Attitudes Toward Long-Acting Injectable Antipsychotics among Schizophrenia Patients in Southern Thailand: A Multihospital-Based Cross-Sectional Survey

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ABSTRACT

Objective: To identify the attitudes toward long-acting injectable antipsychotics (LAIs) among schizophrenia at three psychiatric outpatient clinics in Southern Thailand from February to April 2021.

Materials and Methods: A study was conducted at three psychiatric outpatient clinics. All patients, who met the criteria of having schizophrenia based on ICD-10 criteria, aged 20-60 years were included. The questionnaires utilized were:1) Demographic information, 2) Profile of schizophrenia disorder, and 3) Attitude, knowledge, and satisfaction towards LAIs. All data were analyzed using descriptive statistics.

Results: There were 259 participants who completed the questionnaires. From the participants, 39% had a history of being treated with LAIs. A quarter of them felt LAIs made them feel stigmatized (26.3%), that they lost autonomy (24.7%), and embarrassed (16.6%). The reasons for refusing to receive LAIs were not fear of needles or pain at the injection site (49%), but rather that LAIs had more adverse effects than oral medications (47.9%). Half of them (51.8%) knew that they must continue to use LAIs, even though their symptoms had improved as LAIs played an important role by improving their symptoms (68.8%), and preventing relapse (51.8%). They were satisfied about having been involved in the decision making of using LAIs for their treatment (63.6%), having information on the risk-benefits from LAIs provided to them (72.3%), and the cost of LAIs (75.2%).

Conclusion: Before deciding to prescribe LAIs, we should ensure that all patients receive information about the risks, and benefits of LAIs, boosting acceptance for this formulation and mitigating concerns about patient autonomy reduction and stigmatization.

Keywords: Antipsychotics; attitude; knowledge; long-acting injectable; schizophrenia (Siriraj Med J 2022; 74: 193-201)

INTRODUCTION

Schizophrenia is a mental illness affecting about 0.7% of adults globally.[1] It is a long-term chronic disease, has residual symptoms and functional impairment. Therefore, using integrated treatment strategies; in terms of medication, psychosocial interventions,[2] including psychiatric rehabilitation, and decreasing stigmatization for schizophrenia are essential to both lessen the burden for family members and improve patients' quality of life.[3-5]

In the past, the core concept of schizophrenia management was a combination of ensuring patients gain insight, medical treatment, and the teaching of

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essential community-living skills, so as to integrate patients back into society.[6] Moreover, occupations and employment can reduce stigma and promote quality of life.[4-6] Although, some schizophrenia patients gain insight well, the truth of this illness makes them suffer from stigmatization. Because of this, patients usually deny or refuse medication, which in turn makes them relapse.[4] In addition, the relapse rate after the first episode of schizophrenia (FES) is high, often due to non-adherence with medication.[7]

Presently, antipsychotic medications play an effective role in schizophrenia symptom control and relapse prevention;[1,7] however, non-adherence to medication is still a major problem in the treatment of schizophrenia,[8] and is one of the most important predictors for relapse rates of more than 80% within 5 years.[9] Although, treatment response is better in FES than in multi-episode patients,[10] and within one-year response rates of about 87%, relapse rates are still high;[9] therefore, long-acting injectable antipsychotics (LAIs) have a role for promoting adherence to medication[1,7] in schizophrenia patients who having poor drug compliance.[11,12] However, in many countries, fewer than 20% of schizophrenia patients receive LAIs. The rate of LAIs usage among schizophrenia at the psychiatry department of the Faculty of Medicine, Prince of Songkla University, in 2018, was 12.7%.[13] The reason for this low prescribing rate of LAIs may be the patient attitudes and reluctance to accept depot treatment.[10] Despite good clinical evidence, depot treatment rates are still low across countries,[7] and depot antipsychotics are only seldom prescribed for patients with FES.[12]

