Research Article

PARENTAL STRESS IN PATIENTS WITH SCHIZOPHRENIA SPECTRUM DISORDER

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Objectives: **This study aimed to determine the prevalence of parental stress in patients with schizophrenia spectrum disorder and the contributing factors.** ***Methods:*** **This is a cross-sectional study involving 115 patients with schizophrenia spectrum disorder who were attending an outpatient psychiatric clinic, recruited through universal sampling. Those who fulfilled the selection criteria and gave informed consent were selected. Socio-demographic data, perceived parenting capacity, children's data, and illness data were obtained from the patient during interview as well as from the clinical notes. Presence of parental stress and severity of psychiatric symptoms were measured using Parental Stress Scale (PSS) and Brief Psychiatric Rating Scale (BPRS) respectively. Descriptive analysis was performed, followed by univariate analysis and multiple logistic regression analysis, using International Business Machines (IBM®) Statistical Package for Social Science (SPSS) version 24.** ***Results:*** **60 out of 115 participants (52.2%) had parental stress. Factors associated with parental stress include ethnicity (p=0.032), total household income (p=0.004), parenting children with mental or learning disability (p=0.022), perceived financial inadequacy (p=0.049), perceived food inadequacy (p=0.049), and presence of psychiatric symptoms (p=0.001). Ethnicity, total household income, parenting children with mental or learning disability, and presence of psychiatric illness were the predictors for parental stress among patients with schizophrenia spectrum disorder.** ***Conclusion:*** **Parental stress is prevalent in this group. Hence, health care professionals should be able to identify the risk factors and to provide them with necessary support.** ***ASEAN Journal of Psychiatry, Vol. 23(3) March, 2022; 1-14.***

Keywords: Schizophrenia, Parental Stress, Schizoaffective, Psychosis

Introduction

Schizophrenia is a debilitating illness which cause many who suffer this illness have problem in relationship, failed to have companionship and live single [1]. Guided by mental health action plan 2013-2020 by World Health Organization [2], excellent advancement in pharmacotherapy and community-based treatment, number of people with schizophrenia who have companion, married and become a parent have increased.

Parenthood poses a great challenge to both men and women with schizophrenia [3,4]. While suffering from disturbing symptoms, patients with schizophrenia are experiencing deterioration in social functioning [5], problems in courtship and conception [6], perinatal psychiatric disorders and obstetric complications [7], making parenthood more difficult. Moreover, schizophrenia generally is associated with unemployment, occupational dysfunction, poverty and social inequality which hinder optimum quality of family life [8]. However, with support for both parent and children, schizophrenia does not preclude effective parenting [3,4].

A review of the literature suggests that serious mental illness is associated with problematic parenting, including elevated parenting stress and dampened nurturance [9]. A systematic review of seven articles demonstrated the association

between parental psychotic disorders and negative outcome on parenting and parent-child relationship. Serious mental illness such as schizophrenia induces chaotic, ambivalent communication; severe impairments in the ability of parenting; parenting stress; disorganized, disrupted parenting as well as maladjusted relationship; parents experiencing burden of nurturing and features of permissive, neglectful and authoritarian parenting styles [10].

Besides vulnerable to episodic symptoms of psychosis, people with schizophrenia also experience mood problems, interpersonal problems, behaviour problems, and cognitive problems that would interfere with optimal parenting. The medications that help to control psychotic symptoms may induce sedation and passivity, which further contributing to parenting difficulties

It is found that research on parenthood in people with psychotic disorders has mostly taken mainly the perspective of children and mothers. There is a significant gap of knowledge on how parental stress occurs among fathers who have psychosis and its impact to fatherhood [10].

The impact of father's mental health on parenting and parenthood may differ from mother's, in term of mental health concerns, self-managing problems, seeking professional help, as well as cultural differences in gender and parenting norms and expectations [11].

Despite the overwhelming stress experienced by parents with schizophrenia, there is sparse of knowledge to address this issue. Hence, this study aimed to determine the prevalence of stress in parents with schizophrenia, and to identify possible contributing factors for the stress. The findings may provide insight which can be used to assist mental health workers to recognize any warning signs or associated risks of parental stress.

Methods

The study was a cross sectional study involving patients with schizophrenia spectrum disorder, who were identified as a parent. The aim of the study was to determine the prevalence of parental stress and the associated factors among patients with schizophrenia spectrum disorder. It was conducted in a psychiatry clinic of a public tertiary referral hospital. Universal sampling was used for the study.

Measures

Socio-demographic Questionnaire

The patients were interviewed regarding their socio-demographic background information such as age, gender, ethnic group, educational level, type of job, current housing status, household income per month, marital status, parental status, type of parent, living situation, responsibility of child rearing, parental status at the onset of illness, and perceived socio-economy adequacy.

