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Quality of Social Relationship and Social Behavior of Chinese Patients With Functional Dyspepsia: A Comprehensive Analysis

WAI-MO HUI The University of Hong Kong CECILIA CHENG Hong Kong University of Science and Technology

The present study conducted a comprehensive analysis on the psychosocial aspect of functional dyspepsia (FD). A matched case-control design was adopted to compare differences between a target group of 50 Hong Kong FD outpatients and a community control group of 50 healthy Hong Kong individuals. Compared to healthy participants, FD participants reported higher levels of social conflict, social dominance, anxiety, and depression; and lower levels of network support and perceived support. Social conflict, social dominance, network support, and perceived support were reliable predictors of the diagnostic status for FD. These results suggest that both quality of social relationship and social behavior play a role in the heightened levels of anxiety and depression of Hong Kong FD patients.

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Correspondence concerning this article should be sent to Cecilia Cheng, Division of Social Science, Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong. E-mail: c.cheng@ust.hk.

Individuals with functional dyspepsia (FD) are characterized by having symptoms of the upper gastrointestinal tract, such as epigastric pain, nausea, vomiting, and bloating, for at least 3 months without evidence of organic or biochemical pathology (see e.g., Drossman, Richer, & Talley, 1994; Haug, Svebak, Wilhelmsen, Berstad, & Ursin, 1994; Talley, 1993; Witteman & Tytgat, 1995). Because there are no clear physical mechanisms identified for FD, a myriad of studies focused on psychological factors that characterize FD individuals. Individuals with FD have a monitoring perceptual style (Bradette, Pare, Douville, & Morin, 1991; Cheng, Hui, & Lam, 2000) and a nondiscriminative action-oriented coping pattern (Cheng, Hui, & Lam, 1999; Cheng et al., 2000). Compared to healthy individuals and those with peptic ulcer, FD individuals perceive a greater impact of stress (Bennett, Beaurepaire, Langeluddecke, & Kellow, 1991; Craig & Brown, 1984; Hui, Shiu, & Lam, 1991; Jorgensen, Bonlokke, & Christensen, 1986), experience higher anxiety and depression levels (Alexander & Tantry, 1993; Haug et al., 1994; Haug, Wilhelmsen, Ursin, & Berstad, 1995; Jonsson, Theorell, & Gotthard, 1995; Magni, Di Mario, Bernasconi, & Mastropaolo, 1987; Mine et al., 1994; Talley, Fung, Gilligan, McNeil, & Piper, 1986; Wilhelmsen, Haug, Ursin, & Berstad, 1995), report more dissatisfaction with their treatment (Morris, Chapman, & Mayou, 1992), and expect less subjective improvement of their symptoms (Morris et al., 1992).

All these studies showed that FD individuals differ from others in certain personality-related characteristics, suggesting that psychological factors play a role in FD. As psychosocial models become increasingly important in psychological and medical research (Drossman et al., 1999), psychosocial factors (e.g., social support, social conflict) may also influence FD patients, especially among the Chinese. In traditional Chinese society, groups constitute the basic units (Bond & Hwang, 1986). Social relationship is an important source of support and self-worth in Chinese culture (Bond, 1996). With the exchange and sharing of resources, the psychological well-being of an individual member is largely dependent on the collective effort of their in-group members. As such, harmony among group members is crucial to the success of their groups, and in turn, the success of individual members. The quality of social relationship is regarded as an important indicator of personal worth among the Chinese. Any upheavals to group harmony and interpersonal relationship are likely to elicit psychological disturbance. In these respects, the present study aimed at examining the quality of social relationship among Chinese FD

patients. Specifically, this study examined (a) the quality of social relationship and (b) the social behavior of individuals with FD.