Currently, some systematic review studies have reported that patients have generally positive attitudes toward LAIs compared with oral medication.[14-17] Additionally, it is generally considered that providing adequate information to patients and having a therapeutic relationship with the psychiatrist, which includes a shared decision-making processes, can promote a positive image to depot injections.[7] Although, some previously reviewed literature found that LAIs are associated with a better outcome, as a reduction of re-hospitalization and better adherence, schizophrenia patients are particularly fearful of being stripped of their autonomy when treated with LAIs, and that the injections may be painful. Moreover, the lack of adequate information given to patients may be a reflection of their negative attitudes towards LAIs. Providing adequate information on LAIs can help promote positive attitudes, especially as LAIs don't particularly increase the risk of side-effects such movement disorder.[11] Therefore, to enhance the use of LAIs, psychiatrists could improve their practice, by providing patients with more information regarding the different forms of available treatment during the early stages of this illness.[12] In addition, the availability of the deltoid route of administration would offer increased choices in LAIs administration, and may be perceived as more respectful and less socially embarrassing.[16] The aim of this study was to identify the prevalence of LAIs usage, attitudes, and satisfaction toward LAIs among schizophrenia outpatients, as this may provide useful, basic knowledge for enhancing the use of LAIs.

MATERIALS AND METHODS

After being approved by the Ethics Committee of the Faculty of Medicine, Prince of Songkla University (REC: 63-521-3-4) and Rajanagarindra Psychiatric Hospital (SKPH.IRB.COA 1/2021), this cross-sectional study was conducted at the three listed psychiatric outpatient clinics: Songklanagarind Hospital, which is an 800-bed university hospital serving as a tertiary referral center in Southern Thailand, Songkla Hospital, which is a 508-bed provincial hospital, and Songkhla Rajanagarindra Psychiatric Hospital, which is a 200-bed psychiatric hospital serving as a referral center in Southern Thailand. All schizophrenia outpatients, who had an appointment and were followed up at three psychiatric outpatient clinics; from February to April 2021, were invited to participate in the study. To be included, they had to meet the criteria of being adult schizophrenia outpatients by their psychiatrists and their case files were selected in the medical register, based on the following criteria: ICD-10 code F20.0-F20.9, aged 20-60 years, agreeing to participate in the study, able to understand and use the Thai language well and to complete all of the questionnaires. Patients who had more than one psychiatric diagnosis or comorbidity, did not wish to participate or decided to withdraw from the study and/or lacked mental capacity (judged by an outpatient psychiatric nurse) to complete all of the questionnaires, were excluded. We tried to calculate a sample size to determine the minimum number of subjects to enroll in our study. Following a literature review we could not find any information from studies about the prevalence of patient attitudes in regards to long-acting antipsychotic injections, in Thailand. Therefore, we simply identified all patients with an appointment and we followed them up during that period.

Data collection

All of the eligible schizophrenia outpatients were approached by the research assistant for recruitment, and were provided with an information sheet; which delineated the rationale for the study and the allotted time to complete the survey. All eligible participants had at

least 20-30 minutes to consider whether to participate in the study or not. Participants willing to collaborate were invited to a private location to complete the questionnaire, and were informed that they could stop at any time if they felt distressed, uneasy or were unwilling to perform any further. All participants were allowed to finish and return the questionnaires immediately, or at a later time. Participants could submit the questionnaires via two options: by dropping them in a secure box at the front of the clinic upon leaving, or by returning them later by placing them in a secure box located at the Psychiatry Department and/or Unit. Therefore, protecting respondent confidentiality.

Instruments

1) Personal and demographic information: inquiries around areas related to age, gender, marital status, religion, education, income, occupation, and history of physical illnesses.

2) Profile of schizophrenia disorder: the number of hospital admissions, duration of illness, and history of injection experience.

3) Self-rating questionnaires to evaluate attitude, knowledge, and satisfaction toward LAIs: 4 tools. The Drug Attitude Inventory (DAI-30) containing 30 questions concerning the aspects of the patient's perceptions and experiences of treatment.[18] The Satisfaction With Antipsychotic Medication scale (SWAM scale) containing 33 questions evaluating the patient's beliefs, patient's concerns, and other aspects of treatment; including social support and information regarding the patients.[19] A questionnaire from a study in Nigeria;[20] and a questionnaire from a study in Croatia.[21] Our tool consisted of 15 questions, in 3 domains: attitude, knowledge, and satisfaction. The response to each question ranged from disagree; neutral; agree, and strongly agree. This questionnaire's modification and content validity was reviewed by 5 psychiatrists; the content validity (CVI) score was 0.8. A pilot study was conducted with 20 volunteers; thus, Cronbach's alpha was 0.8.

