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Psychological phenomena in the first two weeks of pharmacotherapy of schizophrenic patients in the framework of Shitij Kapur's theory of psychosis as a state of aberrant salience – a preliminary report

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Summary

Aim. According to the theory proposed by S. Kapur psychosis is a state of aberrant salience. Dopamine and the mesolimbic system play the key role in the occurrence of psychosis. According to Kapur, dopamine mediates the conversion of neural representations of an external stimulus from a neutral into attractive or aversive. In the psychotic state this physiological role of the dopamine is changed. Dopamine starts to create process of salience acquisition, instead of mediating it, as it is in normal circumstances. According to Kapur delusions are cognitive explanations that the individual imposes on the experience of aberrant salience. Pharmacological agents share the psychological effect – dampening salience. But antipsychotics only provide the state of attenuated salience and symptomatic improvement needs further psychological and cognitive resolution.

Subjects and method. Four cases of patients hospitalized because of first or second episode of schizophrenia were observed and the resolution of symptoms was carefully recorded. In addition the PANSS scale and Drug Appraisal Inventory were administered to the patients.

Results. Several psychological phenomena were noted like: patients' cognitive efforts to deal with psychosis and the recovery process, the verbal way of describing symptoms resolution, attribution of symptomatic change to factors understandable for patients, rationalization and defence of the content of psychosis, personal assessment of psychosis and the subjective worsening of symptoms in the presence of symptomatic improvement.

Conclusions. The theory of psychosis as a state of aberrant salience may provide us with a framework useful in analyzing the subjective experience of patients in the early stages of symptoms resolution at the first week of pharmacotherapy of psychotic patients

psychosis / pharmacotherapy / salience

INTRODUCTION

Should schizophrenia and other psychotic disorders be treated only by medication, only by psychotherapy, or using the two methods jointly? Clinical observations suggest that antipsychotic drugs lead to a resolution of psychotic symptoms. On the other hand, elements of the patients' psychodynamic problems can be found in the psychotic contents of their verbal production. A question arises then, whether psychosis is a biological phenomenon, since it responds to pharmacotherapy? Or a psychological phenomenon, since psychological mechanisms, contents and problems can be so obviously seen there? If

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psychotherapeutic intervention is to be added to pharmacotherapy, at what moment should it be done – at the beginning of the psychotic patient's treatment, on discharge, three months, or perhaps even a year later?

Interesting possibilities for answering these questions are provided by the concept proposed by Professor Shitij Kapur. His conception seems to reasonably distinguish two components of psychosis, precisely specifying their respective roles. According to Kapur, psychotherapy is an indispensable element in the treatment of psychotic disorders, and this conclusion is based on hard biological foundations and not on clinical intuition solely.

Professor Shitij Kapur's theory of the origin and treatment of psychoses was published in 2003 in *The American Journal of Psychiatry* [1], and developed in further scientific publications by himself and his team [2, 3, 4, 5].

The dopamine system function

In accordance with the canons of psychiatric knowledge on psychotic disorders, the action of drugs applied in the treatment of psychoses consists in blocking the dopaminergic receptors. Dopamine receptor blockade within the mesolimbic dopaminergic pathways results in a reduction of positive symptoms (i.e. delusions and hallucinations), which is the expected therapeutic outcome in the treatment of psychoses.

Antipsychotic drugs may block dopaminergic receptors also within other neuronal pathways involved in dopamine transmission. The mesocortical dopaminergic tract blockade may lead to an aggravation of both negative symptoms and cognitive disorders, since some patients with schizophrenia suffer from a dopamine deficit within this tract.

Kapur proposed to describe these phenomena in different terms, changing from the language of anatomy (presented in the preceding paragraphs) into that of function. Kapur writes about the system of assignment of aberrant salience. In changing the language used to describe the neuronal tracts in question from anatomical to that referring to function, the author takes a step towards better understanding of their role and action, both in physiological states and in periods of psychotic dysfunction.

