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An Acerbate Psychotics Symptoms, Social Support, Stressful Life Events, Medication Use Self-Efficacy Impact on Social Dysfunction: A Cross Sectional Self-Rated Study of Persons with Schizophrenia Patient and Misusing Methamphetamines

Ek-Uma Imkome, Jintana Yunibhand, Waraporn Chaiyawat

***Abstract*—**Background: Persons with schizophrenia patient and misusing methamphetamines suffering from social dysfunction that impact on their quality of life. Knowledge of factors related to social dysfunction will guide the effective intervention. Objectives: To determine the direct effect, indirect effect and total effect of an acerbate Psychotics' Symptoms, Social Support, Stressful life events, Medication use self-efficacy impact on social dysfunction in Thai schizophrenic patient and methamphetamine misuse. Methods: Data were collected from schizophrenic and methamphetamine misuse patient by self report. A linear structural relationship was used to test the hypothesized path model. Results: The hypothesized model was found to fit the empirical data and explained 54% of the variance of the psychotic symptoms (X^2 = 114.35, df = 92, p-value = 0.05, X^2 /df = 1.24, GFI = 0.96, AGFI = 0.92, CFI = 1.00, NFI = 0.99, NNFI = 0.99, RMSEA = 0.02). The highest total effect on social dysfunction was psychotic symptoms (0.67, $p<0.05$). Medication use self-efficacy had a direct effect on psychotic symptoms (-0.25, $p<0.01$), and social support had direct effect on medication use self efficacy (0.36, $p<0.01$). Conclusions: Psychotic symptoms and stressful life events were the significance factors that influenced direct on social dysfunctioning. Therefore, interventions that are designed to manage these factors are crucial in order to enhance social functioning in this population.

***Keywords*—**Psychotic symptoms, methamphetamine, schizophrenia, stressful life events, social dysfunction, social support, medication use self-efficacy.

I. Introduction

MISUSING methamphetamine of schizophrenic patients is the most common pathology change in brain and is the negative behavior of psychiatric patient who loss of self-control that are considered a worldwide important cause of relapse rate [1], [2]. Misusing methamphetamine in schizophrenic patient caused by common factors to severe of the stressful life factors. Common factors include gender, age, education, and temperament; while severe factors include social support, stressful life events, and medication use self efficacy. The severe factors are often responsible for acerbating of psychotic symptoms that impact on social dysfunction [3], [4].

Empirical study shown that the correlation of social support, expressed emotion, medication use self efficacy, and psychotic symptoms have been reported to exposed to precipitate spontaneous recurrence of methamphetamine psychosis [1]-[4]. Interestingly, psychotic symptoms devastate the lives of the affected persons and disrupt families. The affected individuals may withdraw from the environment and display regressive behaviors, difficult to perform personal hygiene or other activities in daily living, engage with others, or even notice physical illness or pain. In the longer term, severe psychotic symptoms impact them, and their loved ones become stigmatized, along with the stigma of shame and family burden, and receive inadequate clinical care and rehabilitation.

Current study aimed to explore the correlation of social dysfunction and the predicted variables by developing and testing a model among schizophrenic patients with misusing methamphetamine. To our knowledge this is the first comprehensive report of a path analysis of social dysfunction and medication use self efficacy from Thai schizophrenic patient and methamphetamine misuse, this study may help in discouraging the misuse of methamphetamine, stressful life events, high negatively expressed emotion that leads to acerbate psychotic symptoms and impact on social dysfunction.

II. Materials and Methods

This cross-sectional study was performed in the psychiatric hospital and Institute on Drug Abuse Treatment, Thailand. The Ethics Review Committee for Research Involving Human Research Participants, Health Science Group, Chulalongkorn University (COA.No. 053/2558) approved this study and collected data from April 2015 to May 2015. The risk and benefits of participation were explained to participants. Written consent was obtained directly from participants before data collection. Participation was voluntary, and anonymity and confidentiality of participation were guaranteed. Data were collected by questionnaires, including the Demographic Data Questionnaire, the Brief Psychiatric Rating Scale, the Self-efficacy for Appropriate Medication Use Scale, the

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Stressful Life Events Questionnaire, and the Social Dysfunctioning Scale. A linear structural relationship (LISREL 8.72) was used to test the hypothesized path model.

