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Relationship of cognitions and symptoms of agoraphobia in Hong Kong Chinese: A combined quantitative and qualitative study

Lung Kit Hui,[1] Roger M.K. Ng,[2] Lui Pau[3] and K.C.Yip[4]

Abstract

Objectives: The aim of this study was to explore and describe the subjective experiences of agoraphobia in Hong Kong Chinese.

Method: This was a cross-sectional descriptive study, using a combined qualitative–quantitative approach. In the qualitative part, two focus groups were held with nine participants suffering from DSM-IV panic disorder with agoraphobia, followed up in a regional hospital in Hong Kong. The audiotaped material was transcribed and analysed into four main categories and 13 subcategories based on a grounded theory approach. One subcategory ('Fear of making others worried and being a burden to others') was identified as a novel, culture-specific concept in agoraphobia that was not reported in Western literature. In the quantitative part, this subcategory was redefined and measured by a two-item, self-rated questionnaire survey in another 35 participants suffering from DSM-IV defined panic disorder with agoraphobia.

Results: Qualitative data showed that the clinical manifestations of agoraphobia were specifically related to the underlying corresponding catastrophic cognitions. An individual's agoraphobic cognitions and symptoms were highly related to the identity of the surrounding people during panic attacks in agoraphobic situations, which reflected the characteristic structure of the Chinese interpersonal network. Participants preferred reliance on self to cope with the anxiety first, then turned to their family members for help due to higher interpersonal trust. Participants also expressed fear of affecting others due to their illness. A new sub-theme of agoraphobia ('Fear of making others worried and being a burden to others') was extracted from the qualitative data. Its validity was confirmed by the quantitative description of this new theme using a self-rated questionnaire as a methodological triangulation.

Conclusions: The central theme to emerge from the qualitative data was that agoraphobia is a clinical condition that has a close relationship to Chinese cultural factors. 'Fear of making others worried and being a burden to others' is a new concept in agoraphobia worthy of further study.

Keywords

agoraphobia, cultural factors, panic disorder, qualitative method, triangulation

Introduction

Panic disorder and agoraphobia are common anxiety disorders. A recent epidemiological study was performed using data from the US National Comorbidity Survey Replication (Kessler et al., 2006). By using DSM-IV criteria, the lifetime prevalence of 'Panic disorder with agoraphobia' (PD-AG) was 1.1% and 'Agoraphobia without history of panic disorder' (AG) was 0.8%, so in total the lifetime prevalence of all agoraphobia was 1.9%. On the other hand, the lifetime prevalence of 'Panic disorder without agoraphobia' (PD) was 3.7%. Indeed, panic disorder is associated with impaired occupational and social functioning and poor overall quality of life, and the disability is in fact comparable to major depression (Katerndahl and Realini, 1997; Markowitz et al., 1989).

Panic disorder and agoraphobia can be explained by different theories, including neurobiological, psychodynamic,

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sociocultural and cognitive models (Taylor et al., 2007). Within the paradigm of cognitive model, the importance of catastrophic cognitions about *interpersonal* disasters in agoraphobia has been widely discussed (Clum and Knowles, 1991; Hackmann, 1998). A recent study (Day et al., 2004) has explored the content of mental imagery during panic attacks in public places. Patients with agoraphobia reported themes involving not only physical and mental catastrophe, but also social humiliation, intimidation and lack of protection from others. Based on the above findings, Hoffart et al. (2006) reviewed the role of catastrophic interpersonal cognitions in panic disorder with or without agoraphobia. Catastrophic cognitions have been classified as intrapersonal fears (i.e. fears of incapacitating events happening to the person's mind or body) and interpersonal fears (i.e. fears of incapacitating events happening related to other persons during panic attacks in public places). Intrapersonal fears include fear of physical catastrophes and fear of losing control. Interpersonal fears include: (1) fear of negative evaluation; (2) fear of being trapped and separated from safe persons and places; and (3) fear of being neglected (Hoffart et al., 2006).

There are variations in the prevalence of panic disorder and agoraphobia across countries, and the prevalence in the Chinese population may be less than in the West. The World Health Organization (WHO) survey of 14 countries showed that the prevalence of panic attacks ranged from 1.4% to 16.5%, and the prevalence of panic disorder ranged from 0% to 3.5% (Sartorius et al., 1993). In Weissman's study (1997), the lifetime prevalence of panic disorder in Taiwan was exceptionally low at only 0.4%. In Hong Kong Chinese, the prevalence of panic disorder and agoraphobia were also lower than in the Western population (Chen et al., 1993). The reasons for these differences are unclear, although some investigators postulated that it may partly be due to cultural factors (Compton et al., 1991; Yeh et al., 1994).

In a study looking for the effects of culture on symptom profiles in panic disorder with or without agoraphobia (Sierra-Siegert and David, 2007), the level of individualism of different countries was estimated by Hofstede's National Individualism Index (Hofstede, 2001). Subjects from individualistic cultures were more likely to experience depersonalization and fear of losing control during panic attacks, which suggested an association between culture and symptom presentation of panic disorder and agoraphobia.

In the last two to three decades, the discourse of agoraphobia has become more international. However, it continues to be orientated particularly to Western concerns and experiences, and most of the literature published nowadays is written in English (Reuter, 2007). In addition, first-person accounts are rare in the discourse of agoraphobia and individual case reports are becoming less common in the psychiatric literature (Reuter, 2007). The primary aim of the present study was to qualitatively describe the subjective experiences of patients suffering from agoraphobia using focus group discussions, in order to explore the sociocultural meanings of cognitions and symptoms of agoraphobia among Hong Kong Chinese.