The publications by Kapur [1, 2, 5] are focused on the mesolimbic system, considered by the author to be responsible for the assignment of meaning and salience. In the process of salience assignment facts and thoughts draw our attention, direct our conduct, and motivate purposeful behaviours. Kapur supposes that hyperactivity of this system in the state of psychosis leads to the assignment of aberrant salience to external stimuli and internal representations. According to this hypothesis, neuronal representations of emotionally indifferent incoming stimuli acquire emotional meaning (positive or negative), becoming salient. The role of emotional salience assignment is ascribed to dopamine. The surrounding and incoming stimuli, perceptions and ideas are not equivalent, their subjective significance is differentiated. Some things are more important than others, some being very important to us, some neutral, still other ones not registered consciously at all. These objects, thoughts, representations that are important to us, acquire a motivating role. Thus, they influence our behaviour directed at achieving something that at the moment is not a "reward" yet, but is expected to satisfy a need or desire.

It is within this framework that Kapur considers psychosis to be a disorder of aberrant salience [1]. Under normal conditions dopamine, released in response to a stimulus, mediates the assignment of salience to this stimulus. In this case, dopamine is involved in the assignment of salience to the stimulus, but does not create this process. The Kapur conception assumes that in psychosis the dopaminergic system becomes deregulated, i.e. dopamine is released irrespective of the presence of stimuli. Instead of assigning salience to the existing stimuli, the individual ascribes aberrant salience to external stimuli and internal representations.

One of the arguments for this hypothesis would be the prodromal stage or the so-called delusional mood experienced by patients before the full onset of delusions and hallucinations. Kapur postulates that it reflects an exaggerated release of dopamine prior to the emergence of a fully-fledged psychosis: dopamine is released then "spontaneously" and irrespective of the context. In consequence, salience is assigned to thoughts and events in a pathologi-

cal, exaggerated way. At the level of the patients' subjective experience this leads to a sense of altered reality, sharpened awareness, exaggerated perception of the environment, and an atmosphere of mysterious meanings. Kapur believes that all that might not be different from a situation when something particularly rivets our attention. However, the state of "delusional mood" is long lasting, and requires from the patient an explanation to himself of his changed perception of the world.

Delusions in this approach are defined as cognitive explanations introduced by the patient so as to make sense of his state of aberrant saliences. This state is so difficult and experienced for such a long time that some explanations must emerge so that the patient could put his experience in some order. Kapur calls delusions "top-down" cognitive explanations. Since delusions are construed by the individual, they are filled with psychodynamic contents important to him or her. Of course, due to their secondary nature, they are embedded in the cultural context. This means also that important psychological themes concerning the patient's inner world and the world of his interpersonal relations can be found in delusional contents. These themes allow understanding much, since they are created in the patient's mind on the grounds of his experience and emotions. This "psychotic insight" provides the patient with a cognitive model enabling him to guide his behaviour and to understand his subsequent experiences. In this framework hallucinations are regarded as resulting from the process of aberrant salience assignment to internal representations.

Another important fact is that prior to the onset of psychosis individuals developing schizophrenia manifest abnormal features in their cognitive, interpersonal and psychosocial functioning. These psychological, cognitive and interpersonal factors interact with neurotransmission abnormalities and determine the diversity of psychotic symptoms across individuals and mental disorders (schizophrenia, mania, psychoses related to substance abuse).

The treatment of psychotic disorders

Kapur poses a question: how does a drug that acts on receptors on a cell surface reverse the complex phenomenon called psychosis? He proposes the following answer: the action of antipsychotic drugs consists in dampening of aberrant saliences, providing grounds for a further psychological process of symptomatic improvement. When the phenomenon of assigning aberrant saliences is eliminated by antipsychotic treatment, the resolution of delusions requires cognitive and psychological work from the patient.

This action of antipsychotics does not primarily change either thoughts or beliefs. By inducing a neurochemical change, the patient's internal environment, antipsychotic drugs secondarily change his experiencing. According to Kapur, pharmacotherapy does not produce a resolution of delusions, but enables the patient to acquire distance from them. Describing this effect, Kapur uses the term *detachment*, connotative meanings of which include separation, lack of interest, and neutrality. Old delusions become indifferent and get extinguished. The emergence of new aberrant saliences is less probable. In Kapur's opinion, when the psychotic preoccupation of the patient's mind with delusions and hallucinations abates, he can deconstruct the contents of his delusions. Therefore, symptom abatement is gradual. Antipsychotics dampen aberrant saliences, nevertheless the patient has to work through his symptoms to attain their psychological resolution. The way of this "working through" may be as same as that in the case of any traumatic event.