III. Results

313 of schizophrenic patient and methamphetamine misuse consented to participate. Most of them were significantly more likely to be male; have middle levels of education, higher rates of re-hospitalized, higher rates of long term psychiatric illness, small numbers of co-occurring of physical illness, and greater numbers of concurrently smoking cigarettes; be early adult; and have higher rate of antipsychotic drug and group therapy as a core treatment (Table I).

The results indicated that all the free factor loadings are statistically significant that ranged from 0.09 to 6.09. The analysis indicated that all five factors correlations are statistically significant. In other words, there is sufficient evidence that the five abilities are correlated (Table I).

Additionally, Social support had a positive direct effect on Medication use self-efficacy (0.36, $p < 0.01$) and indirect effect on psychotic symptoms (-0.09, $p < 0.05$) and social dysfunction (-0.06, $p < .01$). Stressful life events have a direct effect on social dysfunction (0.29, $p < 0.01$). Medication use self-efficacy have a negative direct effect on psychotic symptoms (-0.25, $p < 0.01$) and negative indirect effect on social dysfunction (-0.17, $p < 0.01$). Psychotic symptoms have a positive direct effect on social dysfunction (0.67, $p < 0.05$) (as shown in Table II, Fig. 1).

IV. Discussion

Social support had a positive direct effect on Medication use self-efficacy (0.36, $p < 0.01$). In current study, patient Medication use self-efficacy has been defined as "the confidence of patient in their ability to perform and continuing to take medications under difficult and uncertain circumstances". Therefore, "Social support from health care provider and family member had a positive direct effect on Medication use self-efficacy in terms of caregivers and health care provider remind them to take a medicine continuously, which may partly explain why this social support had direct effect of medication use self-efficacy [5]-[7].

Moreover, we found that Social support had indirect effect on psychotic symptoms (-0.09, $p < 0.05$). One of the possible reasons to explain the indirect effect of social support against psychotic symptoms is that care giver gives a take good care covers help and remind them to take a medicine and training them to enhance their self care behavior that might be prevent psychotic relapse and also improve social function [4], [5]. Moreover, the positive communication in family and low express emotion could be prevent relapse [8].

We also found Medication used Self-efficacy had a negative direct effect on psychotic symptoms because self-efficacy is strongly related to negative symptoms and is moderately associated with social function. They have reported low self-efficacy for daily living tasks.

TABLE I
Demographic Characteristics of Schizophrenic Patients and Misusing Methamphetamines (n= 313)

Characteristics	Number	Percentage
Age (years)		
19-30	143	46.3
31-40	126	40.3
41-50	38	12.1
51-60	4	1.3
Gender		
Male	275	87.9
Female	38	12.1
Marital status		
Single	209	66.8
Marriage	54	17.3
Widowed	10	3.2
Divorced	15	4.8
Separated	25	8.0
Education		
None	14	4.5
Primary/elementary education	12	3.8
Secondary education	73	23.3
High school	87	27.8
Diploma/certificate	86	27.5
Bachelor's degree or higher	20	6.4
Occupation		
Government official	15	4.8
Employee	89	28.4
Business person	64	20.4
Agriculturist	71	22.7
Unemployed	73	23.3
Housewife	1	0.3
Number of admitted		
2-5 times	261	83.4
6-10 times	39	12.5
>10 times	13	4.2
Duration of having psychiatric illness		
<1 years	80	25.6
1-5 years	147	47.0
6-10 years	33	10.5
11-15 years	33	10.5
15-20 years	15	4.8
>20 years	5	1.6
Physical illness		
None	276	88.3
Gastritis	10	3.3
Hypertension	5	1.7
Asthma	3	1.0
HIV	2	0.6
Thalassemia	2	0.6
Diabetes mellitus	2	0.6
Migraine	1	0.3
Renal failure	1	0.3
Hyperthyroid	1	0.3
Hypercholesterol	1	0.3
Gastritis and asthma	1	0.3
Gastritis and hypertension	4	1.2
Hypertension and renal failure	2	0.6
Diabetes mellitus, Hypercholesterol, and Hypertension	2	0.6