Few studies have included psychosocial factors in the study of FD. Only two studies (Bennett et al., 1991; Herschbach, Henrich, & von Rad, 1999) have examined the extensiveness of social network as a kind of psychosocial resources for FD individuals. These findings showed that FD individuals have a smaller social network than healthy individuals. It is noteworthy that social network represents only one aspect of social support. Social support has been conceptualized as a multifarious and complex "meta-construct," which comprises three components: (a) network support, that is, the number of members and connections in a social network; (b) enacted (or received) support, that is, actual supportive behavior rendered by others; and (c) perceived support, that is, subjective appraisals of the supportiveness of social relationship (Barrera, 1986; Cooke, Rossmann, McCubbin, & Patterson, 1988; Coyne & Downey, 1991; J. L. C. Ma, 1992; Vaux & Athanassopulou, 1987). Previous findings (Cheng, 1998a; Wethington & Kessler, 1986) have shown that the three components are relatively independent, and thus a more complete examination of social support should examine all these components.

Although social relationship has been widely regarded as a hotbed of psychosocial resources, not all close relationships are necessarily supportive (e.g., Cheng, 2001; Newsom, 1999). Social relationship can also be a source of tension and conflict that elicit distress (Cheng, 1998b; Fiore, Becker, & Coppel, 1983; Rook, 1990). Previous studies (Fiore et al., 1983; Lepore, 1992; Pagel, Erdly, & Becker, 1987; Stephens, Kinney, Ritchie, & Norris, 1987) have revealed that social support and social conflict are two relatively independent aspects of social relationship, rather than two extreme poles within the same dimension. For instance, some social relationships, such as "enmeshed" families, can be both supportive and conflictive (Cheng, 2001; Minuchin & Fishman, 1981). Thus, a comprehensive examination of the quality of social relationship should include both social support (the positive aspect) and social conflict (the negative aspect). The study by Hui and colleagues (1991) revealed that although participants did not differ in the total number of stressful events, FD participants experienced more stressful family events than did their healthy counterparts. This finding suggests that FD individuals have more social conflicts, and a poorer quality of social relationship than others.

A major factor influencing the quality of social relationship is

competent social behavior, which refers to one's ability to get along with others. Theories of social intelligence (Argyle, 1981; Brown & Anthony, 1990; Ford & Tisak, 1983; Sternberg & Smith, 1985) posit that competent social behavior facilitates harmonious relationships with others, and individual differences in anxiety and depression can be accounted for by the exhibition of competent social behavior in social interactions. Helmreich and Stapp (1974) conducted a factor analysis on social behavior, and their findings revealed four factors: social confidence, social dominance, social competence, and social withdrawal. These four types of social behavior may be associated with the quality of social relationship in different ways, and thus the present study examined these types of social behavior and their associations with anxiety and depression. Having higher anxiety and depression levels, FD individuals may differ from their healthy counterparts in various types of social behavior.

Method

Research Participants

Participants were 100 Hong Kong adults (50 females and 50 males, aged between 19 and 60). This sample comprised two groups, with 50 participants (25 females and 25 males) in each. A sample of 50 yields a power of .90 for a medium effect size (Cohen, 1988).

Female and male participants of the first group were selected respectively from consecutive series of female and male patients at the gastroenterology section of two public hospitals. Only those who (a) met the Rome diagnostic criteria of FD (Drossman, Corazziari, Talley, Thompson, & Whitehead, 2000); and (b) were diagnosed endoscopically as having no structural gastrointestinal abnormalities were included. Participants were excluded if they had symptoms of irritable bowel syndrome, suffered from heartburn or acid regurgitation, had undergone surgery, had a history of serious physical or psychiatric illness, were pregnant, were under 18 or over 60 years old, or were unwilling to give informed consent.

Participants of the second group were recruited from a telephone survey using random-digit dialing. Individuals who matched those of the target group on sex, age, and education level were asked if they would like to take part in a health research. Participants were excluded if they had undergone surgery, had a history of serious physical or psychiatric illness, were pregnant, were under 18 or over 60 years old, or were unwilling to give informed consent.

The protocol of this study obtained approval from the Human Subject Research Panel of the Hong Kong University of Science and Technology. All procedures were in accordance with the principles of the Declaration of Helsinki.

Measures

Network Support

Network support was assessed by the Social Network Scale (Cheng, 1998a). This measure assesses two major aspects of network support, namely network size and frequency of social contacts. Network size is indicated by the number of members in various social relationships. Frequency of social contacts is measured by (a) the number of contact with network members, (b) the number of participation in social activities, and (c) the extent of involvement in various social relationships for the past month. This measure is reliable and valid (Cheng, 1998a).

