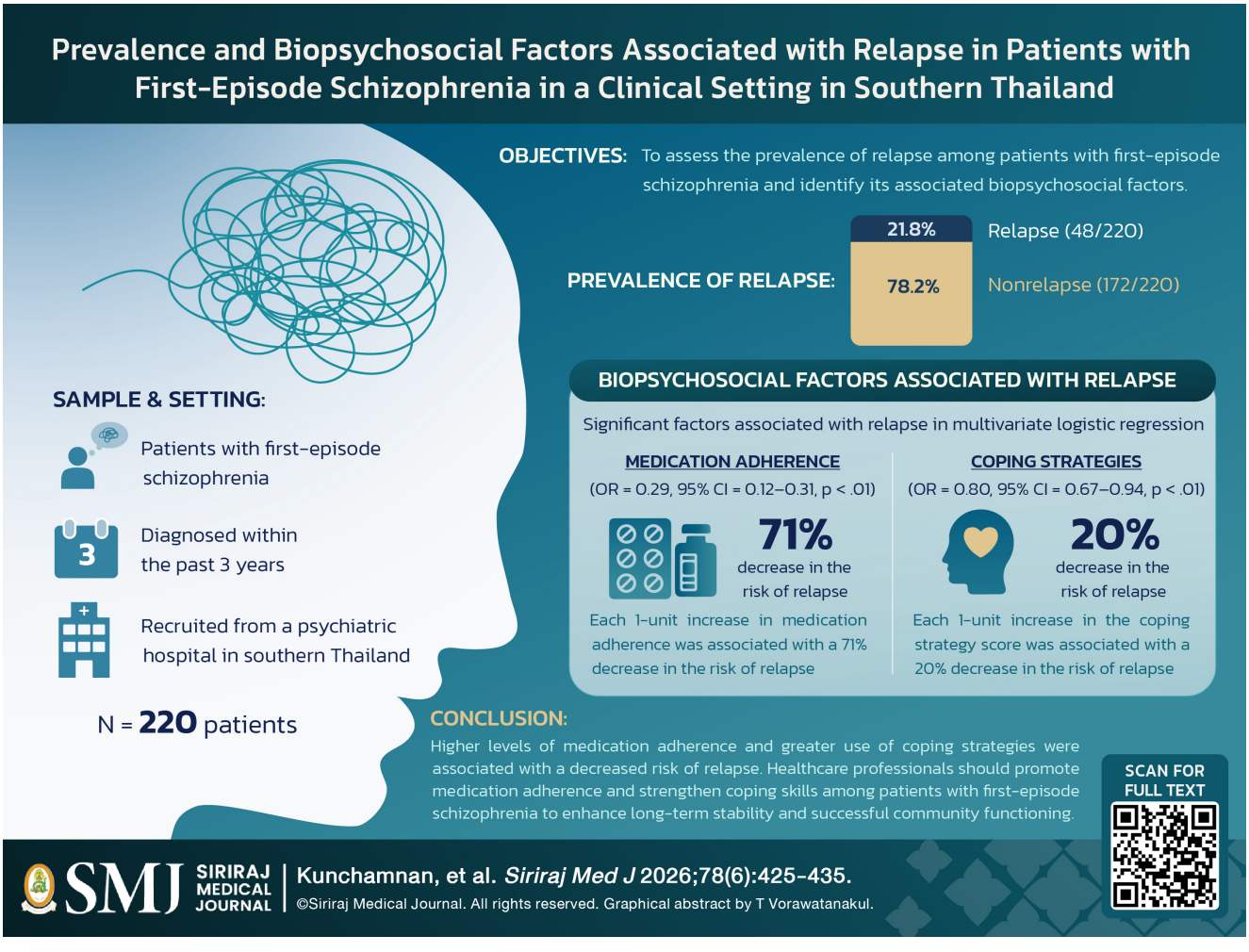
Prevalence and Biopsychosocial Factors Associated with Relapse in Patients with First-Episode Schizophrenia in a Clinical Setting in Southern Thailand

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ABSTRACT

Objective: This study aimed to assess the prevalence of relapse among patients with first-episode schizophrenia and identify its associated biopsychosocial factors.