In order to enhance the validity of the qualitative study, any novel category generated from the thematic analysis was subjected to further triangulation using quantitative survey in an independent group of patients suffering from panic disorder with agoraphobia.

Method

This study was a cross-sectional exploratory study, using a combined qualitative–quantitative approach to look into cognitions and symptoms of agoraphobia in Hong Kong Chinese. The first part of this study was a qualitative focus group study and the second was a quantitative descriptive survey (see Figure 1 for the flow of the study design).

Participants

Participants of the qualitative focus group study. In the qualitative focus group study, a total of nine patients (six female and three male) suffering from panic disorder with agoraphobia attending Kowloon Hospital Psychiatric Outpatient Clinic in Hong Kong were invited to participate in two separate focus group discussions. A purposive sampling method was used so that patients with interpersonal fears during panic attacks in agoraphobic situations were particularly selected. Two relatives of two participants (husband of P2 and daughter of P4, respectively) also joined the discussion.

Participants had to fulfill the following inclusion criteria: (1) aged 18–65 years; (2) ethnic Chinese fluent in Cantonese; (3) achieving a level of understanding and expressive capacity sufficient to communicate adequately with the study coordinator; (4) first attended Kowloon Hospital Psychiatric Outpatient Clinic from January 2004 to December 2007 and was still attending follow-up regularly in the clinic; and (5) a DSM-IV-TR diagnosis of 'Panic disorder with agoraphobia', confirmed by Chinese-Bilingual Structured Clinical Interview for DSM-IV (Axis I, Patient version) (CB-SCID-I/P) (So et al., 2003).

The subjects also fulfilled the following exclusion criteria: (1) agoraphobic symptoms due to organic illness, alcohol or psychoactive substance use; (2) comorbid history of DSM-IV-TR defined diagnoses of psychotic disorders, mood disorders or other anxiety disorders (e.g. generalized anxiety disorder, social phobia).

The characteristics of the participants of the qualitative focus group study are described in Table 1.

Participants of the quantitative descriptive pilot study. Attendants of Kowloon Hospital Psychiatric Outpatient Clinic were invited to participate in the quantitative descriptive pilot study. The same inclusion and exclusion criteria

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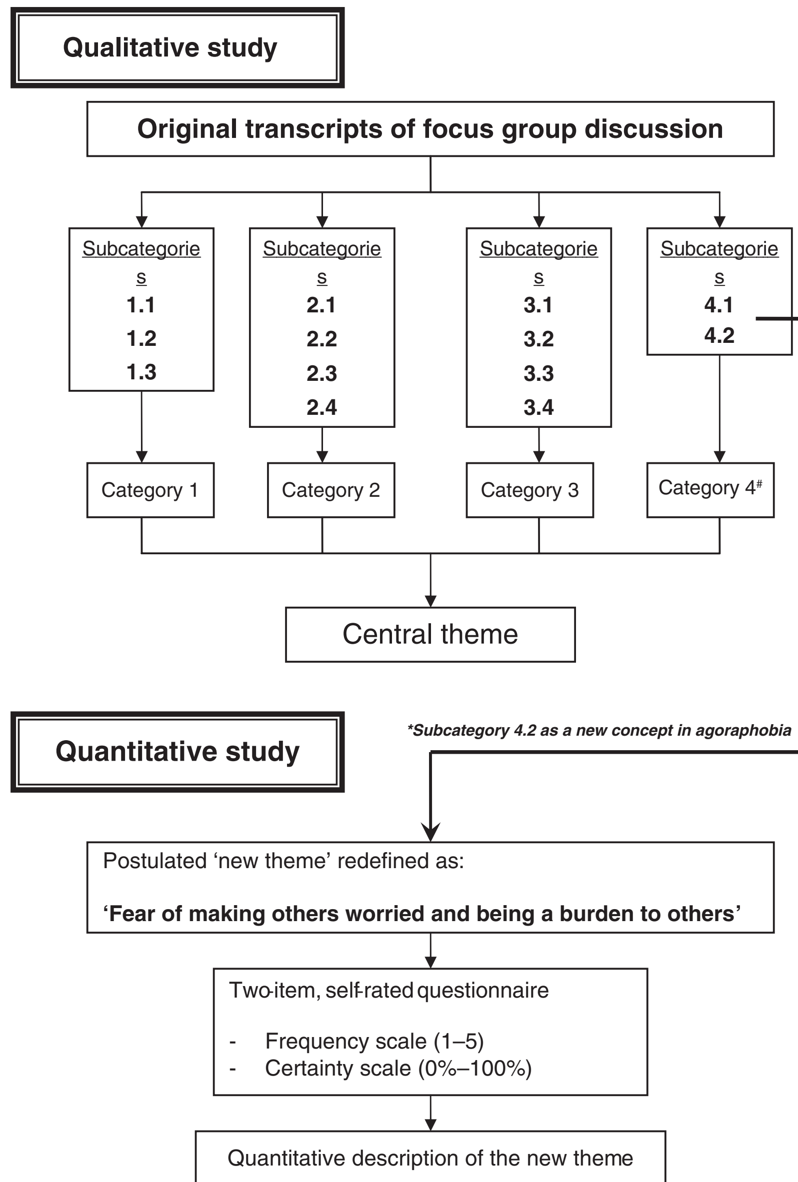

Figure 1. Overview of the study: combined qualitative-quantitative approach
*Subcategory 4.2: Making others worried
#Category 4: Fear of affecting others

Table 1. Demographic and clinical characteristics of the participants of the qualitative focus group study ($N = 9$)