Statistical analysis

Descriptive statistics; such as frequency, percentage, proportion, mean, and standard deviation (SD) were calculated. Chi-square tests were used in regards to the comparison of 'knowledge', 'attitude of schizophrenia patients who received LAIs' and 'no experience of receiving LAIs'. The analyses were conducted using R version 3.4.1 (R Foundation for Statistical Computing). Statistical significance was defined as a p-value of less than 0.05.

RESULTS

Demographic characteristics

From February to April 2021, 262 schizophrenia patients attended all three Psychiatric Clinics, and 259 of them agreed to collaborate and complete the questionnaires. The response rate was 98.9%. The majority of participants were male (62.5%), Buddhist (74.9%), and unmarried (82.2%). Overall, their mean age was 41.2 ± 10.9 years, and their median income (IQR) was 9,000 (4,000-15,000) baht, per month. Fifty-three participants (20.5%) reported having history of physical illness (Table 1). The most common physical illness were diabetes mellitus (32.7%), hypertension (25%), and dyslipidemia (21.2%). No statistically significant difference in demographic data was detected between the participants, according to the three hospitals.

Profile of schizophrenia disorder

For all the participants, their mean (S.D) duration of illness was 139.8 (104.5) months. The majority of participants (58.3%) reported having a history of inpatient admission; with the mean (S.D) number of admissions at 2.6 (2.4). No statistically significant difference in the profile of schizophrenia was observed between the participants, according to all three hospitals. 101 (39%) participants had a history of being treated with LAIs (Table 2), with the most common LAIs received being conventional LAIs; there were only 5 (4.9%) participants who had received novel LAIs.

However, a statistically significant difference in the history of psychiatric inpatient admission was detected between the participants who had received and those who had no experience of receiving LAIs. Of all participants who received LAIs, 75% of them had history of psychiatric inpatient admission; whereas, 52.6% of participants who had no experience of receiving LAIs had a history of psychiatric inpatient admission (Table 3).

Knowledge and attitude toward long-acting injectable antipsychotics

In regards to knowledge and attitude toward LAIs, the majority of participants knew that LAIs played an important role and improved their symptoms (68.8%), and that they must continue to use LAIs even though their mental health was improved (51.8%). They also knew that LAIs prevented symptom relapse (51.8%). However, 64 (24.7%) participants felt that LAIs made them feel a loss of autonomy, and 68 (26.3%) participants reported feeling stigmatized due to LAIs. Only 98 (37.8%) participants felt that LAIs were more convenient than oral

TABLE 1. Demographic characteristics (N = 259).

Demographic characteristics	Number (%)
Gender	
Male	162 (62.5)
Female	97 (37.5)
Religion	
Buddhism	194 (74.9)
Islam/Christianity/Other	62 (23.9)
No answer	3 (1.2)
Marital Status	
Single/Divorced	213 (82.2)
Married	39 (15.1)
No answer	7 (2.7)
Education level	
Secondary school/below	99 (38.2)
High school/diploma	92 (35.5)
Bachelor's degree or above	64 (24.7)
No answer	4 (1.5)
Occupation	
Employee/Agriculture	68 (26.3)
Government employees officer/state Enterprise officer/Private company employee	32 (12.4)
Merchant/Personal business	37 (14.3)
Unemployed/Student	118 (45.6)
No answer	4 (1.5)
Having income	
No	127 (49.0)
Yes	127 (49.0)
No answer	5 (1.9)
Having physical illness	
No	199 (76.8)
Yes	53 (20.5)
No answer	7 (2.7)

TABLE 2. Profile of schizophrenia disorder (N = 259).

Schizophrenia profile	Number (%)
Having history of inpatient admission	
No	97 (37.5)
Yes	151 (58.3)
Not answer	11 (4.2)
Having history of being treated with injectable antipsychotic agents	
No	89 (34.4)
Yes	170 (65.6)
Type of injectable antipsychotic agents	
Short-acting injectable antipsychotics	69 (26.6)
Long-acting injectable antipsychotics	53 (20.5)
Both	48 (18.5)

TABLE 3. The demographic characteristics comparison between a group of being treated with LAIs or not.

