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Factors Influencing Therapeutic Management of Major Depressive and Generalised Anxiety Disorder among Adolescents at Hospital Kajang, Selangor

Nik Ateerah Rasheeda Mohd Rocky[1]*, Norliza Chemi[2]

[1]Universiti Teknologi MARA (UiTM), Puncak Alam Campus, 42300 Bandar Puncak Alam, Selangor, Malaysia
[2]Department of Psychiatry and Mental Health, Hospital Kajang, Jalan Semenyih, 43000 Kajang, Selangor, Malaysia

**Corresponding Author's Email: rasheedarocky@uitm.edu.my*

ABSTRACT

Background: Major depressive disorder (MDD) and generalized anxiety disorder (GAD) have been leading causes of morbidity. In 2011, 20% of Malaysians between 5 and 16 years old had mental health issues, and this percentage escalated to 24.5% in 2015. Despite the abundance of reports of mental health problems and suicides among adolescents worldwide, specific data for Malaysian adolescents is limited. The statistics available are outdated, and management algorithms are unavailable. This study aims to identify the prevalence and factors that contribute to MDD and GAD among adolescents and the trend of therapeutic management. **Methods:** A cross-sectional retrospective study involving 102 adolescents aged 10 to 19 diagnosed with MDD and GAD was conducted at Hospital Kajang, in which a convenient sampling method was applied. The data obtained were analyzed using Statistical Package for the Social Sciences (SPSS) software version 23.0. Descriptive analysis was used to analyze demographics, and categorical data were analyzed for frequency and percentage. A Pearson's Chi-square test was used to assess the association between the improvement of symptoms and therapy type, and a paired *t*-test was used to compare the mean number of symptoms between pre-and post-therapeutic management. **Results:** The prevalence of adolescents with MDD is 0.15% and GAD is 0.02%. There was a higher percentage of patients with parents' income below RM1000: 83.5% among MDD patients and 63.6% among GAD patients. Family factors are the major factors contributing to 32% of adolescents with MDD and GAD. The majority of patients (67.6%, n = 69) received a combination of psychotherapy and pharmacotherapy. There was a statistically significant difference in the number of MDD and GAD symptoms from the first day of treatment until the second follow-up ($p<0.001$). **Conclusion:** This study illustrates that family and academic examination factors were the main factors in adolescents' mental health issues, and various drugs were prescribed to treat MDD and GAD. A collective strategy targeting identified triggers is needed to curb this population's growing mental health issues.

Keywords: Adolescents; Generalized Anxiety Disorder; Major Depressive Disorder; Management

INTRODUCTION

Mental disorders are a cluster of conditions that incite disturbances in thought and behavior, resulting in an inability to endure daily activities (WHO, 2022). The usual symptoms experienced by individuals may include changes in mood or personal habits. Mental health problems may be triggered by extreme stress due to a series of events or environmental factors (e.g., low economic status, death, war, and abusive households), genetic predisposition, and biochemical imbalances (Lahdepuro *et al.*, 2019). Presently, client management is not only given psychopharmaceutical treatment but also with a psychotherapy approach for anxiety (Hartono *et al.*, 2021).

The Global Burden of Diseases, Injuries, and Risk Factors Study showed that the two most disabling mental disorders were major depressive disorder (MDD) and generalized anxiety disorder (GAD) (Santomauro *et al.*,

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2021). With proper care and treatment, many individuals could manage or recover. The risk of developing MDD and GAD is higher when the individual is in the adolescent stage. Moreover, suicide is the fourth leading cause of death among 15–29-year-olds (WHO, 2021). A prevalence study conducted among adolescents in the United States of America showed that 1 in 20 had anxiety or depression, and these disorders were associated with significant comorbidity (Bitsko *et al.*, 2018). Similar studies from other developed countries, such as Canada (Gadermann *et al.*, 2022), Europe (Deighton *et al*., 2019), and Australia (Sawyer *et al.*, 2018), demonstrated a high burden of adolescent mental health disorders. Studies conducted in low- and middle-income (LMIC) countries also showed an increasing trend. A systematic review concluded that many LMICs face various challenges in child and adolescent mental health (CAMH) policy development and implementation (Zhou *et al.*, 2020). In Malaysia, one in eight adolescents aged 10–19 is estimated to have a mental disorder, and suicide was the second leading cause of death among adolescents (National Health Mobility Survey, 2019).

