A MULTIDIMENSIONAL ASSESSMENT OF INSIGHTS IN SCHIZOPHRENIC PATIENTS

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This study aims to construct a multidimensional instrument in assessing insight of schizophrenic patients and further to examine its relationships with other factors such as psychiatric symptoms, demographic characteristics, and course of illness. An instrument (the Schedule for assessment of Insight in Psychosis, SIP) with a 4-point rating scale was constructed to assess the insight of schizophrenic patients in five dimensions. One hundred schizophrenic patients were recruited for the study and all of them received a semi-structured interview using the SIP. Their demographic variables, length of illness and severity of psychotic symptoms were analyzed for insight. The reliability and validity of the SIP were satisfactory. Significant factors related to insight were psychotic symptoms, including both positive and negative symptoms. This study showed insight was affected by a multitude of factors, and it could be assessed quantitatively in various dimensions.

Key words: insight, schizophrenia, psychopathology

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Schizophrenic patients are generally recognized as lacking of awareness of their own illness. The phenomenon is often regarded as 'insight', or self-understanding that encompasses the concepts of reason, consciousness, and self-knowledge [1]. In the early sixties, the World Health Organization coordinated the International Pilot Study of Schizophrenia (IPSS) and found that a lack of insight was a prevalent feature in schizophrenic patients. It was further verified as an important criterion in the diagnosis of schizophrenia [2]. In the last decade, insight was not considered just as a term synonymous with one of the psychopathological symptoms. Some studies tried to assess the relationship between insight and drug compliance [3-5], clinical outcome [3, 4,6,7], and suicide risk [8]. However, its use as a predictor for drug compliance, outcome and suicide

risk in schizophrenic patients is still premature.

Clinical psychiatrists who are responsible for the everyday care of schizophrenic patients have differing views over the explanation of poor insight in schizophrenia. One of these is the result of a psychological defense or adaptive coping mechanism, while a more contemporary view suggests the role of neurological abnormalities and neuropsychological deficits in schizophrenic patients [1,9]. Despite the discrepancies, insight is better understood nowadays as a multidimensional and continuous form of psychopathology, rather than just a concept of dichotomized symptom [10].

A literature review on the study of insights in schizophrenic patients revealed that there were five major dimensions in defining insight [10-13]. They were as follows: 1) awareness and description of psychotic symptoms; 2) ability to recognize and respond appropriately to early symptoms of relapse; 3) awareness and etiology-attribution of having schizophrenia; 4) awareness of achieved effect of treatment and likely compliance with treatment; and 5) awareness of the social consequences of having schizophrenia. In addition, various measurements have been developed for the assessment of insight, like the Schedule for the Assessment of Insight (SAI) [10], the Insight

and Treatment Attitudes Questionnaire (ITAQ) [12], and the Scale to assess Unawareness of Mental Disorder (SUMD) [13]. However, these instruments did not cover every dimension of insight. For example, the ITAQ does not assess the awareness of mental disorder and psychotic symptom, while ITAQ and SAI do not cover the awareness of the social consequences of mental disorder [10,12]. Furthermore, the above scales do not include the ability to recognize and respond appropriately to early symptoms of relapse, which together were regarded as an important factor in the assessment of insight [11].

Insight in schizophrenic patients is very much affected by individual demographic characteristics, severity of psychotic symptoms as well as the course of illness. There are however, no conclusive reports over which principal factor(s) were responsible for the insight in schizophrenic patients [12-15]. This inconsistency might be due to different research designs and methods in the evaluation of insight [9].

This study aims to construct a comprehensive instrument (the Schedule for assessment of Insight in Psychosis, SIP) in assessing insight of schizophrenic patients and further to examine its relationships with other factors such as psychiatric symptoms, demographic characteristics, and course of illness.

MATERIALS AND METHODS

The SIP (schedule for assessment of insight in psychosis)

The SIP is a short 9-item questionnaire that covers the above-mentioned five most widely used definitions of insight. It includes the patients' awareness and self-reappraisal of their illness, psychotic symptoms, experience of relapse, treatment and life changes after having illness (appendix). The information was collected via a semi-structured interview, with ratings based on a 4-point scale from 1 (true insight) to 4 (complete denial) with each anchoring criterion.

It was pre-tested using 10 schizophrenic patients. Five experienced psychiatric workers including three psychiatrists, a nurse and a social worker were invited to review its structure, wording, scales, fluency and format before conducting the study.