Perceived parenting capacity

The patients were interviewed regarding their perceived parenting capacity during active phase of parenting. It consisted of screening questions, which were drafted based on the definition of 'good enough parent' by Conley [12].

There were 6 items which include capability to meet the child's health and developmental need, putting the child's need first, capability of providing routine and consistent care, capability of acknowledging existing problem and engage with support services, provision of love to child, and anger management towards child. Overall perceived parenting capacity considered as satisfactory only when all 6 items were satisfactory.

Brief Psychiatric Rating Scale (BPRS)

BPRS scale is a widely used instrument for assessing multiple symptoms of individuals who have psychotic disorders, especially schizophrenia, to measure the severity of psychiatric symptoms over the previous 2-3 days [13,14].

The total scores ranging from 0 to 126, with the higher scores representing greater severity of the symptoms. It has been extensively studied and has been proved to be a valid and reliable instrument in many languages. The scale has been translated and validated in Malaysia with Cronbach's alpha

coefficient of 0.75 [15]. Both English and Malay versions were used in this study, with permission.

Parental stress scale

In this study, the Parental Stress Scale (PSS) was chosen to measure the parental stress level of the respondents. The scale provides a measure that considers both positive aspects of parenting as well as the negative aspects.

The 'stressful' aspects focused on 18 item self-report scale with 8 items representing positive theme (e.g. emotional benefits, personal development) and 10 items representing negative theme (demands on resources, restrictions) of parenthood. The scale was validated and translated in many countries, with Cronbach's alpha of 0.83, and test–retest reliability was 0.81 [16]. The scale was previously translated to Malay language, with no validation [17].

Translation and validation for this scale done in the pilot group showed good internal consistency, with Cronbach's alpha coefficient of 0.843. Higher score indicates higher level of parental stress measured [16]. In this study, the mean of the parental stress score were equivalent at 41, with the results reflecting on normal distribution. Hence the cut-off score was determined at 41 and above, to indicate presence of parental stress in the outcome. The same method was used to determine positive and negative themes of parental stress, which was by using mean.

Data analysis

All data was entered, cleaned and analyzed using International Business Machines (IBM®) Statistical Package for Social Science (SPSS) version 24 for Window 10. Normality of continuous variables was tested by examining skewness (0.172) and kurtosis indices (0.438). The distribution of samples was found to be of normal distribution. Descriptive statistics and categorical variables are presented as counts, proportions or percentages. Categorical data were analyzed using $\chi 2$ (Chi-square); where distributional assumptions were violated, the Fisher level of Exact test was used. Analysis of variance (ANOVA) was used to examine differences between variables. Simple logistic regression (univariate analysis) was used to determine unadjusted association of independent variable with the outcome of the study. Variables with p-value of 0.05 and less were shortlisted for multiple logistic regression, to ensure that the non-significant factors (p-value = 0.05) which probably influenced by the confounders to be included and analyzed for any significant association.

Ethical consideration

Ethical clearance and approval for this study was obtained from the Ethical Board of Research Committee of Universiti Teknologi MARA (UiTM) (600-IRMI (5/1/6) and the National Medical Research and Ethics Committee (MREC) of the Ministry of Health (MOH), Malaysia *via* the National Medical Research Registry (NMRR) (Protocol no NMRR-18-738-40694).

Results

Sociodemographic Characteristics, Perceived Parenting Capacity, Severity of Psychiatric Symptoms in Patients with Schizophrenia Spectrum Disorder.

A total of 115 patients with schizophrenia spectrum disorder, who were identified as a parent, and fulfilled inclusion and exclusion criteria, had participated in the study. Their mean age was 48.42 ± 9.75 years old and majority (84; 73%) were female. Almost two third of the participants were unemployed (72; 62.6%). The mean household income reported to be RM 3425.30 (± 3708.36), with 71.3% (n =82) fell into the group of Bottom 40 (less than RM3860).

More than two thirds of the respondents were still married and parenting their children) with their spouse (82; 71.3%). Overall, 61.7% of the participants perceived their parenting capacity as satisfactory (n =71), while the other 38.3% perceived at least one unsatisfactory component among the items screened. Majority of the participants were diagnosed with schizophrenia, (n=101; 87.8%). The mean score of BPRS were 28.63 ± 9.04, with minimal score of 18 and maximum score of 59. More than half of the participants interviewed were observed to have no psychiatric symptoms (n=76; 66.1%). (Table 1).