This study aims to identify the prevalence and factors contributing to the development of MDD and GAD among Malaysian adolescents and their trend toward therapeutic management, as there are an abundance of reports of mental health problems and suicide rates among adolescents from around the world and the association of MDD and GAD with adverse health outcomes such as cardiovascular diseases and other metabolic abnormalities. However, there are no published local studies or clinical practice guidelines on the appropriate therapeutic management algorithms for adolescents, as well as a mental health policy or action plan uniquely pertaining to this population.

METHODOLOGY

Due to the nature of this research, the records of the patients are confidential and not permitted to be shared publicly, so supporting data are not available.

Source of Data

A data collection form (DCF) was constructed to extract data from the patients' prescriptions. It consists of three sections:

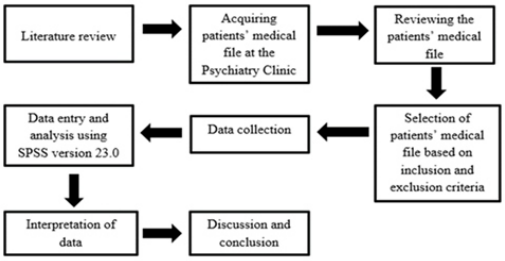
Section 1: Demographic details of the patient (age, gender, race)

Section 2: Medical history of the patient (past medical histories, past medications, history of presenting illness, factors contributing to the development of depression or anxiety, symptoms on the first and second visits)

Section 3: The prescribed management (CBT, pharmacological agents, combination of CBT and pharmacological agents) A retrospective cohort study was conducted using a self-designed data collection form (DCF) involving 102 patients that contained demographic data, past medical and medication history, reasons for hospitalization, history of presenting illness, contributing factors, and management during hospitalization. The sample size was calculated using Cochran's formula. With a self-designed data collection form (DCF), 120 patients' files were collected that complied with the inclusion criteria (Malaysian adolescents aged 10–19 years old admitted to Hospital Kajang and diagnosed with MDD and/or GAD from 2010 until 2018). Eighteen files were excluded due to an unclear diagnosis, being between 10 and 19 years old and non-Malaysian. The type of treatment received, pharmacotherapy prescribed, and symptoms reported were extracted from the DCF. The side effects of medications and improvement or worsening of symptoms were recorded on the patients' second visit to the clinic. The cut-off points of two weeks from the day of the first visit to the day until the next second follow-up were used as suggested by clinical practice guidelines, Management of Major Depressive Disorder, 2019.

Statistical Analysis

Data obtained from the files were analyzed using Statistical Package for the Social Sciences (SPSS) software version 23.0. A descriptive analysis was used to analyze the demographics of the patients. The data were presented in the form of tables. All recorded information was coded into variables. The categorical data were analyzed for frequency and percentage, while the numerical data were checked for normality of distribution using skewness and kurtosis. The data were normally distributed; hence, a parametric test was applied, and the data were presented in mean and standard deviation (SD). Pearson's Chi-square test was applied to assess whether there is a significant association between the improvement of symptoms and the type of therapy received by patients, and a paired t-test was used to compare the mean number of symptoms between pre- and post-therapeutic management.



Ethical Consideration

This study obtained ethical approval from the Medical Research and Ethics Committee, Ministry of Health, Malaysia on 9th March 2018 with reference number NMRR-18-222-39601.