Sample

One hundred schizophrenic patients from a medical center (N=69) and a mental hospital (N=31) in southern Taiwan were recruited for the study. Those who refused or were unable to cooperate in the interview process were excluded. The diagnosis of schizophrenia was made by a research psychiatrist based on the DSM-IV criteria [16]. There were 56 males and 44 females, with a mean age of 33.3 (s.d.=10.4) years. Among them, 69 belonged to the subtype of paranoid schizophrenia, while 10 were disorganized, 7 were undifferentiated, and 14 were residual schizophrenias. Their mean length of illness was 9.9 (s.d = 6.8) years, with average 4.5 times of admission to any psychiatric wards. They had a mean of 10.5 (s.d = 3.1) years of education. Seventy-six patients were jobless, while 88 were single or divorced. There was no difference in age, sex, or length of illness or subtypes of schizophrenia between subjects from the two different hospitals.

The procedure

Informed consent was first obtained from all subjects before the study began. After explaining the study procedures, a research psychiatrist conducted the semi-structured interview using the SIP. It started with detailed description of problems, probes and responses, and questions to rule out or clarify doubts and uncertainty. For example, the inquiry about awareness and description of psychotic symptoms started with open questions about the reason(s) for visiting psychiatric outpatient clinic or the admission to the psychiatric ward. If the subject could not attribute it to psychotic symptoms, further questions were asked about explanations of past psychotic symptoms that were being recorded in the chart. The SIP interview required 40 to 50 minutes. In addition, severity of the present psychiatric symptoms was assessed using the Chinese version of Positive and Negative Syndrome Scale (PANSS) [17], while ratings on the SUMD and SAI were also recorded at the end of the interview for comparative purposes. The Chinese version of SUMD had good reliability and validity [18]. The SAI had high intercorrelation with other insight scales [19], and was translated into a Chinese version with the agreement of original authors in this study. ITAQ was not included for comparison in this study because it just comprised two dimensions of insight [12].

Data analysis

Different methods of analyses were employed to test the construct of the SIP. The internal consistency was examined by using the Cronbach's alpha

coefficient, while its convergent validity with the SUMD and SAI was examined using Pearson correlation.

Capacity of insight in schizophrenic patients was first tested with various demographic variables, length of illness and severity of psychotic symptoms using Pearson correlation, with two-tailed significance tests. Finally, all significant variables were then tested for the relationship with insight using multiple regression analyses.

RESULTS

Reliability and validity of the SIP

The internal consistency of the SIP was good, with Alpha coefficient estimated at 0.92. When comparing five dimensions of the SIP with the SUMD and SAI, it was found that they demonstrated significant correlations in their convergent items (Table 1). Scores in the SIP were inversely correlated to the SAI, in which a higher level of insight was labeled as a higher score. Its convergent validity as a measurement of the assessment of insight with the above scales was satisfactory.

Intensity of insight

Average scores of the insights of study populations on the five dimensions of SIP are shown in Table 2. In general, there was no great variation among scores (range from 1-4) of each dimension, with 2.3 in treatment to 3.0 in life changes. The awareness

of relapse and treatment had a lower score than the awareness of psychotic symptoms, illness itself and life change. Using such a method of assessment, it appears that insight could be assessed quantitatively as a continuous variable rather than just qualitatively.

Clinical correlates of insight

The relationships between scores on the SIP and other variables, including demographic variables, course of illness, and psychotic symptoms were analyzed. Variables such as delusion, conceptual disorganization, suspiciousness, hostility, emotional withdrawal, poor rapport, passive social withdrawal, lack of spontaneity and flow of conversation, stereotyped thinking, preoccupation and active social avoidance were found to be significantly correlated ($p<0.02$) with the SIP (Table 3). These items were from the PANSS and it is commonly used as an indicator for the severity of psychotic symptoms in psychiatric patients. The correlations were all in the direction of more impaired insight related to higher symptoms ratings. Neither the demographic variables nor the course or length of illness was found to be related to insight.

All significant variables affecting with insight were further analyzed with multiple regressions, with SIP as the dependent variable. It was found that psychotic symptoms of delusion, emotional withdrawal and passive social withdrawal were significant in a stepwise regression equation that predicted insight, yielding an equation as follows, with a multiple R^2 of 0.301 (F = 15.21, df = 3,96, p < 0.001):