	Gender*	Age (years)	Marital status	Years of education	Occupation	Duration of illness (years)	Frequency of panic attacks (per month)	Feared or avoided situations
P1	F	47	Married	6	Housewife	10	1	Crowded restaurant, away from home alone
P2	F	52	Married	6	Housewife	3	1	Crowded restaurant and shopping mall, train
P3	M	53	Married	7	Unemployed	4	1	Crowded restaurant, taxi, minibus
P4	F	50	Married	11	Housewife	6	2	Crowded street, bus
P5	F	55	Married	15	Civil servant	30	0	Underground, car
P6	F	29	Married	11	Clerk	6	1	Crowded market, train, bus, aeroplane, away from toilet
P7	F	29	Single	11	Self-employed	3	2	Crowded street and shopping mall, aeroplane, lift
P8	M	45	Married	11	Businessman	1	0	Walking across bridge, underground, car
P9	M	58	Single	12	Civil servant	20	0	Crowded department store, bus over tunnel

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were used as in the focus group study, except that participants who had joined the focus groups were excluded. The recruitment period was from January 2007 to July 2008. The final sample of the quantitative descriptive pilot study comprised 35 patients with a DSM-IV-TR confirmed diagnosis of 'Panic disorder with agoraphobia' (Figure 2).

Procedures

The qualitative part of this study was in the form of a focus group discussion. Two sessions of focus group were held, with four and five participants, respectively. Written informed consent was obtained. The discussion took place

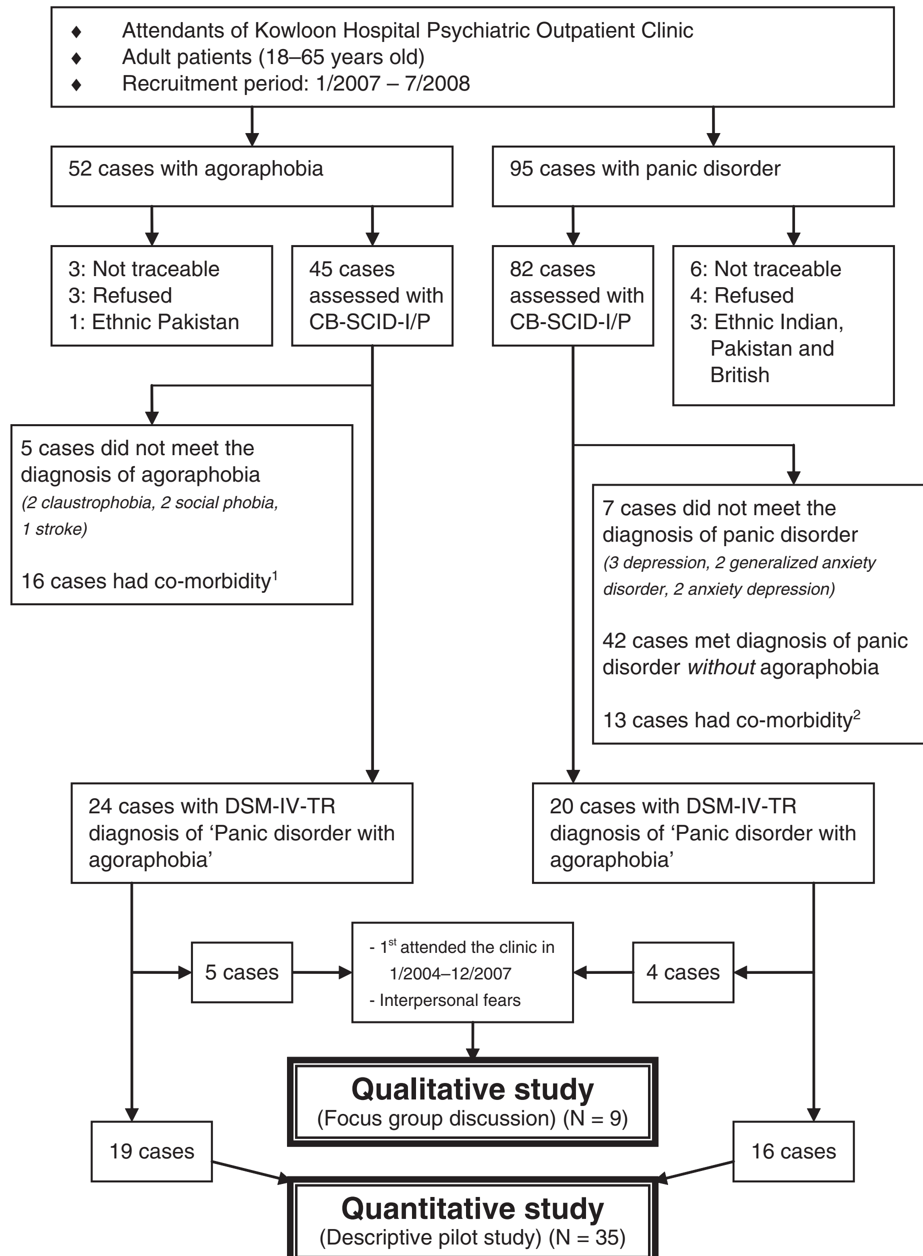

Figure 2. Flow chart of participants' recruitment
[1]Depression (5) / Anxiety depression (3) / Generalised anxiety disorder (4) / Social phobia (2) / Alcohol abuse (2)
[2]Depression (3) / Anxiety depression (2) / Generalised anxiety disorder (6) / Alcohol abuse (2)

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in the Department of Psychiatry, Kowloon Hospital. A quiet room was arranged, with seats arranged in a circular pattern, and refreshments were provided. Each focus group took about two hours. The facilitator of the group discussion (the chief author) is a local psychiatrist with extensive experience in the management of anxiety disorders. Another female psychiatrist (the third author) was also present to serve as co-facilitator in the discussion. Neither facilitator was involved in the ongoing psychiatric care of the participants.