RESULTS

The youngest patient was 13 years old, and the oldest was 19 years old. The majority of the adolescents were female (n= 56, 54.9%). Malay patients comprised 58.8%, 24.5% were Chinese, 14.7% were Indian, and 2.0% were of other undisclosed ethnicities. Other than that, (n=60, 58.8%) were Muslims, (n=24, 23.5%) were Buddhists, (n=14. 13.7%) were Hindus, and (n=4, 3.9%) were Christians. The majority of the patients (81.4%) have parents' income of less than RM1000 per month, while 18.6% of patients have parents' income of RM1000 and above. Next, the majority of the patients (64.3%, n= 66) were still studying in primary and secondary school, college, or university, while (35.3%, n=36) quit studying, and 73.5% of the patients were unemployed and 26.5% were doing part-time jobs (Table 1). The prevalence of MDD and GAD was also studied, and the point prevalence of adolescent patients with MDD, GAD, and MDD with GAD referred to Hospital Kajang was 0.152%, 0.019%, and 0.011% respectively (Table 2).

Table 1: Distribution of Patients According to Demographic Characteristics

Characteristics	Frequency N=102	Percentage (%)	Range	Mean (SD)
Age			13 - 19	17.63 (1.29)
Gender				
Male	46	45.1		
Female	56	54.9		
Race				
Malay	60	58.8		
Chinese	25	24.5		
Indian	15	14.7		
Others	2	2.0		
Religion				
Islam	60	58.8		
Buddha	24	23.5		
Hindu	14	13.7		
Christian	4	3.9		
Parents income				
Below RM1000	83	81.4		
RM 1000 and above	19	18.6		
Living arrangement				
With both parents	59	57.8		
With mother only	23	22.5		
With other people	10	9.8		
With father only	5	4.9		
With mother and stepfather	3	2.9		
With father and stepmother	2	2.0		

Education				
Studying	66	64.7		
Quits study	36	35.3		
Employment status				
Unemployed	75	73.5		
Employed	27	26.5		

Table 2: The Prevalence of MDD, GAD and MDD with GAD among Adolescents at Hospital Kajang

Diagnosis	Frequency n= 102	Percentage (%)	Prevalence (%)
MDD	85	83.3	0.152
GAD	11	10.8	0.019
MDD with GAD	6	5.9	0.011

There were 7% of the patients that had past medical illnesses involving mental disorders. It was also found that the highest number of patients (n=39) first came to the clinic with a complaint of depressed mood followed by aggressive behaviour (n=20) (Table 3).

Table 3: The Past Medical Histories and the Presenting Complaints of MDD and GAD Adolescents at Hospital Kajang

Past medical histories	Frequency N= 102	Percentage (%)
None	88	86.3
Respiratory system		
Asthma	2	2.0
Mental disorder		
Schizophrenia	2	2.0
Attention deficit hyperactivity disorder (ADHD)	2	2.0
Bipolar mood disorder	1	1.0
Autism	1	1.0
Asperger's syndrome	1	1.0
Endocrine system		
Hypothyroidism	1	1.0
Cardiovascular system		
Hypertension	1	1.0
Nervous system		
Traumatic brain injury	1	1.0
Others		
Benign endometrial polyp	1	1.0
Obesity	1	1.0
Chief complaints		
Depressed mood	39	38.2
Aggressive behaviour	20	19.6
Suicide attempt	17	16.7
Insomnia	14	13.7
Prolonged anxiety symptoms	5	4.9
Severe panic attack	7	6.9

Contributing factors were divided into six categories. Family factors were the major factors contributing to MDD and GAD. Next, 21.9% of patients developed MDD or GAD due to social factors. Other than that, 6.9% of the patients endured physical abuse, 6.3% had drug or alcohol abuse problems, and 5.6% had been sexually abused. Furthermore, 8.8% of patients developed MDD and GAD due to major school examinations (Table 4).

