A Community Study on Risk Factors Associated with Depressive Symptoms in Malay Women

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A community study was conducted to examine the prevalence of depressive symptoms in rural and urban Malay women with low SES, and the relationship between selected psycho-social risk factors and the rate of current depressive symptoms. Data were collected from a total of 487 respondents (N rural=242, N urban=245) in the first interview, and selected 120 respondents (N rural=60, N urban=60) in the second interview. The data consisted of seven socio-demographic variables and ten psychosocial risk factors. Four types of standardized measurements were used: Centre for Epidemiologic Studies Depressive symptoms Scale, Rosenberg Self-Esteem Scale, Interpersonal Support Evaluation List and Parental Bonding Instrument. The results indicated that the prevalence rate of current depressive symptoms was 11.5% and the rate of lifetime major depressive symptoms was 27.5%. No significant effect of socio-demographic factors on the rate of current depressive symptoms was found. Although there was a significantly higher rate of current depressive symptoms in the urban sample, no definite conclusion could be drawn on the significance of the SES variables as predictors of current depressive symptoms. Seven psychosocial risk factors namely lifetime major depressive symptoms, lifetime dysthymia, current life stressors, family history of mental health problems, adverse childhood experiences (ACEs), self-esteem, and social support were significantly associated with depressive symptoms in the expected direction. Except for ACEs, these factors were significantly associated with current depressive symptoms accounting for about 30% of the variance in the rate of current depressive symptoms.

***Keywords*:** achievement motivations, emotional intelligence, cross cultural

Depression is a term generally used to describe deep sadness or bitterness experienced by an individual due to stressful life events such as grieving over the loss of their loved ones or failures in life. Normally, these feelings will lessen gradually over time. However, if these feelings deepen and persist over a period of longer than two weeks, affecting the person's functioning and physical state, the feelings may be a symptom of a depressive illness (American Psychiatric Association: DSM-IV, 1994; Smith, 1995). Depressive symptoms vary in degree and duration, and these symptoms may occur independently or concurrently with other mental illness. The symptoms are observable in their cognitive, affective and physical changes.

The National Institute of Mental Health (2006) reported that major depression is the leading cause of disability in the United States among those aged 15 to 44 years, affecting approximately 14.8 million American adults. This accounts for about 6.7% of the population aged 18 and above. A study comparing prevalent statistics between 1991 to 1992 periods and 2001 to 2002 period collected from two major surveys of US sample population found that the prevalence of major depressive symptoms has more than doubled within these two periods from 3.3% to 7.0% (Compton, Conway, Stinson, & Grant, 2006). Recent epidemiological studies reported a considerable increase in the rate of lifetime major depressive symptoms with 13.2% in the United States (Hasin, Goodwin, Stinson & Grant, 2005), and 16.0% in New Zealand (Oakley-Brown, Wells, Scott & McGee, 2006). In general, it is noted that the prevalence rate of depressive symptoms increases overtime and varies considerably between countries and community settings.

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Prevalence of Depressive symptoms in Malaysia

Although studies on depressive symptoms have been widely conducted in the western world, literature on the study of depressive symptoms in Malaysia is rather limited. Few community studies on depressive symptoms have been reported. According to the survey on psychiatric morbidity in Malaysian adults in 1996 (Maniam, Ding, Lim, Toh, Aziz et al., 1997), using the General Health Questionnaire (GHQ-12) administered to 35,733 respondents aged 16 years and above, depressive symptoms and anxiety were the main psychological symptoms reported. The estimated prevalence of emotional disorders was higher in women (10.5%) as compared to men (8.5%), with higher rates reported in less developed regions with higher poverty rates.

Despite the lack of statistics on the epidemiology of depressive symptoms in Malaysia, particularly among women, there is evidence that depressive symptoms are prevalent in the community but not treated in the primary health care institutions. According to Varma and Azhar (1995), the most common psychiatric symptoms observed in patients and families who attended the primary health care facilities in Malaysia is depressive symptoms (13.2%), followed by hypochondriac symptoms (8.2%) and anxiety (6.1%). Azhar (2001) believed that physicians in Malaysian primary health care institutions did not detect depressive disorders in the majority of patients since patients tended to report physical symptoms instead. The reluctance or inability of the patients to report psychological symptoms may be due to cultural factors. The symptoms of depressive symptoms normally reflect the weaknesses or abnormality of the person that is considered socially undesirable. According to the author, some sectors of Malaysian society tend to relate certain depressive symptoms to spiritual disturbances, and to alleviate their sufferings, they may prefer to consult the traditional faith healer (bomoh) rather than seek professional help.

