

Perceived discrimination, family functioning, and depressive symptoms among immigrant women in Taiwan

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Abstract This study examined the moderating effect of family functioning on the relationship between perceived discrimination and depressive symptoms in immigrant women. A total of 239 immigrant women were selected from four administrative regions in Central Taiwan. Questionnaires concerning perceived discrimination, family functioning (including family cohesion and family adaptability), depressive symptoms, and demographic characteristics were completed by either women themselves ($N=120$) or their husbands ($N=119$). The moderating effect of family functioning on the relationship between perceived discrimination and depression symptoms was analyzed using multiple regression analysis. Findings showed that a higher level of perceived discrimination among immigrant women is associated with more severe depressive symptoms. Family functioning serves as a moderator between the relationship of perceived discrimination and depressive symptoms, but the moderating effect of family adaptability was evident only in data reported by immigrant women. The results indicate that perceived discrimination has negative mental health implications, and also point to the importance of family functioning for depression. Findings suggest that providers should consider addressing immigrant women's mental health needs through declining their psychosocial distress at multiple ecological levels.

Keywords Immigrant women · Perceived discrimination · Depressive symptoms · Family functioning · Moderation

Introduction

The Taiwanese government has recognized marriage-based immigration since 1980. The number of women who have immigrated to Taiwan through marriage has reached around 480,000 persons, which is 2.1 % of the entire population of Taiwan (National Immigration Agency 2013). These immigrant women mostly originate from Southeast Asian countries where the economy is less developed than Taiwan. Through marriage agencies they have established families with Taiwanese men whose social and economic status is comparably lower than that of the general population, thus forming a social group in which social capital is lacking. The formation of this type of family has two principal functions: to give birth to descendants of Taiwanese men and to improve the economic situation of the family-of-origin of the immigrant women.

In this context, some Taiwanese people are concerned that immigrant families may exhaust social capital, affect national competitiveness, lead to problematic children, and cause social problems in Taiwan, and as a result they discriminate against immigrant women by being biased toward them (Hsia 2007). Discrimination is a form of social inequality which refers to societies where specific groups do not have equal status based on ethnicity, gender, or other characteristics (Schulz et al. 2000). Discrimination contributes to disparities in mental or physical health in ethnic minority groups. A recent study concerning the usage of child preventive health services among cross-cultural immigrant families in Taiwan found that parents with older children used these services less intensively (Chien et al. 2012), and the authors speculated that one possible reason may be the negative experiences (e.g., discrimination or disrespectful interpersonal interactions and

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unfriendly service process) during the first several visits which created barriers to later use. This finding reflects the observation that racial discrimination toward immigrant women or their families may occur both at a personal and institutional level (Jones 2000). Unfortunately, exposure to such racial discrimination at either level may foster high levels of stress that are consistently related to poor mental health or psychological distress (Sanders-Phillips et al. 2009). Moreover, according to “ecological theory” (Bronfenbrenner 1979), macrosystem variables such as institutions and politics can interact with microsystem variables such as family functioning to further affect immigrant women’s well-being.

In addition, the concept that men are superior to women, which is generally found in traditional Chinese society, still exists in Taiwan. The low status of immigrant women in Taiwan may result in a perceived discrimination that is more severe than that of immigrants from other countries. This problem may not only disturb their daily life but also cause mental stress. For example, despite children’s behaviors being more influenced by fathers’ than mothers’ parenting styles, mothers usually bear the majority of the burden of child rearing in Taiwan, particularly in cross-cultural immigrant families (Yang et al. 2013). Previous studies on immigrants have consistently found that perceived discrimination causes chronic pressure and is a crucial predictor of depressive symptoms (Chou 2012), and this effect is particularly evident among females (Flores et al. 2008). Therefore, exploring the relationship between perceived discrimination and depressive symptoms among immigrant women who are subjected to multiple forms of discrimination in Taiwan is crucial to public mental health.