Probing questions were drawn up by the chief author as discussion guidelines (Table 2), based on the current findings in the literature of interpersonal fears of agoraphobia (Hoffart et al., 2006), with additional, culturally relevant items (Fei, 1948). Interaction in the focus group was encouraged to be open and free-flowing. Those questions were only used as probes, with special care taken not to impose any concepts of panic disorder or agoraphobia onto the participants.

The quantitative part of this study was in the form of a descriptive pilot study, using a self-rated questionnaire. Eligible participants were invited to fill in the questionnaire after follow-up by a doctor or clinical psychologist in the outpatient clinic. Written informed consent and demographic data were also obtained.

Measures

For both the qualitative and quantitative parts of this study, the Chinese-Bilingual Structured Clinical Interview for DSM-IV (Axis I, Patient version) (CB-SCID-I/P) (So et al., 2003) was used to confirm the DSM-IV-TR diagnosis of all the participants. This translated version of SCID-I/P is a satisfactory reproduction of the original English version, and the reliability for DSM-IV anxiety disorders was shown to be satisfactory when being administered in Hong Kong patients (So et al., 2003). In the quantitative part of this study, several demographic parameters were documented, including age, gender, marital status, education, employment, monthly income, accommodation and household composition. The duration of illness and the frequency of panic attacks were also recorded. Patients' feared or avoided situations were also documented.

Novel, culture-specific themes extracted from the qualitative data were then checked against existing Western literature to confirm their distinctiveness and were then further subjected to a triangulation process using a cross-sectional survey of an independent group of patients suffering from panic disorder. The new theme extracted ('Fear of making others worried and being a burden to others') was carefully defined in a single phrase (in Chinese) based on the verbal description of the participants in the focus group discussion. First of all, the principal investigator made a draft of the new theme according to the original transcript of the focus group discussion; he tried to incorporate all the essential contents of the theme into a single phrase, while keeping it simple and easy to understand. Second, this single phrase of the new theme was put into a format of a two-item, self-rated questionnaire. The Interpersonal Panic Fear Questionnaire (IPFQ) format (Hoffart et al., 2006) was used as a template to design the two-item questionnaire. The first item is rated on a five-point Likert scale, ranging from 1 = 'thought would never occur' to 5 = 'thought would always occur', representing the frequency of the cognition occurred when feeling anxious or frightened in a public place. The second item is a conviction scale used to rate the certainty of the perceived likelihood of the feared event coming to pass, ranging from 0% to 100%. Third, for assessment of face and content validity, the short questionnaire was given to an expert panel, which included two associate consultant psychiatrists and one clinical psychologist (all working in the Department of Psychiatry, Kowloon Hospital). Any problems raised by the members of the expert panel were revised accordingly. Finally, the new sub-theme was defined as 'Fear of making others worried and being a burden to others' by the chief author and was used in the self-rated, two-item questionnaire (Appendix).

Data analysis

Qualitative analysis. A word-for-word transcription of the audiotaped recording was made by a research assistant. The data generated were analysed using a thematic content analysis approach, which was based on grounded theory (Corbin and Strauss, 2008). The transcribed scripts were sorted into small units by line-by-line coding, each consisting

Table 2. Probing questions for focus group discussion

- Can you tell us more about your distressing experience in public places?
- Were you feeling any discomfort in your body? What did you feel? What were you thinking?
- Did you try to control yourself? How did you cope with the situations? Did you avoid going to those public places?
- Did other people notice you being anxious at that time? How did you feel?
- Were you worried about being trapped or separated from safe persons and places? Were you worried about being neglected?
- Were there any differences if the people around you at the time of panic attack were your family members, friends or colleagues, or just strangers? Did you trust them? Did you ask for help from them?

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of a single idea. The principal investigator then sorted each small unit into subcategories, 13 in all, which were then grouped into four main categories. These were then summarized as a central theme to conclude the whole framework (Figure 1).

The reliability of the process of sorting qualitative data into categories and subcategories (i.e. interrator reliability – IRR) was calculated using the following method. An independent rater was asked to classify 15 sample quotations into the four main categories without prior knowledge of the main categories assigned by the principal investigator (main category IRR). The independent rater was then asked to classify a body of 80 quotations (i.e. 20 quotations for each main category) into the 13 subcategories without prior knowledge (subcategories IRR). Interrator reliability was calculated using Cohen's kappa (k), performed using SPSS software (Version 13). Values were interpreted according to the classification of the strength of agreement provided by Landis and Koch (1977): 0.61–0.80 = substantial agreement; 0.81–1.00 = almost perfect agreement. There was a substantial strength of agreement for the main category IRR task ($k = 0.73$; $p < 0.001$; 95% CI (0.444, 1.000). For the subcategory IRR tasks, k values ranged from substantial to almost perfect (Table 3).

Quantitative analysis. Statistical analyses were performed using SPSS software (Version 13). Descriptive statistics were used to report the demographic and clinical variables of the participants, as well as the scores of the self-rated questionnaire for the postulated new theme.

Results

Qualitative results

The analysis reported here was based on categories generated from the literal transcripts of the two focus group discussions in the qualitative focus group study. Main category headings and central themes were developed to capture the major views of the subjects. Subcategories under each category were also described (Table 4).