The family system in the Malay culture may also result in increased vulnerability to depressive symptoms in Malay women. According to Noor (2006 & 2003), patriarchy is the prevailing system in the Malay family. The male is regarded as the head of the household. While the Malay culture regarded homemaking roles as the responsibility of women, the decision-making roles remain with the men. Malay women may face emotional stress due to such conflicts and dilemma in relation to these roles. In view of the possible cultural influence on the psychological stress in Malay women, a study on depressive symptoms among these women would enable a better understanding of depressive symptoms from the perspective of Malay culture.

Depressive Symptoms in Women

Women experience depressive symptoms twice as often as men. The ratio of 2:1 in depressive symptoms between women and men has been consistent between different epidemiological studies over time. Surveys on clinical and general population show consistent results. Over the course of a lifetime, depressive symptoms occur in approximately 20% of women compared with 10% of men (Bebbington, Dunn, Jenkin, Lewis, Brugha, Farell, & Meltzer, 1998). A meta-analysis of gender differences in depressive symptoms from six European epidemiological studies of 38,434 men and 40,024 women reported similar women to men ratio for the six months' prevalence with 14.91% women and 7.6% men (Angst, Gamma, Gastpar, Lepine, Mendlewicz & Tylee, 2002). This finding seems to be consistent in studies over time in different western and non-western

countries of the world including United States, Taiwan, Japan and Italy (Angst et al., 2002; Bebbington et al., 1998; De Girolamo, Polidori, Morosini, & Scarpino., 2006).

Studies of depressive symptoms in women have also indicated that the rate of depressive symptoms varies between ethnic groups, with higher risk observed in women with low socio-economic status. The Study of Women's Health across the Nation (SWAN) by Bromberger, Harlow and Kravitz (2003) on the prevalence of depressive symptoms in 3015 middle-aged women from different ethnic groups, using the Centre for Epidemiologic Studies-Depressive symptoms (CESD) Scale, reported 24% rate of clinically significant depressive symptoms. The study observed significant variations in the prevalence of depressive symptoms with the highest rates among Hispanics (42.97%) and African-Americans (27.44%), and the lowest among Chinese (14.3%) and Japanese (14.1%)). Prevalence of depressive symptoms was associated with younger age, lower levels of education and financial difficulties. All health-related variables were significantly associated with depressive symptoms in the expected direction; higher rates among women with poor perceived health, lower social support and higher stress levels.

Review of major studies conducted in African and Asian countries identified low SES and poverty as risk factors for major depressive symptoms (Saraceno, Levav, & Kohn, 2005). Economic stressors are likely to result in increased level of depressive symptoms. It has been shown that the combination of low socio-economic status including poverty and low education level results in increased strains and stress, thus compounding the negative mental health effects on women as compared to men (Hammen, 1997; Riolo, Nguyen, & King, 2005). In general these studies reported higher prevalence of depressive symptoms in women than men, and socio- economic status factor may influence these rates of depressive symptoms.

Several studies have reported that psychological and social factors play a significant role in determining depressive symptoms in women. Factors such as adverse childhood experiences (Honkalampi, Hintikka, Haatainen, Koivumaa-Honkanen, Tanskanen, & Viinamaki, 2005), stressful life events and the availability of social support (Turner & Butler, 2003) and parent-child relationship (Sato, Sakado, Uehara, Narita, Hirano, Nishioka & Kasahara, 1998) were strongly associated with the rate of depressive symptoms in women.

Piccinelli and Wilkinson (2000) observed that socio-cultural related to life events and coping skills contribute to the gender differences in prevalence of depressive symptoms. One of the socio-cultural factors associated with the gender differences is the perceived social roles of women. Stenius, Veysey, and Hamilton (2005), concluded that valued social roles helped in the recovery process, while devalued social roles contributed to depressive symptoms. In relation to the socio-cultural role of women, the femininity trait of women is believed to contribute to the gender differences in the prevalence of depressive symptoms. Stoppard (2000) believed that the prominent feminine trait and high need for relatedness in women's development of self may increase the women's vulnerability to depressive experience.