S. Kapur points out that the proposed model can reconcile the biological and psychological standpoints with regard to psychoses. The model takes into account both the neurochemical foundations of psychosis and the undoubtedly individual way of experiencing psychotic disorders. According to the author, dopamine is the main driving force of psychosis, while the form of psychosis depends on cognitive, psychodynamic and cultural characteristics of the individual. In this approach psychosis is considered to be an interaction between a "bottom-up" neurochemical drive, and "top-down" psychological processes.

Kapur's view is that specific psychotherapy for patients with schizophrenia should be synergistic with pharmacotherapy. Thus, patients receiving no psychotherapeutic support have to

resort, as same as everybody, to any available to them ways of psychological coping with unusual experiences such as delusions, hallucinations, fears and depression. From this viewpoint, even a very effective blockade of dopamine as the driving force of psychosis cannot resolve the patient's problems, since the cognitive and emotional experience remains in his mind. It is only the patient's psychological working through his problems, which sometimes can take weeks or even months, which can lead to a full recovery.

S. Kapur emphasizes that his proposed hypothesis is not of an etiological, but of pathophysiological nature. The hypothesis does not explain why schizophrenia occurs. His conception of schizophrenia as an illness is based rather on neurodevelopmental explanations, or on studies concerning abnormalities of other than dopamine neurotransmitters (e.g. glutamate). On the other hand, the presented conception explains how certain neurobiological processes lead to the onset of psychosis. Besides, it does not refer to the question of long-term cognitive disorders in schizophrenia. Thus, it is a conception of psychosis-in-the-course-of- schizophrenia rather than of schizophrenia as an illness.

In an earlier publication by the present author clinical improvement in a psychotic patient was interpreted in terms of the conception outlined above [6]. In this paper an attempt was made to present a broader and more systematic study aimed at finding out whether the Kapur's conception corresponds to clinical experience, and to what extent it provides us with understanding of phenomena that occur in the first weeks of antipsychotic treatment. The ultimate aim of the study was to improve therapeutic intervention (viewed in the broadest sense as a combination of pharmaco- and psychotherapy) in an early stage of treatment of hospitalized psychotic patients.

AIM OF THE STUDY

The study was aimed at answering the following questions:

Can the Kapur conception be reflected in clinical material, i.e. in direct observation of patients receiving antipsychotic treatment for psychotic disorders?

How do patients with productive psychotic symptoms report the abatement of their delusions in the course of antipsychotic treatment?

Is it possible to distinguish psychological manifestations of psychotic contents deconstruction in the course of antipsychotic treatment of a psychotic episode?

Can any psychological phenomena specific for the process of delusions abatement be seen?

SUBJECT AND METHODS

The study was of observational and naturalistic character. In this pilot study participants were 4 in-patients treated for paranoid syndrome in the 3rd Psychiatry Department, Institute of Psychiatry and Neurology. They were contacted daily in order to monitor the process of their treatment. Two of them were first-episode patients while the other two had a second psychotic episode with a relapse after a symptom-free period of good functioning (the remission period was 4 and 13 years, respectively). All the patients were diagnosed with paranoid schizophrenia by the ICD-10 criteria. Their psychotic symptoms severity was differentiated, as objectively measured using the PANSS. Their scores on the PANSS subscale of positive symptoms were a measure of the patients' productive symptoms severity. Patient characteristics are given in Tab. 1 and 2.

The patients received risperidone in slowly increasing doses, from the initial ½-1 mg increased by 1 mg every 1-2 days, up to the therapeutic dose of 3 to 6 mg. All the patients were treated with the same drug. Thus, observations collected in the study are based on reports of persons submitted to the same pharmacotherapy. This allows eliminating possibly differentiated effects of different drugs with various action profiles.

The main method consisted in registering the patients' statements during daily interviews. The registered output was analyzed then and clinical material was distinguished in terms of the presented conception. The period under study was established at 14 days, since data reported in the literature suggest that the most pronounced abatement of psychotic symptoms can be seen within this time span [7].