Enacted Support

Enacted support was measured by the Inventory of Socially Supportive Behavior (Barrera, Sandler, & Ramsay, 1981). Respondents report the frequency with which they received a variety of instrumental (IS) and socioemotional (SS) supportive behaviors within the past month. The IS scores range from 0 to 76, whereas the SS scores range from 0 to 52. A higher IS or SS score indicates a greater number of instrumental or socioemotional supportive behaviors received. The reliability and criterion-related validity of this measure are adequate (L. C. J. Ma, Chan, Chi, & Sham, 1990).

Perceived Support

Perceived support was assessed by the Social Support Appraisals Scale (Vaux et al., 1986). It consists of 15 items that assess the extent to which the respondents perceive themselves as being loved by, respected by, and involved with family members and friends (Vaux, 1987). The perceived support scores range from 15 to 60. A higher score indicates a higher level

of perceived support. This scale has adequate reliability and criterion-related validity (L. C. J. Ma et al., 1990).

Social Conflict

Social conflict was measured by two social conflict scales: the Family Conflict Scale (Moos & Moos, 1986) and the Friend Conflict Scale (Lepore, 1992). The Family Conflict Scale consists of 8 items tapping the perceived amount of anger, aggression, and conflict among family members, whereas the Friend Conflict Scale has 8 items that describe the extent of upset, disagreements, and anger perceived among friends. The social conflict scores range from 16 to 64, with a higher score indicates a higher level of conflict and tension perceived among family and friends. These two scales are reliable and valid (Cheng, 1998b; H. K. Ma & Leung, 1990).

Social Behavior

Social behavior was assessed by the Texas Social Behavior Inventory Form A developed by Helmreich and associates (Helmreich & Stapp, 1974). This measure comprises 16 items that assess four types of social behavior: social confidence, social dominance, social competence, and social withdrawal. Respondents rate each item along a 5-point Likert scale. A higher score indicates more competent social behavior for all subscales, except a higher score of social withdrawal indicates less competent social behavior. This measure is reliable and valid (Yang, 1997).

Anxiety

The State-Trait Anxiety Inventory Form Y-2 (Spielberger, Gorsuch, & Lushene, 1970) was used to assess anxiety. This measure assesses symptoms of tension, apprehension, and nervousness. The T-Anxiety scale, which comprises 20 statements, was adopted to measure trait anxiety. The anxiety scores range from 20 to 80, with a higher score indicates a higher trait anxiety level. The reliability and validity of this measure are adequate (Shek, 1988; Ye, 1990).

Depression

Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh,

1961) was adopted to measure depression. This inventory consists of 21 items that assess symptoms of self-debasement (e.g., self-dislike), hopelessness (e.g., pessimism), motivational problems (e.g., work inhibition), and physiological problems (e.g., loss of appetite). A consistent weighted score of 0, 1, 2, or 3 as recommended by Beck and his associates (1961) was adopted for scoring the items. The depression scores range from 0 to 63, with a higher score indicates a higher level of depression. This measure has adequate reliability (Shek, 1990) and criterion-related validity (Shek, 1991).

Procedures

The FD participants completed a set of questionnaires alone in a cubicle in the gastroenterology section of the hospital. Those healthy participants who were given the telephone survey and showed interests were asked to leave their name and correspondence address. The same set of questionnaires was then mailed to them, and a stamped self-addressed envelope was provided for returning the completed questionnaires. All participants were reminded to read the instructions and sign the consent form before filling in the questionnaires.

On completion of the questionnaires, the FD participants were debriefed and thanked for their participation. A debriefing letter and a thank you note were sent to the healthy participants.

Each participant was identified by a randomly assigned number in the data archive. Participants' names and addresses were stored in a separate database, and were deleted on completion of this study.

Statistical Analyses

MANOVA was conducted to examine possible differences of group (i.e., FD and healthy), sex, age, and education level in the major variables. If significant main or interaction effects were found in any variables, posthoc independent-samples *t*-tests would be performed to further explore the source of differences in those variables.