Characteristics	Number	Percentage
Smoking status		
No	2	0.6
Ex-smoking	116	37.1
Smoking	195	62.3
Treatment		
Pharmacotherapy		
None	3	1.0
Antipsychotic drugs	229	73.2
Antidepressant	1	0.3
Anxiolytic drugs		
Antipsychotic drug and antidepressant	72	23.0
Antipsychotic drug, antidepressant, and Bupropion HCl	4	1.3
Antipsychotic drugs and Propylthiouracil (PTU)	1	0.3
Antipsychotic drugs andantipsychotic drugs and	1	0.3
Antipsychotic drugs and AZT	2	0.6
Group Therapy	273	87.2
ECT	11	3.5

Generally, many studies suggest that low self-efficacy is characteristic of negative symptom patients. The strength of self-efficacy for appropriate antipsychotic use plays an importance role in taking antipsychotics and can balance the neurotransmitters in the brain, especially dopamine and norepinephrine leading to a decrease both of positive psychotic symptoms and negative psychotic symptoms [9].

This study also revealed that psychotic symptoms have a positive direct effect on social dysfunction (0.67, $p < 0.05$). A variety of explanations have been offered to account for the correlation between psychotic symptoms and social dysfunction which increase during the prodromal phase of schizophrenia, often worsen immediately after the first episode, and persist into late life. Social dysfunction is frequently described as being of key concern to persons, families, and advocacy groups, and are important predictors of quality of life.

While current psychopharmacological treatments can often decrease the severity of psychotic symptom, social dysfunction typically persist in schizophrenic persons. Besides, repeated hospitalizations often contribute to further their social dysfunction and correlation between employment and quality of life was the result of the social connection and support associated with employment [10]-[14].

Additionally, the investigate show that Stressful life events have a direct effect on social dysfunction (0.29, $p < 0.01$). Studies have demonstrated that schizophrenic patient who had severe Stressful life events is very likely impact to their activity daily living, loss of interest to join the social activity and they cannot perform the complicated task [15], [16].

V. Conclusion

There are many factors can be identified among schizophrenic patients with misusing methamphetamines. Factors were more likely to be psychotics' symptoms, Stressful life events, Medication use self-efficacy, and social support. The early identify these factors and supply earlier interventions for this population are challenged.