Table 1. Demographic characteristics of the patients under study

Patient No.	Gender	Age (years)	Number of psychotic episodes	Time from the previous episode (years)	Duration of the present episode (months)
1	M	32	1	–	7
2	M	20	1	–	2
3	M	41	2	13	1<
4	F	24	2	4	1<

Table 2. The patients' baseline PANSS scores (at admission)

Patient No.	Global scores	Positive symptoms	Negative symptoms	General symptoms
1	71	21	16	34
2	80	27	14	39
3	64	13	14	37
4	107	26	22	59

Moreover, the patients were examined using the PANSS [8] on admission, after 7 and 14 days of treatment.

The patient's subjective perception of psychotic contents resolution was measured using a questionnaire; the Drug Appraisal Inventory. This self-report questionnaire was developed by a team of authors (with S. Kapur, among others) from the Centre for Addiction and Mental Health and the Department of Psychiatry, University of Toronto, under direction of R. Mizrahi [4]. The Inventory was designed to measure subjective aspects of productive symptoms (delusions) abatement during antipsychotic treatment. Using a 4-point Likert-type rating scale (0 – no change, 1 – mild change, 2 – moderate change, 3 points – full recovery; with the score range from 0 to 15), the patient is to assess the effect of medication in five areas: whether he can cope better with his symptoms, stop thinking about them, feel less anxious about the symptoms, change his views on psychotic contents, and whether the drug eliminates such contents. The Drug Appraisal Inventory, received directly from the Authors, was used in this study with their permission. It was translated into Polish by a team of psychiatrists from the 3rd Department of Psychiatry, IP&N (S. Murawiec, M. Grochowski, T. Szafrański).

No statistical analyses were conducted due to the small number of subjects and because the main purpose of the study was a qualitative analysis of psychological phenomena.

RESULTS

Table 3 presents the subjective and objective evaluation of improvement in the course of antipsychotic treatment. The objective assessment was operationalized by global PANSS scores, where lower scores denote a reduction in psychotic symptoms severity (thus the minus sign preceding the percentages of symptom reduction from the baseline level). The subjective assessment was expressed by global scores on the self-report Drug Appraisal Inventory, where higher scores denote resolution of delusions - thence plus signs preceding the percentages of amelioration.

A clear-cut improvement of mental state and delusional contents resolution within the first fortnight of treatment was noted in 3 out of the 4 patients under study. Their PANSS scores decreased in this period by 40-50%. The patients who attained such a marked reduction in the global PANSS scores showed also a full symptom resolution in the self-report questionnaire. In one case (Patient No. 2) the improvement of mental state was not so distinct, which was corroborated both by the subjective and objective evaluation (see Tab. 3).

Table 3. Objective (PANSS) and subjective (Drug Appraisal Inventory) assessment of improvement in the course of treatment.

Patient No.	Assessment	Scores at admission	24 hrs.	7 days		14 days	
1	Objective	71	X	53	- 25%	31	- 56%
	Subjective	x	1	12	+ 80%	15	+100%
2	Objective	80	X	83	+ 4%	77	- 4%
	Subjective	x	2	2	+ 13%	5	+33%
3	Objective	64	X	39	-39%	37	- 42%
	Subjective	x	8	10	+34%	15	+ 100%
4	Objective	107	X	54	- 50%	53	- 50.5%
	Subjective	x	Missing data	15	+ 100%	15	+ 100%

Attempts at cognitive coping with psychotic contents

Some of the patients under observation reported evident efforts to understand their psychotically distorted reality, and then to change this reality during the treatment. In the initial stage of their treatment, some patients (Nos. 1, 2, 3) obviously made efforts in order "to understand what is going on" as regards the psychotic contents they experienced. E.g. Patient No. 1 felt ensnared in a web of a conspiracy, and therefore he asked to be given time, since he was continually thinking so as to "get things sorted out in his head, and to understand what's up".