Several possible factors such as SES, biological, psychological and social factors have been suggested in past studies. In the present study, the prevalence and risk factors of current depressive symptoms in Malay women with low SES are examined in rural and urban samples using multi-factor analyses of selected socio-psychological factors.

Methodology

Measurements

Outcome Variable

The outcome variable in this study is the rate of current depressive symptoms, which is the measure of frequencies of depressive symptoms experienced by the respondent during the last seven days before the interview day as defined in the measures of depressive symptoms in the 20-item Centre for Epidemiologic Studies Depressive symptoms Scale (CESD), a standard measurement of depressive symptoms commonly used in the study of depressive symptoms in the community (Radloff, 1977).

Risk Factor Variables

1. *Lifetime major depressive symptoms* refer to the experience of major depressive symptoms in the past as reported by the respondents. It is measured by a group of questions to determine the presence of at least five out of nine criteria of major depressive symptoms in DSM-IV. A respondent is classified as having a major depressive symptoms if the depressive episode of two weeks or more includes at least four other symptoms such as loss of interest in pleasurable activities including sex, fatigue, feeling of worthlessness, suicidal thoughts, inability to remember or concentrate and insomnia / hypersomnia occurring almost concurrently over the same period. The depressed person is excluded from this classification if she were on medical treatment or on maternity confinement during the depressive episode.
2. *Lifetime dysthymia* is defined as the presence of a depressive episode for a period of two years or more but not meeting the minimum criteria of a major depressive symptom. The structure of questions used to measure lifetime major depressive symptoms and lifetime dysthymia is adapted from the Composite International Depressive symptoms Interview (CIDI) commonly used in researches on depressive symptoms (Spengler & Wittchen, 1989; World Health Organization, 1990).
3. *Family history of mental health problems* refers to the experience of at least one symptom of mental illness experienced by parents, grandparents or siblings as reported by the respondent The symptom listed in the questionnaire is based on the main symptom of schizophrenia, anxiety and depressive symptoms criteria specified in DSM-IV.
4. *Adverse childhood experiences* is defined as the total number of adverse life events or incidences resulting in intense sadness, shock, traumas and embarrassments to the families, which occur below the age of 17 years. The events checklist is selected from Turner and Butler (2003) life events checklist
5. *Parent-child relationship* is measured by two variables: father's care and mother's care. Parent's care refers to the respondent's perception of parent care during childhood until the age of 16 years (Parker, Tupling, & Brown, 1990). Parent care is measured using the Parent Bonding Instrument (PBI) care subscale. The PBI care subscale consists of 12 items of caring behavior of father and mother during childhood until the age of 16 years.
6. *Current life stressors* refers to the total number of negative events (such as marital dissatisfaction, children's behavior problems, family members' prolonged physical or mental illness, family members' death, family members' substance abuse, separation or divorce and financial problems) which happened during the past one year before the day of the interview.
7. *Self-esteem* is defined as a person's evaluation of self-worth and perceived evaluation of others towards self, measured using the 10-item Rosenberg Self-Esteem Scale (Rosenberg, 1965).
8. *Onset of depressive symptoms* refers to the age of respondent when first experienced a depressive episode or major depressive symptoms.

9. Social support is defined as the perceived availability of others to provide support and assistance during difficulties and stressful situations. It is measured using the 10- item Interpersonal Support Evaluation List (ISEL) appraisal subscale (Cohen, Mermelstein, Kamarck, & Hoberman, 1983).

Respondents

The study was conducted in two community settings; urban and rural due to some expected differences in the rate of depressive symptoms between rural and urban women as suggested by Lehtinen, Michalak, Wilkinson, Dowrick, Ayuso Mateos et al. (2003). All respondents (N=487) were interviewed in the first stage. Stage-one interview intended to measure seven socio-demographic variables, one outcome variable (current depressive symptoms), and five risk factors namely lifetime major depressive symptoms, lifetime dysthymia, onset age of depressive symptoms, family history of mental health problems and current life stressors. Out of the 487 respondents interviewed in the first stage, 120 respondents with a CESD score of 16 and above were selected for the second interview (cut-off point suggested by several authors such as Boyd, Weissman, Thompson & Myers, 1982; Bromberger et al., 2003) as screening for potential possibility of experiencing major depressive symptoms or clinical depressive symptoms.

Treatment of Data

Descriptive correlational and multiple-linear regression analyses were computed to examine and test the relationship between variables and the effects of each group of predictor variables on outcome variable.