Category 1: Catastrophic cognitions are associated with corresponding symptoms. Many study participants reported fear of physical catastrophes (e.g. collapse, death) when they experienced autonomic anxiety symptoms of dizziness, palpitations, difficulty breathing or tremor during panic attacks in agoraphobic situations (subcategory 1.1). Some participants also reported having symptoms of immediate

Table 3. Kappa values of interrater reliability in subcategory IRR tasks

Main categories	κ values for subcategory IRR
1. Catastrophic cognitions are associated with corresponding symptoms	0.85 ($p < 0.001$) 95%CI (0.651, 1.000)
2. Coping strategies that were considered as effective according to previous personal experiences	0.73 ($p < 0.001$), 95%CI (0.497, 0.967)
3. Cognitions and symptoms are related to the nature of interpersonal relationship with the surrounding people	0.67 ($p < 0.001$), 95%CI (0.416, 0.918)
4. Fear of affecting others	0.80 ($p < 0.001$), 95%CI (0.533, 1.000)

Table 4. Central theme, main categories and subcategories

Central theme: Agoraphobia as a clinical condition that has a close relationship with sociocultural factors

Categories	Subcategories
1. Catastrophic cognitions are associated with corresponding symptoms	1.1 Fear of physical catastrophes and autonomic anxiety symptoms
	1.2 Fear of social catastrophes and escape/avoidance symptoms
	1.3 Fear of unpredictability and recurrent anxiety symptoms
2. Coping strategies that were considered effective according to previous personal experiences	2.1 Escape/avoidance
	2.2 Self-reassurance
	2.3 Actions counteracting the subjective distress
	2.4 Company by family members
3. Cognitions and symptoms are related to the nature of interpersonal relationship with the surrounding people	3.1 Fear of negative evaluation by others who do not understand his/her condition
	3.2 Sense of security depends on degree of closeness in relationship
	3.3 Responsible staff working in the public places can provide additional instrumental support
	3.4 Not expecting to be helped by strangers
4. Fear of affecting others	4.1 Others' needs being neglected
	4.2 Making others worried

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escape/avoidance from public places, or anticipatory anxiety, when they experienced fear of social catastrophes (e.g. fear of being negatively evaluated) during panic attacks in those situations (subcategory 1.2). Some participants felt uncertain about the cause of recurrent anxiety symptoms during panic attacks. They expressed fear of the unpredictable nature of their panic attacks, which made them feel nervous and not in control of their future (subcategory 1.3) (Table 5).

Category 2: Coping strategies that were considered effective according to previous personal experiences. Escape or avoidance was the most commonly used coping strategy by the study participants (subcategory 2.1) as it seemed to immediately reduce their fears and anxiety symptoms. Self-reassurance was another coping strategy employed by some subjects (subcategory 2.2). Those employing 'wishful thinking' could temporarily reduce the level of anxiety if immediate escape was not possible. Some participants also reported a number of interesting actions to counteract the subjective distress experienced specifically during panic attacks (subcategory 2.3). They considered those strategies very effective according to their previous personal experiences (60%–80% self-estimated success rate) (Table 6).

If the above failed, many participants reported that the company of family members was another effective coping strategy (subcategory 2.4). They reported that the company of family members per se could reduce or even prevent agoraphobic fear, even if those family members had done nothing in particular.

Category 3: Cognitions and symptoms are related to the nature of interpersonal relationship with the surrounding people. Many participants expressed the importance of the identity of the surrounding people during panic attacks in public places. If the surrounding people were strangers, they would feel more anxious. They reported fear of being negatively evaluated, especially when being surrounded by others who did not understand their condition (subcategory 3.1). They did not want strangers to know much about the reasons of their anxiety. One participant (P1) would even cover up her fear by giving excuses (e.g. saying that she was physically ill) to someone with whom she was not familiar (Table 7). The reason for fear of embarrassment was also fully discussed. In the second focus group, all five participants agreed that they only felt embarrassed in public places during panic attacks but not during usual times (e.g. shopping, having meals). Two participants (P1 and P3) discussed this issue and came to a consensus that they feared being considered 'bizarre' or 'insane' due to their sweating, shakiness or abnormal facial expressions during panic attacks.

However, if the surrounding people were family members or close friends, they had a greater sense of security, to

Table 5. Category 1: Catastrophic cognitions are associated with corresponding symptoms

Subcategories	Subjects	Sample quotations
1.1 Fear of physical catastrophes and autonomic anxiety symptoms	6	P1: 'I felt difficult to breath, and my heart was beating fast. I felt dizzy, with feeling of impending collapse. It was frightening as I felt like going to die immediately. I must have some serious physical illness.'
1.2 Fear of social catastrophes and escape/avoidance symptoms	4	P5: 'It was very embarrassing when other people were scared by my bizarre appearance during panic. I will never travel by underground.'
1.3 Fear of unpredictability and recurrent anxiety symptoms	2	P1: 'Why do I have this illness? I did not have those symptoms before, but why does the shakes, dizziness, and the intense fear keep coming back? What will happen in the future? I cannot tolerate the uncertainty about my future life with this serious illness.'

Table 6. Category 2: Coping strategies that were considered effective according to previous personal experiences

Subcategories	Subjects	Sample quotations
2.1 Escape/avoidance	8	P2: 'I must go back home at once. I felt at ease and relaxed at home, with sense of security.' 'I felt anxious even before I went to some unfamiliar places, so most of the time I preferred staying at home.'
2.2 Self-reassurance	2	P4: 'I kept on telling myself not to worry. Here is near my home. I can go home by myself. Don't panic.'
2.3 Actions counteracting the subjective distress	4	P4: 'I would turn on the air-conditioner to "high-cool" level to get more air.' P5: 'I sometimes throw coins to the ground and then picked them up again. Then I would not get preoccupied with the fear.'
2.4 Company by family members	5	P4: 'I called my daughter over the phone to come down to accompany me when I was in the street. Then I felt much better.'