A similar phenomenon was noted also in the period of delusions abatement during the treatment. Some patients again strived to cognitively control changes they experienced in the course of therapy. This was reflected by their comments indicating the cognitive efforts they made to "understand" or "sort out" the changes they felt. However, not all the patients shared such an attitude. Patient No. 4 adopted a different strategy – she did not ponder over her psychotic contents or their abatement. As soon as her delusional contents faded, she wanted to leave the hospital immediately, expressing her belief that "everything will be all right then". Her cognitive style is reflected by her comment: "All that dis-

Table 4. Patients' comments illustrating "attempts at intellectual coping with psychotic contents"

Patient No.	Day of treatment	Patient comments
1	3	"I try to sort things out in my head "
2	14	"I don't understand anything", "I do not know what is true and what is false", "I do not understand what I have said"
3	5	"there is something in it, but it is not as it used to be, I must think it over so as to withdraw from it", "I don't know how things will sort out in my mind later on".

appeared last week, most of it during the weekend, and I am sure it will not come back". Her strong mechanisms of denial and escape from her experiences were reflected not only in her comments, but also in behaviour (her asking for discharge could indicate her wish to escape from the awareness of her illness and its consequences; magical denying). This might be due to the shame she felt about her psychosis. When asked about her attitude towards her illness she

replied: "I am ashamed, nobody in their right senses should get [things] like that into their head…".

Reporting resolution of delusions

Rather few of the patients' comments pertained to the process of delusions abatement. A majority of such statements concerning the process of delusions extinction in the course of antipsychotic treatment were produced by Patient No. 3. He used such expressions as "it has calmed down", "it is moving away". He also made an interesting observation concerning the complementarity of psychosis exacerbation and resolution, expressed in the following comment: "It has built up (…) and now it is going in the opposite direction". Another statement of the same patient seems to be most interesting: "If there are no signals from without that have associations for me, there is nothing at all" (see Tab. 5). It suggests the following phenomenon: when aberrant saliences become extinct, no new psychotic interpretations emerge.

Patient No. 1 illustrated the process in question describing a dream he had when his psychosis had abated. In the dream he watched from a distance some conspiracy hatching, but it did not concern him at all. The contents of his dream (conspiracy) was the same as that of his delusions in the psychotic period, but there was a change – when watching the plot, he felt as an indifferent onlooker. This may reflect the phenomenon described by Kapur – the patient's becoming indifferent to his psychotic contents.

Table 5. Patients' comments illustrating "reported abatement of delusions".

Patient No.	Day of treatment	Patient comments
1	8	"I do not think about conspiracy any more".
3	2	"These matters have somewhat faded away. That someone is going to do something wrong to me, this has gone away". "If there are no signals from without that have associations for me, there is nothing at all".
3	6	"This is moving away", "This has built up and broke up, and now it is going in the opposite direction".

Table 6. Patients' comments illustrating "attribution of change".

Patient No.	Day of treatment	Patient comments
1	14	"When I hit my head taking a shower that day, afterwards all that was gone".
4	9	"After a talk with you I realized that it was not true", "but also myself, having thought it over".

Attribution of psychological change

Some of the patients ascribed changes in their mental state to various causes. After a few days of treatment one of them fainted in the bathroom. Some time later he developed a belief that his psychosis abated in consequence of a slight knock on the head he had sustained on that occasion. His belief may be related to the quite popular idea that a knock on the head helps "to come to one's senses".

Patient No. 4 was ambivalent in her attributions, ascribing the abatement of her delusions to her talks with the doctor and to her own thinking. However, she did not ascribe the resolution of her delusions to the medication she received, even though her clinical improvement was evidently related to her pharmacotherapy. On the contrary, she even reported feeling worse after taking drugs than before treatment.

The phenomenon of rationalization of psychosis

Patient No. 3 clearly attempted to find a cognitive justification for the psychotic contents he had experienced. During the psychotic episode he had had delusions of reference and delusions of prosecution concerning his workmates, contents of advertisements, and passers-by in the street. Due to thinking over his experiences he limited the scope of these contents to his workmates only. Having reduced his delusions to the single theme, he sought justification for the verity of the contents previously experienced, but on a different level – not psychotic, but rational and socially acceptable. He did not talk any more about being prosecuted, but rather mobbed – he had heard about mobbing in the media. He argued as follows: perhaps something in what I have experienced might have been exaggerated, but in essence it was true, and my problems resulted from the mobbing and nasty relations in my workplace. The patient thus completed the process of rationalization of his psychotic contents, and cognitively coped with psychological problems related to his psychosis. This enabled him to save his self-image as an essentially reasonable and stable person, even if perhaps too sensitive and somewhat prone to exaggeration in his perception of the reality. Among the study participants this patient was the oldest, had a job, a wife (recently unemployed), and a child. Therefore, the maintenance of such a self-image was particularly important to him – under the circumstances he had to perceive himself as a responsible, stable person, a good provider for the family.