Materials and Methods: This was a cross-sectional study conducted at a major psychiatric hospital in southern Thailand. This study included patients aged 18–59 years diagnosed with schizophrenia within the preceding 3 years. Data were collected using a demographic questionnaire and five standardized instruments. Descriptive statistics and univariate and multivariate logistic regression analyses were performed to identify factors associated with relapse.

Results: A total of 220 patients were included in this study. The prevalence of relapse was 21.8%. The univariate analysis revealed that medication adherence, coping strategies, social support, substance use ($p < .01$), and cognitive insight ($p < .05$) were significantly associated with relapse. In the multivariate logistic regression analysis, medication adherence and coping strategies remained independently associated with relapse. Particularly, each one-unit increase in medication adherence was associated with a 71% decrease in the risk of relapse (odds ratio [OR] = 0.29, 95% confidence interval [CI] = 0.12–0.31, $p < .01$). Similarly, each one-unit increase in the coping strategy score was associated with a 20% decrease in the risk of relapse (OR = 0.80, 95% CI = 0.67–0.94, $p < .01$).

Conclusion: Higher levels of medication adherence and greater use of coping strategies were associated with a decreased risk of relapse. Healthcare professionals should promote medication adherence and strengthen coping skills among patients with first-episode schizophrenia to enhance long-term stability and successful community functioning.

Keywords: First-episode schizophrenia; relapse; medication adherence; cognitive insight; coping strategies; social support; substance use (Siriraj Med J 2026;78(6):425-435)

INTRODUCTION

Schizophrenia has become a significant public health concern worldwide, including Thailand.[1] Approximately 24 million people worldwide are diagnosed with schizophrenia, accounting for approximately 0.32% of the total population.[2] The prevalence of schizophrenia among adults is approximately 0.45%, with males experiencing earlier symptom onset than females.[2] The global prevalence of schizophrenia is estimated to be 1%.[3] In the ASEAN region, schizophrenia affects more than one million individuals out of a total population of 650 million.[4] In Thailand, schizophrenia affects more than 440,000 people out of a population of 70 million.

Schizophrenia is characterized by various clinical symptoms, including disturbances in cognition, emotion, perception, and behavior that deviate from societal norms. These symptoms considerably impair daily functioning and affect the lives of patients and those around them.[5,6] Schizophrenia typically follows a chronic course characterized by alternating periods of remission and relapse, resulting in a substantial disease burden. Full recovery is relatively rare[5], and the condition is often associated with a progressive decline in personal potential.[7] However, early and effective interventions for patients at an early stage have been reported to improve prognosis, decrease relapse, and promote social reintegration.[8,9]

Research focusing on first-episode schizophrenia (FES) is crucial. Understanding factors associated with relapse in FES is essential to further guide the development of preventive interventions tailored to patients in their first episode. The Biopsychosocial Model, which was developed by Engel and Romano[10], provides a comprehensive framework for understanding the multifactorial nature of relapse in patients with schizophrenia.

Biological factors associated with schizophrenia include age at onset, duration of untreated psychosis (DUP), and substance use. Schizophrenia is primarily associated with neurobiological abnormalities, particularly dopaminergic dysregulation, and genetic predisposition, which often manifest during adolescence or early adulthood.[11,12] Younger individuals have been reported to have a higher risk of experiencing relapse.[13,14] A longer DUP has been strongly associated with worse clinical outcomes, including severe symptomatology, reduced treatment response, and greater cognitive decline.[15] Substance use exacerbates symptoms by disrupting already impaired brain function. Substances such as stimulants increase dopamine release, thereby inducing temporary euphoria. However, they lead to long-term neurological damage. Chronic substance use can result in dependence and increased cravings, thereby disrupting neurotransmitter regulation and accelerating functional deterioration.[16,17] These biological factors significantly contribute to the

onset and relapse of schizophrenia, particularly among patients with first-episode schizophrenia.

Psychological factors associated with schizophrenia progression include cognitive insight, medication adherence, and coping strategies. Impairments in psychological functioning can impede a patient's ability to recognize and respond to their illness. Good cognitive insight raises awareness of illness and fosters motivation for recovery.[9,18] Adherence to pharmacological treatment is a critical determinant of clinical stability. Consistent medication use has been reported to reduce relapse rates and prolong remission periods.[19,20] Coping strategies facilitate patients' adjustment to their condition. By employing adaptive coping strategies, patients tend to exhibit better psychological resilience and functional outcomes, particularly in first-episode cases, where the potential for near-normal recovery is often higher.[21]

Social factors, including social support, have been reported to be associated with and exert a significant influence on the occurrence of mental illness. Support from family, peers, and the broader community is associated with lower relapse rates.[22,23] Individuals with psychiatric disorders often face stigma, social exclusion, and limited access to essential services. Furthermore, economic hardship complicates treatment adherence and increases the risk of relapse.