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the extent that they would even experience no anxiety symptoms in feared situations. They would tell others in detail about their conditions, in order to elicit more help and support. Their sense of security depended on the degree of closeness of the relationship with the surrounding people (subcategory 3.2).

The role of the responsible staff working in the public places (e.g. staff at an underground station, taxi driver) was also discussed. Some participants believed that these people could provide additional instrumental support out of obligation (subcategory 3.3) but they would not expect to be helped by other strangers in public places (subcategory 3.4).

Category 4: Fear of affecting others. Some participants expressed fear of affecting others, or fear of others' needs being neglected due to their own illness (subcategory 4.1). Some highlighted the concern of making others worried when being anxious in public places (subcategory 4.2) (Table 8).

Central theme: Agoraphobia as a clinical condition has a close relationship to sociocultural factors. A central theme that emerged from the four categories provided a clear message that agoraphobia is a clinical condition which has a close relationship with sociocultural factors. As reported by the study participants, their agoraphobic cognitions and symptoms were highly related to their interpersonal context. If the identity of the surrounding people during panic attacks in agoraphobic situations were different (e.g. family members, friends or colleagues, or strangers), the cognitions and symptoms would change accordingly. Due to the close relationships within the interpersonal network, apart from seeking help from others, participants also expressed fear of affecting others due to their illness.

Quantitative results

The age range of the participants was 20–58 years (M = 40.54 years, SD = 11.13) (Table 9). Of the 35 participants, 21 were female (60%) and 14 were male (40%). The mean duration of illness was 7.77 years (SD = 6.89). The range of the frequency of panic attacks was 0–8 per month (M = 1.34, SD = 1.57); all of the participants were under treatment given by the clinic.

Table 7. Category 3: Cognitions and symptoms are related to the nature of interpersonal relationship with the surrounding people

Subcategories	Subjects	Sample quotations
3.1 Fear of negative evaluation by others who do not understand his/her condition	5	P3: 'When I was having lunch with others, the restaurant was too noisy that affected our communication, so other people did not know what happened when I appeared restless. They must think that I was weird or strange, or had something abnormal.'
3.2 Sense of security depends on degree of closeness in relationship	5	P4: 'I felt easier and relaxed when my daughter accompanied me, as she could help me when I was panic.'
3.3 Responsible staff working in the public places can provide additional instrumental support	3	P6: 'I felt better and was willing to seek help if the staff of underground station was nearby. The staff had responsibility to provide help. This gave me more sense of security.'
3.4 Not expecting to be helped by strangers	3	P7: 'Normally other strangers cannot give me any help, so I will not bother them.'

Table 8. Category 4: Fear of affecting others

Subcategories	Subjects	Sample quotations
4.1 Others' needs being neglected	2	P1: 'I do not dare to think about the future. My children are too young. Who can take care of them if I have serious illness?'
4.2 Making others worried	4	P1: 'I did not want others to notice my anxiety. They would worry about me, and ask me what happened. I did not want to make them worried. This particular concern on me made me even more anxious. I believed I made a great burden on them. I preferred staying alone or escaping back home when panic attack occurred.' P3: 'It is not good if other people notice me and worry about me. It just creates trouble to them.'

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Table 9. Demographic and clinical characteristics of the participants of the quantitative descriptive pilot study ($N = 35$)

Characteristics	n (%)	Mean ± SD
Age (years)		40.54 ± 11.13
Gender		
Male	14 (40%)	
Female	21 (60%)	
Marital status		
Married/Cohabiting	20 (57.1%)	
Separated/Divorced/Widowed	0	
Never married	15 (42.9%)	
Educational level		
Primary	6 (17.1%)	
Secondary	23 (65.7%)	
Tertiary	6 (17.1%)	
Years of education (years)		10.03 ± 3.41
Employment		
Employed	22 (62.9%)	
Unemployed	13 (37.1%)	
Income (per month)		
No income	13 (37.1%)	
< $5,000	4 (11.4%)	
$5,000–$10,000	10 (28.6%)	
$10,000–$15,000	3 (8.6%)	
$15,000–$20,000	3 (8.6%)	
> $20,000	2 (5.7%)	
Accommodation		
Public	7 (20%)	
Private (rented)	9 (25.7%)	
Private (self-owned)	19 (54.3%)	
Household composition		
Living alone	6 (17.1%)	
Living with family members	27 (77.1%)	
Living with friends	2 (5.7%)	
Duration of illness (years)		7.77 ± 6.89
Frequency of panic attacks (per month)		1.34 ± 1.57
Feared or avoided situations		
Crowded places	28 (80%)	
Vehicles	30 (85.7%)	
Away from home alone	18 (51.4%)	

According to the two-item, self-rated questionnaire, 18 participants (51.4%) reported that 'Fear of making others worried and being a burden to others' occurred during panic attacks in public places, but 17 (48.6%) reported that fear never occurred (Figure 3). Among the 18 participants having that fear, more than half (i.e. 10 participants) reported that fear occurred at least half of the time. Seven participants (20%) even reported that the fear would usually or always occur during panic attacks in public places.

Eighteen participants (51.4%) reported some degree of conviction (10%–100%) about the catastrophic fear of making others worried and being a burden to others during panic attacks in public places (Figure 4). Ten participants (28.6%) believed that the fear was true to equal or more than 50% certainty. Three (8.6%) very firmly believed that the fear was true (90%–100%).