Results

Socio-Demographic Characteristics of Rural and Urban Samples

Out of the total of 487 respondents, 242 (49.7%) were from the rural area and 245 (50.3%) from the urban area. The mean age of the rural sample (M=40.52, SD=7.86) and urban samples (M=33.60, SD =10.98) are significantly different (t=7.99, p< .01). The mean monthly income of the rural (M=RM109.00, SD=263.10) and urban samples (M=RM513.13, SD=719.19) are significantly different (t=8.22, p< .01). The socio-demographic characteristics of respondents in both rural and urban samples are summarized in Table 1.

Relationship between Demographic Variables, Risk Factors and Current Depressive symptoms

Pearson correlation analysis was done to test the significant correlation between the measures of demographic variables, risk factors and current depressive symptoms. The correlation analysis for a total sample of 487 respondents included seven demographic variables and ten risk factors are shown in Table 3. The table shows that current depressive symptoms is not significantly correlated with most of the socio-demographic factors except for a marginal correlation with health status (r=.16, p< .01). Current depressive symptoms is positively correlated with lifetime major depressive symptoms (r= .36, p< .01), lifetime dysthymia (r= .26, p< .01), family history of mental health (r= .27, p< .01), current life stressors (r= .32, p< .01) and adverse childhood experiences (r=.18, p<.05). In addition, current depressive symptoms is negatively correlated with self-esteem (r=-.22, p<.05) and

social support (r=-.18, p<.05). There is no significant correlation between current depressive symptoms and the onset of depressive symptoms, mother's care or father's care.

Table 1

Socio-demographic Characteristics of Respondents by Community Setting

	Rural		Urban	
	Frequency	%	Frequency	%
Marital Status				
- Single	15	6.2	125	51.0
- Married	223	92.1	112	45.7
-Divorced/separated	4	1.7	8	3.3
Employment Status				
- Non-employment	192	79.3	105	42.9
- Part-time employment	27	11.2	15	6.1
- Full-time employment	23	9.5	125	51.0
Education Level				
- Non-schooling	16	6.6	3	1.2
- Primary	79	32.6	21	8.6
- Secondary 1-3	73	30.2	39	15.9
- Secondary 4-5	73	30.2	117	47.8
- Tertiary	1	0.4	65	26.5
Health Status				
- Under treatment	38	15.7	15	6.1
- On medication	8	3.3	10	4.1
- On confinement	7	2.9	6	2.4
- Healthy	189	78.1	214	87.3

Predictors associated with the Rate of Current Depressive Symptoms

Table 2 shows the result of the first hierarchical regression analysis which include seven socio-demographic variables, five risk-factors and the interaction effects of selected risk factors on the rate of current depressive symptoms.

Step 1 of the table shows only three out of seven demographic variables, namely, community setting, age and health status were significant predictors of the rate of current depressive symptoms. These three variables accounted for 4.8% of the variance F (7, 479) = 3.48, p< .05) in the current depressive symptoms score. Step 2 with five risk factors included in the regression analysis was significant; F (12, 474) = 12.58, p< .01, and after controlling for the demographic variables, these factors accounted for 19.3% of the variance in the current depressive symptoms score. The results show that four out of five risk factors included were significant predictors of current depressive symptoms; namely, lifetime major depressive symptoms, lifetime dysthymia, family history of mental health, and current life stressors. Finally, in step 3, the two interaction effects on the rate of current depressive symptoms were examined. The interaction of age with current life stressors was non-significant while the interaction of age with family history of mental health was significant (F=6.47, p<.05). The overall regression model was significant, F (14, 486) =11.35, p< .001): it accounted for 25.2% of the variance in the rate of current depressive symptoms.

Based on the multiple linear equation derived from the unstandardized regression coefficients from the final stage of the regression analyses, linear graph lines were plotted as suggested by Cohen and Cohen (1983) and presented in several studies by Noor (2003,

2006). Figure 1 illustrates graphically the relationship between age and the rate of current depressive symptoms for women with or without family history of mental health problems. The figure shows that, generally, women with a family history of mental health problems reported significantly higher rate of current depressive symptoms compared to those without family history of mental health problems. However, among older women, there is a marked difference in the rate of depressive symptoms between those with and without family history of mental health problems; while among young women, the difference in the rate of depressive symptoms is minimal between those with and without family history of depressive symptoms. Thus it can be concluded that the absence of family history of mental health problems moderated the effect of age on the rate of current depressive symptoms especially among older women.