Table 1 Sociodemographic characteristics, perceived parenting capacity, and severity of psychiatric symptoms in patients with schizophrenia spectrum disorder.

Variables	Mean (± SD)	Frequency (%)
Age (Years)	48.42 (± 9.75)	
Gender		
Male		31 (27.0)
Female		84 (73.0)
Ethnicity		
Malay		72 (62.6)
Chinese		17 (14.8)
Indian		16 (13.9)
Others		10 (8.7)
Household income (RM)	3425.30 (± 3708.36)	
Bottom 40 (<3860)		82 (71.3)
Middle 40 (3860-8319)		30 (26.1)
Top 20 (>8319)		3 (2.6)
Marital Status		
Single, never married		2 (1.7)
Married		82 (71.3)
Separated/divorce		23 (20.0)
Widowed		8 (7.0)
Responsibility for child rearing		
Primarily the patient		50 (43.5)
The patient and someone else		38 (33.0)
Primarily someone else		27 (23.5)
Perceived parenting capacity		
Satisfactory		71 (61.7)
Unsatisfactory		44 (38.3)
Severity of psychiatric symptoms	28.63 (9.04)	
No symptoms		76 (66.1)
Mild		25 (21.7)
Moderate		11 (9.6)
Severe		3 (2.6)

SD: Standard Deviation

Level of parental stress

This study found the cut-off point for total score of the presence of parental stress was at ≥ 41 (by using mean as cut-off point, for normal distribution).

Following this definition, the prevalence of parental stress among the patients with schizophrenia spectrum disorder was 52.2% (n=60). Exploring the themes of the PSS (also by using mean as cut-off point), 72.2% of participants reported high stress level in positive theme (n=83), while only 48.7% reported high stress level in negative theme (n=56).

Univariate Analysis of Sociodemographic Factors and Perceived Socio-economy Adequacy with Parental Stress

There was a statistically significant association between parental stress and ethnicity with higher percentage of parental stress among non-Malay (65.1%) compared to Malay (44.4%), $\chi 2$ (1,

n=115) =4.610, p=0.032. The association between parental stress and household income was also statistically significant, $\chi 2$ (1, n=115) =3.241, p=0.004. Those with income less than RM 3860 (Bottom 40 group) had higher percentage of parental stress (61.8%) compared to those with higher income of RM3860 and above (Middle 40 and Top 20 group) with parental stress (33.3%). In term of perceived socio-economy adequacy, money and food was statistically significant in association to parental stress. (Table 2)

Table 2. Association between sociodemographic factors and perceived socio-economy adequacy with parental stress in patients with schizophrenia spectrum disorder.

Variables		Parental stress		Chi-square	df	p-value	OR	95% CI	
		Yes	No					Lower	Upper
Gender	Male	13(41.9)	18(58.1)						
	Female	47 (56.0)	37(44.0)	1.783	1	0.182	1.76	0.76	4.047
Ethnicity	Malay	32 (44.4)	40 (55.6)						
	Non-Malay	28 (65.1)	15 (34.9)	4.61	1	0.032*	2.33	1.07	5.093
Household Income	Bottom 40 (<RM3860)	51 (62.2)	31 (37.8)						
	Middle 40 + Top 20 (RM 3860 and more)	9 (27.3)	24 (72.7)	11.5	1	0.001*	4.39	1.81	10.647
Perceived Socio-economy Adequacy									
Money	Adequate	33 (42.5)	40 (54.8)						
	Inadequate	27 (64.3)	15 (35.7)	3.89	1	0.049*	2.18	1	4.767
Shelter	Adequate	52 (52.5)	47 (47.5)						
	Inadequate	8 (50.0)	8 (50.0)	0.035	1	0.851	0.9	0.31	2.599
Food	Adequate	48 (48.5)	51 (51.5)						
	Inadequate	12 (75.0)	4 (25.0)	3.881	1	0.049*	3.19	0.96	10.565
Cloth	Adequate	53 (50.5)	52 (49.5)						
	Inadequate	7 (70.0)	3 (30.0)	1.395	1	0.326#	2.29	0.56	9.335
Companionship	Adequate	39 (48.1)	42 (51.9)						
	Inadequate	21 (61.8)	13 (38.2)	1.779	1	0.182	1.74	0.77	3.94
Advice	Adequate	38 (48.1)	41 (51.9)						
	Inadequate	22 (61.1)	14 (38.9)	1.677	1	0.195	1.7	0.76	3.782

*OR, odds ratio; CI, confidence interval; df, degree of freedom; *Chi-Square test p value<0.05 as significant at 95% CI, Fisher's exact test p value*

Univariate Analysis of Overall Perceived Parenting Capacity, Illness or Disability of Children and Severity of Psychiatric Symptoms with Parental Stress

The association between the presence of parental stress and having children with mental or learning disability was statistically significant, $\chi 2$ (1, n=115) =5.213, p=0.022 with higher percentage of parental stress (83.8%) compared to those without one (48.5%).