Table 4: Contributing Factors of MDD and GAD

Factors	Frequency N=102	Percentage (%)
Only one contributing factor	51	50
More than one contributing factors	51	50
	Frequency (n=160)	**Percentage (%)**
Family factors		
Divorced parents	29	18.1
Family history of mental health problems	8	5.0
Family disharmony	7	4.4
Separated from parents	5	3.1
Social factors		
Bullying	16	10.0
Financial problem	9	5.6
Failed relationship with partners	7	4.4
Job termination	3	1.9
Problem of abuse		
Physical abuse	11	6.9
Substance abuse	10	6.3
Sexual abuse	9	5.6
Academic issues		
Major school examinations	14	8.8
Failed classes	2	1.2
Expulsion from universities	2	1.2
Others		
Low self-esteem	13	8.1
Physical disability	3	1.9
Diseases		
History of mental health problems	7	4.4
Underlying chronic illnesses	5	3.1

Most of the patients (n=69, 67.6%) received a combination of psychotherapy and pharmacotherapy. 19% and 14% of the patients received monotherapy of psychotherapy and pharmacological agents respectively (Table 5). There were six different psychotherapies received by these patients. The majority of the MDD and GAD adolescents (44.3%, n=39) received CBT and 27.3% received supportive psychotherapy (Table 6).

Table 5: Type of Therapy Prescribed on the First Visit

Treatment type	Frequency *n*= 102	Percentage (%)
Monotherapy		
Psychotherapy only	19	18.6
Pharmacological agent only	14	13.7
Combination		
Psychotherapy with pharmacological agents	69	67.6

Table 6: Type of Psychotherapy

Psychotherapy	Frequency *n*= 88	Percentage (%)
CBT**	39	44.3
Supportive psychotherapy	24	27.3
Relaxation technique	7	8.0
Breathing exercise	6	6.8
Stress management technique	6	6.8
Sleep hygiene	6	6.8

***unknown activities*

Eighty-five adolescents were diagnosed with MDD and 70 of them received pharmacotherapy. There were (57.2%, n= 40) patients who received a single agent of selective serotonin reuptake inhibitors (SSRIs) followed by venlafaxine, amitriptyline, and agomelatine. Twenty-four of the MDD patients received SSRIs with benzodiazepines or non-benzodiazepines, and two patients received a combination of fluvoxamine, benzodiazepines, and risperidone. Among 11 adolescents diagnosed with GAD, seven received SSRIs. Other than that, (57.2%, n= 4) were prescribed lorazepam and SSRIs. Six patients were diagnosed with MDD and GAD, and five of them received SSRIs. Three patients received benzodiazepines together with SSRIs and one patient received zolpidem and escitalopram (Table 7).

Table 7: Pharmacological Agents Received by MDD, GAD and MDD with GAD Patients

Diagnosis	Pharmacological agent	Frequency n= 70	Percentage (%)
MDD	**Single Agent**		
	SSRIs		
	Fluvoxamine	17	24.3
	Sertraline	11	15.7
	Fluoxetine	9	12.9
	Escitalopram	3	4.3
	SNRIs		
	Venlafaxine	2	2.9
	TCAs		
	Amitriptyline	1	1.4
	Atypical Antidepressant		
	Agomelatine	1	1.4
	Double Agents		
	Fluvoxamine + lorazepam	6	8.6
	Fluvoxamine + risperidone	6	8.6
	Sertraline + lorazepam	2	2.9
	Escitalopram + zolpidem	2	2.9
	Fluoxetine + lorazepam	2	2.9
	Escitalopram + lorazepam	1	1.4
	Fluoxetine + zolpidem	1	1.4
	Fluoxetine + alprazolam	1	1.4
	Fluoxetine + zolpidem	1	1.4
	Escitalopram + risperidone	1	1.4
	Sertraline + zolpidem	1	1.4
	Triple Agents		
	Fluvoxamine + risperidone + alprazolam	1	1.4
	Fluvoxamine + risperidone + lorazepam	1	1.4
GAD	**Single Agent**		
	SSRIs		
	Fluvoxamine	2	28.6
	Escitalopram	1	14.3
	Double agents		
	Fluoxetine + lorazepam	3	42.9
	Sertraline + lorazepam	1	14.3
MDD with GAD	**Single-Agent**		
	SSRIs		
	Fluvoxamine	1	20.0
	Double Agent		
	Sertraline + lorazepam	1	20.0
	Escitalopram + lorazepam	1	20.0
	Fluoxetine + alprazolam	1	20.0
	Escitalopram + zolpidem	1	20.0