The interaction of biological, psychological, and social factors plays a vital role in the relapse of FES. However, inconsistencies in research methodology and measurement tools and the influence of cultural, societal, and economic contexts contribute to varying findings. Furthermore, many variables remain unclear or understudied. Therefore, this study aimed to examine biopsychosocial factors associated with relapse among patients with first-episode schizophrenia in a clinical setting in southern Thailand and to estimate the prevalence of relapse among this patient group.

MATERIALS AND METHODS

Research design and participants

This was a cross-sectional study including patients with first-episode schizophrenia receiving treatment at the outpatient department of a specialized psychiatric hospital in southern Thailand under the Department of Mental Health, Ministry of Public Health.

Participants were recruited from the psychiatric outpatient department during scheduled clinical visits. The inclusion criteria included (1) patients diagnosed with schizophrenia (ICD-10: F20) presenting as first-episode schizophrenia, defined as the first onset of psychotic symptoms meeting the full diagnostic criteria for schizophrenia, or those who had not achieved a period of full remission or whose symptom-free period did not exceed 6 months, with a total illness duration of no more than 3 years, and (2) Thai-speaking men and women aged 18–59 years. The exclusion criteria included (1) the presence of severe psychiatric symptoms, such as aggression, severe paranoia, and active hallucinations, (2) the risk of harm to oneself or others, and (3) the need for urgent medical intervention. Eligibility was determined through medical record review, clinical assessment, structured interviews, and behavioral observation. The researchers collaborated with the nurses to identify potential participants who met the inclusion criteria during their scheduled clinic visits.

Sample size calculation

The sample size was calculated using G*Power. Considering an odds ratio (OR) of 3.172 for the association between substance use and relapse in individuals with schizophrenia[24] and using binary logistic regression with $\alpha = .05$, power = .95, and seven predictors, the minimum sample size required was 193. Accounting for a 10% rate of attrition or incomplete data, the final target sample size was set at 220.

Data collection

Data collection was conducted at the psychiatric outpatient department between October and December 2023. Participants were asked to complete the study questionnaires. They were allowed to ask questions or raise any concerns before and during participation. No participants reported discomfort or exhibited symptoms requiring immediate medical attention during data collection.

Measures

Data were collected using standardized instruments. All scales were translated into Thai using a back-translation procedure. A pilot test was conducted with participants comparable to the target population to assess reliability. All instruments demonstrated acceptable internal consistency (Cronbach's alpha $\geq .70$).[25]

Sociodemographic questionnaire

The sociodemographic questionnaire was developed by the researchers. The questionnaire included 12 items on personal background, psychiatric and treatment history, substance use, and family relationships.

Brief psychiatric rating scale

The Brief Psychiatric Rating Scale (BPRS) was

developed by Overall and Gorham (1962)[26] and translated into Thai by Kittirattanapaiboon.[27] The scale was used to assess psychiatric symptoms and evaluate relapse. The scale comprises 18 items: 10 self-reported and 8 clinician-rated items. Items are rated on a 7-point Likert scale, ranging from 1 (not present) to 7 (extremely severe). The total score ranges from 18 to 126, with scores ≤36 indicating mild symptoms and scores >36 indicating greater symptom severity and a higher risk of relapse. The Thai version of the BPRS has demonstrated content validity and reliability.[5,27] In this study, the internal consistency of the BPRS was high (Cronbach's alpha = 0.85).

Beck cognitive insight scale

The Beck Cognitive Insight Scale (BCIS) was developed by Beck et al. (2004)[28] and translated into Thai by Katchai et al.[29] The BCIS was used to measure cognitive insight. The scale includes 15 items covering two domains: self-certainty (6 items) and self-reflectiveness (9 items). Items are rated on a 4-point Likert scale, ranging from 0 (strongly disagree) to 3 (strongly agree). The composite score is calculated by subtracting the self-certainty score from the self-reflectiveness score. Positive scores indicate good cognitive insight, and lower or negative scores indicate poor cognitive insight.[28] The Thai version of the BCIS has demonstrated acceptable reliability.[30] In this study, the internal consistency of the BCIS was acceptable (Cronbach's alpha = 0.76).