Unlike most immigrants, immigrant women migrate to Taiwan alone to get married. In an environment where language, culture, and living habits are relatively unfamiliar to where they lived before, the living space of immigrant women in Taiwan may be limited to only their families. As strong family and social ties appear to buffer individuals from negative mental health outcomes (Park et al. 2013), it is of interest to examine whether the quality of family functioning is a moderating factor that determines the mental health of immigrant women in a social atmosphere full of discrimination. Research has found that poor family functioning is associated with depression in immigrant women (Wu and Chow 2013). This is especially the case when immigrant women experience more negative interactions with their husband (Zlotnick et al. 2000) due to their non-emotional-based marriage. Overall marital dissatisfaction may in turn result in consequent depressive symptoms or disorders among immigrant women (Fincham et al. 1997). In contrast, high levels of family support have been found to buffer the effects of discrimination on the occurrence of major depressive disorder among Asian Americans (Chae et al. 2012). A study that sampled Chinese American adolescents (Juang and Alvarez 2010) also found that strengthening family cohesion can effectively buffer the

effects of discrimination and further reduce negative emotions. The study showed that these teenagers felt lonely when they were being discriminated against by others. When their parents supported, accompanied, and listened to them, thus strengthening family cohesion, their anxiety caused by discrimination decreased. Thus, family cohesion can be a protective factor in adolescent immigrants experiencing discrimination. Conversely, conflict with parents increases the effects of discrimination, generating negative emotions. Based on the above-mentioned studies, it is reasonable to hypothesize that superior family functioning could buffer the effect of perceived discrimination on depressive symptoms, and inadequate family functioning could worsen depressive symptoms among immigrant women.

Family functioning has long been categorized into two domains: cohesion and adaptability. Family cohesion refers to the level of emotional attachment and emotional bonding among family members and reflects the feeling of intimacy toward one’s family (McKeown et al. 1997). Family adaptability is the adaptability of a family to changes and is the ability of a marital or family system to change its power structure, role relationships, and relationship rules in response to situational and developmental stress. Most immigrant families in Taiwan were formed through marriage agencies. This means that both husband and wife in most immigrant families lack an emotional basis for their relationship and therefore often exhibit lower levels of cohesion and adaptability compared to conventional families. This situation is likely to augment the effects of perceived discrimination, leading to the occurrence of depressive symptoms. However, few studies have investigated which aspects related to family functioning are influential. This study sampled immigrant families in Central Taiwan to investigate the relationship among family functioning, perceived discrimination, and depressive symptoms. The main purpose of this study included the following: (a) to examine the relationship between depressive symptoms and perceived discrimination among immigrant women in Taiwan, and (b) to clarify the moderating effects of the different domains of family functioning (i.e., cohesion and adaptability) on perceived discrimination and depressive symptoms. Because family functioning is affected by the language ability of immigrant women, as well as by their educational level, the analyses were adjusted for these two factors when exploring the relationship between perceived discrimination and depressive symptoms.

Methods

Participants

The participants in this study included parents of immigrant families in four administrative regions in Central Taiwan.

They were contacted through their native-born children from 26 junior high and elementary schools. All the parents of children from immigrant families in first, third, fifth, and seventh grades were invited to participate in this study. Consent forms and questionnaires were brought to their homes by their children. Parents who agreed to participate completed the questionnaires (either the mother or father), which included items regarding demographics, perceived discrimination, family cohesion and adaptability, and depressive symptoms. The informants were asked to fill out the questionnaire based on the experiences of the immigrant women. After completion, their children returned the questionnaires to the school, where they were collected by this study's researchers. We distributed 909 questionnaires, of which 73 were not returned, 490 participants did not agree to participate in this study, 9 participants did not complete the item regarding the educational level of immigrant women, and 69 participants had missing data more than one tenth of the scale. The final number of participants in the study sample was 268, with 120 questionnaires completed by immigrant women, 119 by the husbands of immigrant women, and 29 by neither immigrant women nor their husbands. To clarify the rater effect, we used data only from immigrant women and their husbands ($N=239$) for analyses in this study except for describing demographic characteristics. This study has been reviewed and approved by the Institutional Review Board of Chung Shan Medical University Hospital to protect the participants' rights and maintain research ethics.