The number of days to the next follow-up is between 7 and 60 days, with a median of 26.26 days (1.75) (Table 8). Fifty-five percent of patients who went for a follow-up after less than 14 days showed improvement in symptoms, while 45.0% did not show any improvement. Eighty-two patients went for the next follow-up session after two weeks or longer, and (67.1%, n=55) showed symptom improvement while (32.9%, n=27) did not (Table 9). After conducting a paired t-test, it was found that the mean number of symptoms between pre- and post-therapeutic management was significantly different (p=<0.001, 95% CI 2.08, 2.94). The mean (SD) number of symptoms is lower than the post-therapeutic management mean number of symptoms (Table 10).

Table 8: Median of Days to Second Follow-Up

	Frequency N=102	Percentage (%)	Range (days)	Median (IQR)
Days to next follow-up			7 - 60	26.26 (1.75)
Two weeks and longer	82	80.4		
Below two weeks	20	19.6		

Table 9: Improvement of Symptoms Based on the Number of Days Until the Next Follow-Up

No. of days until next follow-up *n*=102	Improved		Not improved	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Below two weeks	11	55.0	9	45.0
Two weeks and longer	55	67.1	27	32.9

Table 10: The Mean Number of Symptoms Between Pre- and Post-Therapeutic Management

Variables	Pre-therapeutic management mean (SD)	Post-therapeutic management mean (SD)	Mean of score difference (95% CI)	*P*-value*
Number of symptoms	5.17 (1.42)	2.66 (1.85)	2.51 (2.08, 2.94)	<0.001

**p<0.001 shows significance, n=102*

Pearson's Chi-square test was used to analyse the association between the improvement of symptoms and the type of treatment prescribed. There was a statistically significant association between symptom improvement and the type of treatment received by the patients (p<0.001) indicating that the improvement of patients' symptoms is dependent on the type of therapy (Table 11). Next, the same test was used to show that the association between the improvement of symptoms and the number of days until the next follow-up was not statistically significant (p>0.05). The result indicated that the improvement of symptoms is independent of the number of days until the next follow-up (Table 12).

Table 11: Association Between Improvement of Symptoms and Type of Treatment Prescribed

Type of therapy	Symptoms		X^2 statistic (*df*)	*P* value*
	Improved	Not improved		
Monotherapy	5 (13.9)	31 (86.1)	1[a]	<0.001
Combination therapy	61 (92.4)	5 (7.6)		

*aPearson's Chi-square test; *p<0.001 shows significance, n=102*

Table 12: Association Between Symptoms Improvement and Number of Days Until Next Second Follow-Up

Duration to next second follow-up	Symptoms		X^2 statistic (*df*)	*P* value*
	Improved	Not improved	1[a]	0.31
Below two weeks	11 (55.0)	9 (45.0)		
Two weeks and longer	55 (67.1)	27 (32.9)		

aPearson's Chi-square test
**p>0.05 did not show significance, n=102*

DISCUSSION

The point prevalence in this study is very low compared to the national reports and other studies (Ibrahim *et al*., 2022; Sahril *et al*., 2019; Taufik *et al.*, 2022). This might be due to under-reporting and a lack of awareness among adolescents as well as among their parents or caregivers to bring the adolescent to seek treatment and psychological evaluation. In some Asian cultures, seeking professional help for mental illness may be against cultural values. The stigma around mental health disorders is a profound issue in Malaysia with diverse racial and ethnic communities, and it can be a strong barrier to people getting access to mental health services (Borenstein, 2020).