Table 1. Convergent validity of the schedule for assessment of insight in psychosis (SIP) with the SUMD and SAI examined using pearson correlation

| | SIP | | | | |
	Psychotic symptoms	Relapse	Illness	Treatment	Life change
SUMD					
Illness	0.791***	0.615***	0.900***	0.669***	0.650***
Treatment	0.734***	0.634***	0.750***	0.824***	0.595***
Life change	0.674***	0.489***	0.750***	0.651***	0.885***
SAI					
Treatment	-0.649***	-0.610***	-0.669***	-0.786***	-0.558***
Illness	-0.764***	-0.630***	-0.901***	-0.652***	-0.632***
Psychotic symptoms	-0.759***	-0.464***	-0.769***	-0.559***	-0.519***

***p<0.001

Table 2. Mean scores of 100 patients with schizophrenia on SIP

Dimension	Mean	SD
Awareness and description of psychotic symptoms	2.8	1.1
Ability to recognize and respond appropriately to early symptoms of relapse	2.4	0.9
Awareness and etiology-attribution of having schizophrenia	2.8	0.9
Awareness of achieved effect of treatment and likely compliance with treatment	2.3	1.0
Awareness of the social consequences of having schizophrenia	3.0	1.0
Mean score of the five dimensions	2.7	0.8

Table 3. Variables with significantly correlation with the scores of insight on SIP ($p<0.02$)

	r	p value
Delusion	0.446	<0.001
Conceptual disorganization	0.300	0.002
Suspiciousness	0.323	0.001
Hostility	0.284	0.004
Emotional withdrawal	0.351	<0.001
Poor rapport	0.316	0.001
Passive social withdrawal	0.397	<0.001
Lack of spontaneity and flow of conversation	0.298	0.003
Stereotyped thinking	0.387	<0.001
Preoccupation	0.349	<0.001
Active social avoidance	0.292	0.003

Insight of schizophrenic patients (with SIP scores)= 1.464 + 0.179 (delusion item) + 0.223 (emotional withdrawal) + 0.156(passive social withdrawal).

DISCUSSION

In this study, we adopted the definition of insight based on a multidimensional model that could be measured quantitatively. It was different from that in the International Pilot Study of Schizophrenia (IPSS) of the World Health Organization, which rated insight as a symptom of the subject's emotional awareness of the presence or absence of his/her own illness [2]. In the IPSS, the Present State Examination (PSE) [20] was used as a measurement for psychopathology where insight was considered as one of the psychopathological symptoms. Under such consideration, it was not surprising that 'lack of insight' was found to be the most prevalent symptom that occurred in 97% of the IPSS schizophrenic patients. In this study, we used PANSS to assess psychopathology while insight was assessed independently with elaborated items. It is understandable that most instruments for assessing psychopathology were not specifically developed to assess insight, unless it is regarded as one of the psychopathological symptoms like the PSE.

An ideal method to study insight systematically is to utilize an instrument that could be rated quantitatively. Such an instrument is reproducible and could be re-tested. One of our purposes in developing the SIP is based on the above postulation. The results showed that the SIP demonstrated good internal consistency and convergent validity, with a high degree of correlation with other instruments of rating insight, the SUMD and SAI. In the SIP, information was collected via an interview that required training and experience with schizophrenia. Further

Table 4. Variables associated with the insights on SIP in multiple linear regression

	B	S.E.	t	p
Delusion	0.179	0.043	4.125	<0.001
Emotional withdrawal	0.223	0.087	2.572	0.012
Passive social withdrawal	0.156	0.076	2.060	0.042
Constant	1.464	0.197	7.340	<0.001

modification is needed if it is to be widely used in the clinical setting. However, the score on the awareness of relapse in SIP was also highly correlated to SUMD and SAI, which do not include the items related to relapse. Follow-up assessments of schizophrenic subjects in this study are being performed to identify further validity of SIP on the prediction of relapse.

In the study of hospitalization and insight into schizophrenia, McGlashan et al. [21] found that some schizophrenic patients who had experience of acute hospitalization tended to be curious about their symptoms, regarded them as part of their life's pattern, and gained information from them. These patients were labeled as 'integrators', and they demonstrated a more flexible and variable attitude toward illness with their hospitalized experience. The changes occurred due to hospitalization and were very similar to the formation of insight. Some studies, however, did not support these assumptions [12,13]. In this study, we found that the number of previous hospitalizations was not related to any dimensions of insight. The number of years since first admission and the level of education might be hypothesized to reflect opportunities and abilities to acquire knowledge and experience about the illness. However, neither of them was found to predict insight in this study.