Measurements

The participants' depressive symptoms were assessed using the depression subscale of the Brief Symptom Rating Scale (BSRS; Lee et al. 2003), which has been extended and modified from the Symptom Check List-90-Revised (SCL-90-R). The SCL-90-R includes 50 items and 10 subscales. The depression subscale consists of seven items. Each item is rated using a five-point scale comprising values 0–4, which are categorized as not depressed (0), mild depression (1), moderate depression (2), severe depression (3), and very severe depression (4). The seven item depression subscale scores ranged from 0 to 28 (Cronbach's $\alpha=0.82$).

The perceived discrimination of the participants was measured using a discrimination scale developed by previous researchers (Vega 1995; Vega et al. 1993). The scale included three items: (a) How often do people dislike you because you are an immigrant? (b) How often are you treated unfairly because you are an immigrant? (c) How often have you seen friends treated unfairly because they are immigrants? The measure consisted of a four-point scale ranging from 0 (never) to 3 (often), with total scores ranging from 0 to 9. Higher scores indicate frequently perceived discrimination

(Cronbach's $\alpha=0.83$, indicating superior internal consistency among the items).

Family functioning was measured using the third version of the Family Adaptability and Cohesion Evaluation Scale (FACES-III) developed by Olson et al. (1989). FACES-III includes 40 items. Half of the items refer to the current situation of participants; the other half refers to an ideal situation. This study only analyzed the items regarding the participants' current situation. The items were scored using a five-point scale from "never" (score=1) to "always" (score=5). A total of ten items regarding family cohesion and ten items regarding family adaptability achieved scores between 10 and 50. Family cohesion refers to the level of emotional attachment among family members (e.g., "We ask our family members for assistance when necessary" and "We feel that our relationship is closer than with outsiders"). Family adaptability is the adaptability and ability of a family system to respond to changes (e.g., "In our family, rules change based on needs" and "Family members confer when making decisions"). The FACES-III showed satisfactory internal consistency in this sample (Cronbach's α s of overall family functioning=0.89, family cohesion=0.81, and family adaptability=0.80).

Demographic variables included the following variables: the language that the mother uses when communicating at home, the educational level of the mother, the occupation of the mother, and the original nationality of the mother.

Data processing and analysis

Multiple imputation of missing values was performed using the Markov Chain Monte Carlo (MCMC) method. To stabilize the imputed values, the 10th imputed value was adopted as the final result for data imputation. Pearson correlation coefficients between study variables, i.e., perceived discrimination, family functioning (including family cohesion and family adaptability), and depressive symptoms, were shown by different informants (immigrant women and their husbands) to preliminarily examine the relationships between variables. The moderating effects of family functioning between perceived discrimination and depressive symptoms were then tested by using multiple regression models, where the main effects of perceived discrimination, family functioning, and demographic variables, and the interaction term of perceived discrimination \times family functioning were entered. The two domains of family functioning in terms of family cohesion and family adaptability were separated out in the analyses. Data provided by immigrant women were also separated from those by husbands of the immigrant women for model fitting. *T* scores were used for all variables in the models to obtain normalized and standardized data. All statistical analyses in this study were performed using SAS 9.2 software. The moderating effects were also displayed in a figure where family functioning indices were further divided into high and

low levels according to their *T*scores. A *T*score of 50 or higher refers to a high level of family functioning whereas a *T*score lower than 50 represents a low level. The figure was drawn using SigmaPlot 12.

Results

Among the 268 immigrant women, 76.12 % originated from China and Vietnam (Table 1). The educational levels of more than half of the women (51.87 %) were junior high school and below. Half of the women (50.00 %) worked in occupations listed under “Other occupations” (e.g., housewives and day laborers) after they came to Taiwan, followed by “Factory workers” (36.19 %). All of the women could speak at least one local language. The average score for depressive symptoms was 1.94 (SD=3.05), the average score for perceived

discrimination was 3.97 (SD=1.54), the average score for family functioning was 65.07 (SD=13.07), the average score for cohesion was 35.58 (SD=7.02), and the average score for adaptability was 29.48 (SD=7.07).