This study provides insights into the sociodemographic, psychosocial, and academic factors that may contribute to MDD and GAD among adolescents admitted to Hospital Kajang. These factors were divided into six categories: family factors, social factors, problems of abuse, academic issues, and underlying diseases. A study finding reveals the importance of developing interventions, such as health education initiatives or counselling services, aimed at assisting graduating students in mitigating anxiety, fatigue, and depression to ensure their well-being (De Paz, Armstrong, Mullon, 2021). These factors are similar to a cross-sectional observational study involving 19 higher education institutes in Malaysia that explained parental marital status, academic achievement, family history of mental illness, and comorbidities as the specific characteristics that significantly predicted depression symptoms (Wahab *et al.*, 2022). Many patients with familial problems complained of not receiving affection from their parents. Adolescents with separation anxiety or the threat of separation from their parents have a strong risk factor for the development of depression and substance use disorder (Feriante & Bernstein, 2020). This separation can be caused by parental divorce, the death of one or both parents, and financial constraints that forced the parents to give up their child to other caregivers. Hence, it is important to include parents in the treatment course as the cognitive and behavioral development of an adolescent has close ties to their families of origin. When an adolescent experiences separation, the relationship and interaction with the parents will be interrupted. Maternal mental health problems are also associated with a high risk of depression among adolescents (Halonen *et al.*, 2021). Family disharmony can cause emotional disturbance in adolescents. This issue will lead to adolescents being reluctant to go to school and unable to focus on learning.

CBT, supportive psychotherapy, relaxation techniques, breathing exercises, stress management techniques, and sleep hygiene were practiced in this hospital. Adolescent depression and anxiety can be treated with SSRIs, CBT, and interpersonal therapy. However, a single course of any of these treatments' leaves some of the patients with unsatisfactory improvements in symptoms and leaves them still battling with MDD (Bains & Abdijadid, 2022). The majority of the patients in this study received pharmacotherapy along with psychotherapy. Combined therapy has been shown to hasten recovery among patients receiving CBT and antidepressants while minimizing the risk of suicidality relative to antidepressants alone. In a randomized clinical trial, participants receiving cognitive therapy and antidepressants showed 17% greater reductions in suicidal ideation relative to those receiving medications alone (Khazanov *et al.*, 2021). With regards to GAD, SSRIs, serotonin-norepinephrine reuptake inhibitors (SNRIs), and tricyclic antidepressants are recommended. Although there is no strong evidence on which individual treatment is more effective, many studies have concluded that CBT and pharmacotherapy together are far superior to either alone (McCarthy, 2020). Pearson's Chi-square test was applied to analyze the association between the improvement of symptoms and the type of treatment prescribed, and there was a statistically significant association between symptom improvement and the type of treatment received by the patients ($p<0.05$), indicating that the improvement of the patient's symptoms is dependent on the type of therapy. A study indicated that performing certain actions a minimum of three times each week is linked with good psychological health. Similar future program might contribute to the creation of innovative psychological and public health interventions that can empower individuals to improve their mental well-being (Bisby *et al.*, 2023).

With regards to pharmacological agents used to treat adolescent depression, the approach is indefinite. The UK guidelines recommend psychological therapy first, while the USA guidelines recommend starting with either pharmacotherapy or psychotherapy, then switching to or adding other modalities if there is an inadequate response (Hazell, 2022). SSRIs are the most commonly prescribed for adolescents between 12-17 years old (Dwyer & Bloch, 2019).

