be considered a problem of the brain in the information processing process between the patient and the surroundings. This study attempts to explore the cognitive science of patients, healthcare workers, and those around the families regarding problems, and by having patients themselves recover their subjective perspective, this makes possible a new internal representation with integrity.

We present a one case of the healing process that exhibited delusion. Diagnostic and Statistical Manual of Mental Disorders-5 (DSM-5) defined that delusions are fixed beliefs that are not amenable to change in light of conflicting evidence.1 In dictionary, delusion is defined as a subjective belief, which is based on a mistaken judgment without any grounds. Delusions occur along with peripheral symptoms of schizophrenia, depression, and dementia, and it is experienced comparatively often in clinical medicine. Determining whether a subjective belief is groundless or not is judged by others who judge based on constantly changing socially accepted phenomena. One must be careful to judge whether a subjective belief is groundless or not. For mental manifestations of delusions, which are expressed in various forms, there are the difficulties handling them altogether in a lump.

We tried to know the mechanism of recognition of patients, through the perspective of cognitive science. This study attempts to elucidate the mechanism of human cognition from the perspective of information processing.

Marvin Minsky et al. indicate that people combine multifold information into one frame and by organizing into one frame by the method of combination of various information units, compose a diagram as a mass, advocates that it recognizes external phenomena, and hence built the field of cognitive science.2,3 R.C. Roger Shrank, has advocated a semantics of meaning conveyed rather than linguistic structure, and stated that the center of a system of meaning and expression is the expression of phenomena and hence advocates the script theory, which is based on a scenario composed of multiple action and Conceptual Dependency.4

Moreover, Hideto Tomabechi, a Japanese scholar of brain function, has stated that the cognitive world is one with levels of abstractions, and within mutual information fields. He argues that it is the physical mapping of information fields formed out of relationships of mutual
information fields, and advocates the hypothesis of hyper information fields. Patients exhibit symptoms as a form of physical mapping, however, it is a hypothesis that the symptoms are formed through relationships with various information fields which change dynamically.

Specific information, even if given to more than one person under the same conditions, we have a different perception of each person. In cognitive science, it will be considered to be due to internal frames by human description contents by each other.

The brain information processing difficulties of the patient, since toward the future beyond the past frame, by indicating the information raised abstraction level can processing possible new frame formation.

When observing by incorporating into medical care the paradigms of cognitive science, it can be thought that various therapies are a form of conducting intervention operation to internal representation.

## 2 | CASE REPORT

Patient: 20-year-old male, nursing school student.

Chief concern: delusion, auditory hallucination.

History of present illness: X-3rd year April: As the patient was to begin work after graduation from a local high school, he was requested to undergo company training for 1 year in another prefecture. At the training field, he was reprimanded for mistakes at work. He endured but after consultation with parents, resigned from the company. X-2nd year September: he worked at a hospital as temporary staff. X-1st year April, while working at hospital, entered nursing school. From X-1st year November, the patient began to experience persecution mania and hypochondriacal delusions hearing voices of criticism from colleagues such as “Your face looks ugly. Your body is ugly.”

When you forget your homework, he felt as has been ridiculed from everyone. He began to think that they had been published as “guy to a strange question.”

Around this time, he began to hear voices of criticism. From X-1st year one December: As the frequency of the delusion of being laughed at rose, he visited a psychiatrist and was diagnosed with Social Anxiety Disorder and received medication. Year X February, nursing practice began and voices from classmates criticizing the patient became aggravated and hence he visited another psychiatrist, and was diagnosed as adjustment disorder, and received dosages of SSRI (selective serotonin reuptake inhibitor) and sulpiride. Subsequently while walking, heard voices of criticism from passerby, the sound of refrigerators sounded like criticisms and while driving, from all drivers of oncoming vehicles, the individual heard voices of “Don’t drive such cars and I am scared of your face.”

With sleeplessness and loss of appetite, since there was 7 kg drop in weight in 1 week, during year X June, he visited our clinic for the first time.

Past history: Nothing in particular.

Family composition: father, mother the patient, three in all.

Psychological examination:

Self-Rating Depression Scale (SDS): 56 points (normal 35±5).

State-Trait Anxiety Inventory (STAI): Trait anxiety score: 75 points (normal 33–43) State anxiety score: 70 points (normal: 32–40).

Tokyo University Egogram: TEG:N type

(FIGURE 4: Left is at time of initial examination).

### 2.1 | The intervention in the course of symptoms

We are recognized by configuring the frame in the others, education and home and social environment has relocated various information in accordance with their importance. In other words, cognitive frame of individuals, may vary due to others, education and social environment. Based on various information, regarding what kind of information is to be linked together and composed into a frame, based on relationships with others and the passing of time, they change along with the level of importance for oneself.