There was no significant association between overall perceived parenting capacity and parental stress.

A chi-square test of independence was performed to examine the relationship between severity of

psychiatric symptoms (by using Brief Psychiatric Rating Scale) and parental stress.

The association between the presence of parental stress and severity of psychiatric symptoms was statistically significant, $\chi 2$ (1, n=115) =13.081, p=0.004. With having higher parental stress percentage with higher severity of psychiatric symptoms. (Table 3)

Table 3. Association between overall perceived parenting capacity, illness or disability of children and severity of psychiatric symptoms with parental stress.

Variables		Parental stress N (%)		Chi-square	df	p-value	OR	95% CI	
		Yes	No					Lower	Upper
Overall perceived parenting capacity	Satisfactory	32 (45.1)	39 (54.9)	3.753	1	0.053	2.133	1	4.615
	Unsatisfactory	28 (63.6)	16 (36.4)						
Illness or disability of children									
Physical ILLNESS	Nil	53 (52.0)	49 (48.0)	0.016	1	0.898	1.079	0.3	3.432
	Yes	7 (53.8)	6 (46.2)						
Physical disability	Nil	58 (51.8)	54 (48.2)	0.259	1	1.000#	1.862	0.2	21.128
	Yes	2 (66.7)	1 (33.3)						
Mental illness	Nil	52 (49.5)	53 (50.5)	3.399	1	0.097#	4.077	0.8	20.113
	Yes	8 (80.0)	2 (20.0)						
Mental or learning disability	Nil	50 (48.5)	53 (51.5)	5.213	1	0.022*	5.3	1.1	25.388
	Yes	10 (83.3)	2 (16.7)						
Severity of psychiatric symptoms									
Severity	No	31 (40.8)	45 (59.2)	13.081	3	0.004#			
	Mild	17 (68.0)	8 (32.0)						
	Moderate	9 (81.8)	2 (18.2)						
	Severe	3 (100.0)	0 (0)						
Presence	Asymptomatic	31 (40.8)	45 (59.2)	11.64	1	0.001*	4.21	1.8	9.869
	Symptomatic	29 (74.4)	10 (25.6)						

*OR: Odds Ratio; CI, Confidence Interval; df: degree of freedom; *Chi-Square test p value<0.05 as significant at 95% CI, Fisher's exact test p value*

Multivariate Analysis of Variables Associated with Parental Stress

Table 4 shows multiple logistic regression analysis of parental stress and its associated factors. Having psychiatric symptoms (adjusted OR: 4.959; 95% CI: 1.925, 12.775; p=0.001), low household income (adjusted OR: 4.422; 95% CI: 1.636, 11.592; p=0.003), ethnicity of Non-Malay (adjusted OR: 2.909; 95% CI: 1.181, 7.168; p=0.020), and having child with mental or learning disability (adjusted OR: 6.388; 95% CI: 1.126, 36.228; p=0.036) emerged as a significant predictor of parental stress among patients with schizophrenia spectrum disorder in this study. The

others were not significant as factors associated with parental stress in this study (Table 4).

Table 4 Multivariate analysis of parental stress and associated factors

Variables		Crude OR (95% CI)	Adjusted OR (95% CI)	Wald Statistics (df)	p-valueb
Presence of psychiatric symptoms	Symptomatic	1	1		
	Asymptomatic	4.21 (1.796, 9.869)	4.959 (1.925, 12.775)	10.995 (1)	0.001*
Household income	Bottom 40	1	1		
	Middle 40+Top 20	4.387 (1.808, 10.647)	4.422 (1.636, 11.592)	8.585 (1)	0.003*
Ethnicity	Non-Malay	1	1		
	Malay	2.333 (1.069, 5.093)	2.909 (1.181, 7.168)	5.385 (1)	0.020*
Child with mental or learning disability	Yes	1	1		
	Nil	5.3 (1.106, 25.388)	6.388 (1.126, 36.228)	4.387 (1)	0.036*
Perceived socio-economy adequacy: Money	Inadequate	1			
	Adequate	2.182 (0.999, 4.767)			
Perceived socio-economy adequacy: Food	Inadequate	1			
	Adequate	3.188 (0.962, 10.565)			
Overall perceived parenting capacity	Unsatisfactory	1			
	Satisfactory	2.133 (0.986, 4.615)			

OR: Odds Ratio; CI: Confidence Interval; df: degree of freedom

Discussion

This study found high percentage of parental stress among patients with schizophrenia spectrum disorder, which is 52.2%. This prevalence is almost similar to previous study which indicated 45% of parents with psychosis reported high level of parenting stress [18]. Many qualitative studies had highlighted the challenges and difficulties faced by the parents who were suffering from serious mental illness in addition to parenting their children [11,18,19].