Table 2 shows the Pearson correlation coefficients for perceived discrimination, family functioning, and depressive symptoms from data reported by immigrant women (lower left) and by husbands (upper right). Perceived discrimination was positively correlated with depressive symptoms for both informants, but the relationship was stronger in data reported by immigrant women ($r=0.42, p<0.0001$) than that reported by husbands ($r=0.21, p<0.05$). Family cohesion was highly correlated with family adaptability in data from both immigrant women ($r=0.75, p<0.0001$) and their husbands ($r=0.73, p<0.0001$); however, family cohesion was only negatively correlated with depressive symptoms when reported by immigrant women ($r=-0.19, p=0.0195$).

After controlling for demographic variables (i.e., educational level and communicating language) and adding interaction terms into the multivariate regression models (Table 3), there was a significant association between perceived discrimination and depressive symptoms both in the family adaptability model ($\beta=1.09, SE=0.36, p<0.05$) and the family cohesion model using data reported by immigrant women ($\beta=1.26, SE=0.43, p<0.05$). Although family adaptability and cohesion did not show a significant main effect on immigrant women’s depressive symptoms, they both moderated the effect of perceived discrimination. That is, high family adaptability ($\beta=-0.01, SE=0.01, p<0.05$) or high family cohesion ($\beta=-0.02, SE=0.01, p<0.05$) was able to effectively buffer the negative effect of self-perceived discrimination on depressive symptoms in immigrant women. These models explained around 20 % of the variance in the occurrence of depressive symptoms among immigrant women (adjusted R^2 ranged from 0.19 to 0.21).

In regard to data reported from husbands, an effect of perceived discrimination ($\beta=1.61, SE=0.60, p<0.05$) was found only in the model that controlled for family cohesion. In this model, family cohesion not only showed a significant

Table 1 Demographic characteristics of immigrant women ($N=268$)

	Number	Percent
Original nationality		
China	122	45.52
Vietnam	82	30.60
Cambodia	11	4.10
Thailand	9	3.36
Philippines	3	1.12
Myanmar	3	1.12
Other nationalities	38	14.18
Educational level		
Elementary school/illiterate	66	24.63
Junior high school	73	27.24
Senior high school	88	32.84
University/college	39	14.55
Graduate school and above	2	0.75
Occupation		
Military, civil service, educational personnel	0	0.00
Business	18	6.72
Agriculture, fishery, animal industry	19	7.09
Factory	97	36.19
Other occupations	134	50.00
Local language used for communication at home		
One	152	56.72
Two	107	39.93
More than two	9	3.36
Scale score for depression (mean, SD)	1.94	3.05
Scale score for perceived discrimination (mean, SD)	3.97	1.54
Family cohesion and adaptability scale		
Score for cohesion (mean, SD)	35.58	7.02
Score for adaptability (mean, SD)	29.48	7.07

Table 2 Pearson correlation coefficients for perceived discrimination, family functioning (cohesion and adaptability), and depression symptoms by different informants

	1	2	3	4
1. Perceived discrimination	–	0.03	0.14	0.21*
2. Family cohesion	–0.02	–	0.73**	–0.09
3. Family adaptability	0.01	0.75**	–	–0.08
4. Depressive symptoms	0.42**	–0.19*	–0.11	–

Data of the lower left is from immigrant women ($N=119$), and the upper right from husbands ($N=120$)

* $p<0.05$; ** $p<0.0001$

Table 3 Multiple regression analyses of depression symptoms on family functioning and perceived discrimination reported by different informants

Independent variables	Immigrant women (N=119)		Husband of immigrant women (N=120)	
	β	SE	β	SE
Family adaptability as family functioning				
Family adaptability	0.60	0.36	0.23	0.85
Perceived discrimination	1.09*	0.36	0.65	0.97
Family adaptability \times perceived discrimination	-0.01*	0.01	-0.01	0.02
Adjusted R^2	0.19		0.05	
Family cohesion as family functioning				
Family cohesion	0.70	0.43	1.15*	0.55
Perceived discrimination	1.26*	0.43	1.61*	0.60
Family cohesion \times perceived discrimination	-0.02*	0.01	-0.03*	0.01
Adjusted R^2	0.21		0.09	