Partial correlations were performed to examine the associations between the psychosocial variables (i.e., social support, social conflict, and social behavior) and psychological symptoms (i.e., anxiety and depression). Separate sets of partial correlations were conducted for FD and healthy participants. Discriminant analysis was conducted to examine factors that distinguish participants of the FD group from those of the healthy group. A direct discriminant function analysis was used to predict membership of the two groups. All the psychosocial variables were entered simultaneously into the model for this method. A stepwise discriminant function analysis was then conducted to obtain a reduced set of predictors of group membership. The stepwise method used statistical criteria to determine the order of entry into the model, and variables that had a low discriminating power were dropped.

Results

Group and Sex Differences

The MANOVA results revealed a significant main effect of group, F(11, 80) = 12.53, p < .001 (effect size = .63). Post-hoc independent-samples *t*-tests revealed that compared to healthy participants, FD participants reported higher levels of social conflict, social dominance, anxiety, and depression, ts(98) > 3.73, ps < .01; but lower levels of network support and perceived support, ts(98) > -2.91, ps < .05.

Results also revealed a significant main effect of sex, F(11, 80) = 7.70, p < .001 (effect size = .51). Post-hoc independent-samples *t*-tests revealed that compared to male participants, female participants reported higher levels of network support, socioemotional enacted support, social competence, and depression, ts(98) > 2.35, ps < .05; but lower levels of social dominance, t(98) = -2.27, p = .05.

Results further showed a significant Group × Sex interaction, F(11, 80) = 2.49, p < .01 (effect size = .24). Post-hoc independent-samples *t*-tests revealed that for instrumental enacted support, female healthy participants reported higher levels than male healthy participants, t(98) = 1.89, p = .06; but female and male FD participants did not differ in this variable, t(98) = 1.57, *ns*. For social competence, female healthy participants reported higher levels than male healthy participants, t(98) = 4.70, p < .001; but there were no significant differences between female and male FD participants, t(98) = 4.70, p < .001; but there were no significant differences between female and male FD participants, t(98) = .63, *ns*.

No overall significant differences were found for the main effect of and the interaction effects with age and education level. Table 1 shows descriptive statistics of all the variables by group and sex.

Functional Dyspepsia

	FD		Healthy	
	Females	Males	Females	Males
	М	М	М	М
	(95% CI)	(95% CI)	(95% CI)	(95% CI)
Network support	64.16	58.04	76.40	66.84
	(57.81–70.51)	(51.69–64.39)	(70.05-82.75)	(60.49–73.19)
Instrumental enacted support	43.40	37.36	33.92	40.60
	(38.40–48.40)	(32.36–42.36)	(28.92–38.92)	(35.60–45.60)
Socioemotional enacted suppo	rt 28.72	25.28	32.92	25.32
	(23.89–33.55)	(20.45–30.11)	(28.09–37.75)	(20.49–30.15)
Perceived support	28.88	26.88	33.96	35.92
	(24.02–33.74)	(22.02–31.74)	(29.10–38.82)	(31.06–40.78)
Social conflict	44.92	51.56	35.08	36.08
	(40.40–49.44)	(47.04–56.08)	(30.56–39.60)	(31.56–40.60)
Social confidence	13.44	12.52	11.88	11.28
	(11.69–15.19)	(10.77–14.27)	(10.13–13.63)	(9.53–13.03)
Social dominance	16.84	20.72	14.48	15.44
	(14.87–18.81)	(18.75–22.69)	(12.51–16.45)	(13.47–17.41)
Social competence	16.88	16.00	19.40	14.68
	(15.17–18.59)	(14.29–17.71)	(17.69–21.11)	(12.97–16.39)
Social withdrawal	4.64	5.20	5.28	5.44
	(3.99–5.29)	(4.55–5.85)	(4.63–5.93)	(4.79–6.09)
Anxiety	46.44	50.48	37.88	40.72
	(42.71–50.17)	(46.75–54.21)	(34.15–41.61)	(36.99–44.45)
Depression	18.68	13.40	7.52	3.96
	(16.59–20.77)	(11.31–15.49)	(5.43–9.61)	(1.87-6.05)