Demographic characteristics	Total (n=259)	History of being treated with LAIs Yes (n=101)	No (n=158)	Chi2 P-value
Gender				0.054
Male	162 (62.5)	71 (70.3)	91 (57.6)	
Female	97 (37.5)	30 (29.7)	67 (42.4)	
Education level				0.006
Secondary school/below	99 (38.8)	49 (50.0)	50 (31.8)	
High school/diploma	92 (36.1)	33 (33.7)	59 (37.6)	
Bachelor's degree or above	64 (25.1)	16 (16.3)	48 (30.6)	
Occupation				0.78
Employee/Agriculture	68 (26.7)	29 (29.6)	39 (24.8)	
Government employees officer/ state Enterprise officer/ Private company employee	32 (12.5)	12 (12.2)	20 (12.7)	
Merchant/Personal business	37 (14.5)	12 (12.2)	25 (15.9)	
Unemployed/ Student	118 (46.3)	45 (45.9)	73 (46.5)	
Religion				0.024
Buddhism	194 (75.8)	67 (67.7)	127 (80.9)	
Islam/Christianity/Other	62 (24.2)	32 (32.3)	30 (19.1)	
Marital Status				0.095
Single/ Divorced	213 (84.5)	88 (89.8)	125 (81.2)	
Married	39 (15.5)	10 (10.2)	29 (18.8)	
Having income				0.302
No	127 (50.0)	53 (54.6)	74 (47.1)	
Yes	127 (50.0)	44 (45.4)	83 (52.9)	
Having physical illness				0.637
No	199 (79.0)	77 (81.1)	122 (77.7)	
Yes	53 (21.0)	18 (18.9)	35 (22.3)	
Having history of admission				< 0.001
No	97 (39.1)	23 (25.0)	74 (47.4)	
Yes	151 (60.9)	69 (75.0)	82 (52.6)	

medications. However, more than half of the participants (61.8%) felt that their families accepted LAIs treatments. The reasons for refusing to receive LAIs did not appear to be due to a fear of needles or pain at the injection site (49%), but due to a belief that LAIs had more adverse effects than oral medications (47.9%) (Fig 1).

From a comparison between 101 participants who had experienced receiving LAIs and 158 participants who had no experience in receiving LAIs, statistically significant differences in knowledge, and attitude were identified between these two groups. In regards to the knowledge of LAIs, participants who had experience in receiving LAIs had higher percentages of knowledge in connection to LAIs improving their symptoms (79.6%) and that they must continuously use them even though their mental health had improved (65.3%) than the participants who had no experience of receiving LAIs who had percentages of knowledge at 63.5%, 40.8%, respectively. Regarding attitude toward LAIs, the participants who had an experience of receiving LAIs had less percentage