According to the self-report questionnaire, on average, participants reported that the fear of making others worried and being a burden to others rarely occurred during panic attacks in public places (Table 10), with a level of certainty of 20%–30%.

Discussion

By making use of the strength of qualitative enquiry to listen to participants' subjective experiences, the present study gives a rich and thick description of agoraphobic experiences within the sociocultural context. It shows that agoraphobia is a clinical condition that has a close relationship to sociocultural factors.

In the qualitative part of this study, participants described their 'fears of affecting others' (category 4 in Table 8),

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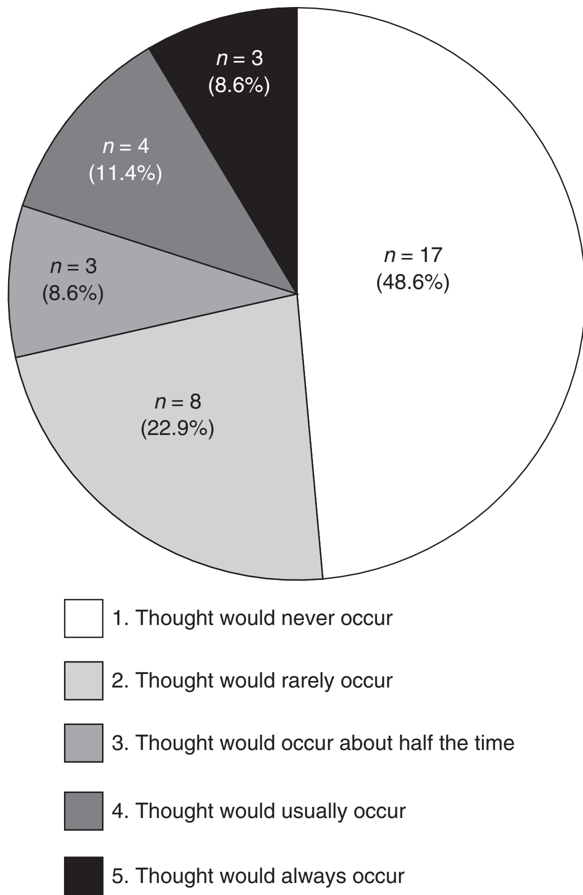

Figure 3. Frequency of 'fear of making others worried and being a burden to others' in 1-5 scale ($N = 35$)

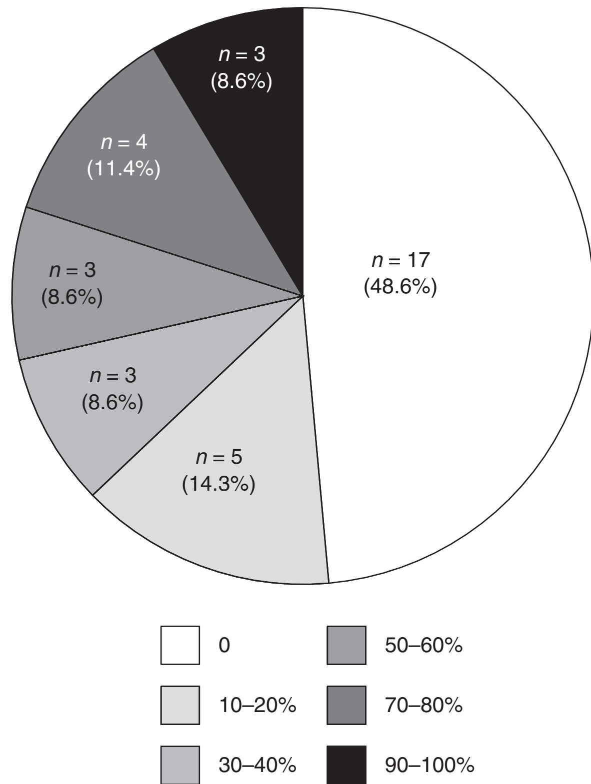

Figure 4. Certainty of 'fear of making others worried and being a burden to others' in 0%–100% scale ($N = 35$)

have not yet been fully explored. Furthermore, the focus groups were held in the same centre, with the sample recruited from the same clinic. The findings of the qualitative study would be more fruitful and valid if more focus groups were conducted in different patient groups. However, the purpose of this qualitative study was to look into cultural meanings of agoraphobia and panic attacks among the Chinese population, which is understandably different from their Western counterparts due to their perception of self and interpersonal relationships. In the quantitative descriptive pilot study, the sample size was small and only a convenient (rather than a random) sample was used. However, all the patients suffering from agoraphobia with panic attacks in this regional clinic who were not involved in the focus group interviews were deliberately sampled. A larger sample from different sources (e.g. medical clinic, public general outpatient clinic, private general practitioners' clinic, emergency department, general population) would be more representative. Other methods of triangulation for validity testing could have been adopted, including interviews with participants' significant others to confirm their views, or conducting further focus groups with the sample participants to verify the themes that were generated in the current study.

Conclusion

In conclusion, this study confirms the presence of various themes that have been found in other qualitative and

Table 10. Average scores of the self-rated questionnaire for the postulated new theme of interpersonal fears of agoraphobia ('Fear of making others worried and being a burden to others')

Scales	Range	Median	Mean ± SD
• Average score of frequency (1–5 scale)	1–5	2	N/A*
• Average score of certainty (0%–100% scale)	0–100	20	27.14 ± 34.18

*Mean was not applicable as the 1–5 scale was ordinal

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including ‘others’ needs being neglected’ (subcategory 4.1), and ‘making others worried’ (subcategory 4.2). For subcategory 4.2, participants expressed worry about the immediate consequences of panic attacks in public. They were concerned that surrounding strangers would worry about their illness during panic attacks. They felt a burden to the people surrounding them, so they preferred to remain alone.