Table 1. Description Statistics for Major Variables by Group and Sex

Associations Between Psychosocial Variables and Psychological Symptoms

Tables 2 and 3 present the partial correlation coefficients of all the psychosocial variables with anxiety and depression for FD and healthy participants respectively. For FD participants, social conflict was positively associated with depression; whereas social dominance was positively associated with anxiety. Anxiety was inversely associated with socioemotional enacted support, perceived support, and social withdrawal.

	with Anxiety		with Depression	
Variable	Partial r	р	Partial r	р
Network support	11	ns	12	ns
Instrumental enacted support	05	ns	11	ns
Socioemotional enacted support	27	<.10	10	ns
Perceived support	29	<.10	25	ns
Social conflict	.25	ns	.36	< .05
Social confidence	10	ns	01	ns
Social dominance	.40	< .01	.23	ns
Social competence	13	ns	.03	ns
Social withdrawal	27	<.10	13	ns

Table 2.	Partial Correlation Coefficients of Psychosocial Variables With Anxiety and
	Depression for FD Participants $(n = 50)$

Table 3. Partial Correlation Coefficients of Psychosocial Variables With Anxiety and
Depression for Healthy Participants (n = 50)

	with Anxiety		with Depression	
Variable	Partial r	р	Partial r	р
Network support	12	ns	09	ns
Instrumental enacted support	13	ns	06	ns
Socioemotional enacted support	27	<.10	17	ns
Perceived support	35	< .05	18	ns
Social conflict	.17	ns	.48	< .01
Social confidence	07	ns	09	ns
Social dominance	.12	ns	.18	ns
Social competence	41	< .01	33	< .05
Social withdrawal	12	ns	12	ns

For healthy participants, a positive association was found between social conflict and depression. Inverse associations were found between socioemotional enacted support and anxiety, perceived support and anxiety, social competence and anxiety, as well as social competence and depression.

These results indicate that for all participants, higher levels of socioemotional enacted support and perceived support were associated with lower levels of anxiety, whereas higher levels of social conflict were associated with higher levels of depression, and vice versa. For FD participants, higher levels of social dominance were associated with higher

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levels of anxiety, and vice versa. For healthy participants, higher levels of social competence were associated with lower levels of anxiety and depression, and vice versa.

Psychosocial Predictors of Diagnostic Status for FD

For the direct discriminant analysis, all the psychosocial variables were entered simultaneously into the model. The discriminant function, which indicates the total overlap between the groups and the psychosocial variables, was significant, $\chi^2(9) = 60.44$, p < .001. This function correctly classified 84% of the participants (82% for the FD group and 86% for the healthy group). The left-hand panel of Table 4 presents the standardized canonical discriminant function coefficients of the variables in this model. These results showed reliable discriminations of the FD and the healthy groups based on the complete set of psychosocial variables.

	Full Model	Stepwise Model
Variable	Function 1	Function 1
Network support	49	49
Instrumental enacted support	30	
Socioemotional enacted support	22	
Perceived support	43	43
Social conflict	.70	.78
Social confidence	22	
Social dominance	.51	.53
Social competence	01	
Social withdrawal	08	

 Table 4.
 Standardized Canonical Discriminant Function Coefficients of Full Model (9 Psychosocial Variables) and Stepwise Model (4 Psychosocial Variables)

For the stepwise discriminant analysis, results revealed that social conflict, social dominance, network support, and perceived support had high discriminating power. This stepwise discriminant function was significant, $\chi^2(4) = 54.63$, p < .001. This function correctly classified 78% of the participants (74% for the FD group and 82% for the healthy group). The right-hand panel of Table 4 shows the standardized canonical discriminant function coefficients of these four variables. Such results showed that the reduced set of psychosocial variables could also reliably discriminate the two groups.