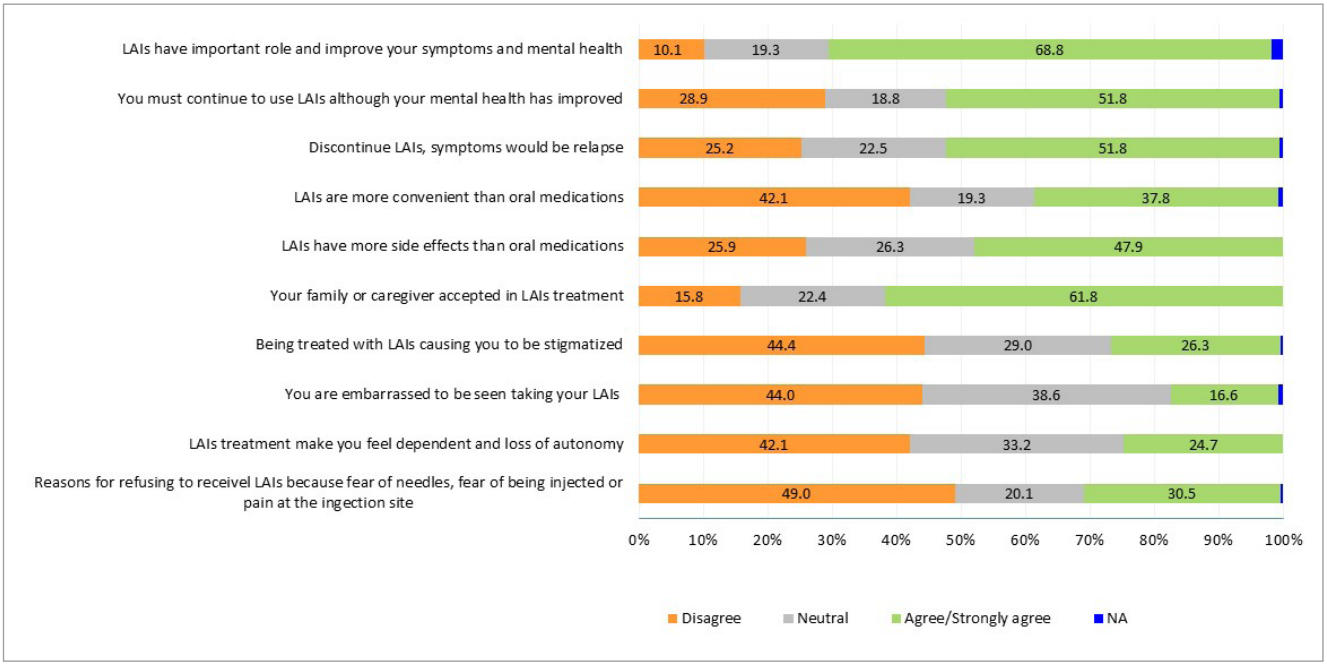

Fig 1. Knowledge and attitudes toward LAIs (N = 259).

of negative attitude and of feeling embarrassed and stigmatized than the participants who had no experience of receiving LAIs. Additionally, they were more likely to have families accepting LAIs treatment (78.2%) than the residual group who had no experience of receiving LAIs (51.3%) (Fig 2).

Satisfaction toward long-acting injectable antipsychotics

Of all 101 schizophrenia patients who had an experience of receiving LAIs, the majority of them (63.6%) thought that they were involved in the decision or choice of LAIs treatments. Despite this, they were satisfied with the provided information of the risk-benefits from LAIs, type, and cost of LAIs that they received (72.3%, 64.3%, and 75.2% respectively). Regarding LAIs causing any adverse effects, 41 (40.6%) participants agreed that LAIs caused adverse effect, whereas, 40 (39.6%) participants disagreed with LAIs causing any adverse effects (Fig 3).

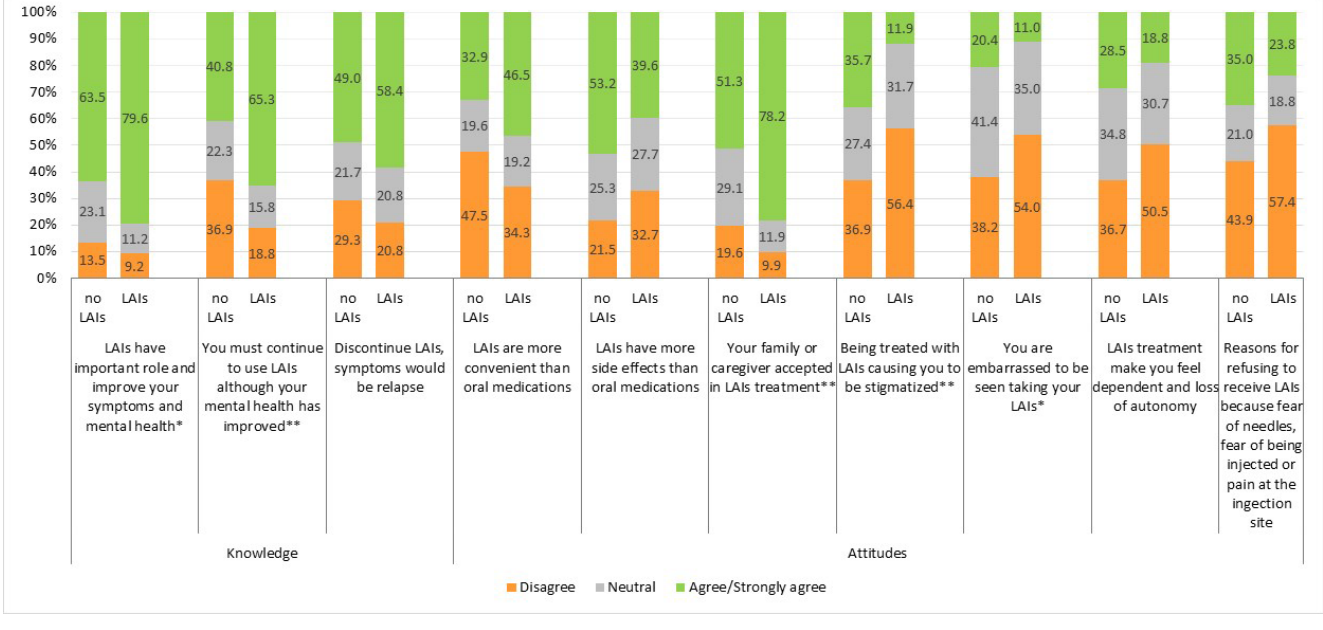

Fig 2. Comparison of knowledge, attitude of schizophrenia patients who received LAIs (N=101) or no experience of receiving LAIs (N = 158).