As for the patient at the time of initial examination, interpersonal relationship anxiety was strong, and SDS (Self-rating Depression Scale), STAI (State-Trait Anxiety Inventory) were found at a high value, and although not in a state of practical training, patient resisted taking a break from work.

Why does not the patient take rest despite the fact that the patient shows symptoms? If you look from the others, it indicates that there is a confusion of the patient’s frame.

In order to subjectively support self-assessment, if one is to interview thoroughly from beginning to end, delusion and auditory hallucination and insecure status, there is the possibility that one maintains a negative confused frame.

A man can recognize outer things with a lot of frames based on their past experiences. However, it is quite different from person to person which should be taken important, and it is also different, which a frame should be taken to understand the outer things. A person with a frame A consists of several elements, in the case to accept information from the frame B as it is, you must rewrite the components of aligning manner frame A. For this purpose, it is necessary to make conscious the positive information of being happy, joyful, and comfortable which comes in line with emotion and moreover, by adding new information, it is important that to act so that new frame with consistency can be created.

If it is possible that one acquires information about when issues did not occur, or when it was being handled at that time, it will mean that the patient maintains a calculation processing possible frame of past in memories of the brain. As the doctor in the clinic asked him that when he was free from delusion or sufferings, he replied that it was before October of the year X-1. By asking how it was being properly handled, and having a more objective view of the difference of what the patients himself had decided regarding the difference between past cognition frame, and current confused frame will lead to a clue for problem solving.

Regarding this method of questioning to the patients, it has been advocated in Solution-Focused Brief Therapy (SBFT). SBFT is a one of psychotherapy, without pursuing the cause of the problem, patients are able to support in order to build a new frame toward solving the problem.

Although it was difficult for patients to participate in practical training, there was a strong desire on his father part for him to graduate.
Within the frame of the patient, if the importance of the father was high and within the framework with the father, which is taken in by the patient, if there is information included which is that the patient must follow one’s superior is suppressed by a hierarchical relationship, then this would mean the continuation of a state that the individual is unable to express oneself within this hierarchical relationship.

We indicate schematically, the relationship between self and others of the frame in Figure 1. Self and the other of the frame must maintain an appropriate sense of distance so as to calculation processing as possible to each other (Figure 1A).

If this were to be expressed simply in a type of schematic format, the patient without forming a comprehensive frame with consistency, there become the possibility of generating delusion by continuing the contamination of the frame in the entered status (Figure 1B).

When we take in information from another’s frame which is of high importance to the patient, we hypothesized that when the patient is unable to form a consistent frame and when the individual has to maintain the state where other’s frame is in a state of contamination, there is a possibility that delusions will occur. For the delusion to disappear, the individual must set a target of not being fettered by others and to enhance the presence of the state that is possible to continue a new frame of composition with consistency (Figure 2).

That one’s frame may be contaminated by frames sorted in the order of importance of degree of information maintained by others, and that oneself is contaminated by another’s frame, means that one may be led to be forced to live a life, which is contaminated by goals set by others. For the delusion to disappear, a perspective of providing data processing with consistency and to cancel frame contamination is required.

From among the experience of interviews by physicians to patients, below are perspectives of the patient’s mental dialog and environment and status.

X–3rd year: Within the time that he resided out of the prefecture and was committing mistakes at work, the leader said that “...is no good. I do not want to teach him”.

Self-dialog: He felt that he was being criticized for an unreasonable cause.

X-first year: The patient was trying to fulfill the responsibilities in school or in hospital. He was frequently ridiculed by colleagues but could not respond.

Self-dialog: When compared to others, individuals feel inferior. He had difficulty in either going to school or coming to hospital. For treatment, went to a psychiatric hospital. Even if participating in practical training, could not understand the words of the instructor.

Self-dialog: Wish to do something but am incapable. To take time off from work is laziness.

From an oncoming vehicle “Do not ride such a car. Your appearance to the eyes is not good.”

He harbored delusions that colleagues are criticizing him as a lazy man who takes off from work due to a psychiatric illness. By maintaining that frame it is important that one exercises self-inhibition in accordance with hierarchical relationships, the contamination from other’s frame continued.

An egogram is an analysis, which was created by John M. Dusay who is learned from Eric Burn founded the Transactional Analysis. An egogram is the 5 ego states of an individual. The CP (Critical Parent) is critical, responsible, and uses words such as should, must, always, ridiculous, demanding, and critical. The NP (Nurturing Parent) is sympathetic, protective, helpful, and uses words like good and is nurturing. The A (Adult) is rational, logical, objective, and not uses words accompanied by feelings. The FC (Free Child) can express feelings and thoughts naturally and uses want, will not, happy, fun. The AC (Adapted Child) is adaptable, cooperate, grateful. CP, NP, and FC, AC is, in a growth environment from early childhood to lead to the current, are thought to be due to whether the individual has received what message from the surrounding. People in relationships with parents and others, has been wearing the method of the most appropriate and feel judged reaction.