Medication adherence rating scale

The Medication Adherence Rating Scale (MARS) was developed by Thompson, Kulkarni, and Sergejew (2000)[31] and translated into Thai by the research team, Kunchamnan and Pornchaikate Au Yeong. The MARS is a 10-item scale covering three domains: medication-taking behavior, positive attitudes toward medication, and negative attitudes/side effects. Items are rated using a dichotomous format (yes/no) and scored using a binary system (0 or 1 point). The total score ranges from 0 to 10, with higher scores indicating better adherence and scores >6 indicating regular adherence. The Thai version of the MARS has demonstrated validity and reliability.[32] In this study, the internal consistency of the MARS was acceptable (Cronbach's alpha = 0.78).

Brief COPE Inventory

The Brief COPE Inventory was developed by Carver, Scheier, and Weintraub (1989)[33] and translated into Thai by Numsang et al.[34] The Brief COPE Inventory is a 28-item tool that assesses two overarching coping styles: problem-focused and emotion-focused coping across 14 specific strategies.[35] Items are rated on a 4-point Likert scale, ranging from 1 (not at all) to 4 (very often). The total score ranges from 28 to 112. The higher the score, the greater the frequency and diversity of coping strategies employed. The Thai version of the Brief COPE Inventory has demonstrated good validity and reliability.[36] In this study, the internal consistency of the Brief COPE Inventory was good (Cronbach's alpha = 0.85).

Multidimensional scale of perceived social support

The Multidimensional Scale of Perceived Social Support (MSPSS) was developed by Zimet et al. (1988)[37] and translated into Thai by Wongpakaran et al.[38] The MSPSS is a 12-item scale. Items are rated on a seven-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). The total score ranges from 12 to 84. The higher the score, the greater the perceived social support. The Thai version of the MSPSS has demonstrated validity and reliability.[39] In this study, the internal consistency of the MSPSS was excellent (Cronbach's alpha = 0.92).

Ethical considerations

This study was approved by the Institutional Review Board of the Faculty of Nursing, Mahidol University (COA No. IRB-NS 2023/772.1704) and the Institutional Review Board of Suan Saranrom Hospital (COA No. SSR.IRB 010/2023). Institutional permission was obtained before participant recruitment. Participants received a detailed explanation of the study objectives and procedures and were informed that their participation was voluntary and that they had the right to decline or withdraw from the study at any time without penalty. Written informed consent was obtained from all participants and their legal representatives before participation. Participants who exhibited severe psychiatric symptoms during data collection were withdrawn from the study and referred for appropriate clinical care.

Statistical analyses

Statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS) (IBM, Armonk, NY, USA). Descriptive statistics, including frequency, percentage, mean, and standard deviation (SD), were used to summarize participant characteristics and study variables. Univariate logistic regression analysis was performed to identify variables associated with relapse ($p < .05$). Subsequently, significant variables were entered into a multivariate logistic regression model to adjust for potential confounders. A p-value < .05 indicated statistical significance.

RESULTS

Demographic characteristics of the study participants

A total of 220 participants were included in this study. Of the 220 participants, 48 (21.8%) were classified as having relapse, whereas 172 (78.2%) were classified as nonrelapse. Most participants (73.2%) were male. The age of the participants ranged from 18–59 years, with a mean age of 35.4 years (SD = 10.7). More than half of the participants (55.0%) were single, and 75.9% had completed secondary education. Furthermore, 58.2% were engaged in agriculture, business ownership, or trade, whereas 25.9% were unemployed. Most participants (62.7%) reported a low monthly income (≤10,000 baht). Regarding family characteristics, 71.8% reported having a close and supportive family relationship, and 89.5% had a family member serving as their primary caregiver. Most participants (95%) had no underlying medical conditions. Additionally, 60.0% had never smoked or had quit smoking, whereas 40% were current smokers (Table 1).