*p-value<0.05, **p-value<0.001

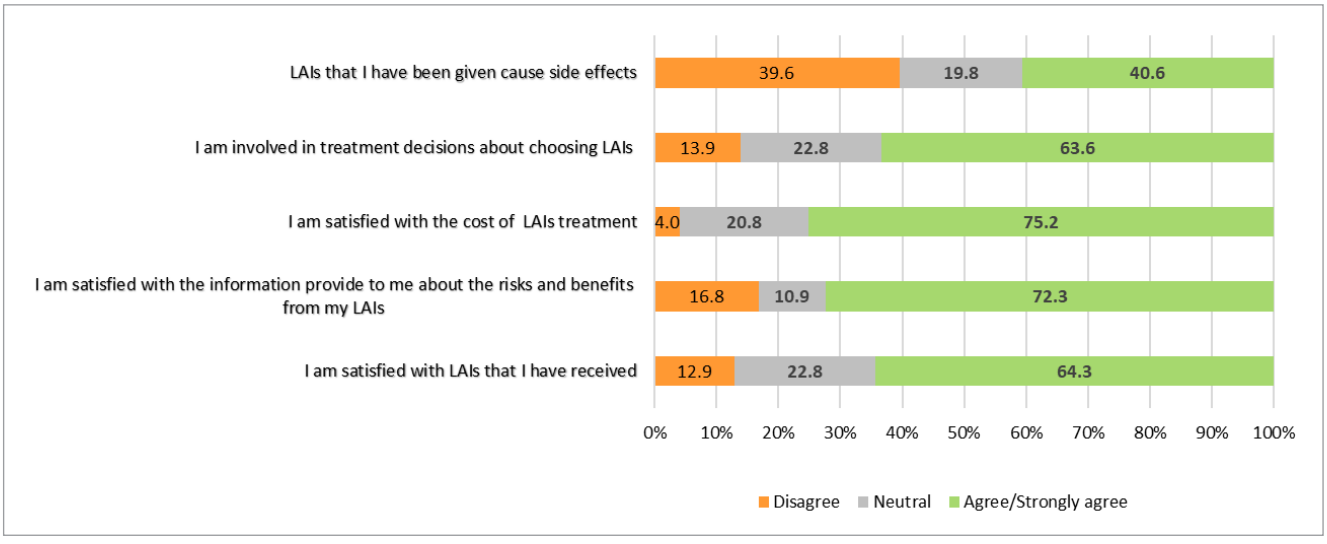

Fig 3. Satisfaction of schizophrenia patient toward LAIs (N = 101).

DISCUSSION

In clinical practice, the advantages and disadvantages of LAIs are still controversial. A better understanding of attitudes toward LAIs would likely enhance their acceptance and use in patients with schizophrenia. The objective of this study was to evaluate the attitudes of schizophrenia patients in regards to LAIs. In our study, there were 101 (39%) participants receiving LAIs. Furthermore, patients who received LAIs had favorable attitudes about LAIs in regards to: being involved in the decision or choice of treatment, family acceptance, efficacy, relapse prevention, type, and cost. However, participants who were receiving LAIs had a higher frequency of past psychiatric inpatient admission than the participants who had no experience of receiving LAIs.

According to the number of patients who received LAIs, this survey found a higher rate than the study in Japan[22] that found twenty-nine (18.2%) participants were on LAIs. However, another study from Australia showed that more than half of schizophrenia patients were receiving LAIs prescriptions.[23] The reason for the different rates of LAIs prescription might be the same as shown in previous studies; that LAIs prescriptions by psychiatrists and the patients' preference for LAIs depended on their preference of antipsychotic treatment in terms of their attitude and experience with the formulation.[10] Some psychiatrists frequently assume that patients with a FES would not recognize depot medication, and that depots were mostly suitable for chronic patients.[8] However, a recent study from several European countries found physicians willing to accept the usage of LAIs, and that having a positive attitude toward LAIs could influence the acceptance and usage of them to treat patients with schizophrenia.[24]

This study found that most patients had favorable attitudes towards LAIs, in regards to their cost. The reason might be that most prescriptions of LAIs in this study were of the conventional type, which incurred less economic burden to the patient and their family than a novel type.