The phenomenon of rationalization can be illustrated by the following comments of the patient:

- "There is a great deal of truth in that people do care for cliques";
- "Mobbing measures are weak at the beginning, and brazen later on";
- "This looks like mobbing that I worked for some people who did not have to work";
- "A few people behaved so that they would trample you down, perhaps some of it is true".

Attribution of individual meanings

In talks with the patients, another phenomenon could be also seen – they ascribed their own, individual meanings to experiences that they could relate then as psychotic contents.

E.g. Patient No. 2 when asked about the effect of medication, replied that drugs "change his thinking" in such a way that he "is becoming a humanist again". He explained that a humanist is a person who wants to achieve success. In order to make a financial and professional success this patient had studied and worked very hard for several years before the onset of psychosis. His attitude towards these strivings was ambivalent: on one hand he wanted very much to succeed, but on the other hand felt considerably inferior to others participating in the rat race.

On amelioration of his mental state, Patient No. 3, when describing his prosecution delusions experienced during the psychotic period, commented: "such measures are used by sects, I do not know whether it was a sect, but such methods are sectarian, I have heard about it on the radio". The comment suggests that the patient did not mean literally that he was prosecuted by a sect. Explaining to himself his experiences at the time of psychosis he associated these experiences with an earlier heard radio broadcast on sects. The association provided him with a comprehensive notion of "being prosecuted by a sect", that enabled him to verbalize and express what he was feeling during his psychotic episode.

Evaluation of psychotic experience

The most open evaluation of her psychotic experiences during the first 14 days of treatment was made by Patient No. 4. She said "I am ashamed, nobody in their right senses should get so extremely sharpened emotions, images, sounds into their head. It is entirely a figment of the imagination, unreal". This evaluation was associated with her massive mechanism of denying her psychosis and a continuous wish to be discharged from the hospital, to leave and return to her previous way of life.

Another type of psychotic experience evaluation was represented by Patient No. 3, described

above. He used the mechanism of rationalization and decided that during the psychotic episode he might have seen things not quite reflecting to the reality, but that generally his perceptions were largely true.

False exacerbation

The phenomenon of false exacerbation was described in a somewhat different context by Weiden et al. [9]. A seeming exacerbation of psychosis was noted again in the case of Patient No. 4. At the end of the first week of the treatment, the patient repeatedly reported feeling much worse than at admission, she complained that the treatment not only did not help, but also made her condition considerably worse. This made cooperation with the patient extremely difficult. A detailed interview revealed that in that period she had exacerbated symptoms of ambitendency and ambivalence. She described her difficulty in deciding whether she should stay in her ward or go out, whether to join the queue of patients waiting for a meal or not, whether to go to the bathroom or not. These mutually contradictory tendencies were an enormous problem to her. At the same time, her awareness of these tendencies was much higher than during the psychotic episode, when they had been also present, but the patient had been totally engulfed by psychosis. Since different dimensions of psychosis were abating at varying pace, the patient's reality testing improved (i.e. her productive symptoms resolved) and her ability to register her own experiences increased, but there was no change in her ambivalence (the dimension of disorganization). The patient's subjective experiences were unpleasant, so in consequence she interpreted her condition as worse than that at the beginning of her treatment.

Hallucinations

Patient No. 4 experienced severe auditory hallucinations, but no significant information could be obtained from her concerning these symptoms resolution. In the course of her treatment her symptoms completely disappeared, which the patient did notice, but never commented upon.

DISCUSSION

Whether the conception of psychosis as a state of aberrant salience will stand the test of time and verification by new research findings and new theoretical approaches – that remains to be seen. At present a question arises to what extent the conception is verifiable in clinical practice and how useful it can be.