Descriptive characteristics of the study variables

The age at onset ranged from 17 to 58 years, with a mean age of 33.5 years (SD = 10.5). The mean DUP was 11.8 months (SD = 7.2). Approximately 45.9% of the participants reported a history of substance or stimulant use, with kratom (14.5%) being the most commonly used substance, followed by methamphetamine or ecstasy (14.1%) and cannabis (7.7%). Regarding psychosocial characteristics, 58.2% of the participants demonstrated good cognitive insight. Medication adherence was relatively high, with a mean score of 8.1. Participants used a diverse range of coping strategies, as indicated by a mean coping strategy score of 53.4. Additionally, perceived social support was moderate, with a mean score of 53 (Table 2).

The BPRS scores ranged from 18 to 44, with a mean of 27.6 (SD = 8.0). Based on these scores, 21.8% of the participants experienced severe psychiatric symptoms indicative of relapse, whereas 78.2% exhibited mild symptoms and were classified as nonrelapse.

Univariate logistic regression analysis of relapse among participants

In the univariate logistic regression analysis, 5 factors were found to be significantly associated with relapse: medication adherence (OR = 0.19, 95% confidence interval [CI] = 0.12–0.31, $p < .01$), coping strategies (OR = 0.65, 95% CI = 0.58–0.74, $p < .01$), social support (OR = 0.83, 95% CI = 0.79–0.88, $p < .01$), substance use (OR = 0.38, 95% CI = 0.19–0.73, $p < .01$), and cognitive insight (OR = 2.12, 95% CI = 1.11–4.05, $p < .05$) (Table 3).

Multivariate logistic regression analysis of relapse among participants

In the multivariate logistic regression analysis using the Enter method, medication adherence and coping strategies were significantly associated with relapse ($p < .05$). Every one-unit increase in medication adherence decreased the risk of relapse by 71% (OR = 0.29, 95% CI = 0.12–0.31, $p < .01$). Similarly, every one-unit increase in the use of coping strategies decreased the risk of relapse by 20% (OR = 0.80, 95% CI = 0.67–0.94, $p < .01$).

DISCUSSION

This study assessed the prevalence of relapse among patients with first-episode schizophrenia. The results showed that 21.8% experienced relapse, whereas 78.2% did not. The study participants were characterized by limited educational attainment, engagement in informal or low-skilled occupations, including agricultural and trade-related work, and a substantial unemployment rate. This pattern may reflect illness-related impairments associated with schizophrenia, which adversely affect educational achievement and occupational functioning, often resulting in dependence on family-based work or unemployment.[40]

A high proportion of participants reported supportive family relationships and identified family members as their primary caregivers, highlighting the potential protective role of family support in reducing the risk of relapse.[9,41] This may partly explain the relatively low relapse rate (21.8%) observed in the study. Furthermore, the findings likely reflect the sociocultural context of southern Thailand, where strong family cohesion plays a central role in caregiving practices and treatment decision-making. In this study, most patients live with their families and receive ongoing support, with close family involvement potentially contributing to the favorable outcomes observed. However, this context-specific dynamic may limit the generalizability of the findings, as it may not reflect circumstances in other regions of Thailand.[41,42] In addition, the majority of participants (95%) reported no comorbid medical conditions, while 40% were current smokers. Smoking has been reported to be associated with an increased risk of relapse and greater symptom severity in patients with schizophrenia.[43]

Schizophrenia represents a significant and growing challenge in mental health care. Recent policies promoting early hospital discharge have resulted in shorter inpatient stays.[2] Consequently, some patients continue to experience residual psychotic symptoms, which may increase the risk of relapse.[39] In this study, 21.8% of patients with first-episode schizophrenia had severe psychiatric symptoms

TABLE 1. Demographic characteristics of participants with nonrelapse and relapse ($n = 220$).