Attitudes toward LAIs in this study identified that, the participants had favorable attitudes toward LAIs concerning efficacy because LAIs improved their symptoms (68.8%), and assisted them to prevent relapse (51.8%). They did not fear needles, being injected, or pain (49%). This finding was the same as a prior study that identified that the expectation of relapse prevention was significantly related with patients' acceptance of LAIs.[22] Moreover, some studies revealed that patients receiving LAIs prescribing rated their current medication useful and helpful, even among patients lacking insight.[23] Choosing the appropriateness of LAIs treatment, providing information of risks and benefits, and side effects from LAIs to patients might enhance the recognition and acceptance of this formulation, among schizophrenia patients. Besides, the discrepancy between the psychiatrists' and patients' opinions regarding the suitability of LAIs treatment was significantly associated with symptom severity, expectations about relapse prevention, beliefs that LAIs are painful, and LAIs providing a reduced range of antipsychotic choices.[22]

Moreover, mental health professionals are required to have a range of competencies to assist patients handle their medication effectively; and when clinicians and patients make a joint decision then they are both more likely to adhere to the treatment plan. Good practice in the administration of LAIs that points on where and when they should be given and administration techniques is

therefore very important. Clinician ability for talking with patients concerning their medication, including the exchange of data, monitoring the effects of medication, and planning choices in advance about treatment, in the event of a crisis should also be scrutinized.[25] This study revealed that the patients felt LAIs were not more convenient than oral antipsychotics (42.1%) and also had more adverse effects than oral antipsychotics (47.9%).

Concerning autonomy and stigmatization, our results indicated that even though more than half of the participants (63.6%) were involved in the choice of LAIs and had family acceptance for LAIs treatment (61.8%); a quarter of them (24.7%) regarded LAIs treatment as something that was limiting their autonomy, caused them to be stigmatized (26.3%), and made them feel embarrassed when seen by others to be taking LAIs (16.6%). A previous study showed that patients, more than psychiatrists, felt that LAIs restricted patient autonomy.[15] Therefore, psychiatrists and the patients' caretakers should be concerned about these ethical issues; especially regarding coercion. In addition, minimizing the patients' feelings of coercion by providing complete information to all patients in a therapeutic relationship, which includes a shared decision-making processes, could also reduce the negative image, being embarrassed by, and the stigmatization attached to depots.[8,17]

Finally, as the destinations of schizophrenia treatment are to manage symptoms, prevent relapse, and enhance both functioning and quality of life, the recommendations should include: 1) adopting a patient-centered approach; 2) selecting medications based on a balanced risk-benefit assessment, including a point on addressing symptoms related to the agents; 3) considering LAIs as an alternative to oral medications, as they offer benefits; such as, uncovering poor adherence, and reduced relapse risk; and 4) implementing psychosocial interventions that have been proven to be effective in enhancing adherence and overall outcomes.[26]

Strengths and limitations

This study had both strengths and limitations worth mentioning. To our knowledge, this is the only study on this topic conducted in Southern Thailand over the past decade. However, this study had some limitations as it was a cross-sectional survey and utilized self-administered questionnaires; therefore, some misunderstanding regarding the intended meaning of the questions may have taken place. Another drawback was that our data was quantitative, the sample size, and that participants were only schizophrenia outpatients in lower, Southern Thailand. Hence, its findings may not fairly represent the situation of schizophrenia patients throughout the country. Henceforward, studies are recommended to enclose a larger number of schizophrenia patients, with age group and gender differences from other hospitals in Thailand. Therefore, a more comprehensive, multi-centered research study should be performed. Moreover, other studies should retain more qualitative or in-depth methods.

CONCLUSION

Before deciding to prescribe LAIs formulations, the schizophrenia patient's attitude, and knowledge needs to be considered. This is particularly relevant as the care for schizophrenia is focused on symptom control, relapse prevention, and optimizing their quality of life. Clinicians should ensure that patients receive access to information such as the risks and benefits of treatment with LAIs, helping to improve the acceptance and use of such formulations and addressing any concerns that LAIs treatment is limiting their autonomy or causing stigmatization.

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