Results of observation of four patients in an early stage of antipsychotic treatment were presented in the paper. It should be emphasized that the study covered the first 14 days of antipsychotic treatment, i.e. the time span seldom described from the therapeutic perspective, and predominated by psychotic contents, psychotic disorganization and confusion. When considering the phenomena described above we should take into account the period during which they occurred. As can be seen, it is neither "psychologically empty" nor insignificant, but contrarily – during that period important psychological phenomena occur.

In accordance with the theory outlined in this paper, the patients were found to make strenuous cognitive and emotional efforts aimed at sorting out psychotic contents as well as their experiences at the time of recovering from psychosis. No clear-cut attempts at psychological "working through" delusional contents were noted, but this is probably due to the early period covered by observation. Such attempts seem possible after w few weeks, but not at the very beginning of the treatment, when delusions only just begin to abate. In statements made by some patients, contents corresponding to the factor of becoming indifferent to one's own delusions and delusional symptom resolution could be found. One patient commented that if there were no stimuli from without (i.e. aberrant saliences), he would not interpret the reality psychotically. Another patient related his dream in which psychotic contents were indifferent to him. Comments of this type may be regarded as corroborating the conception of psychosis and antipsychotic treatment, outlined in this paper.

The attribution of delusions resolution to the effects of medication does not seem to be as unambiguously evident as could be expected. Patients may tend to ascribe the change in their condition to some factor more understandable to them than action of drugs. Moreover, attribution of one's condition improvement to medication may be a source of difficulty and ambivalent emotions due to being dependent on (such a powerful) action of drugs. An affective-cognitive way of coping with the situation may consist in attribution of improvement to some less important factors occurring in the course of treatment.

In my opinion the study findings suggest that in the initial stage of pharmacotherapy of psychotic disorders intense, holistic psychological processes take place, that shape the patient's attitude toward his illness and the treatment. Patients' insight and holistic attitudes toward their psychotic experiences have been frequently described in the literature as fluctuating between the two extremes – of psychotic experience integration and denial [10]. Attitudes of this type were clearly reflected in and corroborated by the observations described above. The two extremes do not seem to be the only options, since other processes were also possible (such as that of rationalization of psychosis described in this study). The process of attribution of psychological change may be important from the perspective of compliance during treatment. The patient's attitude towards pharmacotherapy and generally to treatment may depend on factor(s) to which the patient attributes the improvement of his mental condition, as well as on his perception of the change. However, this issue would require further study.

The study findings suggest that if psychotherapy were to be complementary to pharmacotherapy in the treatment of psychoses, it should be introduced at the same time as medication. After two weeks of treatment, the patients revealed their characteristic, individually developed ways of understanding their illness and treatment. Psychotherapy introduced in a later period, e.g. after a few months, would be based on the already developed ways of emotional and cognitive coping with the experience of psychosis and its treatment. Perhaps an intervention introduced earlier, e.g. in the period described in this study, could have a beneficial effect on the patients' attitudes towards therapeutic measures, on their self-image, life goals, etc. However, also this hypothesis would require further verification. The type of psychotherapy should be adjusted to this specific stage of illness, taking into account not only factors purely cognitive and rational, but also the psychodynamic context, the patients' unconscious processes, as well as undoubtedly, the familial context. It seems that therapy oriented on cognitive contents might be useful here to some extent. In the cognitive approach in psychotherapy there is some interest in schizophrenia, but the focus is on problems somewhat different that these discussed in this paper [11].

A considerable variability and extremely individual character of experiencing both psychosis and antipsychotic treatment were noticeable. Due to this factor it might be difficult to develop a more explicit description of this stage of treatment. Another factor consists in the fact that the patients' ability to verbalize their experiences and thoughts was much differentiated. Moreover, in some cases the patient-doctor relationship was difficult (due to the patient's hostility or denial of the need for treatment).

CONCLUSIONS

Summarizing, the conception of psychosis as a state of aberrant salience may provide a useful cognitive framework for the analysis of patients' experiences in the period of delusional contents attenuation following pharmacotherapy. In consequence, the conception may facilitate the improvement of psychotherapeutic intervention at this stage of illness. However, further research is necessary to verify the concept and establish its clinical usefulness.

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