Personal characteristics	Total (n = 220)	Non-relapse (n = 172)	Relapse (n = 48)
Sex			
Male	161 (73.2)	125 (72.7)	36 (75)
Female	59 (26.8)	47 (27.3)	12 (25)
Age (year)			
≤25	44 (20)	34 (19.8)	10 (20.8)
26–50	151 (68.6)	118 (68.6)	33 (68.8)
>50	25 (11.4)	20 (11.6)	5 (10.4)
(mean = 35.4; SD = 10.7; min = 18; max = 59)			
Marital status			
Single	121 (55)	98 (57)	23 (47.9)
Married	42 (19.1)	29 (16.9)	13 (27.1)
Divorce/widowed	57 (25.9)	45 (26.1)	12 (25)
Education			
No formal education/primary	5 (2.3)	5 (2.9)	-
Secondary education	167 (75.9)	128 (74.4)	39 (81.3)
Vocational certificate	15 (6.8)	15 (8.7)	-
Bachelor's or higher	33 (15)	24 (14)	9 (18.7)
Occupation			
Government/state enterprise/private employee	35 (15.9)	28 (16.3)	7 (14.6)
Agriculturist/business owner/trade	128 (58.2)	105 (61)	23 (47.9)
Unemployment	57 (25.9)	39 (22.7)	18 (37.5)
Income (per month)			
≤10,000 baht	138 (62.7)	110 (64)	28 (58.3)
>10,000 baht	82 (37.3)	62 (36)	20 (41.7)
Family relationship			
Close and supportive	158 (71.8)	123 (71.5)	35 (72.9)
Minimal interaction	62 (28.2)	49 (28.5)	13 (27.1)
Caregivers			
Family members	197 (89.5)	153 (89)	44 (91.7)
No caregiver	23 (10.5)	19 (11)	4 (8.3)
Underlying medical conditions or diseases			
No	209 (95)	162 (94.2)	47 (97.9)
Yes	11 (5)	10 (5.8)	1 (2.1)
Smoking			
Never smoking/quit smoking	132 (60)	110 (64)	22 (45.8)
Smoking	88 (40)	62 (36)	26 (54.2)

Data are presented as numbers (percentages).

TABLE 2. Descriptive characteristics of study variables classified into nonrelapse and relapse groups ($n = 220$).

Variables		Total (n = 220)	Non-relapse (n = 172)	Relapse (n = 48)
Age at onset (years)				
≤25		66 (30)	50 (29.1)	16 (33.3)
26–50		138 (62.7)	108 (62.8)	30 (62.5)
>50		16 (7.3)	14 (8.1)	2 (4.2)
	Mean ± SD	33.5 ± 10.5	33.5 ± 10.43)	33.7 ± 11
	Min–max	17–58	17–54	17–58
DUP (months)				
≤12		175 (79.5)	133 (77.3)	42 (87.5)
13–24		43 (19.5)	37 (21.5)	6 (12.5)
>24		2 (1)	2 (1.2)	0
	Mean ± SD	11.8 ± 7.2	12.2 ± 7.5	10.4 ± 6.2
	Min–max	1–36	1–36	1–24
Substance use				
No		119 (54.1)	102 (59.3)	17 (35.4)
Yes		101 (45.9)	70 (40.7)	31 (64.6)
Methamphetamine/ecstasy		31 (14.1)	21 (12.2)	10 (20.8)
Crystal methamphetamine		12 (5.5)	5 (2.9)	7 (14.6)
Kratom/kratom juice		32 (14.5)	23 (13.4)	9 (18.8)
Cannabis		17 (7.7)	14 (8.1)	3 (6.2)
Alcohol/others		9 (4.1)	7 (4.1)	2 (4.2)
Cognitive insight				
Poor		92 (41.8)	65 (37.8)	27 (56.3)
Good		128 (58.2)	107 (62.2)	21 (43.8)
Medication adherence				
	Mean ± SD	8.1 ± 2.2	9 ± 1.4	4.8 ± 0.8
	Min–max	0–10	0–10	3–7
Coping strategies				
	Mean ± SD	53.4 ± 10.6	57 ± 8.7	40.5 ± 5.8
	Min–max	34–84	41–84	34–73
Social support				
	Mean ± SD	53 ± 9.4	55.7 ± 7.5	43.4 ± 9.2
	Min–max	31–84	40–84	31–60
Psychiatric symptoms (indicating relapse/non-relapse)				
	Mean ± SD	27.6 ± 8	24.4 ± 6	38.8 ± 1.8
	Min–max	18–44	18–36	37–44

Data are presented as numbers (percentages).

Abbreviations: DUP, duration of untreated psychosis; SD, standard deviation.

TABLE 3. Univariate and multivariate logistic regression analyses of relapse among participants ($n = 220$).