All models controlled for educational level and communication language

* $p < 0.05$

effect on immigrant women's depressive symptoms ($\beta = 1.15$, $SE = 0.55$, $p < 0.05$) but also moderated the effect of perceived discrimination ($\beta = -0.03$, $SE = 0.01$, $p < 0.05$) to lower the depressive symptoms score. Nevertheless, this model explained less than 10 % of the variance in the occurrence of immigrant women's depressive symptoms (adjusted $R^2 = 0.09$).

In sum, higher levels of family cohesion reported by immigrant women and their husbands consistently modified the effect of perceived discrimination on the occurrence of depressive symptoms among immigrant women; while the moderating effect of family adaptability was shown only in data reported by immigrant women (Fig. 1).

Discussion

This study found that perceived discrimination among immigrant women in Taiwan is associated with their depressive symptoms. Moreover, family functioning serves as a moderator between the relationship of perceived discrimination and depressive symptoms. This study also demonstrated a similar mechanism between family cohesion and perceived discrimination from data reported by the husbands of immigrant women as compared with data from immigrant women themselves. However, the moderating effect of family adaptability on the relationship between perceived discrimination and depressive symptoms was evident only in data reported by immigrant women.

The relationship between perceived discrimination and depressive symptoms in immigrant women

Consistent with previous studies (Epel et al. 2010; Gonzalez-Castro and Ubillos 2011; Lee et al. 2009; Panchanadeswaran and Dawson 2011), our findings show that immigrant women exhibiting a higher level of perceived discrimination have

more severe depressive symptoms. It is interesting to note that although subjectively perceived discrimination might differ from actual discriminatory behavior (Taylor et al. 1991), the effects of both on the mental health of immigrant groups have been shown to be identical (Flores et al. 2008). Many minority individuals who anticipate discrimination but do not experience it, believe that they will face discrimination in a variety of life domains and as a result stop themselves from initiating a close personal relationship or applying for a job (Lasalvia et al. 2013). Immigrant women in Taiwan may be not only subject to subjectively perceived discrimination but may also encounter a discriminatory multicultural society.

Several forms of discrimination against immigrant women can be observed in Taiwanese society such as gender discrimination, racial discrimination, and socioeconomic discrimination. Taiwan is a patriarchal society where men are, in general, perceived as being superior to women. The unequal power and status associated with the traditional role of women may make immigrant women readily feel discriminated against in such a social and cultural environment. Gender discrimination can also build negative impressions and produce lack of confidence or helplessness, which are all symptoms of depression. As people from Southeast Asian countries differ to Taiwanese populations in terms of skin color, culture, living habits, beliefs, and values, immigrant women may experience racial discrimination from native inhabitants. Even women from mainland China who share the same language and ethnicity may also be treated with considerable hostility because of the long-term cross-strait political conflict and societal separation between the two societies. Such racial discrimination could increase hopelessness by reinforcing perceptions of inequality and limited opportunities for achieving life goals (Jones 2000). In terms of social and economic discrimination, Taiwan has a relatively advanced level of economic development compared to countries in Southeast Asia. In addition, the social and economic status of immigrant families and the