Table 2

Hierarchical Regression Analysis Predicting Current Depressive Symptoms (N=487)

	Outcome= Current Depressive symptoms			
Measure	R^2 increment	*F*	*p*	Beta
Step 1	.048*			
Community Setting		5.39	.021	1.402
Age		6.05	.014	-.132*
Marital Status		3.55	ns	.894
Occupation		.16	ns	.372
Education Level		2.01	ns	-.246
Health Status		14.75	.000	-.957**
Income level		.22	ns	.000
Step 2	.193**			
Lifetime Major Depressive symptoms		22.74	.000	3.736**
Lifetime Dysthymia		9.88	.002	3.749**
Onset of Depressive symptoms		.00	ns	-.001
Family History of Mental Health		13.76	.000	-3.893
Life Stressors		15.54	.000	1.373
Step 3	.010*			
Age x Stressors		0.07	ns	-.007
Age x Family History of Mental Health		6.47	.011	.182*
Cumulative R^2	.252			

Betas are the unstandardized regression coefficients from the final stage of the regression analysis.
* p< .05, ** p< .01

A second hierarchical regression analysis was done for 120 of the total sample who had CESD score of 16 and above. The three socio-demographic variables (community setting, age and health status), which were significant in the first hierarchical regression analysis plus five additional risk factors were examined in the sample of 120. Table 3 shows the results of the two-step analysis. The results of the first step analysis were non-significant indicating that socio-demographic factors were non-significant in the smaller sample with CESD score of 16 and above. In the second step, five additional risk factors mentioned above were entered. Only self-esteem and social support were significant predictors of current depressive symptoms. These two variables accounted for 10.2% of the variance in the rate of current depressive symptoms, $F(5, 111) = 2.57$, $p < .05$.

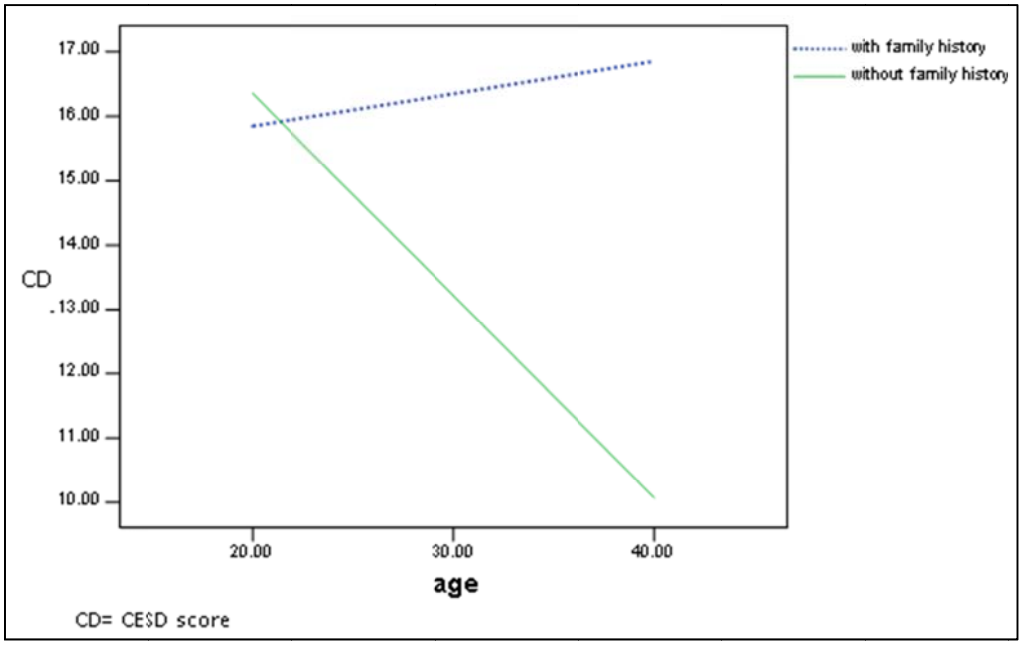

Figure 1. The Relationship between Age and Current Depressive Symptoms

Table 3

Hierarchical Regression Analysis Predicting Current Depressive Symptoms (N=120)

	Outcome= Current Depressive symptoms			
Measure	R^2 increment	*F*	*p*	Beta
Step 1	.022			
Community Setting		2.08	ns	-1.597
Age		.02	ns	-.061
Health Status		.24	ns	-.452
Step 2	.102*			
Self-esteem		5.60	.020	-.533*
Social support		4.05	.047	-.749*
Childhood experiences		1.21	ns	.483
Mother's care		.03	ns	-.020
Father's care		.41	ns	.080
Cumulative R^2	.124			

Betas are the unstandardized regression coefficients from the final stage of the regression analysis *p<.05, **p<.01.