Variables	Univariate				Multivariate			
	B	OR	95% CI	*p*-value	B	OR	95% CI	*p*-value
Age at onset	0.00	1.00	0.97–1.03	.914	−0.02	0.98	0.91–1.07	.711
DUP	−0.04	0.96	0.92–1.01	.128	−0.11	0.90	0.79–1.02	.106
Substance use								
No (119)	1							
Yes (101)	−0.98	0.38	0.19–0.73	.004**	0.41	1.51	0.21–10.79	.683
Cognitive insight								
Poor (92)	1							
Good (128)	0.75	2.12	1.11–4.05	.023*	0.84	2.32	0.36–15.22	.379
Medication adherence	−1.64	0.19	0.12–0.31	.000**	−1.23	0.29	0.12–0.31	.000**
Coping strategies	−0.43	0.65	0.58–0.74	.000**	−0.23	0.80	0.67–0.94	.008**
Social support	−0.19	0.83	0.79–0.88	.000**	−0.05	0.95	0.83–1.1	.502

Abbreviations: DUP, duration of untreated psychosis; OR, odds ratio; CI, confidence interval.
*$p < .05$; **$p < .01$.

indicative of relapse. This finding is consistent with that of Pitanupong et al..[20], who reported that 22.4% of patients with schizophrenia in southern Thailand experienced severe psychotic symptoms within the first year. However, relapse lacks a universally accepted definition and is increasingly conceptualized as a multidimensional construct encompassing symptom exacerbation, hospitalization, and functional decline, rather than relying solely on symptom severity scores.[44] Therefore, the BPRS-based operational definition used in this study may not fully capture the complexity of relapse. Overall, these findings highlight the ongoing risk of relapse and underscore the importance of targeted early interventions.

The findings of this study indicate that biological, psychological, and social factors are significantly associated with relapse in patients with first-episode schizophrenia. However, the association between these factors and the risk of relapse has varied across previous studies, highlighting the complexity and contextual nature of these relationships. Univariate and multivariate logistic regression analyses revealed that medication adherence and coping strategies were significantly associated with relapse in patients with first-episode schizophrenia. Notably, social support, substance use, and cognitive insight were significantly associated with relapse only in the univariate analysis.

The results of this study showed that each one-unit increase in medication adherence was associated with a 71% reduction in the risk of relapse. This finding highlights the importance of medication adherence in controlling psychiatric symptoms and reducing the risk of relapse, especially in patients who experience symptoms at the early stage of illness. These findings are supported by various studies, which found an association between relapse of psychotic symptoms and non-adherence or inconsistent medication use.[9,18,24,45] Antipsychotic medications play a critical role in modulating neurotransmitter activity, stabilizing psychotic symptoms, and reducing the risk of relapse. Therefore, promoting medication adherence is crucial for achieving sustained symptom control, preventing relapse, and improving long-term clinical outcomes in patients with first-episode schizophrenia.

Furthermore, each one-unit increase in the coping strategy score was associated with a 20% reduction in the risk of relapse. Effective coping facilitates better adaptation and enhances relapse prevention.[21,39] Patients often develop diverse coping strategies to manage their condition and reduce the risk of relapse.[39,46] However, coping styles vary among individuals, reflecting personal differences in stress response and adaptation.[21] Coping strategies are particularly critical for promoting psychological adjustment and illness acceptance in patients with first-

episode schizophrenia. The initial experience of mental illness is often highly stressful and challenging to accept. Inadequate coping and poor illness acceptance may compromise treatment adherence, increase symptom severity, and increase the risk of relapse.[47] Consequently, participants adopted diverse coping strategies, rather than a single approach, to support symptom management and promote adjustment to everyday life.

The univariate analysis revealed that cognitive insight, perceived social support, and substance use were significantly associated with relapse in patients with first-episode schizophrenia, whereas the multivariate logistic regression analysis did not. Illness insight has been reported to be significantly associated with the risk of relapse. Patients with greater insight tend to show better treatment adherence and self-management, leading to lower relapse rates.[45,48] Even individuals with cognitive or educational limitations can effectively adhere to treatment when they have adequate illness awareness.[49] The absence of this association in this study may reflect contextual and sample characteristics, as most participants demonstrated good cognitive insight, potentially limiting the ability to detect its effect on relapse. Therefore, further studies are needed to investigate this association.