In the study of different construals of the self between East and West (Markus and Kitayama, 1991), Chinese people are characterized as having ‘interdependent’ self-concept, in contrast with the Western ‘independent’ self-concept. For ‘interdependent’ self-concept, social relationships, norms and group solidarity are more important than an individual’s needs. A greater sense of mutual obligation between self and others was expected for each individual in society (Markus and Kitayama, 1991). In the Western concept of interpersonal fears of agoraphobia, the focus of the fears is only about damaging the integrity of self (e.g. being negatively evaluated, trapped or neglected) (Hoffart et al., 2006). However, the present study is the first to describe and hypothesize that in Hong Kong Chinese patients, the interpersonal fears of agoraphobia include both fears of affecting self and others.

In fact, a similar concept, ‘Fear of causing discomfort to others’ (SA-DOS), was also found in social phobia. Rector et al. (2006) described some social phobic patients expressed concern that their display of anxiety symptoms would adversely affect the comfort and performance of others in the shared environment. Another condition, taijin kyofusho (‘taijin’ means ‘vis-à-vis other people’, ‘kyofu’ means ‘fear’, ‘sho’ means ‘syndrome’), roughly corresponding to social phobia in Western society, has been widely recognized in Japan since the early 1930s. It comprises two core fears: the fear of being observed by others and the fear of offending others (Takahashi, 1972). In a recent cross-cultural study, a conviction subtype of taijin kyofusho, c-TK, was further defined, which was characterized by the strong fear of offending others in social situations (Kinoshita et al., 2008). In mainland China, a syndrome known as ‘anthropophobia’ also emphasizes the fear of awkward appearance, causing the disruption of social harmony (Zhang et al., 2000).

As ‘making others worried’ (subcategory 4.2) might be considered as a postulated ‘new theme’ of catastrophic cognitions in agoraphobia, this new theme was then further defined clearly as ‘Fear of making others worried and being a burden to others’, and was chosen for further validation by a strategy called ‘methodological triangulation’ (i.e. using different research methods to investigate the same phenomenon and assessing convergence) (Denzin, 1978; Jick, 1979; Lather, 1986). It is well known that qualitative data have certain weaknesses and problems, due to the relatively unstructured process of analysis. Although ‘earthy, undeniable and serendipitous’ findings may be reached, the results may be just not valid at all (Miles, 1979). Methodological triangulation is a process that can raise researchers above the personal biases that stem from a single methodology (Denzin, 1978). In order to perform a better triangulated investigation, the method of ‘quantitative self-rated questionnaire survey’ was chosen as it is methodologically very ‘dissimilar’ to qualitative focus group discussion (Denzin, 1978).

When this new theme was measured by a two-item, self-rated questionnaire administered in a larger and more representative sample of Chinese patients with panic disorder and agoraphobia, more than half of the participants (n = 18, 51.4%) endorsed the presence of such a belief. This means that more than half of the participants experienced ‘Fear of making others worried and being a burden to others’ during panic attacks in public places. Among these, more than half (n = 10, 28.6% of all the participants) reported that this fear occurred at least 50% of the time. However, the degree of conviction over this fear was quite low. Although 51.4% of participants reported some degree of conviction (from 10% to 100%) about the fear, and 28.6% believed that the fear was true at equal or more than 50% certainty, the average score of certainty about the fear was only 20%–30% (M = 27.14, SD = 34.18). This can be explained by the relatively low sensitivity of the self-rated questionnaire in measuring cognitions during panic attacks retrospectively, based on participants’ own recall without probing. In fact, in focus group discussion, both the facilitator’s probing questions and the group interaction helped participants to report rich recall about cognitions during past agoraphobic experiences (Wilkinson, 2003). In a study comparing different measures for cognitions in agoraphobia patients (Thulin, 2001), those collected through interview were more in line with the assumptions derived from the cognitive model compared to self-rated scales. Another possible explanation is that the level of conviction was rated outside a panic attack. It has been found in research that panic cognitions become more threatening and highly convincing during actual panic attacks (‘hot cognitions’ being accessed during peak of emotions) (Conway et al., 2004). In another study about the cultural effects on the expression of fears (Higgins, 2004), Chinese participants also reported less fear in the self-rated instrument compared to British subjects. It was hypothesized that Chinese people learned to moderate their emotions as expressing fear in questionnaire responses to strangers may be seen as a risk in ‘losing face’ (Higgins, 2004).

Limitations

The qualitative and quantitative results of this study should also be interpreted in the context of some potential limitations. In the qualitative focus group study, as only two groups were held and only nine participants were included, it was possible that participants’ agoraphobic experiences

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quantitative studies conducted in the West. In addition, it identified a culturally relevant 'new theme' (i.e. 'Fear of making others worried and being a burden to others'). The 'convergence' of qualitative and quantitative data (Jick, 1979) also provided some confirmation of the validity of this new theme in the Chinese population. As a cross-sectional descriptive pilot study, the results of the present study suggest that it is worthwhile to devote further research effort in this area. For example, the construct of 'Fear of making others worried and being a burden to others' can be further explored and elaborated by conducting more focus groups (using more-specific probing questions to elicit this fear) or individual in-depth interviews. Moreover, this study provides some preliminary data to further delineate the concept of interpersonal fears of agoraphobia for future theoretical expansion and even reformulation of the cognitive model. It sheds some light on the cultural adaptation and indigenization of cognitive behavioural therapy in the Chinese population (Oei and Hodges, 2005), with a greater emphasis on the interpersonal dimension when constructing the case formulation of agoraphobia.

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