Discussion

The present study conducted a comprehensive analysis on the psychosocial aspect of FD. This study examined three components of social support: network support, enacted support, and perceived support. Consistent with previous studies (Bennett et al., 1991; Herschbach et al., 1999), FD individuals differed from their healthy counterparts in having less extensive social networks. However, results further showed that network support was not reliably associated with anxiety and depression for both FD and healthy individuals. These findings suggest that although a large social network can boost public esteem and status (Reis, 1984), it does not necessarily relieve the heightened anxiety and depression levels. Rather, socioemotional enacted support and perceived support have reliable associations with anxiety and depression. It is possible that these two types of support provide a sense of belonging, nurturance, and reassurance of worth, which are important components through which social support is related to better health and psychological outcomes (Berkman, 1984). As suggested by previous work (Berkman, 1984; Uchino, Uno, & Holt-Lunstad, 1999), the lack of these components can influence susceptibility to ill health and psychological symptoms in two ways. First, the unavailability of social support may lead to a physiologically stressful state, such as an increase in blood pressure and heart rate (Gerin, Pieper, Levy, & Pickering, 1992). Second, the unavailability of social support may influence the psychological processes of self-esteem, feelings of personal control, and negative mood states. Future studies should place more weight on both socioemotional support and perceived support in the study of social relationships for FD individuals.

This study is the first to examine the quality of social relations for FD patients. Both the positive and negative aspects of social relations have been examined in a sample of Chinese FD patients. Possible cultural influences on participants' responses to social relations should be noted. According to Hwang (1988), the Chinese generally exhibit two major types of responses to handle interpersonal and psychological problems: active responses and self-persevering responses. Individuals who tend to adopt active strategies in handling problems, such as using problem-focused coping strategies to approach stressful situations, are prone to psychosomatic or functional problems. Those who tend to adopt self-persevering strategies, such as exhibiting social withdrawal, are prone to experience high levels of anxiety and depression. As revealed in Cheng's

body of studies on FD (Cheng et al., 1999, 2000; Cheng, Hui, & Lam, 2002), Chinese FD patients were characterized by a consistent actionoriented coping style in dealing with stressful situations. Hwang's proposition suggests that the action-oriented coping style of Chinese FD patients contributes to their psychosomatic or functional symptoms. As revealed in this study, Chinese FD patients received less support and experienced more social conflict than did those without FD. It is possible that the quality of their social relationships contributes to their psychological symptoms of heightened anxiety and depression levels.

Kleinman (1986) proposed a detailed analysis on the influence of cultural values and norms on psychosomatic and psychological symptoms. Chinese society differs from that of the West in its highly collective nature (Bond, 1996). The promotion and maintenance of social harmony is the prime objective of social interactions. One essential aspect of Confucianism, which has been influential in constructing Chinese social order since ancient times, is that human exists through, and is defined by, his or her relationships with others (Bond, 1991). The inherent network of intricate relationships with family members, social institutions have been given higher priority to an individual. Any disturbance to such inherent hierarchical bonds is likely to be criticized by family members or social others in the society. Hence, concern with the self is often ignored or played down in favor of group considerations (Bond, 1991). The goal of an individual is to serve primarily the expected goal of family members and social others, rather than to serve what he or she wants. As familial network and social network are essential to the establishment of self-esteem, the ideal self is closely related to the maintenance of social values (e.g., harmonic social relationship) rather than individual qualities (e.g., gratify one's need). Any conflict or problem in an individual's network is likely to lower his or her self-worth, thus eliciting anxiety and depression. Thus, one possible reason why Chinese FD patients experience more depression than their healthy counterparts is that they have higher expectations of harmonic relationships, thus creating a large gap between their expected quality and their actual quality of social relationship. Consequently, they may be more sensitive to cues of social conflicts and may be more vulnerable to further depression.

Chinese society emphasizes harmonic social relations over the expression of potentially disruptive emotions. Kleinman (1986) reasoned that these kinds of traditional cultural values and norms are possible major factors contributing to the dearth of explicit expressions of personal and

social distress among the Chinese. Also, the overemphasis of harmonious social relationship makes the Chinese particularly sensitive and vulnerable to potential social conflicts. If social conflict is unavoidable, the most "socially-appropriate" way for the disturbed Chinese to express their emotions is through bodily symptoms, rather than vocal expressions such as arguments. The presentation of personal and interpersonal distress through the medium of body is called somatization. From a psychosocial point of view, conflicts are transformed into discourse about pain and disability, which is a signal for the disappointment about the self and the social world (Kleinman, 1986). The present findings revealed an association between psychological symptoms and social relations among FD patients, and such an association suggests that unexplained functional symptoms is a way of manifestation of distress experienced in conflictive relationships.