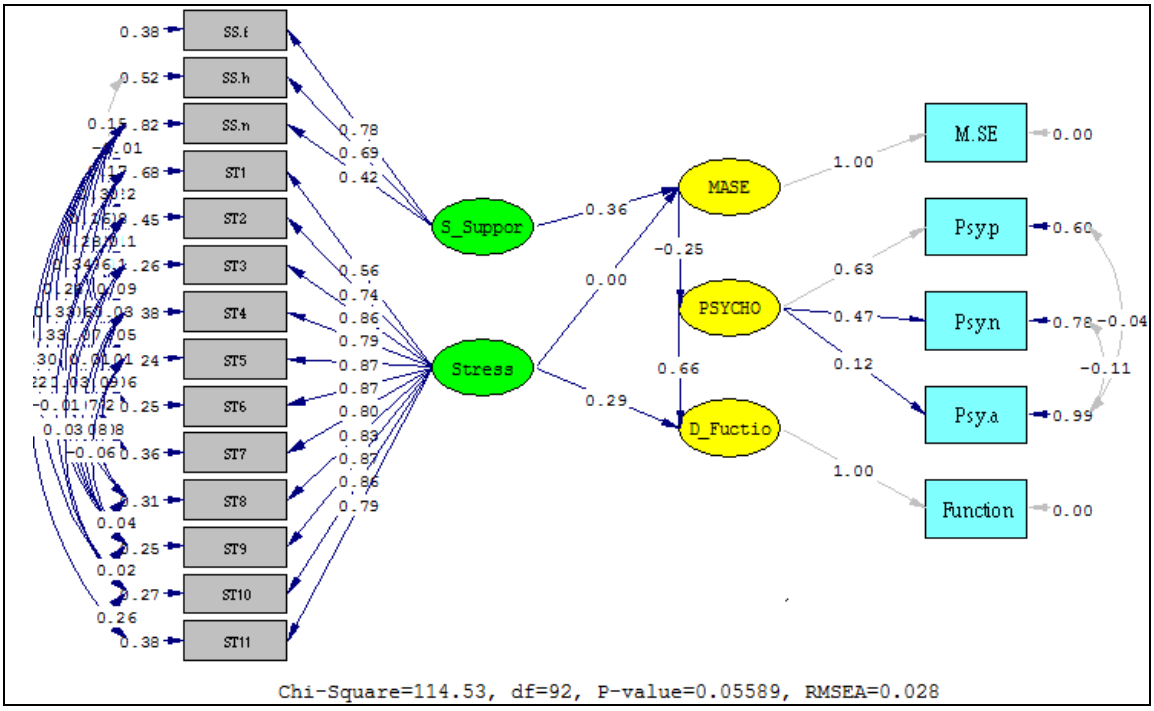

Fig. 1 A path analysis of social dysfunction among schizophrenic patients with misusing methamphetamines

TABLE II
FACTORS LOADING, STANDARD ERROR, T-TEST, LAMBDA-X, AND SQUARE MULTIPLE CORRELATION OF SOCIAL SUPPORT, STRESSFUL LIFE EVENTS, AND PSYCHOTIC SYMPTOMS

Observed Variables	Loading	SE	t	λ	R^2
Social support					
Family	6.09	0.47	12.84	0.78	0.61
Health care team	5.20	0.43	12.13	0.69	0.48
Neighbors and friend	3.51	0.48	7.27	0.42	0.18
Stressful Life Event					
Home life	5.23	0.48	10.80	0.56	0.32
Financial problems	5.15	0.34	15.04	0.74	0.55
Social Relations	5.15	0.28	18.64	0.86	0.74
Personal Conflicts	5.43	0.35	15.55	0.79	0.62
Job Conflicts	4.69	0.25	18.77	0.87	0.76
Educational Concerns	4.74	0.25	19.06	0.87	0.75
Job Security	5.61	0.33	16.78	0.80	0.64
Loss and Separation	5.08	0.29	17.79	0.83	0.69
Sexual life	4.50	0.24	18.81	0.87	0.76
Daily life	4.62	0.25	18.70	0.86	0.73
Health Concerns	2.25	0.14	16.49	0.79	0.62
Psychotic symptoms					
Positive psychotic symptoms	0.22	-	-	0.63	0.40
Negative psychotic symptoms	0.16	0.05	3.37	0.47	0.22
Affective psychotic symptoms	0.09	0.06	1.47	0.12	0.01

TABLE III
TOTAL EFFECT (TE) DIRECT EFFECT (DE) AND INDIRECT EFFECT (IE) OF FACTORS INFLUENCING SOCIAL DYSFUNCTION

Independent Variable	Dependent Variables								
	Medication use			Psychotic symptoms			Social		
	DI	IE	TE	DI	IE	TE	DI	IE	TE
Social support	2.33**	-	2.33**	-	-0.09*	-0.09*		-0.56*	-0.56*
	(0.56)		(0.56)		(0.04)	(0.04)		(0.23)	(0.23)
	0.36		**0.36**		**-0.09**	**-0.09**		**-0.06**	**-0.06**
Stressful Life Event	0.02	-	0.02	-	0.00	0.00	2.72**	-0.01	2.71**
	(0.43)		(0.43)		(0.02)	(0.02)	(0.52)	(0.10)	(0.53)
	0.00		**0.00**		**0.00**	**0.00**	**0.29**	**0.00**	**0.29**
Medication Self-efficacy				-0.04**	-	-0.04**	-	-0.24**	-0.24**
				(0.01)		(0.01)		(0.07)	(0.07)
				-0.25		**-0.25**		**-0.17**	**-0.17**
Psychotic symptoms							6.21*	-	6.21*
							(2.39)		(2.39)
							0.67		**0.67**
R^2	0.13			0.07			0.10		
$\chi^2 = 117$, df = 92, p-value = 0.057, GFI = 0.96, AGFI = 0.92, CFI= 1.00 , RMSEA = 0.028									

Note * $p < 0.05$, ** $p < 0.01$

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