Previous studies have shown that support from family and broader social networks can enhance self-confidence, coping capacity, and treatment adherence, thereby reducing the risk of relapse.[24,50] However, no such association was observed in this study. This discrepancy may reflect the study context and sample variability. Most participants in this study were young adults residing in southern Thailand, a region with strong family and community ties. Most participants reported having family members as primary caregivers and close, supportive family relationships. This relative homogeneity may have attenuated its detectable effect on relapse. Additionally, the findings suggest that social support may exert an indirect rather than direct effect, warranting further investigation of potential mediating or interaction effects.[23]

Similarly, the univariate analysis demonstrated an association between substance use and relapse among patients with first-episode schizophrenia. Substance use has been reported to be associated with an increased risk of relapse due to its impact on neurotransmitter function, resulting in more severe symptoms.[9,51,52] However, this association may be attenuated in multivariable models due to the protective effect of good treatment adherence and the presence of shared variance with other psychosocial factors, which may reduce its independent contribution after adjustment.

Finally, age at onset and DUP were not significantly associated with relapse in the univariate and multivariate analyses. These variables may play a less critical role than other relapse-related factors.[14,51] Notably, most patients in this study had a DUP of less than 12 months, which may reflect improved access to early psychiatric care supported by a well-developed regional mental health system, including specialized psychiatric hospitals and structured referral pathways that facilitate early diagnosis, treatment initiation, and continuous follow-up.[24,42,49] Therefore, further studies with larger and more diverse samples are needed to investigate the association between age at onset and DUP and the risk of relapse.

The findings of this study indicate that medication adherence and coping strategies are critical determinants of relapse in patients with first-episode schizophrenia. The impacts of cognitive insight, social support, and substance use may be limited in this sample and context. Therefore, interventions should focus on promoting treatment adherence and fostering an effective and diverse range of coping strategies to enhance symptom management, facilitate psychological adjustment, and reduce the risk of relapse.

Strengths and limitations

The key strengths of this study lie in its focus on first-episode schizophrenia, a critical period during which targeted interventions can substantially alter long-term outcomes. The use of standardized and validated instruments enhances the methodological rigor and supports the reliability of the findings. Additionally, the sample size appears adequate based on the power calculation, and the statistical approach, particularly the use of both univariate and multivariate logistic regression, is appropriate for identifying independent predictors of relapse. However, certain limitations should be noted. First, the cross-sectional design limits the ability to infer causality. While associations are identified, it is not possible to determine temporal relationships between independent variables and relapse. A longitudinal design would be recommended for examining relapse dynamics over time. Second, the study was conducted in a single specialized psychiatric hospital under the Department of Mental Health, which may limit generalizability. Patients in such settings may differ from those in non-specialized or general care facilities. Therefore, caution is warranted when applying these findings to other contexts, including tertiary hospitals in different regions and primary or secondary care settings, where variations in care and patient characteristics may influence relapse among individuals with first-episode schizophrenia.

CONCLUSIONS

The prevalence of relapse was 21.8%, indicating that relapse is a major concern in patients with first-episode schizophrenia and underscoring the need for early and effective preventive strategies. Medication adherence and coping strategies were identified as key factors associated with relapse prevention. These findings highlight the importance of integrating adherence-enhancing interventions and diverse, effective coping strategies into routine clinical care to improve long-term outcomes and foster a holistic, patient-centered approach to schizophrenia management.

Data Availability Statement

The data are not publicly available due to privacy and ethical restrictions imposed by the Institutional Review Board (IRB) of Mahidol University, Thailand.

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DECLARATIONS

Grants and Funding Information

None.

Conflict of Interest

The authors declare no conflict of interest.

Registration Number of Clinical Trial

None.

Author Contributions

Conceptualization and Methodology: S.K. and A.P.A.; Investigation: S.K. and A.P.A.; Formal analysis: S.K. and A.P.A.; Data curation: S.K.; Writing – original draft: S.K.; Validation and writing – review & editing: S.K., A.P.A., A.S., and N.V.; Supervision: A.P.A., A.S., and N.V. All authors have read and approved the final manuscript.

Use of Artificial Intelligence

The authors used artificial intelligence (AI) to assist with language editing and enhance the clarity and academic quality of written work.

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