Based upon his research in Taiwan, Kleinman (1986) gave several cultural explanations for somatization among the Chinese. One of the most widely discussed hypothesis is the introspective coping strategy, which uses the body as a medium to experience stress-related distress, and therefore results in dysphoria or other psychological illnesses (Barsky & Klerman, 1983; Cheung & Lau, 1982; Katon, 1982; Kleinman, 1982, 1986; Mechanic, 1980; Pennebaker & Skelton, 1978). Given the Chinese values that emphasize the identification with the group's values (Bond, 1991), the Chinese prefer cooperative strategies rather than direct confrontations when dealing with conflicts. Compromise and negotiations are used more often than litigation or competition. If conflicts cannot be resolved appropriately, the Chinese tend to present their problems or negative emotions in terms of bodily symbols, which hide their real causes of depression. Hence, the psychological cause of somatization has been regarded as a manifestation of depression for the Chinese (Cheung, Lau, & Waldmann, 1980). Thus, it is reasonable to extrapolate that the presence of unexplained somatic symptoms as well as heightened anxiety and depression among Chinese FD patients are related to Chinese cultural values of harmonious social relations.

Several cautionary notes concerning this study should be addressed. First, this study was the first to include social support, social conflict, and social behavior in the study of FD. Given the relatively small sample size of this matched case-control study, the present results should be regarded as tentative. Studies with a larger sample size recruited from different communities should be conducted to examine the replicability of these new findings.

Second, it is important to note that participants in this study were confined to FD outpatients. Recent studies (Cheng, 2000; Herschbach et al., 1999) revealed differences in psychological characteristics between medical consulters and nonconsulters. Moreover, the study by Simon, VonKorff, Piccinelli, Fullerton, and Ormel (1999) revealed differences in presentations of somatic symptoms between walk-in clinics that lack an ongoing relationship with a primary care physician and those that provide a personal form of primary care. The ongoing relationship between patients and personal physicians may function as not only a kind of professional support but also a kind of emotional support, which is generally considered effective in relieving physical and psychological symptoms in patients (Andrews, Tennant, Hewson, & Schonell, 1978; Berkman, 1984; Ganster & Victor, 1988; Wallston, Alagna, DeVellis, & DeVellis, 1983). Future studies should examine FD patients from a variety of clinic settings, FD individuals who have not sought medical consultation, and individuals with other functional gastrointestinal disorders such as irritable bowel syndrome and functional constipation. The extent of generalizability of the present results can only be evaluated in more heterogeneous samples.

Third, the correlational nature of this cross-sectional study should be noted. As suggested by some studies (Lepore, 1992; Newton, Bane, Flores, & Greenfield, 1999), the frequent experience of conflicts for FD individuals may provoke depression, and their high levels of social dominance may elicit anxiety. As suggested by other studies (Coyne, Burchill, & Stiles, 1990; Yarnold & Grimm, 1986, 1988; Yarnold, Mueser, & Grimm, 1985), their heightened levels of depression may lead to a great amount of conflicts with social members, and their heightened levels of anxiety may impel them to dominate in social interactions. Multi-wave longitudinal studies should be conducted to scrutinize the direction of associations between psychosocial variables and psychological symptoms for FD individuals.

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患有功能性消化不良症的中國病人的人際關係素質和社交行為: 一項全面的分析

許偉武

香港大學

鄭思雅

香港科技大學

摘要

這項研究的目的是對功能性消化不良症的心理社會因素作全面分析。研究採 用個案控制的設計以比較50位患有功能性消化不良症的香港病人和50位健康 的香港人兩組之間的差異。研究發現,與健康的香港人比較,患有功能性消 化不良症的香港病人有着較高水平的社交衝突、社交支配、焦慮和抑鬱,以 及較低水平的社會網絡支援和認知社會支援。研究亦發現,社交衝突、社交 支配、社會網絡支援和認知社會支援是診斷功能性消化不良症的可靠性因 素。這個結果顯示,人際關係素質和社交行為可能會提高患有功能性消化不 良症的香港病人之焦慮和抑鬱水平。