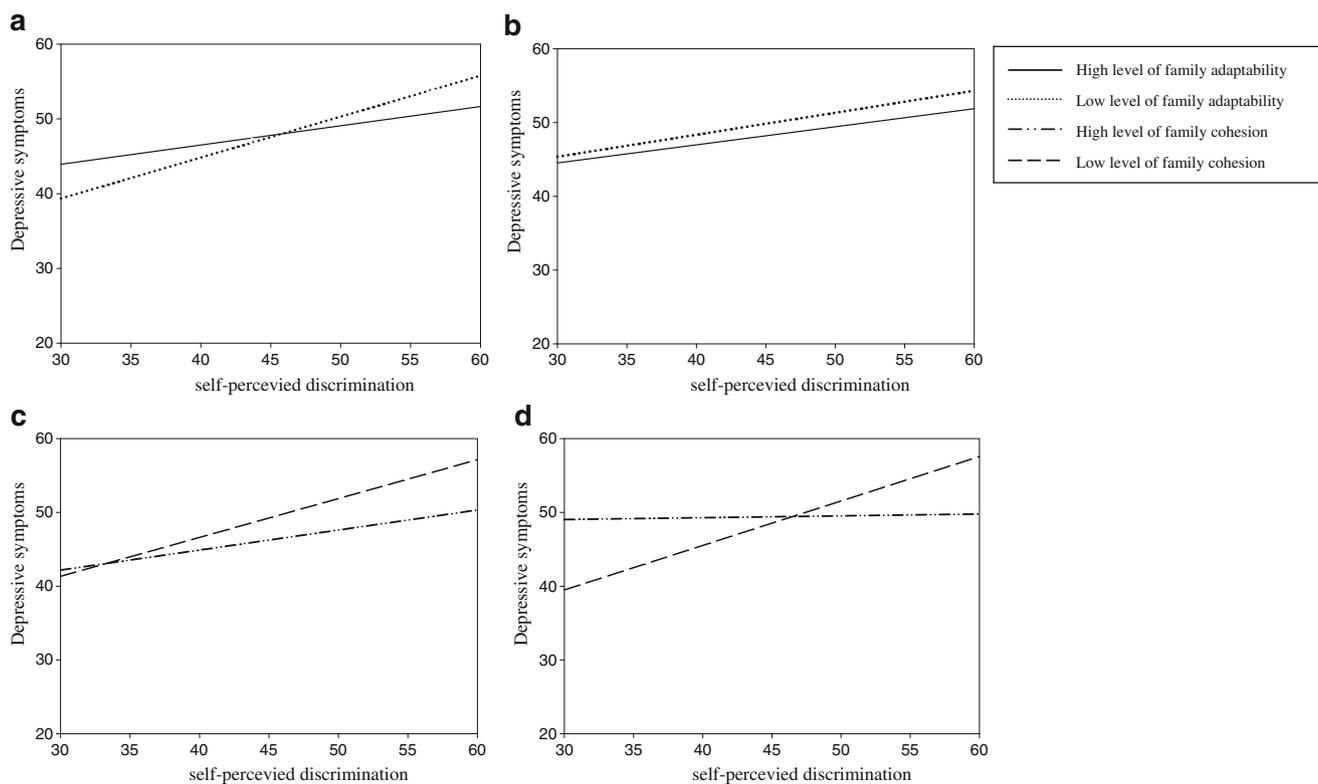


Fig. 1 Moderating effects of family adaptability (**a** data from immigrant women, **b** data from husbands of immigrant women) and Family Cohesion (**c** data from immigrant women, **d** data from husbands of immigrant

women) on the relationship between self-perceived discrimination and depressive symptoms

educational level of immigrant women are relatively low (in this study, more than half of the participants had only attended junior high or elementary school or were illiterate). As such, some Taiwanese may feel economically superior to immigrants from these regions and may believe that immigrant women contribute to social problems. As a result, they may make discriminatory remarks and express criticism toward these immigrant women. Although gender, race, and social position may not be mutually exclusive, they all may be sources of discrimination for immigrant women in Taiwan. Social conditions such as socioeconomic status are strongly linked to mental health (Link and Phelan 2005), and perceptions of social inequality resulting from relative social position and stresses like discrimination are also important to health (John et al. 2012). It is therefore not surprising that immigrant women married to Taiwanese men appear to be vulnerable to various forms of discrimination which are strongly associated with mental health problems.