The overall results of the two regression analyses indicated that six out of ten socio-psychological factors, namely, lifetime major depressive symptoms, lifetime dysthymia, family history of mental health problems, current life stressors, self-esteem and social support were significantly associated with the rate of current depressive symptoms. Adverse childhood experiences were significantly correlated with depressive symptoms but were non-significant in the regression analysis. The onset of depressive symptoms, father's care and mother's care were non-significant both in the correlation and regression analysis.

Discussions

Socio-Demographic Factors Associated with Depressive Symptoms

Numerous past studies have indicated some associations between low SES and the rate of depressive symptoms; however, the degree and direction of association varies between samples and ethnic groups (Lehtinen et al., 2003; Hopcroft & Bradley, 2007; Lorant et al., 2003; Saraceno et al., 2005). The socio-demographic characteristics of rural and urban samples in this study (such as age, marital status, employment status and income), differs significantly. Analyses of the rate of current depressive symptoms by marital status and employment status showed non-significant differences, while correlation analyses indicated non-significant correlation between the rate of current depressive symptoms and all the socio-demographic variables (age, marital status, employment status, education level, and income), except for a marginal correlation with perceived health status ($r=.14$, $p<.05$). However, there was a significant difference in the rate of current depressive symptoms between community settings ($\chi 2=3.99$, $p<.05$), with a relatively higher rate in the urban sample. The result indicated significant urban/rural differences in the rate of current depressive symptoms which is not associated with the socio-demographic differences between these two samples. It may therefore reflect rural-urban differences due to socio-cultural factors associated with depressive symptoms in women as suggested by Lehtinen et al. (2003).

Socio-Psychological Risk Factors of Depressive Symptoms

The results of the correlation analyses and multiple linear regression analyses indicated that most of these factors, namely, history of depressive symptoms (lifetime major depressive symptoms, lifetime dysthymia), current life stressors, family history of mental health problems, adverse childhood experiences, self-esteem and social support were significantly associated with depressive symptoms in the expected direction. Further analyses indicated that all these factors except for adverse childhood experiences were significant predictors of current depressive symptoms, contributing to about 30% of the variance in the rate of current depressive symptoms.

Generally, the results of the present study indicated similar socio-psychological factors contributing to depressive symptoms as in several past studies across cultures, indicating the common socio-psychological factors in the aetiology of depressive symptoms in women. However, since the social-psychological factors contributed to about 30% of the variance in current depressive symptoms with some indications of urban-rural differences which could not be explained by SES differences, other socio-cultural factors relating to Malay women might have played a part in the high rate of depressive symptoms reported.

Conclusions

This study intends to provide further understanding and knowledge on depressive symptoms among Malay women with low SES by examining the prevalence and risk-factors of depressive symptoms in rural and urban communities. The study provides new data and knowledge on the prevalence and risk factors of depressive symptoms in Malay women, an illness rarely reported in psychiatric, mental health and psychological literature in Malaysia.

The higher prevalence of depressive symptoms in Malay women in this study might reflect the relatively higher rate of depressive symptoms in Malay women with low SES.

There was significantly higher rate of depressive symptoms in urban sample which could not be explained by the significant SES and demographic differences between the two samples. The rural/urban differences in the rate of current depressive symptoms might be due to socio-cultural factors in relation to rural-urban differences in Malay community.

Analyses of risk factors of depressive symptoms resulted in inconsistent findings on the effects of socio-demographic factors on depressive symptoms. Therefore no definite conclusion could be drawn from the results. However, analyses on the socio-psychological risk factors indicated significant associations in the expected directions as reported in past studies in the western countries, indicating the universality of the phenomena and common factors in the aetiology of depressive symptoms in women. However, where the degree of relationship and effect size is less than expected, these could be due to the inaccurate expression of these symptoms, underreport of intimate and negative personal experiences due to socio-cultural values in perceiving depressive illness.

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