This study found that being symptomatic of psychiatric symptoms was the main contributing factor for parental stress among patients with schizophrenia spectrum disorder. Percentage of parental stress increased with severity. This were not surprising, numerous studies had identified the association of psychiatric illness severity (as well as psychological distress) with parental stress; bidirectional relationship between parental stress and psychological distress [17], and the negative outcome on parenting and parent-child relationship [10,20,21].

In the present study, we also observed that factors of being non-Malay, having low household income, and parenting children with mental or learning disability, also significantly contribute to parental stress among patients with schizophrenia spectrum disorder. This was perhaps, the culture

and the religion of the Malays, who believe in the concept of redha or accepting fate as God's wish. They were known to have higher acceptance and higher tolerance to difficulties and challenges in life, which could serve as a protective factor against high stress among Malay parents. These were in line with few local studies among Malaysian mothers which highlighted that the parenting stress was significantly correlated with frequent use of acceptance, religious and optimist coping styles [17], and that coping strategies and self-efficacy of the parents may buffer against parental stress [22]. Another local study suggested that this may be due to the multi-cultural differences of each ethnic groups leading to differences in parenting and upbringing of a child [23].

Vast earlier studies had demonstrated on parents from lower socio- economic status were more likely to have parental stress. Specifically for patients with schizophrenia, they faced challenges in term of low educational attainment, unemployment, poverty, social isolation and stigma, which further contribute to their financial difficulties [24-27]. A local study had clearly demonstrated that lower socio-economic status was associated with parenting stress, with serious implications on both parent and child [28]. Moreover, the recent National Health and Morbidity survey highlighted that adults from low household income families were having higher prevalence of mental health problems as compared to higher income families [29]. In associating parental stress with parenting children with mental or learning disability, our study supported findings of earlier local research which emphasized that parents to children with mental or learning disability had higher stress level compared to those without ones [17,22,23,30]

Conversely, we found no significant contribution of factors related to perceived parenting capacity. Like other findings, most parents with psychosis perceived themselves to be effective parents. The insignificant result may likely be due to poor insight on self-perceived parenting capability, or lack of response to environmental (including children's) needs and demands. Past literatures had highlighted that parenting capacity is significantly influenced by the existing insight of patient's illness [18,19]. However, despite of such perception, nearly a half of the participants reported high levels of parenting stress, and a third reported low levels of satisfaction in their parenting role, which may be due to underestimation of certain aspects of their family functioning (e.g. in parenting skills) or their wish of portraying themselves as functional parents for fear of losing the custody of their children as well as to avoid stigma from health care professionals and the society [18].

The results of this study must be interpreted with several considerations in mind. First, this study was conducted at a psychiatric clinic in an urban tertiary hospital, which does not accurately represent the diversity of patients with schizophrenia spectrum disorder in other settings in Malaysia, which may reflect differences of socio-economic background and severity of illness. Second, this study was a cross-sectional study with sampling technique of universal (non-probability) sampling, which limit the certainty of the causal-effect or temporal relationship between parental stress and the studied contributing factors. Third, the face-to-face interview and a self-reported questionnaire done in evaluating may induce social-desirability bias. Fourth the study only focused the perspective of the patient which may confound the result of this study. Collaborative history and direct parenting observations may be needed, to enable assessment of "gaps" between self-report and other more objective sources. Lastly, the study with heterogenous sample with combination of parents who were in the active phase of parenting, and parents who were no longer actively parenting but still staying with child, may not receive accurate answer from parents who no longer actively parenting their child, as the questions moved from the 'past state' (in assessing perceived parenting capacity) and the 'present state' (in assessing parental stress scale). Overall, short study period for data collection and limited resources such as human resource were the great limitations to this study.

Conclusion

This study found high percentage of parental stress among patients with schizophrenia spectrum disorder, which is 52.2%. This highlighted the urgency of this matter to be addressed. Among contributing factors are being non-Malay, having low household income, parenting children with mental or learning disability, and symptomatic of psychiatric symptoms contribute to parental stress among patients with schizophrenia spectrum disorder. Hence, health care professional should actively recognize any warning signs and provide them with necessary supports to reduce serious implications associated to parental stress. There is a need to build an evidence-base guideline that can provide a thorough management of these families.

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