The moderating effect of family functioning

We found that family functioning moderated the effect of discrimination on depressive symptoms among immigrant women. In line with a vast amount of research on immigrant Latino families in the USA where family cohesion is often

used as a global indicator of family functioning (Dillon et al. 2013), results of this study show that a higher level of family cohesion allows immigrant women to effectively buffer the effects of perceived discrimination on depressive symptoms. The present study further found that the moderating effect of family cohesion appears to be consistent between informants, with data from husbands showing even a slightly greater effect than that from immigrant women themselves. This may be partly due to men being more sensitive than women to the influence of family cohesion on depression risk (Park et al. 2013). In general, our findings support that family cohesion is a robust moderator of the relationship between perceived discrimination and the occurrence of depressive symptoms.

Nevertheless, the moderating effect of family adaptability differed between informants in this study. Family adaptability, like family cohesion, can modify the negative effect of perceived discrimination on depressive symptoms from immigrant women's perspectives. However, the impact of family adaptability may seem irrelevant to the relationship between discrimination and depressive symptoms from the husband's point of view. This could be due to different assessments of family adaptability by immigrant women and their husbands. As the Taiwanese husbands are native-born and usually exercise power over the whole family, they are bound to have better family adaptability than their immigrant wives.

Conversely, as most immigrant families in Taiwan are extended families, immigrant women must not only communicate with spouses, they must also interact with their parents-in-law, their husbands' siblings, or other relatives. Language barriers and complex social family networks may substantially hinder communication and increase conflict between married couples. Moreover, daughters-in-law usually have inferior status in families in Taiwan; thus, most family members will support the husband during family conflicts. Isolation and lack of family support may be the cause of poor marital relations and low family adaptability (Perry-Jenkins and Folk 1994), which may in turn strengthen the feeling of being discriminated against and generate depressive symptoms.

In contrast, high family adaptability in an immigrant woman may be an indication that she either holds some power in the family system to change the rules of role relationships in response to situational stress or that she has obtained the acceptance, respect, and assistance from members of her new family that will help her adapt to the new environment. As such, negative psychological effects can be reduced (despite experiencing feelings of discrimination) because of sufficient self confidence as well as the provision of family support.

To a certain extent, improved family adaptability represents superior cultural adaptability or acculturation which is associated with decreased risks of an array of mental health outcomes (e.g., depression, anxiety, and substance abuse) among immigrant women (Lara et al. 2005). Research studies typically use local language fluency and the amount of time lived in the host country as indicators of acculturation. This means that successfully acculturated immigrant women are more likely to have lived in the cross-cultural immigrant family for a considerably long time and have learned how to communicate with their families in an appropriate manner by using the local language. These characteristics improve not only family adaptability but also the ability to face a society full of discrimination.

Limitations

Several limitations should be considered when interpreting our findings. First, the sample was selected from immigrant women living in Central Taiwan; therefore, further clarification is required before the results of this study can be generalized to other regions. Second, the original nationalities of the majority of immigrant women were Chinese and Vietnamese and it is unknown whether results would differ for immigrant women from other countries. Third, due to limited sample size, only two demographic variables were controlled for in the analytic models, which may pose problems related to model specification. Fourth, as this is a cross-sectional study, the causal relationship between study variables is unable to be fully established.

Conclusions

Immigrant women and their families are a growing population in Taiwan. Mental health among immigrant women is not only an individual or a family issue but also related to social stability. Immigrating to and living in Taiwan place immigrant women at risk for experiencing psychological problems. Perceived discrimination is associated with high levels of depressive symptoms and family functioning (especially family cohesion) serves as a moderator of this relationship. Findings of this study highlight that reducing perceived discrimination among immigrant women is crucial for preventing the occurrence of depressive symptoms among this population. To appropriately address the mental health needs of immigrant women in Taiwan, mental health providers and public health practitioners should have an ecological understanding of stress experienced at multiple levels. The government could consider building more immigrant-friendly infrastructure to reduce perceived discrimination among immigrants. Reinforcing civic education when planning policies to create an accepting society that does not discriminate toward immigrant women is also important. Furthermore, encouraging cross-cultural family members to engage in family affairs or activities together to increase family cohesion, as well as improving the educational level of immigrant women and increasing their interaction with different dimensions of society would enhance family adaptability and potentially prevent depressive symptoms in these women.

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Conflict of interest The authors have nothing to disclose.

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