Significant predictors for insight of schizophrenia in this study were found to be psychotic symptoms, particularly delusion, emotional withdrawal and passive social withdrawal. Different psychotic symptoms have been reported to be associated with insight into schizophrenia, like delusions [5,12,19,22], formal thought disorder [22-24], disorganized behavior [22], social isolation [15,22], suspiciousness [23], poor rapport [23], stereotyped thinking [23,24], loss of abstract thinking [15,24], and the relative absence of depression [19,22,24,25] and anxiety [15]. Delusions are common in schizophrenic patients, in whom personality is distorted by the illness and a false environment may be constructed out of their subjective experiences. Such a condition has often been labeled as 'lack of insight' [26]. Higher rating on the PANSS delusion item was also significantly related to impaired insight in our study. On the other hand, in the study of grandiose, Van Putten et al. [5] found that severity in grandiosity was proportionally related to failure in insight. They further indicated that schizophrenic patients might prefer an ego-syntonic grandiose psychosis to a relative drug-induced normality for the necessity of treatment and drug compliance. However, our study did not fully support the above assumption of grandiose delusion.

Schizophrenic patients with negative symptoms were found to have poor insight. The above symptoms, especially the attention and perceptual dysfunctions that were related to cognitive deficits, may affect the self-awareness of psychiatric illness and psychotic symptoms [27]. Of all the negative symptoms, emotional withdrawal was found to be significantly related to the impairment of insight in schizophrenic patients in this study. In the study of insight and depression, Sayer et al. [28] discovered that patients with mood disorders of poor insight demonstrated greater use of self-deception, while at the same time reporting lesser symptoms. In this study and others using schizophrenic patients, the effect of insight from affective symptoms, however, demonstrated mixed conclusions.

Amador et al. [22] found no differences on the SUMD between patients with schizophrenia and patients with mania, except for significantly better awareness of delusions among the patients with mania at a time when both patient groups were severely ill. However, studies applying other measurements revealed that the insight of schizophrenic subjects was different to that of subjects with mood disorder [29,30]. All of subjects assessed in this study were with the same diagnosis of schizophrenia to exclude the confounding effects of different diagnoses. Further studies on the comparisons be-

APPENDIX: The Schedule for assessment of Insight in Psychosis (SIP)

Awareness and description of psychotic symptoms

1. Is the subject aware of psychotic symptoms?
2. Can the subject describe the psychotic symptoms?

Ability to recognize and respond appropriately to early symptoms of relapse

3. Can the subject recognize the early symptoms of relapse?
4. Can the subject respond appropriately to the early symptoms of relapse?

Awareness and etiology-attribution of having schizophrenia

5. Is the subject aware that he/she has schizophrenia?
6. Can the subject have reasonable etiology-attribution of having schizophrenia (based on the subject's social, cultural and educational background)?

Awareness of achieved effect of treatment and likely compliance with treatment

7. Does the subject believe that the treatment (medication, hospitalization etc) has effect on him/her?
8. Does the subject believe it is necessary for him/her to receive medication continuously?

Awareness of the change in life after having schizophrenia

9. Is the subject aware of the relationship between the change in life (being involuntarily hospitalized, deterioration of occupational or social function, poor interaction with families, poor daily ability to take care of himself/herself) and having schizophrenia?

tween insight of patients with schizophrenia and with mood disorder will be conducted on the modified version of SIP. In the clinical experience of the researchers, varieties would be found among the patients with different subtypes of schizophrenia, though the sample of each subtype was too small to confirm the observation.

In conclusion, the reliability and validity of the SIP was satisfactory as a measure for the insight of patients with schizophrenia. Using such a method of assessment, it appears that insight could be assessed quantitatively as a continuous variable rather than just qualitatively. The patients with prominent psychotic symptoms, no matter whether positive or negative symptoms, had poorer insight.

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精神分裂症患者病識感的多向度評估

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　　精神病患的病識感評估和臨床應用近年來受到精神醫學界的重視，本研究之目的在探討一包含五大面向的新病識感評估量表（the Schedule for assessment of Insight in Psychosis, SIP）在臨床之應用，以及精神分裂症患者病識感之高低程度和影響因素。本研究中邀集100位精神分裂症患者接受半結構化訪談，以SIP評估病識感高低程度，並就其社會人口學、疾病史資料和精神症狀嚴重程度與病識感高低程度之相關進行多元迴歸分析探討。研究結果發現：SIP在臨床應用上具有滿意的信效度，而精神分裂症患者之病識感高低主要受到精神症狀嚴重程度之影響，其中正性和負性症狀皆會影響到病識感高低。本研究顯示，精神病患的病識感可經由多向度多層次的工具加以評估，與過去病識感為全有或全無的傳統觀念有所不同。文中並將就影響病識感高低程度的因素與其他研究結果進行比較。

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