Based on the egogram analysis result, the heart adapting to others (AC: adapted child) is high, and the heart of the FC: free child seems to be low.

The above frame contamination hypothesis for which the current symptoms occur between patient and others was proposed. The patient was fettered by frame information from others, and exercised self-inhibition and since one continued to persevere, it became a factor to generate delusions. As a common goal to do what one enjoys, one was able to get out of frame contamination, and the goal became how to change so that one can think about manifesting one’s own capability.

**FIGURE 1**  Schematic representation of the relationship between self and others of the frame. (A) Information communication between self and others is conducted appropriately (calculation processing possible frame). (B) Information enters to one’s frame from other’s frame and is in a state that one’s consistent frame cannot be maintained (calculation processing difficult frame, in other word, contamination of frame.)
As a method of supporting one's new formation of frame and for the individual himself to understand the contamination state of frame, three chairs were prepared. (i) patient, (ii) the driver of the oncoming vehicle, (iii) chair of the third party. Patient sits on these chairs one by one, and by becoming that person, expressed so that one's feelings could be conveyed to the other imaginary person. This is the time of everyday clinical practice, you can even use a bet instead of a chair (Figure 3). Patients who sat in a chair of the driver, he can fully become a driver, told that he want to say to the patient. To return to the chair of the patient, what feelings, asked whether there is no possibility that you want something retorted. Initially, he is unable to reply anything, but the words from the perspective of the third party was “You do not have to listen to the words of the oncoming vehicle” or “why not talk back”. Ever since that work with the three chairs was conducted, it became a chance to restore from an objective perspective, and ever since that time, the delusion from the driver of the oncoming car disappeared. It became possible to recognize the respective positions of the frame, then he might have made to allow objective self-awareness.

I wonder what factors to enhance the inhibition of brain plasticity. From one point of view with daily dialog, people maintain presence. Based on the content of self-dialog, the memory of delusion may become adamant and the level of the confidence of the patient toward delusion strengthens.

So then, by setting the target outside of the current frame, with I as noun and in progressive affirmation tense, and by expressing in words the goal of the direction one selects: affirmation, was able to enhance the presence of that which makes possible the continuation of one's new frame composition. It required several times of 10 minutes treatments until the patient was able to create affirmation by themselves, but finally the patient was able to create it. Affirmation is “Since one is able to have time to enjoy, my heart is affluent. I currently reflect on myself and have come closer to an enjoyable life.”

TABLE 1  After 2 months since initial examination, delusion disappeared and SDS STAI showed tendency to improve and after 4 months, it normalized

|               | SDS (23-47) | STAI Trait Anxiety (34-44) | STAI State Anxiety (31-41) |
|---------------|-------------|----------------------------|---------------------------|
| First visit   | 56          | 75                         | 70                        |
| After 2 months| 68          | 50                         | 53                        |
| After 4 months| 36          | 40                         | 30                        |
to self-expression for others (Figure 4). To advocate affirmation, it was
effective to maintain and build a new frame as memory information.

In patients where the delusion state was fixed, it is difficult to find
cases where improvement was seen, but there is need to look at the
mechanism of cognition from the standpoint of cognitive science and
information field, and there are cases of delusion for which it can be
supported so that one can select according to the individual’s target
(Figure 5).

Patient and patient’s family and medical staff is, to each other the
information necessary in order to enhance the function of the patient
wishes, each person can understand the most important part of that
will look to introspective.

3 | DISCUSSION

How we can do the client-centered medical care? Client-centric ther-
apy that has been proposed by Carl Rogers, by listening to truth of the
patient’s language and nonverbal, indicates that the patient himself is
willing and able to fix the mess in the brain. From the standpoint of
Carl Rogers, not as a patient with a hierarchical relationship, approach
of human-centered are now proposed. Bio-psycho-social model and
health care that is based on the story (NBM) is one of them.\textsuperscript{18-20}

From the standpoint of cognitive science, what is being conveyed
from these models is being taken into consideration? With conven-
tional medicine, when understanding a client which is a black box (in-
ternal model), with the data obtained from examination and input, a
unidirectional diagnosis-treatment can be built.

However, when looking at symptoms of patients, there is a need
to, within the information field and relationship between people who
make contact with the patient, to look at the time change and the mu-
tual bidirectionality network of the information field which changes
dynamically.

We must reconsider the mechanism of cognitive science from the
standpoint of the mutual bidirectionality of the information. And we
should support patients so that they can select their own goals. This point
of view is inevitable when we talk about client-centered medical care.

CONFLICT OF INTEREST

The authors have stated explicitly that there are no conflicts of
interest in connection with this article.
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