In Malaysia, there are no clinical practice guidelines on the management of MDD and GAD, particularly for this group of people. The popularity of SSRIs might be due to their minimal side effects, tolerability among

patients, and less frequent dosing as they are taken once daily (Moreland & Bonin, 2022). In this study, fluvoxamine was the most commonly prescribed SSRI, followed by sertraline, fluoxetine, and escitalopram. Generally, SSRIs were well tolerated. Only one patient complained of drowsiness, one had a headache, and one experienced gastrointestinal discomfort.

Although venlafaxine has not exhibited potential efficacy in adolescents with MDD, psychiatrists still prescribe this SNRI to patients who are deemed suitable based on clinical judgment or to patients who have experienced intolerable side effects of SSRIs. Another patient in this study was prescribed amitriptyline due to the gastrointestinal side effects of SSRIs, and after taking amitriptyline, the side effects resolved, and the depressive symptoms were controlled. A meta-review concluded that venlafaxine was less well tolerated in MDD and was associated with a significantly increased risk for suicidal behavior or ideation, while amitriptyline was more effective than placebo in improving depressive symptoms (Boaden *et al*., 2020).

In this study, patients were also prescribed benzodiazepines (lorazepam and alprazolam) and z-drugs (zolpidem). Patients often complained of disturbed sleep and mid-nocturnal insomnia. Short sleep makes depressive disorders more likely to occur. Depression and anxiety increase the risk of shortened sleep (Hutka *et al*., 2021). To overcome sleep problems, benzodiazepines and zolpidem were prescribed together with antidepressants and anxiolytics. However, benzodiazepines have a limited role in the treatment of adolescent anxiety disorders. They have a quick (minutes to hours) anxiolytic onset of action compared with antidepressants (several weeks). Benzodiazepines are also associated with adverse effects such as drowsiness and irritability, and they can also be subjected to abuse and addiction (Cosci & Chouinard, 2020). Hence, it is a common belief that their use in a younger population should be limited. Many clinical trials of benzodiazepines as anxiolytics have been insufficient to investigate their efficacy and safety due to limitations. Large clinical trials reported no differences in symptom reduction between benzodiazepines and placebo in children and adolescents between 7 and 18 years old (Leonte *et al.*, 2022). Zolpidem and other z-drugs have effects similar to benzodiazepines on the quality of sleep without changes in sleep architecture at normal doses, but they may not be favorable for daytime anxiety (Dubovsky & Marshall, 2022). The evidence or results from most of the research or trials that studied benzodiazepines and z-drugs did not provide concrete evidence to fully support the practice of prescribing benzodiazepines and z-drugs to adolescents or the pediatric population. Therefore, prescribing benzodiazepines or zolpidem in combination with any antidepressants or anxiolytics must be considered judiciously, as it might impose possible hazards such as dependence and the risk of getting into accidents. Recent studies shows that augmenting treatment-as-usual with transdiagnostic treatment for emotional disorders can be effective in reducing depression for individuals with depressive and/or anxiety disorders, particularly enhancing the support for transdiagnostic treatment for emotional disorders as a treatment for patients primarily diagnosed with MDD (Ito *et al.*, 2023). So, effective care and treatment for anxiety disorders are essential due to their prevalence (around 3.6% of the population). Interventions, including teaching relaxation techniques and distraction, help patients recognize and manage anxiety, with distraction providing short-term relief by stimulating endorphin release (Hartono *et al*., 2021).

CONCLUSION

This study had several limitations, including a small sample size, language barriers, and underreporting of mental health disorder cases. A larger sample size could provide more data on demographic backgrounds, therapeutic management, symptom improvement, and side effects experienced by patients. Additionally, underreporting of mental health disorder cases to hospitals may have contributed to the small sample size and reporting bias. The study also had limitations, such as selection bias and lost cases. Future research could include records from other public and private hospitals in Malaysia to identify treatment patterns, efficacy, compliance, and adherence.

Conflict of Interest

The authors declare that they have no competing interests.

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